DESCRIPTION

The ALM3K series of 1310nm DFB laser modules are intended for use in the transmission of broadband analog signals. Their high linearity makes them especially suitable for RF over fiber applications. All critical components, including optical isolator, TEC, thermistor, laser, and monitor photodiode are hermetically sealed in a butterfly package.

FEATURES

- Directly Modulated 1310 nm DFB Lasers
- K Connector RF port
- Internal thermoelectric cooler, monitor photodiode
- Minimum 10 dBm Optical Output Power

APPLICATIONS

- RF over fiber
- Microwave delay line
- Satellite antenna remoting

MODEL NUMBERS:

MODEL #s	ALM3K-6	ALM3K-10
Bandwidth	6 GHz	10 GHz

OPTICAL FIBER SPECIFICATIONS

- Type: SMF-28e fiber, flame retardant Hytrel coating, 0.9 mm diameter
- Length: 1-meter minimum
- Nominal Pin Lead Length: 5mm (from external package wall)
- SC/APC connector standard

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ELECTRO-OPTICAL CHARACTERISTICS

(T=25°C, unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Threshold Current	I_{TH}		--	12	20	mA
Operating Case Temperature	T_C		-10		65	°C
Operating Current	I_{OP}		-	60	80	mA
Operating Voltage	V_{OP}		--	1.8	2.1	V
Operating Output Power	P_o		10		-	dBm
Monitor PD Responsivity	r_{MPD}	--	100		1000	μA/mW
Dark Current	I_D	I_{OP}= 0mA	--		0.2	μA
Operating Wavelength	λ_{OP}	$I_F=I_{OP}$, $T=T_{OP}$	1300	1310	1320	nm
Side Mode Suppression	SMSR	$I_F=I_{OP}$	35	40	--	dB
Optical Isolation	ISO		30		--	dB
Optical Return Loss	ORL		40		--	dB
Nominal Input Impedance	Z_{IN}	--	50 typical			Ohms
Bandwidth (-3 dB)		ALM3K-6 ALM3K-10	6 10		GHz	
TEC Current	I_{TEC}	-40<T_C<65°C, I_F=100 mA	-1.0		1.4	Amp
Thermistor Resistance	R_{TH}		9.5		10.5	kΩ
TE Cooler Voltage	V_{TH}		-2.5		3.8	V
Input 1 dB Compression Pt			13		--	dBm
Input 3rd Order Intercept	IIP3		25		--	dBm
Relative Intensity Noise	RIN		--	--	-150	dB/Hz

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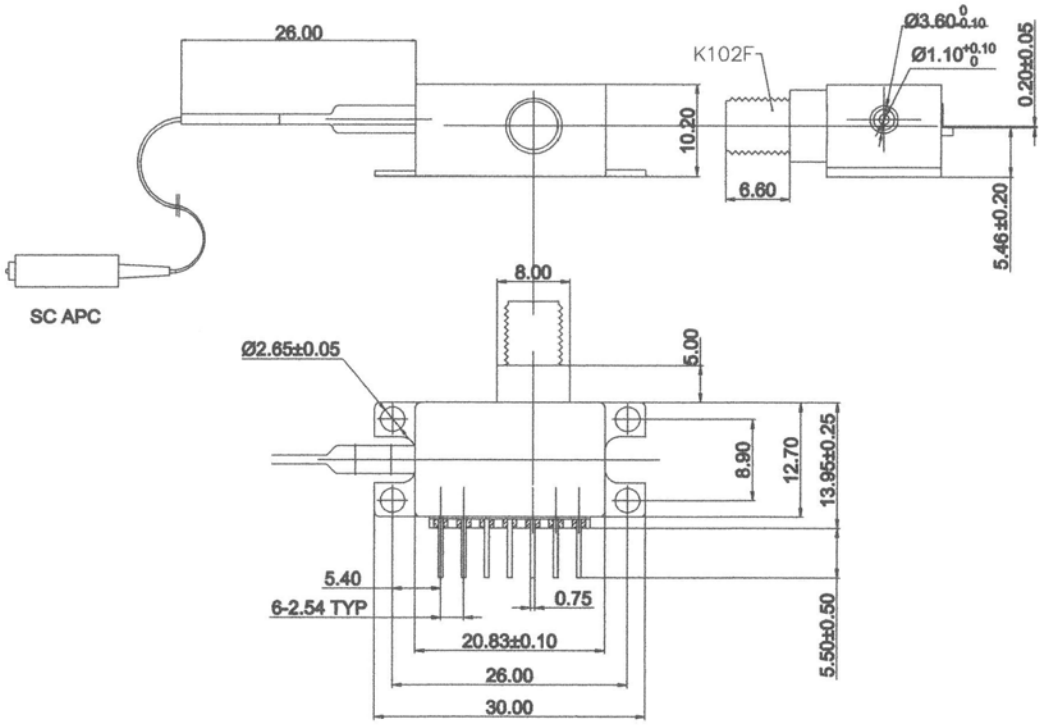
MAXIMUM RATINGS (T=25°C, unless otherwise specified)

PARAMETER	CONDITION	LIMIT
Storage Temperature	continuous	-40 to +85°C
Monitor Photodiode Reverse Voltage	60 seconds	15 V
	continuous	10 V
Forward DC Laser Current	continuous	150 mA
Reverse DC Laser Voltage	continuous	1 V
TE Cooler current	continuous	-1.9A to 1.9 A

PRELIMINARY MECHANICAL DRAWINGS



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PIN ASSIGNMENTS	
PIN #	FUNCTION
1	Thermistor
2	Thermistor
3	Laser Cathode DC Bias
4	MPD Anode
5	MPD Cathode
6	TEC (+)
7	TEC (-)
K-Connector	Laser Cathode RF
Case Ground	Laser Anode

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