

10Gb/s Optical Modulator Driver

KG-RF-10

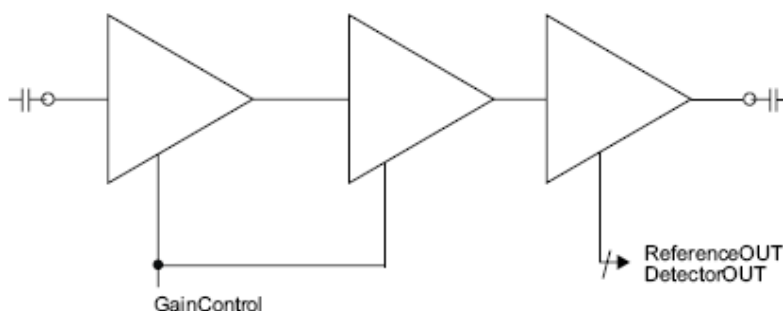
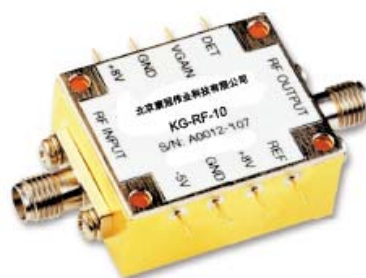
The KG-RF-10 optical modulator driver provides a high-quality, single-ended voltage to drive an external laser modulator. Typical applications include driving EML, EAM, and Mach-Zehnder style modulators. It amplifies 2.488 to 12Gb/s data input signals to $>+7.0\text{Vpp}$ drive levels. The flat gain and flat group delay response yield a high-quality, low-jitter electrical drive signal. The driver meets applicable SONET and SDH standards for OC-192 10Gb/s optical transmitters and includes reference and detector outputs to enable external temperature-compensated control of output drive levels. The module has field replaceable input and output K-connectors for the input/output drive signals and an eight-pin connector for the detector, reference, and power interfaces.

Key Features

- Low power, 4.9W
- Low jitter
- Data rates from 2.488 to 12.2Gb/s

Applications

- SONET/SDH equipment
- SR, IR, LR optical transmitters



Optical Specifications

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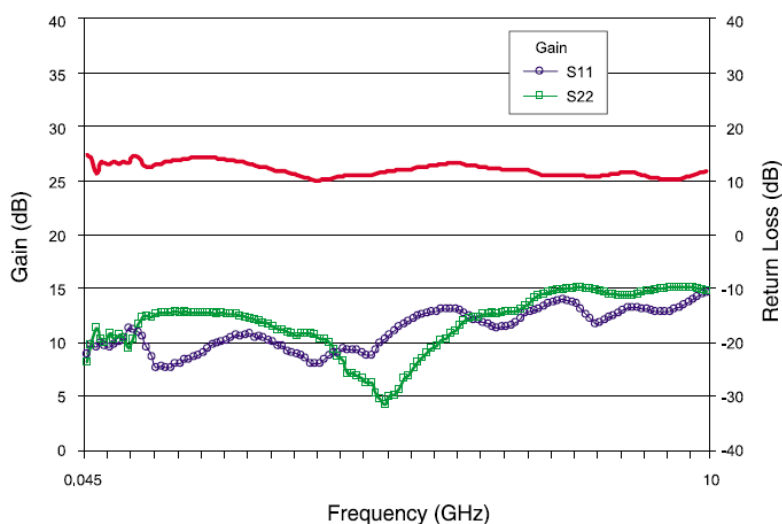
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Parameter	Specification	Min	Typ	Max
Data rate	2.488to12.2Gb/s	2.488Gb/s		12.2Gb/s
Frequency response	75KHz to 10GHz	75KHz		10GHz
Output amplitude	>+7V		7.0	7.5
P _{ldB} output	>22dBm		22dBm	23dBm
P _{sat} output	>24dBm		24dBm	
Gain	14 to24dB, variable	24dB	26dB	
Gain ripple	±1.5dB			
Gain control range (0 to -10 Vdc using external 510W resistor)		10dB	12dB	
Group delay (2 to 10 GHz)			±25ps	
Noise figure	11dB			
Input, output impedance	50 ohms			
Input range	500mv to 1.5v			
Input VSWR	75to 200KHz		1.9:1	2.25:1
	200KHz to -10GHz		1.6:1	2.25:1
Output VSWR			2.0:1	3.0:1
Isolated run of ones or xeros	100bits			
Pulse response(typical)	Overshoot/undershoot 10% Droop 10% Rise time 40 PS			

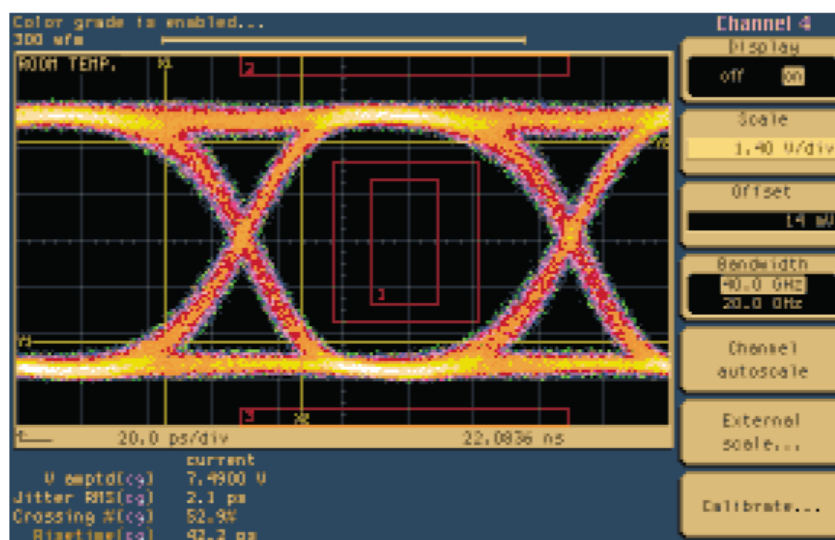
Gain and Return LOSS VS. Frequency

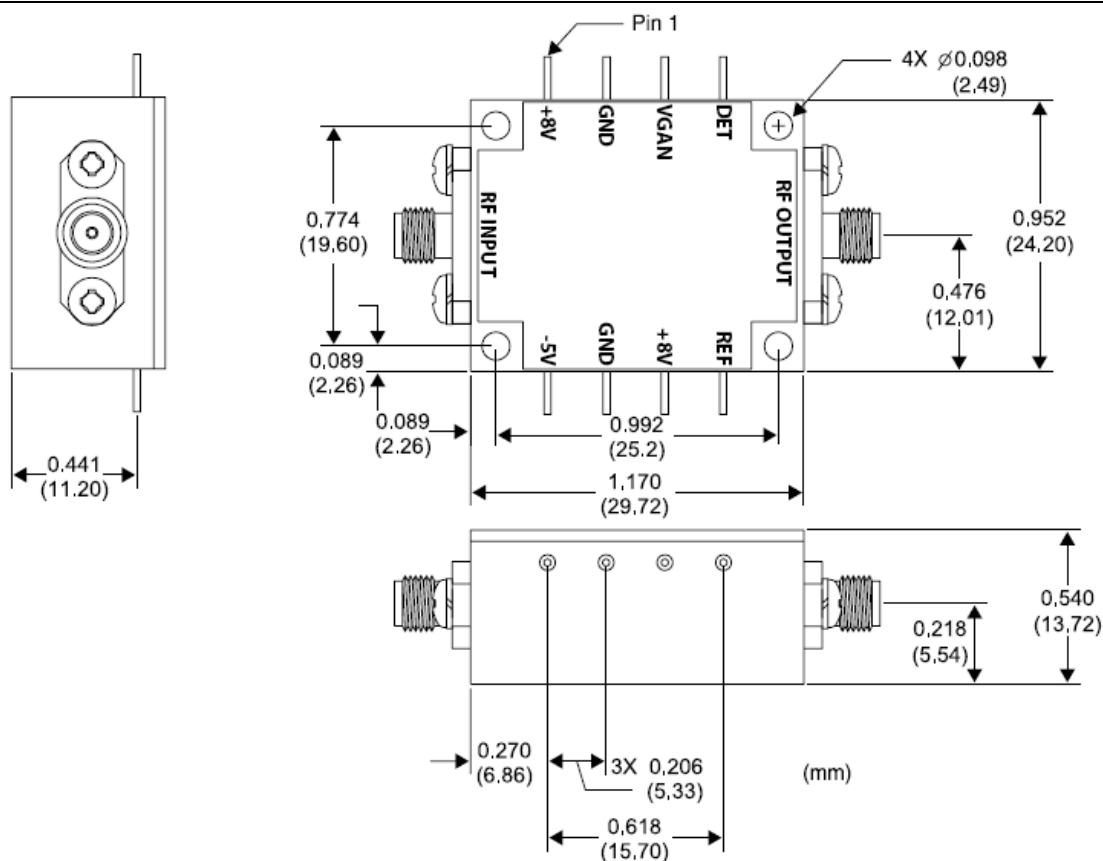


General Specifications

	Min	Typ	Max
Operating temperature	0℃		70℃
Storage temperature	-40℃		10085℃
Operating humidity, non-condensing			85%
Storage humidity, non-condensing			97%
Altitude	0		3,048m(10,000 ft)
Soldering process temperature(30s)			215℃
Process temperature (24 houts)			150℃
Dimensions(W×H×D)	3.0×1.4×2.4cm(1.2×0.5×1.0in)		
Power requirements	+8.0 V DC at 600 mA		+0.5v
	-5.0 V DC at 22 mA		+0.5V
Total power dissipation	4.9W		
Input/output	2.9mm(field replacement""K"		
Power detector/reference/ground	8-pin package		

Eye Diagram





Pinout

Pin/Connector	Name(as viewed from top, traversing clockwise)
K-F or M	INPUT(AC coupled)
1	V _c (8V)
2	Ground
3	Bias(V _{Gain})
4	Det(V _{Det})
k-F or M	OUTPUT(AC coupled)
5	Ref
6	V _c (8V)
7	Ground
8	V _{EE} (-5.0VDC) Case is grounded internally