

40 Gb/s EA Modulator with PMF, Built-in Cooler

1. DESCRIPTION

KGEA40-30C is a C-band electro-absorption (EA) modulator for 40 Gb/s operation with low chirp characteristics in a hermetic sealed package with a V connector.

2. FEATURES

- Low chirp : $\alpha < 0.5$
- 40Gb/s NRZ operation
- Low operating voltage : 3 Vpp
- High modulation bandwidth over 30 GHz
- Built-in thermoelectric cooler (TEC)

3. APPLICATION

- SONET/SDH applications (OC-768)
- VSR/Metro/Long-haul DWDM system applications

4. OPTICAL AND ELECTRICAL CHARACTERISTICS

(at 1550 nm, optical input power 13 dBm, Tsub = 25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	Lin	CW, Vb = 0 V	—	7.5	9	dB
Polarization Crosstalk	PCT	CW, Vb = 0 V	23	—	—	dB
Extinction Ratio	ExR	CW, 0 to -4 V	17	20	—	dB
Bandwidth (-3dB, electrical)	fc	Vb = -1.2 V	30	—	—	GHz
TEC Current	Ipe	T = 45°C	—	1	—	A
Thermistor Resistance	Rth	Tthm = 25°C	—	10	—	k:
Thermistor B Constant	B	—	—	3450	—	K

5. ABSOLUTE MAXIMUM RATING

Parameter	Symbol	Ratings	Unit
Operating Case Temperature	Top(c)	0 to +70	°C
Applied Voltage Range	Vop	-5 to +1	V
Input Optical Power (peak power)	Pi	+131)	dBm
TEC Voltage	Vpe	4	V
TEC Current	Ipe	1.8	A

Exceeding these ratings may lead to immediate destruction or permanent deterioration of the device.

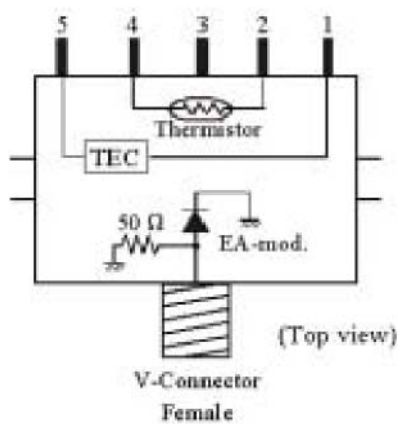
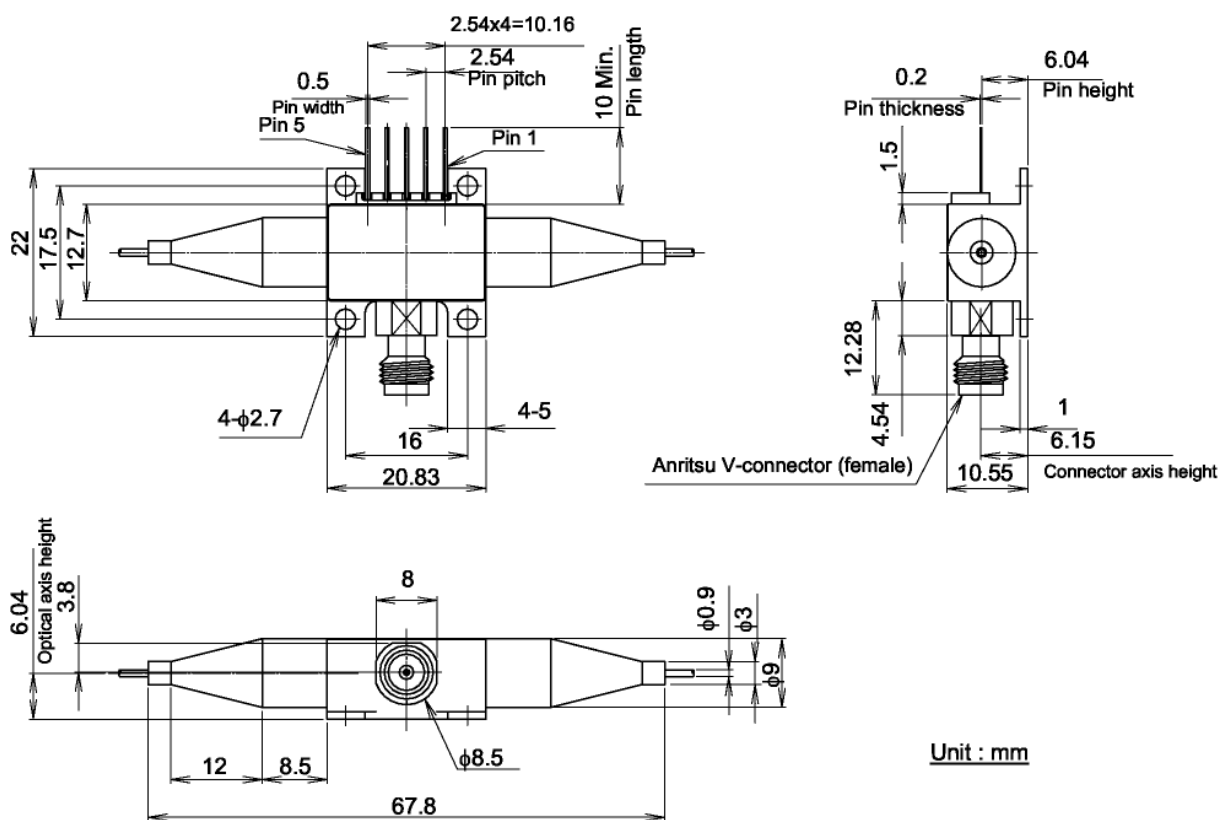
1) Applied voltage range: -5 V < Vop < +1 V

Note: Operation maximum of Applied Voltage Range: -4 to +1 V

6. CONNECTOR AND FIBER SPECIFICATIONS

Parameter	Specifications	Unit
Type	PM F	—
Jacket Diameter	0.9	mm
Length	1 (Min.)	m
Connector	SC/SPC	—

7. OUTLINE DRAWING (All dimensions in millimeters)



PIN	FUNCTION
1	TEC CATHODE
2	THERMISTOR
3	NC
4	THERMISTOR
5	TEC ANODE