



SLR-50HF Series

NPN Photodarlington

Features

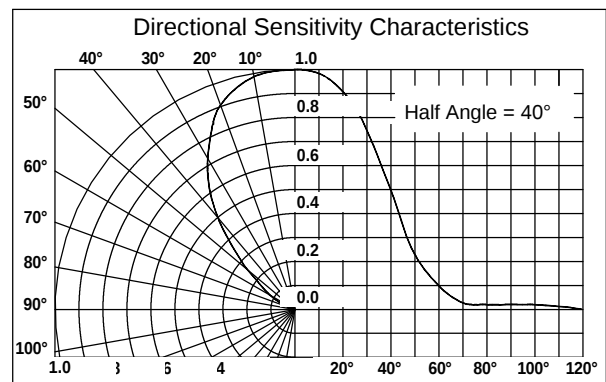
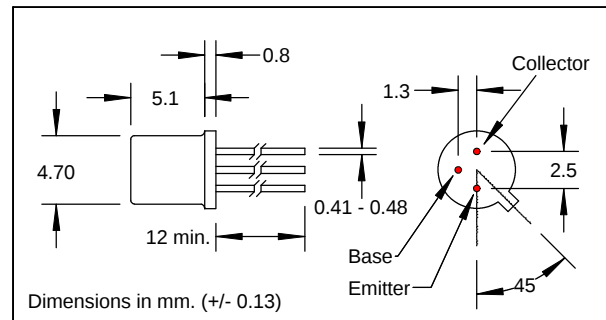
- Wide receiving angle
- TO-18 hermetic flat window
- Multiple sensitivity ranges
- Extended temperature range

Description

The SLR-50HF series consists of an NPN silicon planar photodarlington transistor mounted in a hermetically sealed TO-18 flat window package. The wide angle of receiving sensitivity provides a relatively uniform output over a wide field of view. The first stage base lead is connected for those applications where switching control and circuitry biasing is needed. The TO-18 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
Soldering Temperature (1)	260°C
Power Dissipation @ 25°C (2)	250mW



- Notes: (1) >2 mm from case for <5 sec.
 (2) Derate @ 2.5mW/°C above 25°C.
 (3) Ee = source @ $\lambda = 2854 \text{ }^\circ\text{K}$.
 (4) Ee = source @ $\lambda = 880 \text{ nm}$

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-50HF1	0.6			mA	$V_{CE}=5V$, $E_e=2mW/cm^2$ (3)
	SLR-50HF2	2.0			mA	$V_{CE}=5V$, $E_e=2mW/cm^2$ (3)
	SLR-50HF3	4.0			mA	$V_{CE}=5V$, $E_e=2mW/cm^2$ (3)
	SLR-50HF4	8.0			mA	$V_{CE}=5V$, $E_e=2mW/cm^2$ (3)
I_{CEO}	Collector Dark Current			100	nA	$V_{CE}=10V$, $E_e=0$
BV_{CEO}	Collector-Emitter Breakdown Voltage	40			V	$I_C=100\mu A$, $E_e=0$
BV_{CBO}	Collector-Base Breakdown Voltage	60			V	$I_C=100\mu A$, $E_e=0$
BV_{ECO}	Emitter-Collector Breakdown Voltage	10			V	$I_C=100\mu A$, $E_e=0$
$V_{CE(SAT)}$	Collector to Emitter Saturation Voltage			1.2	V	$I_C=0.5mA$, $E_e=2mW/cm^2$ (3)
t_r, t_f	Rise Time, Fall Time		75		μs	$R_L=100 \Omega$, $I_C=0.50mA$, $V_{CC}=5V$ (4)
λ_P	Maximum Sensitivity Wavelength		930		nm	
λ_R	Sensitivity Spectral Range	400		1100	nm	
$\theta_{1/2}$	Acceptance Half Angle		40		deg	(off center-line)

Specifications subject to change without notice.

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