

HIRL5015**Infrared Emitter for IrDA Applications
GaAlAs/GaAs****■ Features**

Infrared Light Emitting Diode 865nm
 High output power MIN. 40mW/sr at $I_F = 100$ mA
 Beam Angle $\theta_{1/2}$ TYP. $\pm 30^\circ$
 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 +80	$^\circ\text{C}$
Storage temperature	T_{stg}	-25 to +100	$^\circ\text{C}$
Power dissipation	P_M	200	mW

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Radiant intensity	Φ_e	$I_F = 100$ mA	40	80		mW/sr
Forward voltage	V_F	$I_F = 100$ mA		1.6	2.0	V
Reverse current	I_R	$V_R = 5$ V			10	μA
Peak emission wavelength	λ_p	$I_F = 100$ mA		865		nm
Spectral bandwidth	$\Delta\lambda$	$I_F = 100$ mA		41		nm
Breakdown voltage	V_{BR}	$I_R = 100$ μA	5	30		V
Capacitance	C_t	$f = 1\text{MHz}$, $V_R = 0$		32		pF
Switching times (Φ_e from 10% to 90%)	t_r	$I_F = 100$ mA		30		ns
	t_f	$I_F = 100$ mA		15		ns
Half intensity angle	$\theta_{1/2}$	$I_F = 100$ mA		± 30		degree

■ Outline Dimensions (mm)