SPL TR85

Metal Can® TO56

Infrared Laser Diode in TO56 Package

Applications

– Gesture Recognition

Features:

– Laser wavelength 850 nm
– Efficient radiation source for cw and pulsed operation
– Single tranverse mode semiconductor laser
– High modulation bandwidth
– TO56 package with photo diode

Ordering Information

Type	Peak output power typ. T_{case} = 25 °C P_{opt}	Ordering Code
SPL TR85	200 mW	Q65112A1150

Maximum Ratings

Parameter	Symbol		Values
Operating temperature	T_{op}	min.	-20 °C
		max.	60 °C
Storage temperature	T_{stg}	min.	-40 °C
		max.	85 °C
Peak output power	P_{opt}	max.	220 mW
Forward current	I_F	max.	260 mA
Reverse voltage [1]	V_R	max.	3 V
Reverse voltage of photodiode	V_{RPD}	max.	30 V
Soldering temperature t_{max} = 10 s	T_S		260 °C

Operation outside these conditions may damage the device. Operation at maximum ratings may influence lifetime.

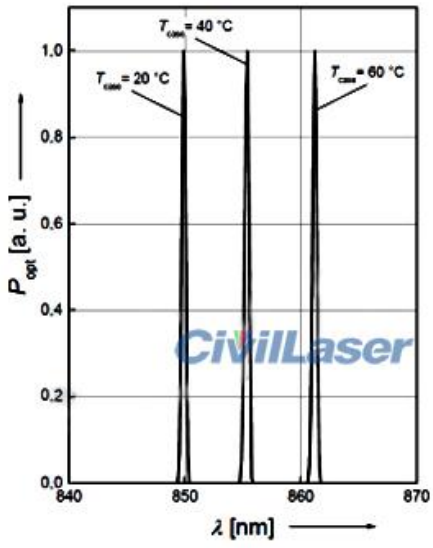
Characteristics

P_{opt} = 200 mW; T_{case} = 25 °C

Parameter	Symbol		Values
Forward current	I_F	typ.	225 mA
		max.	255 mA
Peak wavelength	λ_{peak}	min.	840 nm
		typ.	850 nm
		max.	860 nm
Spectral bandwidth at 50% $I_{e,rel,max}$	$\Delta\lambda$	typ.	3 nm
Beam divergence (FWHM) parallel to pn-junction	$\Theta_{\parallel}$	typ.	6 °
Beam divergence (FWHM) perpendicular to pn-junction	$\Theta_{\perp}$	typ.	19 °
Monitor current [2)3)]	I_m	min.	300 µA
		typ.	500 µA
Threshold current	I_{th}	typ.	56 mA
		max.	85 mA
Forward voltage	V_F	typ.	1.77 V
		max.	2.20 V
TE polarization	P_{TE}	typ.	20:1
Modulation frequency	f	min.	100 MHz
Thermal resistance junction case real	R_{thJC}	typ.	50 K / W

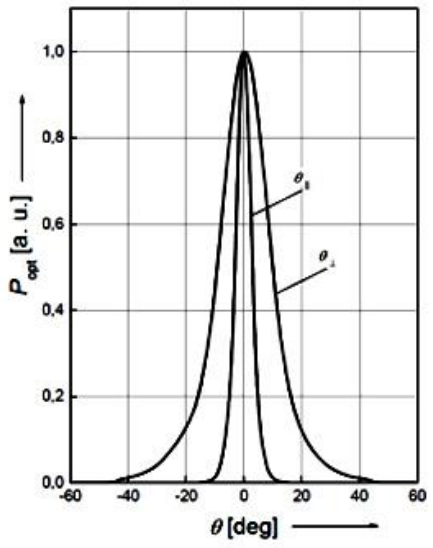
Relative Spectral Emission [4)]

$P_{opt} = f(\lambda)$



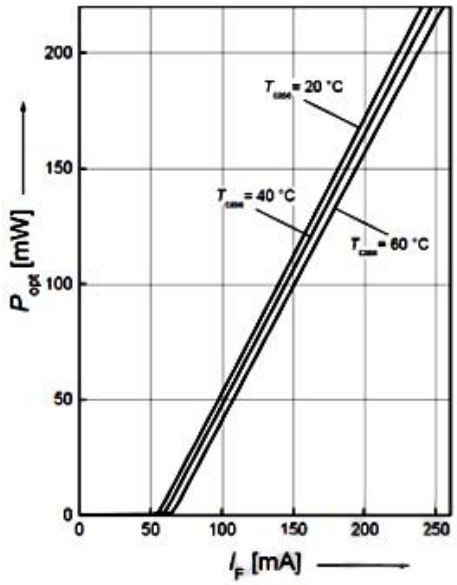
Beam Divergence [4)]

$P_{opt} = f(\theta)$, T_{case} = 25 °C



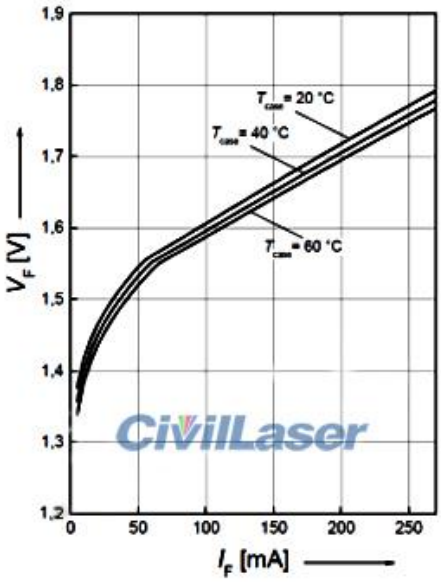
Optical Output Power [4]

$P_{opt} = f(I_F)$



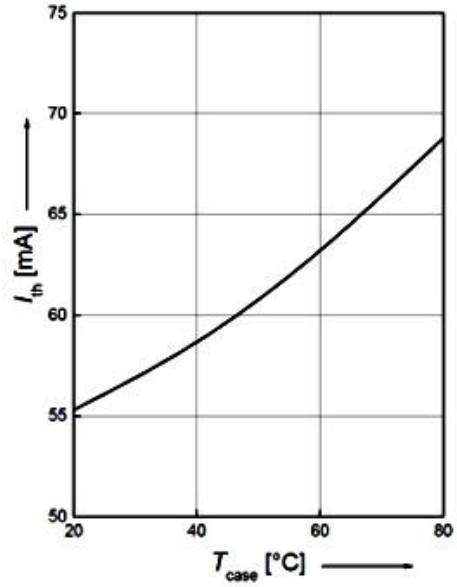
Operating Voltage [4]

$V_F = f(I_F)$

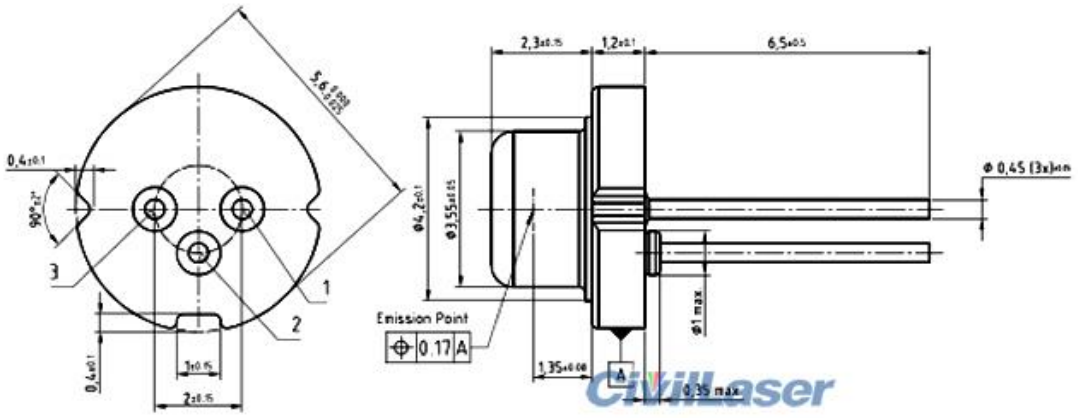


Threshold Current

$I_{th} = f(T_{case})$;

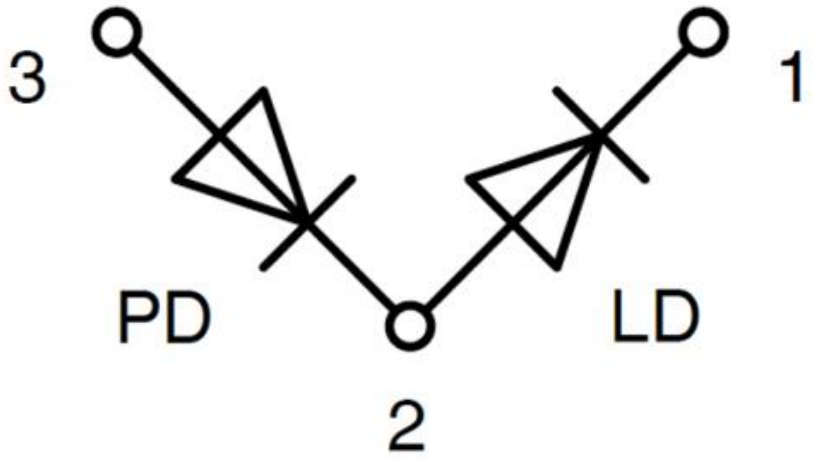


Dimensional Drawing [5)]



Approximate Weight: 310.0 mg

Electrical internal circuit



Pin	Description
1	LD Cathode
2	LD Anode, PD Cathode (case)
3	PD Anode