

PRODUCT INFORMATION

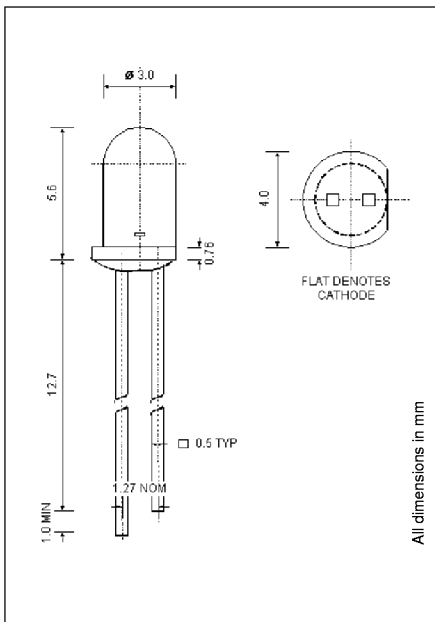
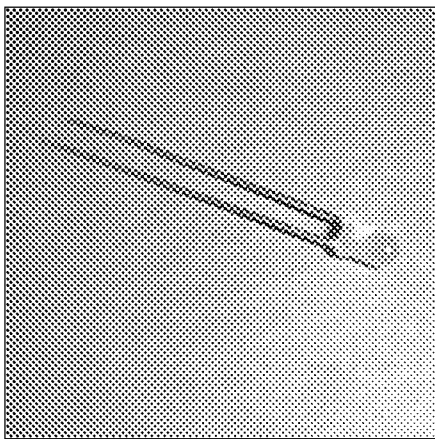
650nm

1A477
Resonant Cavity LED

Plastic Optical Fiber Communication

TENTATIVE

This unique Resonant Cavity Surface-Emitting LED (RCLED) is designed for optical communications over Plastic Optical Fiber (POF) in applications such as IEEE1394 (S100, S200) and 155 Mbps ATM. It is also well suited for applications where visible light is required, such as in sensing and positioning.



T-1 Non-Hermetic Plastic Package

Optical and Electrical Characteristics (25°C Case Temperature)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Fiber-Coupled Power	P_{fiber}		0.5		mW	$I_F=30\text{mA}$ (Note 1)
Optical Power	P_O		0.8		mW	$I_F=30\text{mA}$
Beam Divergence (FWHM)	θ		± 10		deg	$I_F=30\text{mA}$
Bandwidth (3dB _{cl})	f_c	125	140	175	MHz	$I_F=30\text{mA}$
Peak Wavelength	λ_p	640	650	660	nm	$I_F=30\text{mA}$
Spectral Width (FWHM)	$\Delta\lambda$	5	10		nm	$I_F=30\text{mA}$
Forward Voltage	V_F		2.3		V	$I_F=30\text{mA}$

Note 1: Fiber: POF 980/1000 μm Step Index, NA=0.48.

Absolute Maximum Ratings

PARAMETER	SYMBOL	LIMIT
Storage Temperature	T_{stg}	-40 to +85°C
Operating Temperature	T_{op}	0 to +70°C
Electrical Power Dissipation	P_{tot}	130 mW
Continuous Forward Current ($f \leq 10$ kHz)	I_F	50 mA
Peak Forward Current (duty cycle $\leq 50\%$, $f \geq 1$ MHz)	I_{FRM}	85 mA
Reverse Voltage	V_R	5 V
Soldering Temperature (2mm from the case for 10 sec)	T_{sld}	260°C

Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance - Junction to Pin	R_{thjp}		220		°C/W
Temp. Coefficient - Wavelength	$d\lambda/dT_j$		0.07		nm/°C
Optical Power - Variation 0 to 70°C	ΔP		2		dB

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