

SMTT850D-2*50

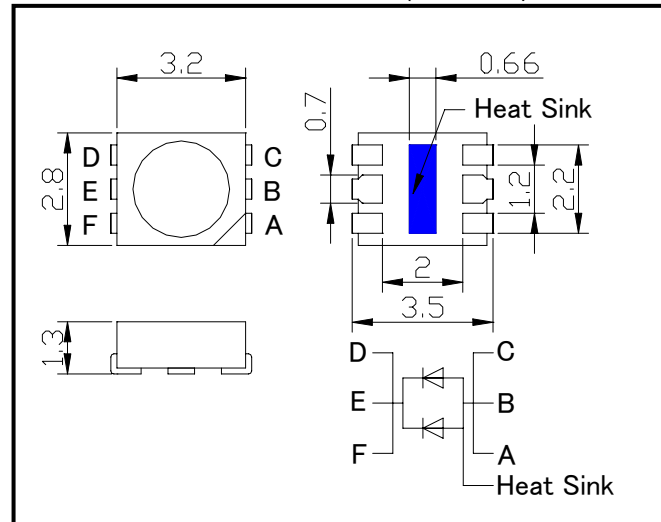
High Performance Infrared TOP LED

SMTT850D-2*50 consists of two large AlGaAs LED mounted on the lead frame as TOP LED package with copper heat sink and is 42mW typical of output power and 20mW/sr of radiant Intensity. This is adequate for strobe flash light and able to emit 0.8W/sr light operating at pulsed current 4A under 3.5V typ. It emits a spectral band of radiation at 850nm.

◆ Specifications

- | | |
|---------------------|---------------|
| 1) Product Name | TOP IR LED |
| 2) Type No. | SMTT850D-2*50 |
| 3) Chip | |
| (1) Chip Material | AlGaAs |
| (2) Chip Dimension | 500um*500nm |
| (3) Chip Numbers | 2pcs |
| (4) Peak Wavelength | 850nm typ. |
| 4) Package | |
| (1) Lead Frame Die | Silver Plated |
| (2) Package Resin | PPA Resin |
| (3) Cap Resin | Clear Epoxy |
| (4) Heat Sink | Copper |

◆ Outer dimension (Unit:mm)



◆ Absolute Maximum Rating

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	300	mW	$T_a=25^\circ\text{C}$
Forward Current	I_F	200	mA	$T_a=25^\circ\text{C}$
Pulse Forward Current	I_{FP}	4000	mA	$T_a=25^\circ\text{C}$
Reverse Voltage	V_R	5	V	$T_a=25^\circ\text{C}$
Operating Temperature	T_{OPR}	-20 ~ +80	$^\circ\text{C}$	
Storage Temperature	T_{STG}	-30 ~ +80	$^\circ\text{C}$	
Soldering Temperature	T_{SOL}	255	$^\circ\text{C}$	

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10us.

‡Soldering condition: Soldering condition must be completed within 10 seconds at 255 $^\circ\text{C}$

◆ Electro-Optical Characteristics [$T_a=25^\circ\text{C}$]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F=100\text{mA DC}$		1.45	1.60	V
		$I_{FP}=4\text{A}$		3.5	4.2	
Reverse Current	I_R	$V_R=5\text{V}$			10	μA
Total Radiated Power	P_O	$I_F=100\text{mA DC}$	32.0	42.0		mW
Radiant Intensity	I_E	$I_F=100\text{mA DC}$		20		mW/sr
		$I_{FP}=4\text{A}$		800		
Peak Wavelength	λ_P	$I_F=50\text{mA DC}$	835	850	865	nm
Half Width	$\Delta\lambda$	$I_F=50\text{mA DC}$		28		nm
Viewing Half Angle	$\theta_{1/2}$	$I_F=50\text{mA DC}$		± 60		deg.
Rise Time	t_r	$I_F=50\text{mA DC}$		15		ns
Fall Time	t_f	$I_F=50\text{mA DC}$		10		ns

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.

‡Heat sink should be provided by soldering for stable use.

USHIO EUROPE B.V. (www.ushio.eu)

Sky Park, Breguetlaan 16-18, 1438 BC, Oude Meer, The Netherlands

Tel: +31-20-4469-333 Fax: +31-20-4469-360 E-mail: led@ushio-europe.nl