



FEATURES

- InGaAsP/InP-IRED
- Emission Wavelength:
2nd Optical Window (1300 nm)
- Suitable for Bit Rates up to 50 Mbit/s
- 200 Mbit/s with Appropriate Pulse Shaping of Modulation Current
- High Output Power with Double Heterostructure
- High Coupling Efficiency into a 62.5/125 μ m Graded Index Fiber with Built in Optics and Appropriate Second Lens Configuration
- Hermetically Sealed 3-pin Metal Case, Similar to TO 18, AR-Coated Window
- Application:
 - Fiber Optic Communication System

Maximum Ratings

Forward Current DC (I_F)	60 mA
Forward Current $t \leq 10 \mu$ s, $D \leq 1$ (I_{FSM})	100 mA
Reverse Voltage (V_R)	0.5 V
Operating Temperature Range at Case (T_C)	-20° to +80°C
Storage Temperature Range (Ambient Temp.) (T_{STG})	-40° to +80°C
Junction Temperature (T_J)	125°C
Soldering Time (Wave Soldering)	
Pin Length 2mm, 260°C (T_{S1})	10 s
Soldering Time (Dip Soldering)	
Pin Length 2mm, 280°C (T_{S2})	3 s

Characteristics (Output power ratings refers to an optimally coupled 62.5/125 μm GI fiber at $T_A=25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Emission Wavelength (1)	λ_c	1310	nm
Spectral Bandwidth at 50% of Φ_{MAX} (1)	$\Delta\lambda$	130 \pm 30	nm
Radiation Power Coupled into a 62.5/125 μm GI-fiber with Fiber-Lens-Conf., NA = 0.275 (1)	Φ_e	15 to 45	μW
Forward Voltage, $I_F = 50$ mA DC	V_F	1.2	V
Rise and Fall Time (10 to 90%) ($R_L=50 \Omega$, $I_F=50$ mA)	$t_{R,IF}$	3, 4	ns
Capacitance ($V_R=0$ V, $f=1$ MHz)	C_0	100	pF
Temperature Coefficient of Forward Voltage ($I_F=50$ mA)	TC_{VF}	-1.3	mV/K
Temperature Coefficient of Wavelength ($I_F=50$ mA)	TC_λ	0.5	nm/K
Temperature Coefficient of Radiation Power ($I_F=50$ mA) (1)	TC_{Φ_e}	-0.7	%/K
Thermal Resistance			
Junction/Air	R_{thJA}	400	K/W
Junction/Case	R_{thJC}	150	K/W
Frequency Response (2)	$A_{(60/10)}$	0.80	

Notes

- 1 Measured with optical system as shown in example (see below). Driving current is a square wave 50% duty cycle, 60 mA_{PK} current at 1 MHz. Φ_e is the average optical power coupled in the described lens configuration.
- 2 The diode is driven with 30 mA DC and 60 mA_{PK} sine wave at 10 MHz and 60 MHz, respectively. $A_{(60/10)}$ is the ratio of the coupled-in optical power of 60 MHz and 10 MHz modulation frequency.

OPERATING INSTRUCTIONS

In order to achieve an operating lifetime $>10^5$ h which is required for Telecom applications the value listed below should not be exceeded.

Recommended forward current $I_F=50$ mA DC

