


Un-cooled Multimode Pump Laser Module for Telecom Applications

BMUT series

Features:

- High fiber output power, up to 6.0W
- 0.22NA, 105 μ m core multimode fiber pigtail
- Hermetically sealed 2 pin package
- Floating Anode/Cathode
- Telcordia GR-468-CORE compliant
- Low power dissipation
- High reliability
- RoHS compliant 

Applications:

- High power EDFA for CaTV and FTTx
- Er/Yb co-doped double clad pumping



Oclaro BMUT series of un-cooled multimode laser diodes has been designed to provide the high power and reliability required for pumping next generation high power amplifiers for CaTV and FTTx. These multimode laser diode chips incorporate E2 front mirror passivation that prevents Catastrophic Optical Damage (COD) to the laser diode facet. Processes and techniques of coupling the fiber to the laser chip allow high output powers that are very stable with both time and temperature

Devices are available with fiber output power up to 6.0W.

Characteristics

Conditions unless otherwise stated:

Case temperature -5 to 70°C
CW operation

Fiber-coupled output power

4.0W BMUT4-915 & BMUT4-940
4.5W BMUT45-915 & BMUT45-940
5.0W BMUT5-915 & BMUT5-940
5.5W BMUT55-915 & BMUT55-940
6.0W BMUT6-915 & BMUT6-940

Parameter	Symbol	Unit	Min	Typ	Max	Conditions
Operating Case Temperature	T_{op}	°C		35		
Threshold current	I_{th}	A		0.45	0.80	$T_{op} = -5$ to 70°C
Center wavelength	$\lambda_c @ I_f=5.0\text{A} \ \& \ T_{op}= 35^{\circ}\text{C}$	nm	907 931	915 939	922 947	915nm series 940nm series
Operating current (BOL) * $I_{op}(\text{EOL}) = 1.1 * I_{op}(\text{BOL})$	$I_{op} @ T_{op}=35^{\circ}\text{C}$	A		4.5 5.5 6.0 6.5 7.0	5.5 6.0 6.5 7.0 7.5	BMUT4 BMUT45 BMUT5 BMUT55 BMUT6
Operating current (BOL)	$I_{op} @ T_{op} = 70^{\circ}\text{C}$	A		5.0 5.9 6.4 7.2 8.0	5.6 6.6 7.0 7.9 8.8	BMUT4 BMUT45 BMUT5 BMUT55 BMUT6
Operating Forward voltage	V_{op}	V		1.8	2.0	$T_{op} = -5$ to 70°C
Spectral width at -13dB	$\Delta\lambda$	nm		1.5	2.0	$T_{op}=35^{\circ}\text{C}$ 5A drive current
Wavelength Shift over temperature	$d\lambda/dT$	nm/°C		0.3	0.4	
Wavelength Shift with power at exit of fiber	$d\lambda/dP_f$	nm/W		0.8		@ 35°C
Slope	dP_f/dI	W/A	0.8	1.0		At threshold (I_{th})

Absolute Maximum Ratings

The absolute maximum ratings are conditions applied to the units for which the units are expected to recover fully their specified performance, unless otherwise stated. Typical test environment is normal laboratory or manufacturing area ambient conditions except as indicated differently.

Parameter	Unit	Min	Typ	Max	Conditions
Operating Case Temperature	°C	-10		75	
Storage temperature	°C	-40		85	
Storage relative humidity	%RH			85	But not to exceed 0.024kg of water per 1.0kg of dry air
Operating Relative Humidity	%RH	5		80	
Pigtail Axial Pull Force	N			5.0	3x10 seconds
Pigtail side pull Force	N			2.5	3x10 seconds
Fiber bend radius	mm	20			
Lead Soldering temperature	°C			350	10 sec
Ex-Fiber Power	W			10	-5 to 70°C, 1 hour max.
Laser Diode forward current	A			10	CW
Laser Diode reverse Current	mA			10	Reverse Voltage <2V
Laser Diode current transient	A			10	t = 1000ns max.
Laser Diode reverse voltage	V			2	

Fiber Specifications

Parameter	Unit	Min	Typ	Max	Note
Fiber core diameter	µm	102	105	108	
Fiber cladding diameter	µm	123	125	127	
Fiber coating diameter	µm	230	245	260	Acrylate material, mechanically strippable
Numerical aperture		0.20	0.22	0.24	
Attenuation at 850nm	dB/km			5	
Proof Test	kpsi	100			
Fiber length	m	1.0			
Fiber proof strength	kg-f	0.5	1.0		

Fiber type: Nufern MM-S105/125-22A
Termination: Bare fiber, rough cleaved.

Package Outline Drawing and Dimensions

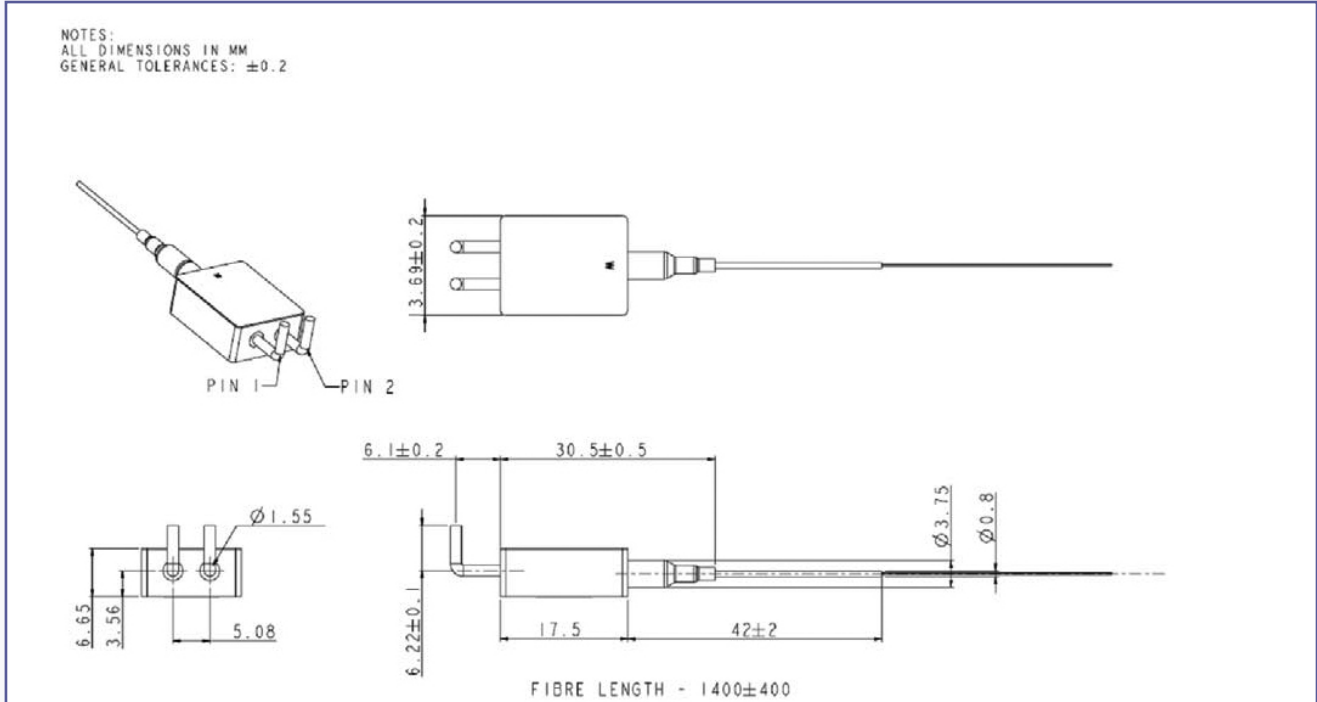


Figure 1: Package Outline Drawing and Dimensions (mm) for BMUT*-***-02-B-R Product.

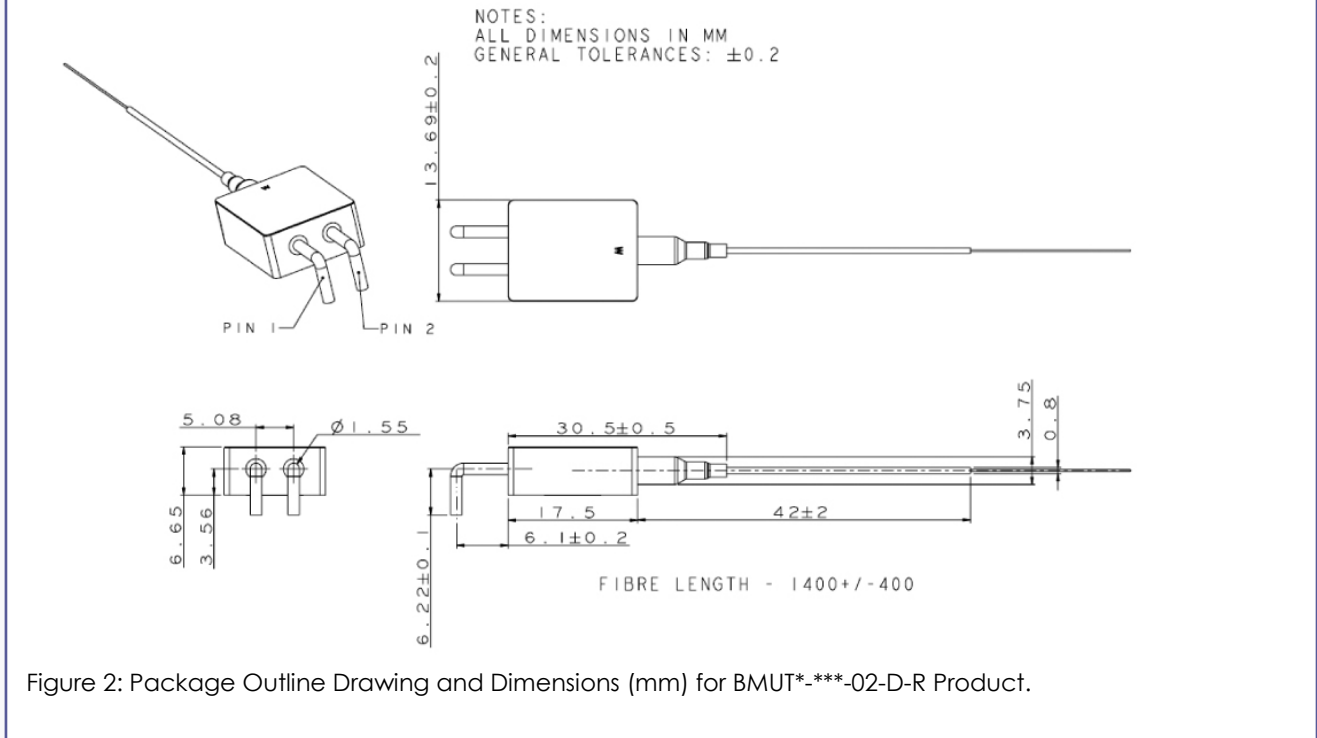


Figure 2: Package Outline Drawing and Dimensions (mm) for BMUT*-***-02-D-R Product.

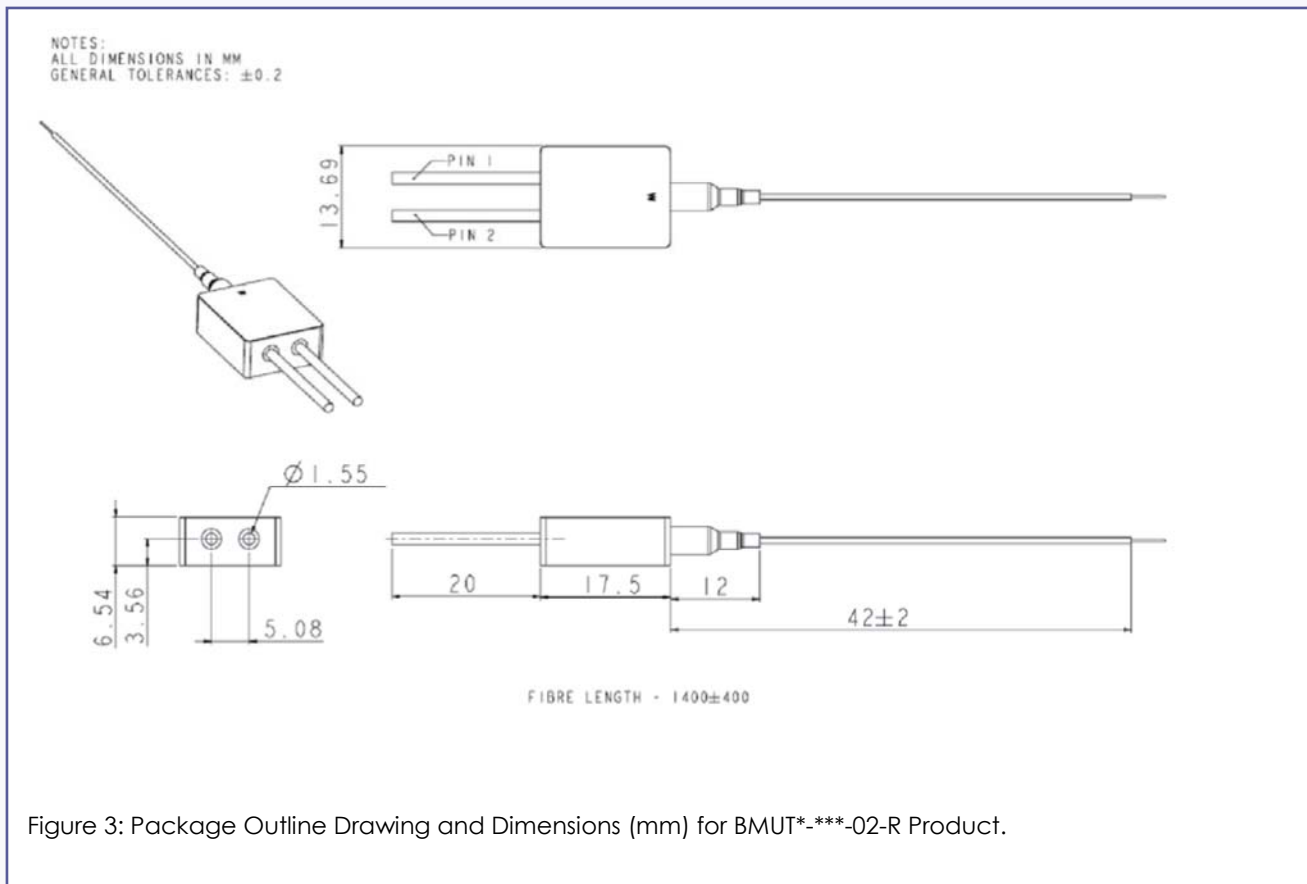


Figure 3: Package Outline Drawing and Dimensions (mm) for BMUT*-***-02-R Product.

Connections

Package Pin Out	
Pin 1	Laser Anode
Pin 2	Laser Cathode

RoHS Compliance



Oclaro is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

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Ordering Information

BMUT4-9xx-02-B-R	4.0W	Formed leads as shown in Figure 1
BMUT45-9xx-02-B-R	4.5W	Formed leads as shown in Figure 1
BMUT5-9xx-02-B-R	5.0W	Formed leads as shown in Figure 1
BMUT55-9xx-02-B-R	5.5W	Formed leads as shown in Figure 1
BMUT6-9xx-02-B-R	6.0W	Formed leads as shown in Figure 1
BMUT4-9xx-02-D-R	4.0W	Formed leads as shown in Figure 2
BMUT45-9xx-02-D-R	4.5W	Formed leads as shown in Figure 2
BMUT5-9xx-02-D-R	5.0W	Formed leads as shown in Figure 2
BMUT55-9xx-02-D-R	5.5W	Formed leads as shown in Figure 2
BMUT6-9xx-02-D-R	6.0W	Formed leads as shown in Figure 2
BMUT4-9xx-02-R	4.0W	Straight leads as shown in Figure 3
BMUT45-9xx-02-R	4.5W	Straight leads as shown in Figure 3
BMUT5-9xx-02-R	5.0W	Straight leads as shown in Figure 3
BMUT55-9xx-02-R	5.5W	Straight leads as shown in Figure 3
BMUT6-9xx-02-R	6.0W	Straight leads as shown in Figure 3

xx=15 for 915nm product
 xx=40 for 940nm product

Important Notice

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