



HIRL5040

Infrared Emitter for Remote Control

GaAlAs/GaAs

■ Features

- Infrared Light Emitting Diode 940nm
- High output power MIN. 20mW/sr at $I_F = 50$ mA
- Beam Angle $\theta_{1/2}$ TYP. $\pm 25^\circ$
- 5mm Diameter Clear Package

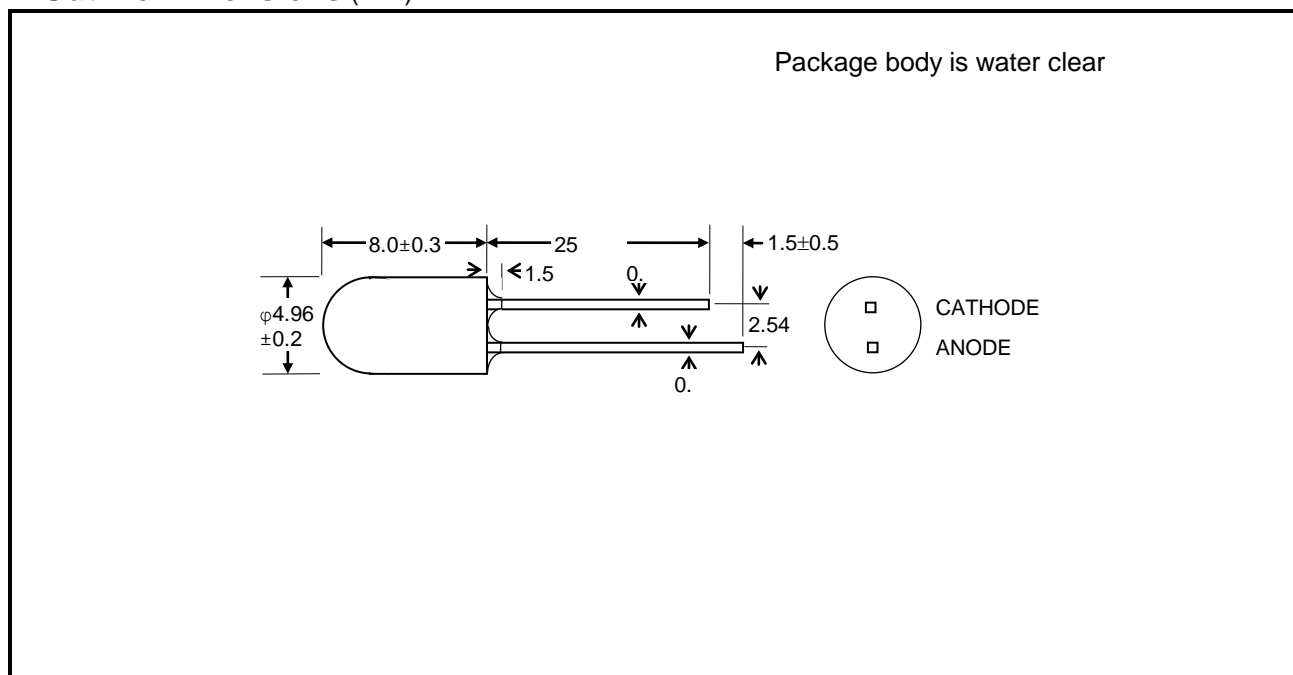
■ Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Rated Value	Unit
Pulsed forward current ($t \leq 10\mu\text{s}$)	I_{PM}	1	A
Forward current	I_{FM}	100	mA
Reverse voltage	V_{RM}	5	V
Operating temperature	T_{opr}	-25 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}	-25 to +100	$^\circ\text{C}$
Power dissipation	P_M	170	mW
Lead Soldering Temperature (5mm from body) for 5 sec.		260	$^\circ\text{C}$

■ Electro-Optical Characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Radiant intensity	Φ_e	$I_F = 50$ mA	20	35		mW/sr
Forward voltage	V_F	$I_F = 100$ mA		1.45	1.7	V
Reverse current	I_R	$V_R = 4$ V			10	μA
Peak emission wavelength	λ_p	$I_F = 50$ mA		940		nm
Spectral bandwidth	$\Delta\lambda$	$I_F = 50$ mA		50		nm
Breakdown voltage	V_{BR}	$I_R = 100$ μA	5	30		V
Capacitance	C_t	$f = 1\text{MHz}, V_R = 0$		25		pF
Switching times (Φ_e from 10% to 90%)	t_r	$I_F = 50$ mA		80		ns
	t_f	$I_F = 50$ mA		180		ns
Half intensity angle	$\theta_{1/2}$	$I_F = 50$ mA		± 25		degree

■ Outline Dimensions (mm)



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