

Features

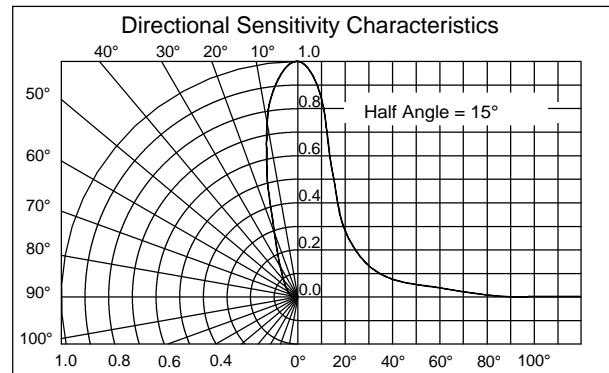
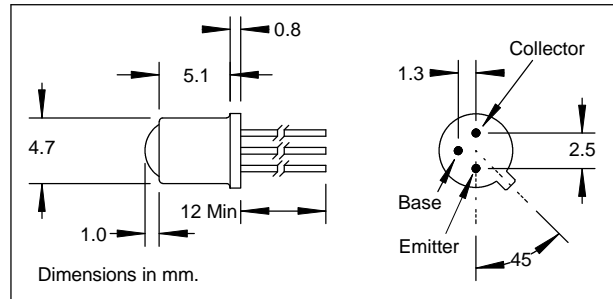
- Narrow receiving angle
- Spectrally matched to IRED
- NPN planar epitaxial process
- TO-18 hermetic dome lens package
- Multiple sensitivity ranges
- Extended temperature range

Description

The SLR-50HL series consists of an NPN silicon planar photodarlington transistor mounted in a hermetically sealed TO-18 dome lens package. The first stage base lead is connected to provide switching control and circuitry biasing if needed. This series of photodarlington devices is ideal in low irradiance applications where higher gain is needed. The hermetic package provides high reliability in hostile environments. The various sensitivity ranges available provide the desired output to meet multiple application demands.

Absolute Maximum Ratings

Storage Temperature Range	-65°C to +150°C
Operating Temperature Range	-55°C to +125°C
Power Dissipation @ 25°C (1)	250mW
Soldering Temperature (2)	260°C



- Notes: (1) Derate @ 2.5mW/°C above 25°C.
 (2) >2 mm from case for <5 sec.
 (3) Ee = source @ $\lambda = 940 \text{ nm}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Min.	Typ	Max.	Units	Test Conditions	
$I_{C(ON)}$	On-State Collector Current:	SLR-50HL1	0.5			mA	$V_{CE}=5V, Ee=0.2\text{mW}/\text{cm}^2 @ 2854^\circ\text{K}$
		SLR-50HL2	2.0			mA	$V_{CE}=5V, Ee=0.2\text{mW}/\text{cm}^2 @ 2854^\circ\text{K}$
		SLR-50HL3	4.0			mA	$V_{CE}=5V, Ee=0.2\text{mW}/\text{cm}^2 @ 2854^\circ\text{K}$
		SLR-50HL4	8.0			mA	$V_{CE}=5V, Ee=0.2\text{mW}/\text{cm}^2 @ 2854^\circ\text{K}$
I_{CEO}	Collector Dark Current			100	nA	$V_{CE}=10V, Ee=0$	
BV_{CEO}	Collector-Emitter Breakdown Voltage	40			V	$I_C=100\mu\text{A}, Ee=0$	
BV_{CBO}	Collector-Base Breakdown Voltage	60			V	$I_C=100\mu\text{A}, Ee=0$	
BV_{ECO}	Emitter-Collector Breakdown Voltage	10			V	$I_E=-100\mu\text{A}, Ee=0$	
$V_{CE(SAT)}$	Collector to Emitter Saturation Voltage			1.1	V	$I_C=0.5\text{mA}, Ee=0.2\text{mW}/\text{cm}^2$	
t_r	Rise & Fall Time		75		μs	$R_L=100 \Omega, I_C=0.5\text{mA}, V_{CC}=5V (3)$	
λ_P	Maximum Sensitivity Wavelength		930		nm		
λ_R	Sensitivity Spectral Range	400		1100	nm		
$\theta_{1/2}$	Acceptance Half Angle		15		deg	(off center-line)	

Specifications subject to change without notice.

103223 REV 1