

FM 1 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 30 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



Diode current

Diode current pulsed

Diode voltage

O ... 1 A

0 ... 2 A

0 ... 4.5 V

Output power

10 W max

Power dissipation 30 W max allowed

Supply voltage 3 V ... 6 V
Supply current 1.5 A max
Rise time 18 ns
Fall time 18 ns

Frequency 30 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

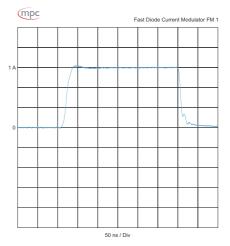
Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 250 g Ordering Code 10100238





Description

The fast diode current modulator FM 1 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 30 MHz and currents up to 1 A for CW and 2 A for pulsed waveforms.

The FM 1 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 1 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 30 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current).

All set points are added and build the effective current set point.



FM 10 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



Diode current 0 ... 10 A

Diode current pulsed 0 ... 20 A (short pulses)

Diode voltage 0 ... 4.5 V Output power 45 W max

Power dissipation 30 W max allowed

Supply voltage 3 V ... 6 V Supply current 10 A max Rise time 16 ns Fall time 9 ns

Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

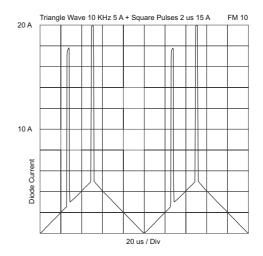
Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 250 g Ordering Code 10100327





Description

The fast diode current modulator FM 10 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 10 A for CW and 20 A for pulsed waveforms.

The FM 10 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 10 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current).

All set points are added and build the effective current set point.



FM 20 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



Diode current 0 ... 20 A

Diode current pulsed 0 ... 40 A (short pulses)

Diode voltage 0 ... 4.5 V Output power 90 W max

Power dissipation 30 W max allowed

Supply voltage 3 V ... 6 V
Supply current 20 A max
Rise time 16 ns
Fall time 9 ns

Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

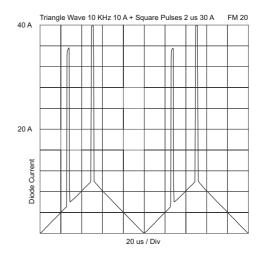
Ready TTL Excess Temperature TTL

General specifications

 $\begin{array}{lll} \text{Ambient temperature} & 0 \dots +45 \, ^{\circ}\text{C} \\ \text{Cooling} & \text{Required} \\ \text{Dimensions} & 95 \, \text{x} \, 61 \, \text{x} \, 20 \, \text{mm} \end{array}$

Weight 250 g Ordering Code 10100240





Description

The fast diode current modulator FM 20 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 20 A for CW and 40 A for pulsed waveforms.

The FM 20 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 20 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current).

All set points are added and build the effective current set point.

Data Sheet Fast Modulator FM 40-06



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Very short rise and fall time Excellent dynamic performance Two analog inputs plus BIAS current Small dimensions, low weight

Specification

Diode current CW 0 ... 40 A
Diode current pulsed 0 ... 80 A
Diode voltage 0 ... 4,5 V
Output power 180 W max

Power dissipation 60 W max allowed

Supply voltage 1 V ... 6 V Supply current 40 A max

Rise time 16 ns Fall time 9 ns

Frequency (set point 1) 20 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm
Weight 240 g

Weight 240 g Ordering Code 10100253



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Description

The fast diode current modulator FM 40-6 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 40 A for CW and 80A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

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FM 60 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



Diode current 0 ... 60 A

Diode current pulsed 0 ... 120 A (short pulses)

Diode voltage 0 ... 4.5 V Output power 270 W max

Power dissipation 90 W max allowed

Supply voltage 3 V ... 6 V Supply current 60 A max Rise time 16 ns Fall time 9 ns

Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

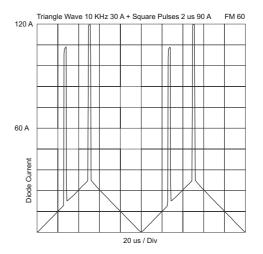
Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 260 g Ordering Code 10100241





Description

The fast diode current modulator FM 60 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 60 A for CW and 120 A for pulsed waveforms.

The FM 60 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 60 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current).

All set points are added and build the effective current set point.



FM 100 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



Diode current 0 ... 100 A

Diode current pulsed 0 ... 200 A (short pulses)

Diode voltage 0 ... 4.5 V Output power 450 W max

Power dissipation 150 W max allowed

Supply voltage 3 V ... 6 V
Supply current 100 A max
Rise time 16 ns
Fall time 9 ns

Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

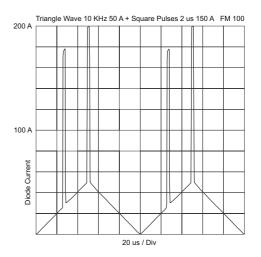
Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 275 g Ordering Code 10100242





Description

The fast diode current modulator FM 100 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 100 A for CW and 200 A for pulsed waveforms.

The FM 100 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 100 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current).

All set points are added and build the effective current set point.

Data Sheet Fast Modulator FM 1-25



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time

Excellent dynamic performance

Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 1 A
Diode current pulsed 0 ... 2 A
Diode voltage 0 ... 24 V
Output power 24 W max

Power dissipation 30 W max allowed

Supply voltage 1 V ... 24 V Supply current 1 A max Supply voltage* 3 V ... 6 V Rise time 30 ns Fall time 27 ns Frequency (set point 1) 15 MHz max

Frequency (set point 1) 15 MHz max Frequency (set point 2) 10 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

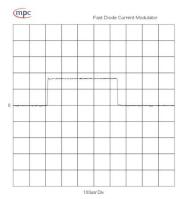
Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100334

* for internal electronics



Supply Voltage: 13,5V Diode Current: 3,64A Rise Time: 38ns Fall Time: 34ns

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Description

The fast diode current modulator FM 1-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 15 MHz and currents up to 1 A for CW and 2 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 15 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



Warning!

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Data Sheet Fast Modulator FM 10-25



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Very short rise and fall time Excellent dynamic performance Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW0 ... 10 ADiode current pulsed0 ... 20 ADiode voltage0 ... 24 VOutput power240 W max

Power dissipation 30 W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 1 \text{ V } ... \text{ 24 V} \\ \text{Supply current} & 10 \text{ A max} \\ \text{Supply voltage*} & 3 \text{ V } ... \text{ 6 V} \\ \text{Rise time} & 16 \text{ ns} \\ \text{Fall time} & 9 \text{ ns} \\ \end{array}$

Frequency (set point 1) 20 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm
Weight 240 g

Weight 240 g Ordering Code 10100330

* for internal electronics

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Description

The fast diode current modulator FM 10-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 10 A for CW and 20 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

Document: 10100330	Revision: 0	Date: 20.10.2014
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Pulse Shape



Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



FM 20-25

Specification

Diode current 0 ... 20 A

Diode current pulsed 0 ... 40 A (short pulses)

Diode voltage 0 ... 24 V Output power 480 W max

Power dissipation 30 W max allowed

Supply voltage 1 V ... 25 V Supply current 20 A max Supply voltage* 3 V ... 6 V Rise time 16 ns Fall time 9 ns

Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

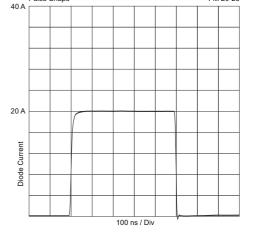
Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess Temperature TTL

General specifications

 $\begin{array}{lll} \text{Ambient temperature} & 0 \dots +45 \, ^{\circ}\text{C} \\ \text{Cooling} & \text{Required} \\ \text{Dimensions} & 95 \, \text{x} \, 61 \, \text{x} \, 20 \, \text{mm} \end{array}$

Weight 250 g Ordering Code 10100340



Description

The fast diode current modulator FM 20-25 is a linear modulator for driving arbitrary current waveforms into high voltage, high power laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 20 A for CW and 40 A for pulsed waveforms.

The FM 20-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 20-25 has two analogue inputs for the current setpoint, a high frequency input (50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

^{*} for internal electronics

Data Sheet Fast Modulator FM 40-25



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Very short rise and fall time Excellent dynamic performance Two analog inputs plus BIAS current Small dimensions, low weight

Specification

Diode current CW 0 ... 40 A
Diode current pulsed 0 ... 80 A
Diode voltage 0 ... 23 V
Output power 920 W max

Power dissipation 60 W max allowed

Supply voltage 1 V ... 25 V Supply current 40 A max

Rise time 16 ns Fall time 9 ns

Frequency (set point 1) 20 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm
Weight 240 g

Weight 240 g Ordering Code 10100335



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Description

The fast diode current modulator FM 40-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 40 A for CW and 80A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

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FM 60-25 High Voltage Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



Specification

Diode current 0 ... 60 A

Diode current pulsed 0 ... 120 A (short pulses)

Diode voltage 0 ... 24 V Output power 1440 W max Power dissipation 90 W max allowed

Supply voltage 1 V ... 25 V Supply current 60 A max Supply voltage* 3 V ... 6 V The second of the se

Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess Temperature TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots +45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \times 61 \times 20 \ \mbox{mm} \end{array}$

Weight 260 g Ordering Code 10100341

Pulse Shape FM 60-25

Description

The fast diode current modulator FM 60-25 is a linear modulator for driving arbitrary current waveforms into high voltage, high power laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 60 A for CW and 120 A for pulsed waveforms.

The FM 60-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 60-25 has two analogue inputs for the current setpoint, a high frequency input (50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

^{*} for internal electronics

FM 100-25 High Voltage Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Excellent dynamic performance

Two analog inputs Small dimensions



Pulse Shape

200 A

FM 100-25

Specification

Diode current 0 ... 100 A

Diode current pulsed 0 ... 200 A (short pulses)

Diode voltage 0 ... 24 V Output power 2400 W max

Power dissipation 150 W max allowed Supply voltage 1 V ... 25 V

Supply voltage 1 V ... 25 V
Supply current 100 A max
Supply voltage* 3 V ... 6 V
Rise time 16 ns
Fall time 9 ns

Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

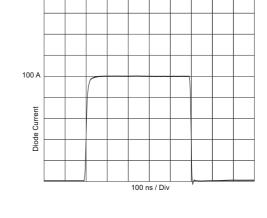
Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 275 g Ordering Code 10100342



Description

The fast diode current modulator FM 100-25 is a linear modulator for driving arbitrary current waveforms into high voltage, high power laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 100 A for CW and 200 A for pulsed waveforms.

The FM 100-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The FM 100-25 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

^{*} for internal electronics

Data Sheet Fast Modulator FM 10-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time Excellent dynamic performance Two analog inputs plus BIAS current Small dimensions, low weight

Specification

Diode current CW 0 ... 10 A
Diode current short pulses 0 ... 20 A
Diode voltage 0 ... 49 V
Output power 490 W max

Power dissipation 30 W max allowed

Supply voltage 1 V ... 50 V
Supply current 10 A max
Supply voltage* 3 V ... 6 V
Rise time 50 ns
Fall time 50 ns

Frequency (set point 1) 10 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

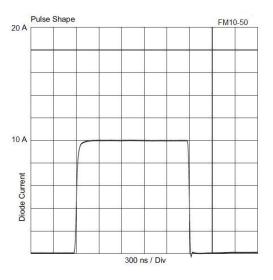
Ready TTL Excess temperature TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & -5\mbox{°C} \dots +65\mbox{°C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95\mbox{ x 61 x 20 mm} \end{array}$

Weight 240 g Ordering Code 10100312

* for internal electronics



Description

The fast diode current modulator FM 10-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 10 MHz and currents up to 10 A for CW and 20 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: high frequency input (50 Ohm input impedance) with a bandwidth of 10 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



Warning!

Document: 10100312	Revision: 0	Date: 30.01.2015
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Data Sheet Fast Modulator FM 20-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time Excellent dynamic performance

Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 20 A
Diode current short pulses 0 ... 40 A
Diode voltage 0 ... 49 V
Output power 980 W max

Power dissipation 90 W max allowed

Supply voltage 1 V ... 50 V
Supply current 20 A max
Supply voltage* 3 V ... 6 V
Rise time 50 ns
Fall time 50 ns

Frequency (set point 1) 10 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

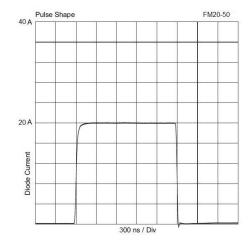
Ready TTL Excess temperature TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & -5\mbox{°C} \dots +65\mbox{°C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95\mbox{ x 61 x 20 mm} \end{array}$

Weight 240 g Ordering Code 10100314

* for internal electronics



Description

The fast diode current modulator FM 20-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 10 MHz and currents up to 20 A for CW and 40 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: high frequency input (50 Ohm input impedance) with a bandwidth of 10 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



Warning!

Document: 10100314	Revision: 0	Date: 30.01.2015
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Data Sheet Fast Modulator FM 40-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time

Excellent dynamic performance

Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 40 A
Diode current short pulses 0 ... 80 A
Diode voltage 0 ... 49 V
Output power 1960 W max
Power dissipation 60 W max allowed

Supply voltage 1 V ... 50 V
Supply current 40 A max
Supply voltage* 3 V ... 6 V
Rise time 50 ns
Fall time 50 ns

Frequency (set point 1) 10 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

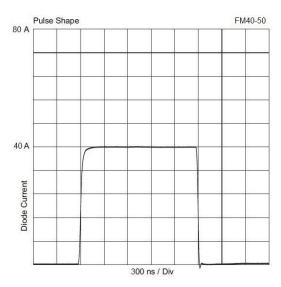
General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & -5\mbox{°C} \dots +65\mbox{°C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95\mbox{ x 61 x 20 mm} \end{array}$

Weight 240 g Ordering Code 10100316

* for internal electronics





Description

The fast diode current modulator FM 40-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 10 MHz and currents up to 40 A for CW and 80 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: high frequency input (50 Ohm input impedance) with a bandwidth of 10 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



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Data Sheet Fast Modulator FM 60-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time Excellent dynamic performance

Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 60 A
Diode current short pulses 0 ... 120 A
Diode voltage 0 ... 49 V
Output power 2940 W max
Power dissipation 90 W max allowed

Supply voltage 1 V ... 50 V
Supply current 60 A max
Supply voltage* 3 V ... 6 V
Rise time 50 ns
Fall time 50 ns

Frequency (set point 1) 10 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

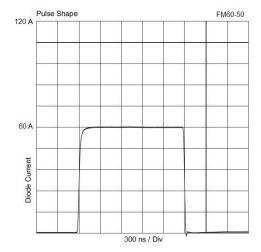
Ready TTL Excess temperature TTL

General specifications

Ambient temperature -5°C ... +65 °C Cooling Required Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100317

* for internal electronics



Description

The fast diode current modulator FM 60-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 10 MHz and currents up to 60 A for CW and 120 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: high frequency input (50 Ohm input impedance) with a bandwidth of 10 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



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Data Sheet Fast Modulator FM 100-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time
Excellent dynamic performance
Two analog inputs plus BIAS current
Small dimensions, low weight



Diode current CW 0 ... 100 A
Diode current short pulses 0 ... 200 A
Diode voltage 0 ... 49 V
Output power 4900 W max
Power dissipation 150 W max allowed

Supply voltage 1 V ... 50 V Supply current 100 A max Supply voltage* 3 V ... 6 V Rise time 50 ns

Fall time 50 ns
Frequency (set point 1) 10 MHz max
Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

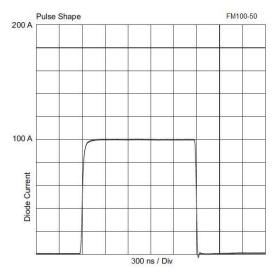
General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & -5\mbox{°C} \dots +65\mbox{°C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95\mbox{ x 61 x 20 mm} \end{array}$

Weight 240 g Ordering Code 10100318

* for internal electronics





Description

The fast diode current modulator FM 100-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 4 MHz and currents up to 100 A for CW and 200 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 4 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



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MSM 20-06 Medium Speed Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Excellent dynamic performance

Two analog inputs Small dimensions



Specification

Diode current 0 ... 20 A
Diode voltage 0 ... 5 V
Output power 100 W max

Power dissipation 30 W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 3 \text{ V } ... \text{ 6 V} \\ \text{Supply current} & 21 \text{ A max} \\ \text{Rise time} & 9 \, \mu \text{s} \\ \text{Fall time} & 11 \, \mu \text{s} \\ \text{Bandwidth} & 50 \text{ KHz} \end{array}$

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance

input)

Enable TTL Reset TTL

Outputs

 $\begin{array}{ll} \mbox{Diode current monitor} & 0 \dots 50 \mbox{ mV (into 50 Ohm)} \\ \mbox{Temperature} & 0 \dots 4 \mbox{ V for } 0 \dots 80^{\circ}\mbox{C} \end{array}$

Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 275 g Ordering Code 10100440

Description

The medium speed current modulator MSM 20-06 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with a bandwidth of up to 50 KHz and currents up to 20 $\rm A$.

The MSM 20-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The MSM 20-06 has two analogue inputs for the current setpoint, a 50 Ohm input with a bandwidth of 50 KHz and a high impedance input with a bandwidth of 50 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.





Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed Excellent dynamic performance Two analog inputs

Two analog inputs Small dimensions



Specification

Diode current 0 ... 40 A
Diode voltage 0 ... 5 V
Output power 200 W max

Power dissipation 30 W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 3 \text{ V } ... \text{ 6 V} \\ \text{Supply current} & 41 \text{ A max} \\ \text{Rise time} & 6 \text{ } \mu \text{s} \\ \text{Fall time} & 10 \text{ } \mu \text{s} \\ \text{Bandwidth} & 50 \text{ KHz} \end{array}$

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance input)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 275 g Ordering Code 10100441

Description

The medium speed current modulator MSM 40-06 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with a bandwidth of up to 50 KHz and currents up to 40 A.

The MSM 40-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The MSM 40-06 has two analogue inputs for the current setpoint, a 50 Ohm input with a bandwidth of 50 KHz and a high impedance input with a bandwidth of 50 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.





Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed Excellent dynamic performance Two analog inputs

Two analog inputs Small dimensions



Specification

Diode current 0 ... 60 A
Diode voltage 0 ... 5 V
Output power 300 W max
Power dissipation 90 W max allowed

Supply voltage $3 \text{ V} \dots 6 \text{ V}$ Supply current 61 A maxRise time $3.5 \text{ } \mu\text{s}$ Fall time $4.8 \text{ } \mu\text{s}$ Bandwidth 50 KHz

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance input)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess Temperature TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots + 45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \ x \ 61 \ x \ 20 \ mm \end{array}$

Weight 275 g Ordering Code 10100442

Description

The medium speed current modulator MSM 60-06 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with a bandwidth of up to 50 KHz and currents up to 60 A.

The MSM 60-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The MSM 60-06 has two analogue inputs for the current setpoint, a 50 Ohm input with a bandwidth of 50 KHz and a high impedance input with a bandwidth of 50 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.



MSM 100-06 **Medium Speed Current Modulator**

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Excellent dynamic performance

Two analog inputs Small dimensions



Specification

0 ... 100 A Diode current Diode voltage 0 ... 5 V 500 W max Output power

150 W max allowed Power dissipation

Supply voltage 3 V ... 6 V 101 A max Supply current Rise time 9 us Fall time 11. µs

Inputs

Bandwidth

0 ... 500 mV (50 Ohm input) Diode current set point 1 0 ... 5 V (high impedance Diode current set point 2

input)

50 KHz

Enable TTL Reset TTL

Outputs

0 ... 50 mV (into 50 Ohm) Diode current monitor 0 ... 4 V for 0 ... 80°C Temperature

Ready TTL Excess Temperature TTL

General specifications

Ambient temperature 0 ... +45 °C Cooling Required Dimensions 95 x 61 x 20 mm

Weight 275 q Ordering Code 10100444

Description

The medium speed current modulator MSM 100-06 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with a bandwidth of up to 50 KHz and currents up to 100 A.

The MSM 100-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The MSM 100-06 has two analogue inputs for the current setpoint, a 50 Ohm input with a bandwidth of 50 KHz and a high impedance input with a bandwidth of 50 KHz. Both inputs cover the full current range.

Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.



MSM 20-25 Medium Speed Current Modulator

Features

Drives arbitrary current waveforms into hig voltage laser diodes

CW, pulsed, modulated or mixed Excellent dynamic performance

Two analog inputs Small dimensions



Specification

Diode current 0 ... 20 A
Diode voltage 0 ... 24 V
Output power 480 W max

Power dissipation 30 W max allowed

Inputs

input) TTL TTL

Enable Reset

Outputs

 $\begin{array}{ll} \mbox{Diode current monitor} & 0 \dots 50 \mbox{ mV (into 50 Ohm)} \\ \mbox{Temperature} & 0 \dots 4 \mbox{ V for } 0 \dots 80^{\circ}\mbox{C} \end{array}$

Ready TTL Excess Temperature TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots +45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \times 61 \times 20 \ \mbox{mm} \\ \mbox{Weight} & 275 \ \mbox{g} \end{array}$

Weight 275 g Ordering Code 10100450

Description

The medium speed current modulator MSM 20-25 is a linear modulator which is well suited for driving arbitrary current waveforms into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with a bandwidth of up to 50 KHz and currents up to 20 A.

The MSM 20-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The MSM 20-25 has two analogue inputs for the current setpoint, a 50 Ohm input with a bandwidth of 50 KHz and a high impedance input with a bandwidth of 50 KHz. Both inputs cover the full current range. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

^{*} for internal electronics

Data Sheet Fast Modulator MSM 40-25



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Short rise and fall time
Two analog inputs plus BIAS current Small dimensions, low weight



Diode current CW

Diode current pulsed

Diode voltage

Output power

Power dissipation

Supply voltage

0 ... 40 A

0 ... 80 A

0 ... 23 V

2300 W max

60 W max allowed

1 V ... 24 V

Supply voltage 1 V ... 24 Supply current 60 A max 60 Supply voltage* 60 V ... 6 V Rise time 60 A max 60 V ... 6 V 60 A max 60 A max

Frequency (set point 1) 100 kHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100446

* for internal electronics

Description

The fast diode current modulator MSM 40-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 100 kHz and currents up to 40 A for CW and 80 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 100 kHz and a low frequency input with a bandwidth of 100 kHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

Document: 10100446	Revision: 000	Date: 18.11.2014
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Data Sheet Fast Modulator MSM 60-25



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Short rise and fall time Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 60 A

Diode current pulsed 0 ... 120 A (short pulses)

Diode voltage 0 ... 23 V 1440 W max Output power Power dissipation 90 W max allowed

Supply voltage 1 V ... 24 V 60 A max Supply current Supply voltage* 3 V ... 6 V Rise time 5 μs Fall time 7 μs

Frequency (set point 1) 100 kHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) 0 ... 5 V (high impedance) Diode current set point 2

Enable TTL TTL Reset

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

TTL Ready Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C Cooling Required Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100452

* for internal electronics

Description

The fast diode current modulator MSM 60-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 100 kHz and currents up to 60 A for CW and 120 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 100 kHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

Document: 10100452	Revision: 000	Date: 24.11.2014
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Data Sheet Fast Modulator MSM 100-25



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Short rise and fall time Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 100 A
Diode current pulsed 0 ... 200 A
Diode voltage 0 ... 23 V
Output power 2300 W max
Power dissipation 150 W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 1 \text{ V } ... \text{ 24 V} \\ \text{Supply current} & 100 \text{ A max} \\ \text{Supply voltage*} & 3 \text{ V } ... \text{ 6 V} \\ \text{Rise time} & 5 \text{ } \mu \text{s} \\ \text{Fall time} & 7 \text{ } \mu \text{s} \\ \end{array}$

Frequency (set point 1) 100 kHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100458

* for internal electronics

Description

The fast diode current modulator MSM 100-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 100 kHz and currents up to 100 A for CW and 200 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 100 kHz and a low frequency input with a bandwidth of 100 kHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

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Data Sheet Fast Modulator MSM 120-25



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Short rise and fall time

Two analog inputs plus BIAS current Small dimensions, low weight



Diode current CW

Diode current pulsed

Diode voltage

Output power

Power dissipation

0 ... 120 A

0 ... 240 A

0 ... 23 V

2880 W max

150 W max allowed

Frequency (set point 1) 100 kHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100453

* for internal electronics

Description

The fast diode current modulator MSM 120-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 100 kHz and currents up to 120 A for CW and 240 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 100 kHz and a low frequency input with a bandwidth of 100 kHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

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Data Sheet Fast Modulator MSM 20-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Short rise and fall time

Two analog inputs plus BIAS current

Small dimensions, low weight



Diode current CW 0 ... 20 A

Diode current pulsed 0 ... 40 A (short pulses)

Diode voltage 0 ... 49 V Output power 980 W max

Power dissipation 30 W max allowed

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 55 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

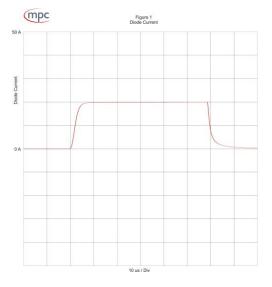
Ready TTL Excess temperature TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots +45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \ x \ 61 \ x \ 20 \ mm \end{array}$

Weight 240 g Ordering Code 10100514

* for internal electronics



Description

The fast diode current modulator MSM 20-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 50 kHz and currents up to 20 A for CW and 40 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 50 kHz and a low frequency input with a bandwidth of 50 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



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Data Sheet Fast Modulator MSM 40-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Short rise and fall time

Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 40 A

Diode current pulsed 0 ... 80 A (short pulses)

Diode voltage 0 ... 49 V
Output power 1960 W max
Power dissipation 60 W max allowed

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 55 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

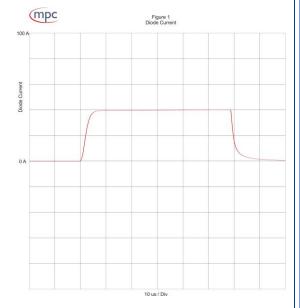
Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100516

* for internal electronics



Description

The fast diode current modulator MSM 40-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 50 kHz and currents up to 40 A for CW and 80 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 50 kHz and a low frequency input with a bandwidth of 50 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



Warning!

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Data Sheet Fast Modulator MSM 60-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Short rise and fall time

Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 60 A

Diode current pulsed 0 ... 120 A (short pulses)

Diode voltage 0 ... 49 V
Output power 2940 W max
Power dissipation 90 W max allowed

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 55 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

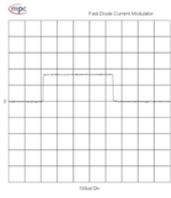
Ready TTL Excess temperature TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100517

* for internal electronics



Supply Williage 13:504 Stode Current 3:56A Stop Time: 36mp Full Time: 36mp

18.57 13.000

Description

The fast diode current modulator MSM 60-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 50 kHz and currents up to 60 A for CW and 120 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 50 kHz and a low frequency input with a bandwidth of 50 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



Warning!

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Data Sheet Fast Modulator MSM 100-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Short rise and fall time

Two analog inputs plus BIAS current

Small dimensions, low weight



Diode current CW 0 ... 100 A

Diode current pulsed 0 ... 200 A (short pulses)

Diode voltage 0 ... 49 V Output power 4900 W max

Power dissipation 150 W max allowed

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 55 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

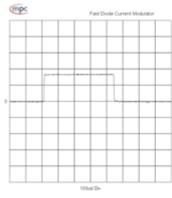
General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100518

* for internal electronics





Supply Willage 13:SV Stode Current 3:SAA Rise Time: 36ms Fall Time: 36ms

18.57 13.000

Description

The fast diode current modulator MSM 100-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 50 kHz and currents up to 100 A for CW and 200 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 50 kHz and a low frequency input with a bandwidth of 50 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. Technical subjects to change without notice.



Warning!

Document: 10100518	Revision: 000	Date: 29.01.2016
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Data Sheet Fast Modulator MSM 120-50



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or mixed curves Short rise and fall time
Two analog inputs plus BIAS current

Small dimensions, low weight

Specification

Diode current CW 0 ... 120 A

Diode current pulsed 0 ... 240 A (short pulses)

Diode voltage 0 ... 49 V
Output power 5880 W max
Power dissipation 150 W max allowed

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 50 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL Excess temperature TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots + 45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \ x \ 61 \ x \ 20 \ mm \end{array}$

Weight 240 g Ordering Code 10100455

* for internal electronics

Description

The fast diode current modulator MSM 120-50 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 50 kHz and currents up to 120 A for CW and 240 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 50 kHz and a low frequency input with a bandwidth of 50 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point.

Document: 10100455	Revision: 000	Date: 24.04.2014
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Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Bandwidth up to 15 MHz Enhanced performance Two analog inputs

Trigger input



Specification

Diode current 0 ... 1,5 A Diode voltage 0 ... 4 V

Power dissipation 30 W max allowed

Supply voltage 3 V ... 6 V
Supply current 1.5 A max
Rise time 27 ns
Fall time 27 ns
Bandwidth 15 MHz

Inputs

Diode current set point 1 0 ... 1 V (50 Ohm input)

Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 82.5 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 250 g Ordering Code 10100386

Description

The fast diode current modulator VFM 1,5-06 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 15 MHz and currents up to 1.5 A.

The VFM 1,5-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes.

The VFM 1,5-06 has two analogue inputs for the current setpoint, a high frequency input (50 Ohm input impedance) with a bandwidth of 15 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.

Data Sheet Fast Modulator VFM 10-06



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time Enhanced optical performance

Two analog inputs plus BIAS current

Trigger input

Small dimensions, low weight

Specification

Diode current CW 0 ... 10 A
Diode current pulsed 0 ... 20 A
Diode voltage 0 ... 4 V
Output power 40 W max

Power dissipation 30 W max allowed

Supply current 11 A max
Supply voltage* 3 V ... 6 V
Rise time 28 ns
Fall time 32 ns
Frequency (set point 1) 20 MHz max

Frequency (set point 1) 20 MHz max Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 56 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots + 45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \ x \ 61 \ x \ 20 \ mm \end{array}$

Weight 240 g Ordering Code 10100350

* for internal electronics

Description

The fast diode current modulator VFM 10-06 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 10 A for CW and 20A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. A TTL-Trigger input generates fast and clean pulses at the high frequency set point 1.

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VFM 20-06 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz Enhanced optical performance

Two analog inputs Trigger input Small dimensions



Specification

Diode current 0 ... 20 A

Diode current pulsed 0 ... 40 A (short pulses)

Diode voltage 0 ... 4.5 V Output power 90 W max

Power dissipation 30 W max allowed

Supply voltage 3 V ... 6 V
Supply current 20 A max
Rise time 28 ns
Fall time 32 ns
Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

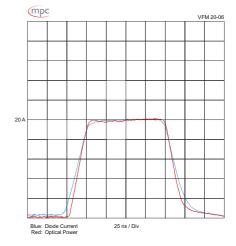
Diode current monitor 0 ... 110 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 250 g Ordering Code 10100351



Description

The fast diode current modulator VFM 20-06 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 20 A for CW and 40 A for pulsed waveforms.

The VFM 20-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The VFM 20-06 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.



VFM 40-06 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz Enhanced optical performance

Two analog inputs Trigger input Small dimensions



Specification

Diode current 0 ... 40 A

Diode current pulsed 0 ... 80 A (short pulses)

Diode voltage 0 ... 4.5 V Output power 180 W max

Power dissipation 60 W max allowed

Supply voltage 3 V ... 6 V
Supply current 40 A max
Rise time 28 ns
Fall time 32 ns
Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

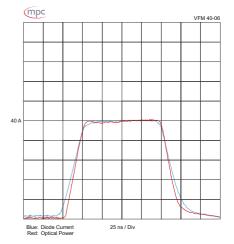
Diode current monitor 0 ... 110 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 255 g Ordering Code 10100353



Description

The fast diode current modulator VFM 40-06 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 40 A for CW and 80 A for pulsed waveforms.

The VFM 40-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The VFM 40-06 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.



VFM 60-06 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz

Enhanced optical performance

Two analog inputs Trigger input Small dimensions



Specification

Diode current 0 ... 60 A

Diode current pulsed 0 ... 120 A (short pulses)

Diode voltage 0 ... 4.5 V Output power 270 W max

Power dissipation 90 W max allowed

Supply voltage 3 V ... 6 V
Supply current 60 A max
Rise time 28 ns
Fall time 32 ns
Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

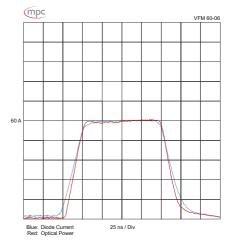
Diode current monitor 0 ... 110 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL



Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 260 g Ordering Code 10100355



Description

The fast diode current modulator VFM 60-06 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 60 A for CW and 120 A for pulsed waveforms.

The VFM 60-06 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The VFM 60-06 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.





Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Optimized for diodes in TO56 package, especially for

OSRAM's TB450 diode Short rise and fall time Bandwidth up to 27 MHz Enhanced performance Two analog inputs

Trigger input



Specification

Diode current 0 ... 1,5 A Diode voltage 0 ... 24 V

Power dissipation 30 W max allowed

Supply voltage 1 V ... 25 V
Supply current 1.5 A max
Supply voltage* 3 V ... 6 V
Rise time 14 ns
Fall time 23 ns
Bandwidth 27 MHz

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 82.5 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready

General specifications

 $\begin{array}{lll} \text{Ambient temperature} & 0 \dots +45 \, ^{\circ}\text{C} \\ \text{Cooling} & \text{Required} \\ \text{Dimensions} & 95 \, \text{x} \, 61 \, \text{x} \, 20 \, \text{mm} \end{array}$

Weight 250 g Ordering Code 10100368

Description

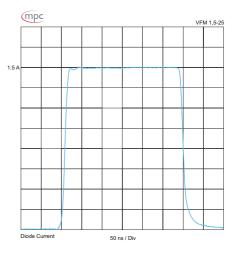
The fast diode current modulator VFM 1,5-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes in TO56 package, especially into OSRAM's blue TB450 diode.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 27 MHz and currents up to 1.5 A.

The VFM 1,5-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes.

The VFM 1,5-25 has two analogue inputs for the current setpoint, a high frequency input (50 Ohm input impedance) with a bandwidth of 27 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.



^{*} for internal electronics

Data Sheet Fast Modulator VFM 10-25



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time

Enhanced optical performance

Two analog inputs plus BIAS current

Trigger input

Small dimensions, low weight

Specification

Diode current CW 0 ... 10 A
Diode current pulsed 0 ... 20 A
Diode voltage 0 ... 24 V
Output power 240 W max
Power dissipation 30 W max allowed

Supply current
Supply voltage
Rise time
Frequency (set point 1)

11 A max
3 V ... 24 V
28 ns
32 ns
20 MHz max

Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

Diode current monitor 0 ... 56 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots + 45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \ x \ 61 \ x \ 20 \ mm \end{array}$

Weight 240 g Ordering Code 10100370

Description

The fast diode current modulator VFM 10-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 10 A for CW and 20A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. A TTL-Trigger input generates fast and clean pulses at the high frequency set point 1.

Technical subjects to change without notice.

Document: 10100370	Revision: 000	Date: 21.11.2014
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VFM 20-25 **Fast Diode Current Modulator**

Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz Enhanced optical performance

Two analog inputs Trigger input Small dimensions



Specification

Diode current 0 ... 20 A

Diode current pulsed 0 ... 40 A (short pulses)

Diode voltage 0 ... 24 V Output power 480 W max

Power dissipation 30 W max allowed

Supply voltage 1 V ... 25 V Supply current 20 A max 3 V ... 6 V Supply voltage* Rise time 28 ns Fall time 32 ns Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

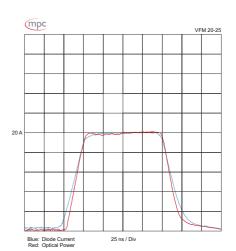
Diode current monitor 0 ... 110 mV (into 50 Ohm) 0 ... 4 V for 0 ... 80°C Temperature

Readv

General specifications

Ambient temperature 0 ... +45 °C Coolina Required 95 x 61 x 20 mm **Dimensions**

250 g 10100371



* for internal electronics

Description

The fast diode current modulator VFM 20-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 20 A for CW and 40 A for pulsed waveforms.

The VFM 20-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The VFM 20-25 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.

Weight Ordering Code



VFM 40-25 Fast Diode Current Modulator

Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz Enhanced optical performance

Two analog inputs Trigger input Small dimensions



Specification

Diode current 0 ... 40 A

Diode current pulsed 0 ... 80 A (short pulses)

Diode voltage 0 ... 24 V Output power 960 W max

Power dissipation 60 W max allowed

Supply voltage 1 V ... 25 V
Supply current 40 A max
Supply voltage* 3 V ... 6 V
Rise time 28 ns
Fall time 32 ns
Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

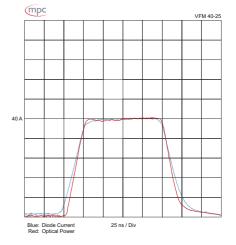
Diode current monitor 0 ... 110 mV (into 50 Ohm) Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 255 g Ordering Code 10100373



Description

The fast diode current modulator VFM 40-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 40 A for CW and 80 A for pulsed waveforms.

The VFM 40-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The VFM 40-25 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.

^{*} for internal electronics



VFM 60-25 **Fast Diode Current Modulator**

Features

Drives arbitrary current waveforms into high voltage,

high power laser diodes

CW, pulsed, modulated or mixed

Short rise and fall time Frequency up to 20 MHz Enhanced optical performance

Two analog inputs Trigger input Small dimensions



Specification

Diode current 0 ... 60 A

Diode current pulsed 0 ... 120 A (short pulses)

Diode voltage 0 ... 24 V Output power 1440 W max Power dissipation 90 W max allowed

Supply voltage 1 V ... 25 V Supply current 60 A max 3 V ... 6 V Supply voltage* Rise time 28 ns Fall time 32 ns Frequency 20 MHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger TTL Enable TTL Reset TTL

Outputs

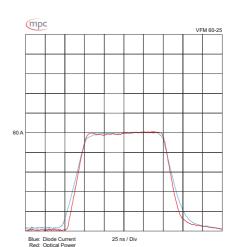
Diode current monitor 0 ... 110 mV (into 50 Ohm) 0 ... 4 V for 0 ... 80°C Temperature

Readv

General specifications

Ambient temperature 0 ... +45 °C Coolina Required 95 x 61 x 20 mm **Dimensions**

260 g Ordering Code 10100375



* for internal electronics

Description

The fast diode current modulator VFM 60-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes.

Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 20 MHz and currents up to 60 A for CW and 120 A for pulsed waveforms.

The VFM 60-25 is small and compact and it is designed for mounting it with low inductance directly at laser diodes or for integrating it in laser diode modules.

The VFM 60-25 has two analogue inputs for the current setpoint, a high frequency input

(50 Ohm input impedance) with a bandwidth of 20 MHz and a low frequency input with a bandwidth of 100 KHz. Both inputs cover the full current range.

Additionally there is a TTL-Trigger input which acts at the high frequency input for generating fast and clean pulses.

Weight

Data Sheet Fast Modulator VFM 20-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time Enhanced optical performance

Two analog inputs plus BIAS current

Trigger input

Small dimensions, low weight

Specification

Diode current CW

Diode current pulsed

Diode voltage

Output power

Power dissipation

0 ... 20 A

0 ... 40 A

0 ... 49 V

980 W max

30 W max allowed

Supply voltage 1 V ... 49 V Supply current 20 A max

Supply voltage* 3 V ... 6 V (* for internal electronics)

Rise time 55 ns
Fall time 55 ns
Frequency (set point 1) 9 MHz max
Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input)
Diode current set point 2 0 ... 5 V (high impedance)

Trigger, Enable, Reset TTI

Outputs

Diode current monitor 0 ... 110 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots +45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \ x \ 61 \ x \ 20 \ mm \end{array}$

Weight 240 g Ordering Code 10100414

Description

The fast diode current modulator VFM 20-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 9 MHz and currents up to 20 A for CW and 40 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 9 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. A TTL-Trigger input generates fast and clean pulses at the high frequency set point 1. Technical subjects to change without notice.



Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

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Data Sheet Fast Modulator VFM 40-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time Enhanced optical performance Two analog inputs plus BIAS current

Trigger input

Small dimensions, low weight

Specification

Diode current CW 0 ... 40 A
Diode current pulsed 0 ... 80 A
Diode voltage 0 ... 49 V
Output power 1960 W max
Power dissipation 60 W max allowed

Supply voltage 1 V ... 49 V Supply current 40 A max

Supply voltage* 3 V ... 6 V (* for internal electronics)

Rise time 56 ns
Fall time 56 ns
Frequency (set point 1) 8,9 MHz max

Frequency (set point 1) 8,9 MHz max

Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger, Enable, Reset TTI

Outputs

Diode current monitor 0 ... 110 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

 $\begin{array}{lll} \mbox{Ambient temperature} & 0 \dots +45 \ ^{\circ}\mbox{C} \\ \mbox{Cooling} & \mbox{Required} \\ \mbox{Dimensions} & 95 \ x \ 61 \ x \ 20 \ mm \end{array}$

Weight 240 g Ordering Code 10100416

Description

The fast diode current modulator VFM 40-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 9 MHz and currents up to 40 A for CW and 80 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 8,9 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. A TTL-Trigger input generates fast and clean pulses at the high frequency set point 1. Technical subjects to change without notice.



Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Document: 10100416	Revision: 000	Date: 20.01.2016
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Data Sheet Fast Modulator VFM 60-50



Features

Drives arbitrary current waveforms into laser diodes

CW, pulsed, modulated or mixed curves

Very short rise and fall time Enhanced optical performance

Two analog inputs plus BIAS current

Trigger input

Small dimensions, low weight

Specification

Diode current CW 0 ... 60 A
Diode current pulsed 0 ... 120 A
Diode voltage 0 ... 49 V
Output power 2940 W max
Power dissipation 90 W max allowed

Supply voltage 1 V ... 49 V Supply current 60 A max

Supply voltage* 3 V ... 6 V (* for internal electronics)

Rise time 60 ns
Fall time 60 ns
Frequency (set point 1) 8,3 MHz max

Frequency (set point 2) 100 kHz max

Inputs

Diode current set point 1 0 ... 500 mV (50 Ohm input) Diode current set point 2 0 ... 5 V (high impedance)

Trigger, Enable, Reset TTL

Outputs

Diode current monitor 0 ... 110 mV (into 50 Ohm)
Temperature 0 ... 4 V for 0 ... 80°C

Ready TTL

General specifications

Ambient temperature 0 ... +45 °C
Cooling Required
Dimensions 95 x 61 x 20 mm

Weight 240 g Ordering Code 10100417

Description

The fast diode current modulator VFM 60-25 is a linear modulator with improved properties for driving arbitrary current waveforms or fast pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 8,3 MHz and currents up to 60 A for CW and 120 A for pulsed waveforms. The modulator is small and compact and it is designed for mounting with low inductance directly at laser diodes or for integrating in laser diode modules. It has two analogue inputs for the current set point: a high frequency input (50 Ohm input impedance) with a bandwidth of 8,3 MHz and a low frequency input with a bandwidth of 100 KHz. Additionally there is a 10 turns potentiometer for generating a CW-current (bias current). All set points are added and build the effective current set point. A TTL-Trigger input generates fast and clean pulses at the high frequency set point 1.

Technical subjects to change without notice.



Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Document: 10100417	Revision: 000	Date: 20.01.2016
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Data Sheet Fast Diode Current Modulator MCM 10-25-z



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 10A

Diode current pulsed 0 ... 20A (short pulses)

Diode voltage 1 ... 22,5V Output power 230W

 $\begin{array}{lll} \mbox{Power dissipation} & 30\mbox{W max allowed} \\ \mbox{Supply voltage} & 3,5 \dots 24,5\mbox{V} \\ \mbox{Supply current} & \mbox{max 11A} \\ \mbox{Rise time / Fall time} & 6\mu\mbox{s} / 6\mu\mbox{s} \\ \mbox{Frequency (set point 1)} & \mbox{max 80kHz} \\ \mbox{Frequency (set point 2)} & \mbox{max 80kHz} \\ \end{array}$

Signal Inputs / Outputs

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ... 2,5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Cooling Required Frequency bandwidth DC ... 93kHz (set point 1)
Dimensions 87 x 72 x 41mm Frequency bandwidth DC ... 68kHz (set point 2)

Weight 220g Accuracy $\pm 0.2\%$ Internal DA-converter 12-bit

Description

The diode current modulator MCM 10-25-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 10A for CW and 20A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 10-25-U	USB	10100555
MCM 10-25-R	RS 232	10100570



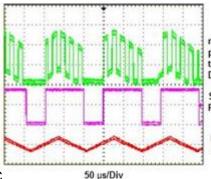
Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Technical subjects to change without notice.

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modulated, pulsed and triggered Diode current

Software Pulse

Data Sheet





Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 20A

Diode current pulsed 0 ... 40A (short pulses)

Diode voltage 1 ... 22,5V Output power 460W

Power dissipation 60W max allowed Supply voltage 3,5 ... 24,5V supply current max 21A Rise time / Fall time 6µs / 6µs Frequency (set point 1) max 80kHz frequency (set point 2) max 80kHz

Signal Inputs / Outputs

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ... 2.5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Weight 220g Accuracy \pm 0,2% Internal DA-converter 12-bit

Description

The diode current modulator MCM 20-25-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 20A for CW and 40A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 20-25-U	USB	10100556
MCM 20-25-R	RS 232	10100571



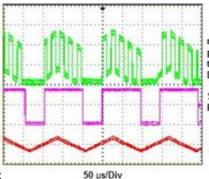
Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Technical subjects to change without notice.

Document: 10100556	Revision: 01	Date: 23.03.2016
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modulated, pulsed and triggered Diode current

Software Pulse

Data Sheet Fast Diode Current Modulator MCM 30-25-z



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 30A

Diode current pulsed 0 ... 60A (short pulses)

Diode voltage 1 ... 22,5V Output power 690W

Power dissipation 90W max allowed Supply voltage 3,5 ... 24,5V Supply current max 31A Rise time / Fall time 6µs / 6µs Frequency (set point 1) max 80kHz

Signal Inputs / Outputs

Frequency (set point 2)

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ... 2,5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

max 80kHz

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Cooling Required Frequency bandwidth DC ... 93kHz (set point 1)
Dimensions 87 x 72 x 41mm Frequency bandwidth DC ... 68kHz (set point 2)

Weight 220g Accuracy $\pm 0,2\%$ Internal DA-converter 12-bit

Description

The diode current modulator MCM 30-25-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 30A for CW and 60A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 30-25-U	USB	10100557
MCM 30-25-R	RS 232	10100572



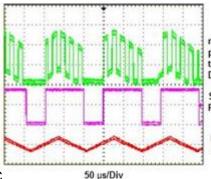
Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Technical subjects to change without notice.

Document: 10100557	Revision: 1	Date: 23.03.2016
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modulated, pulsed and triggered Diode current

Software Pulse

Data Sheet Fast Diode Current Modulator MCM 40-25-z



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 40A

Diode current pulsed 0 ... 80A (short pulses)

Diode voltage 1 ... 22,5V Output power 920W

Power dissipation 120W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 3,5 \dots 24,5 \text{V} \\ \text{Supply current} & \text{max 41A} \\ \text{Rise time / Fall time} & 6 \mu \text{s} / 6 \mu \text{s} \\ \text{Frequency (set point 1)} & \text{max 80kHz} \\ \text{Frequency (set point 2)} & \text{max 80kHz} \\ \end{array}$

Signal Inputs / Outputs

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ... 2,5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Cooling Required Frequency bandwidth DC ... 93kHz (set point 1)
Dimensions 87 x 72 x 41mm Frequency bandwidth DC ... 68kHz (set point 2)

Weight 220g Accuracy $\pm 0,2\%$ Internal DA-converter 12-bit

Description

The diode current modulator MCM 40-25-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 40A for CW and 80A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 40-25-U	USB	10100558
MCM 40-25-R	RS 232	10100573



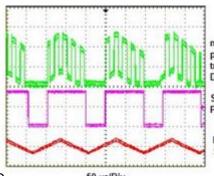
Warning

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Technical subjects to change without notice.

Document: 10100558	Revision: 0	Date: 24.02.2015
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modulated, pulsed and triggered Diode current

Software Pulse

Data Sheet

Fast Diode Current Modulator MCM 10-50-z



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 10A

Diode current pulsed 0 ... 20A (short pulses)

Diode voltage 1 ... 46V Output power 460W

Power dissipation 30W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 24,5 \dots 50V \\ \text{Supply current} & \text{max 11A} \\ \text{Rise time / Fall time} & 6 \mu \text{s} / 6 \mu \text{s} \\ \text{Frequency (set point 1)} & \text{max 80kHz} \\ \text{Frequency (set point 2)} & \text{max 80kHz} \\ \end{array}$

Signal Inputs / Outputs

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ...2.5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Weight 220g Accuracy $\pm 0,2\%$ Internal DA-converter 12-bit

Description

The diode current modulator MCM 10-50-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 10A for CW and 20A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 10-50-U	USB	10100560
MCM 10-50-R	RS 232	10100575



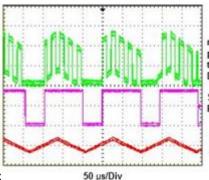
Warning!

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Technical subjects to change without notice.

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modulated, pulsed and triggered Diode current

Software Pulse

Data Sheet Fast Diode Current Modulator MCM 20-50-z



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 20A

Diode current pulsed 0 ... 40A (short pulses)

Diode voltage 1 ... 46V Output power 920W

Power dissipation 60W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 24,5 \dots 50V \\ \text{Supply current} & \text{max 21A} \\ \text{Rise time / Fall time} & 6 \mu \text{s} / 6 \mu \text{s} \\ \text{Frequency (set point 1)} & \text{max 80kHz} \\ \text{Frequency (set point 2)} & \text{max 80kHz} \\ \end{array}$

Signal Inputs / Outputs

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ... 2,5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Cooling Required Frequency bandwidth DC ... 93kHz (set point 1)
Dimensions 87 x 72 x 41mm Frequency bandwidth DC ... 68kHz (set point 2)

Weight 220g Accuracy $\pm 0,2\%$ Internal DA-converter 12-bit

Description

The diode current modulator MCM 20-50-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 20A for CW and 40A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 20-50-U	USB	10100561
MCM 20-50-R	RS 232	10100576



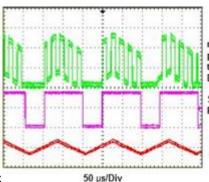
Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Technical subjects to change without notice.

Document: 10100561	Revision: 1	Date: 23:03:2016
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modulated, pulsed and triggered Diode current

Software Pulse

Data Sheet Fast Diode Current Modulator MCM 30-50-z



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 30A

Diode current pulsed 0 ... 60A (short pulses)

Diode voltage 1 ... 46V Output power 1380W

Power dissipation 90W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 24,5 \dots 50V \\ \text{Supply current} & \text{max 31A} \\ \text{Rise time / Fall time} & 6 \mu \text{s} / 6 \mu \text{s} \\ \text{Frequency (set point 1)} & \text{max 80kHz} \\ \text{Frequency (set point 2)} & \text{max 80kHz} \\ \end{array}$

Signal Inputs / Outputs

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ... 2,5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Weight 220g Accuracy $\pm 0,2\%$ Internal DA-converter 12-bit

Description

The diode current modulator MCM 30-50-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 30A for CW and 60A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 30-50-U	USB	10100562
MCM 30-50-R	RS 232	10100577



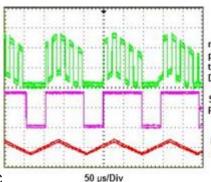
Warning!

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Technical subjects to change without notice.

Document: 10100562	Revision: 1	Date: 23.03.2016
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modulated, pulsed and triggered Diode current

Software Pulse

Data Sheet Fast Diode Current Modulator MCM 40-50-z



Features

Drives arbitrary current waveforms into laser diodes CW, pulsed, modulated or arbitrary curves External trigger input, internal pulse generator Short rise and fall time

Two analog hardware inputs plus software BIAS current Serial interface for configuration, controlling and monitoring

Specification

Diode current CW 0 ... 40A

Diode current pulsed 0 ... 80A (short pulses)

Diode voltage 1 ... 46V Output power 1840W

Power dissipation 120W max allowed

 $\begin{array}{lll} \text{Supply voltage} & 24,5 \dots 50V \\ \text{Supply current} & \text{max 41A} \\ \text{Rise time / Fall time} & 6 \mu \text{s} / 6 \mu \text{s} \\ \text{Frequency (set point 1)} & \text{max 80kHz} \\ \text{Frequency (set point 2)} & \text{max 80kHz} \\ \end{array}$

Signal Inputs / Outputs

Diode current set point 1 0 ... 500mV (50 Ohm input)
Diode current set point 1 pulse 0 ...1000mV (50 Ohm input)
Diode current set point 2 0 ... 5V (high impedance)
Enable & Reset / Trigger Open Collector / TTL

Diode current monitor 0 ... 2,5V

Temperature 1863,9mV ... 919mV for 0 ... 80°C

Ready Open Collector

General Specifications

Ambient temperature 0 ... +45°C Temperature stability ±150ppm / °C

Cooling Required Frequency bandwidth DC ... 93kHz (set point 1)
Dimensions 87 x 72 x 41mm Frequency bandwidth DC ... 68kHz (set point 2)

Weight 220g Accuracy $\pm 0,2\%$ Internal DA-converter 12-bit

Description

The diode current modulator MCM 40-50-z is a linear modulator with excellent properties for driving arbitrary current waveforms or pulses into laser diodes. Current waveforms can be CW, pulsed, modulated or mixed with frequencies up to 80 kHz and currents up to 40A for CW and 80A for short pulsed waveforms. An internal pulse generator and an external trigger input generate fast and clean pulses. The modulator is small and compact and it is designed for mounting with low inductance at laser diodes or for integration in laser diode modules. It has two hardware analogue inputs for the current set point and one software BIAS current set point. All set points are added and build the effective current set point. Configuration, controlling and monitoring with PC, notebook or tablet.

Туре	Interface	Order Code
MCM 40-50-U	USB	10100563
MCM 40-50-R	RS 232	10100578



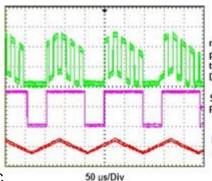
Warning

Risk of exposure of hazardous laser radiation in combination with laser light emitting devices!

Technical subjects to change without notice.

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modulated, pulsed and triggered Diode current

Software Pulse