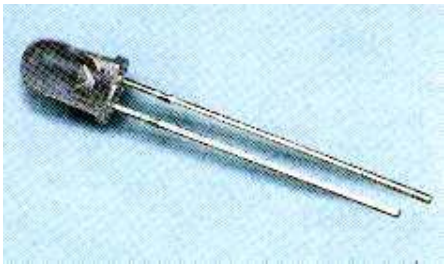
Technical Data Sheet

7383/R5C3-APSB/X/MS

Features



- Popular T-1 3/4 diameter package.
- Choice of various viewing angles.
- Available on tape and reel.
- Reliable and robust.
- ESD-withstand voltage: up to 4KV.
- The product itself will remain within RoHS compliant version.

Descriptions

- The series is specially designed for applications requiring higher brightness
- The LED lamps are available with different colors, intensities, epoxy

Applications

- Optical mouse
- Computer

Device Selection Guide

LED Part No.	Chip Mterial	Emitted Color	Lens Color	Stopper
7383/R5C3-APSB/MS	AlGaInP	Hyper Red	Water Clear	No
7383/R5C3-APSB/P/MS	AlGaInP	Hyper Red	Water Clear	Yes

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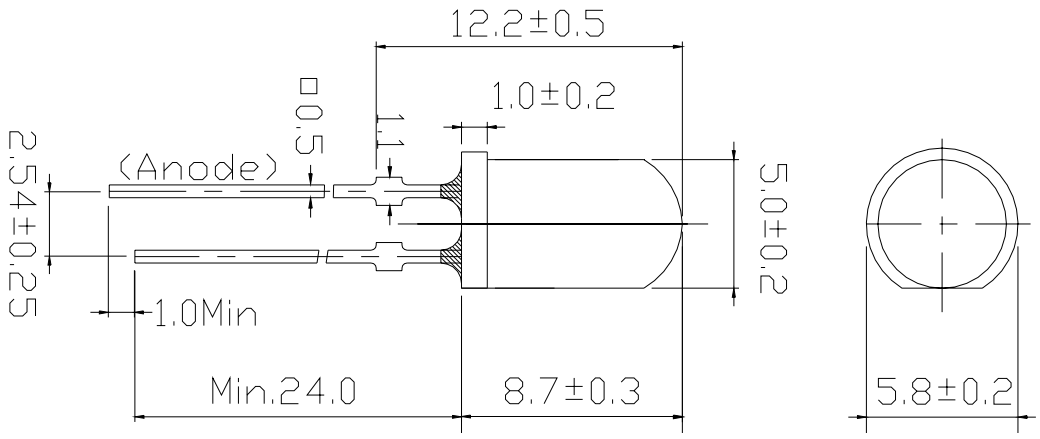
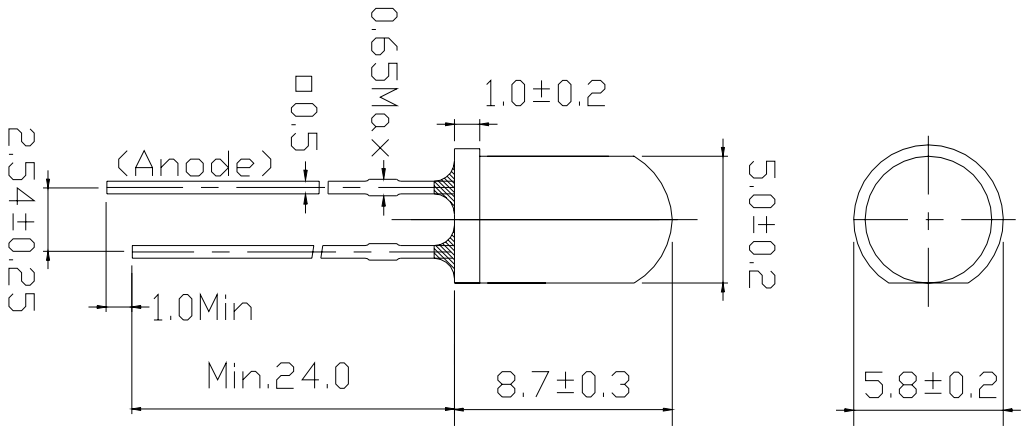
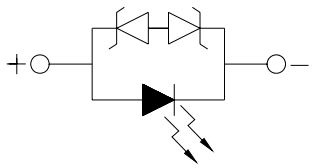
Package Dimensions

Stopper type



No Stopper type





Notes:

- All dimensions are in millimeters, tolerance is 0.25mm except being specified.
- Lead spacing is measured where the lead emerges from the package.
- Protruded resin under flange is 1.5mm Max LED.

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Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Forward Current	I_F	50	mA
Pulse Forward Current*1	I_{FP}	160	mA
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Electrostatic Discharge	ESD	4K	V
Soldering Temperature*2	T_{sol}	260 ±5	℃
Power Dissipation	P_d	120	mW
Zener Reverse Current	Iz	100	mA
Reverse Voltage	V_R	5	V

Notes: *1:I_{FP} Conditions--Pulse Width≦10msec and Duty≦1/10.

*2:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage	V_F	I_F=20mA	--	2.0	2.6	V
Zener Reverse Voltage	Vz	I_Z=5mA	5.2	--	--	V
Luminous Intensity	I_V	I_F=20mA	2850	4500	---	mcd
Viewing Angle	2θ 1/2	I_F=20mA	--	30	--	deg
Peak Wavelength	λ p	I_F=20mA	--	632	--	nm
Dominant Wavelength	λ d	I_F=20mA	--	624	--	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$	I_F=20mA	--	20	--	nm
Reverse Current	I_R	V_R=5V	--	--	50	μA

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Rank Combination (I_F=20mA)

Rank	P	Q	R	S
Luminous Intensity	2850~3600	3600~4500	4500~5650	5650~7150

*Measurement Uncertainty of Luminous Intensity: ±15% Unit: :mcd

Rank	1	2	3	4
Forward Voltage	1.8~2.0	2.0~2.2	2.2~2.4	2.4~2.6

*Measurement Uncertainty of Forward Voltage: ±0.1V Unit:V

Rank	1	2	3
Dominant Wavelength	618~620	620~624	624~628

*Measurement Uncertainty of Dominant Wavelength ±1.0nm Unit:nm

*The quantity ratio of the ranks is decided by EVERLIGHT.

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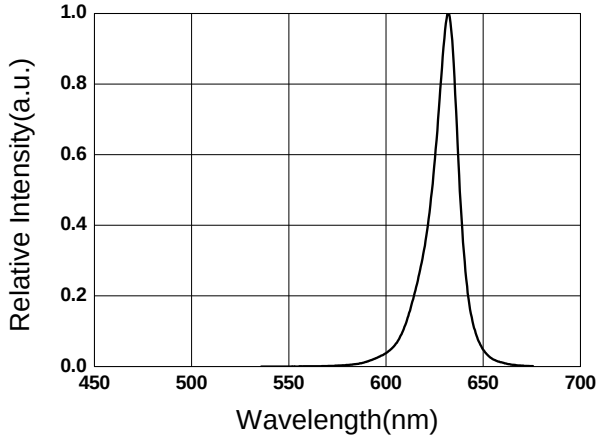
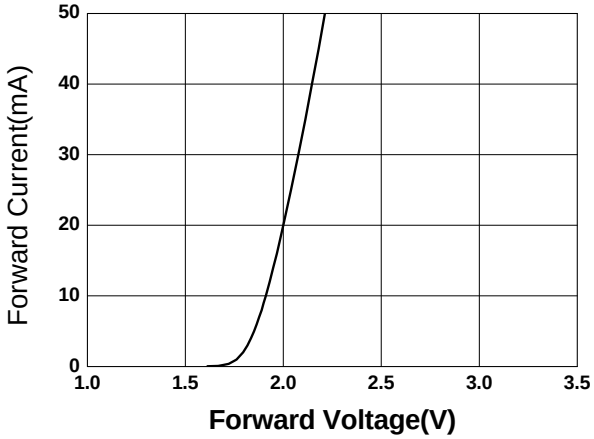
Typical Electro-Optical Characteristics Curves

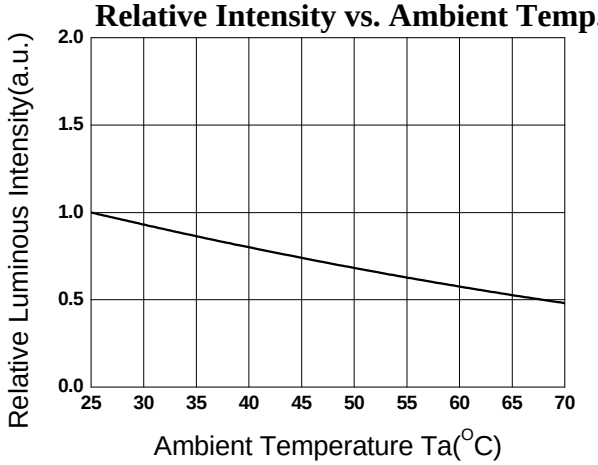
Relative Intensity vs. Wavelength



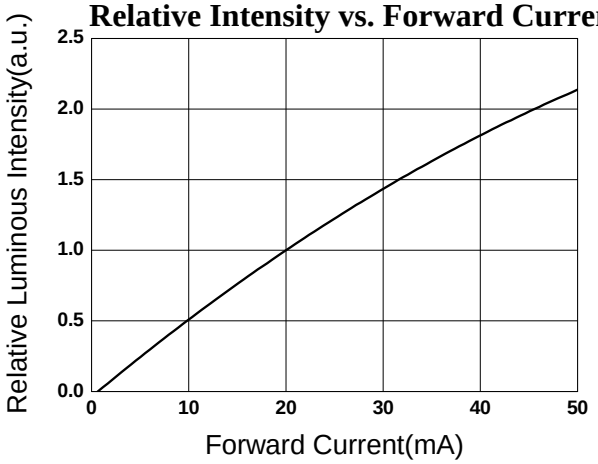
Forward Current vs. Forward Voltage



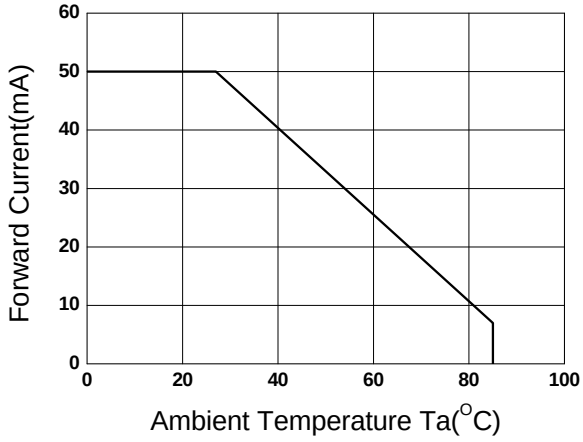
Relative Intensity vs. Ambient Temp.



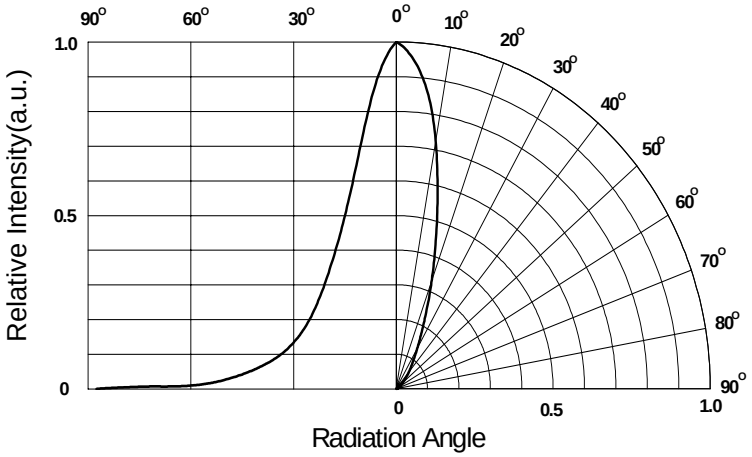
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temp.



Radiation Characteristics



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Label Form Specification

CPN: Customer’s Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks of Luminous and Forward Voltage
HUE: Ranks of Dominant Wavelength
REF: Reference
LOT No: Lot Number
MADE IN TAIWAN: Production Place

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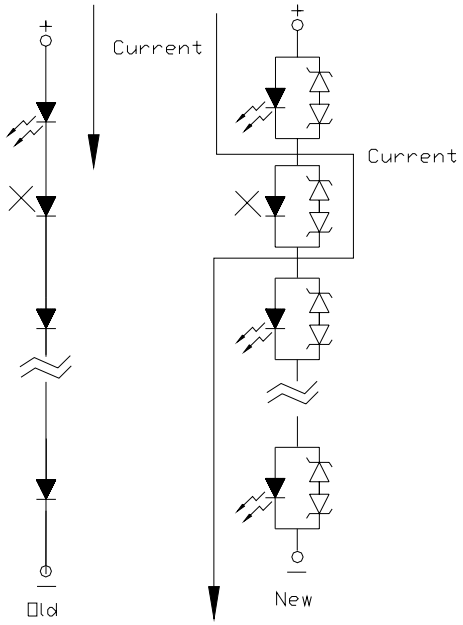
Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.
4. Below the zener reference voltage Vz, all the current flows through LED and as the voltage rises to Vz, the zener diode "breakdown." If the voltage tries to rise above Vz current flows through the zener branch to keep the voltage at exactly Vz.
5. When the LED is connected using serial circuit, if either piece of LED is no light up but current can't flow through causing others to light down. In new design, the LED is parallel with zener diode. if either piece of LED is no light up but current can flow through causing others to light up.



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6. Soldering Condition

Careful attention should be paid during soldering. When soldering, leave more then 3mm from solder joint to case, and soldering beyond the base of the tie bar is recommended.

Avoiding applying any stress to the lead frame while the LEDs are at high temperature particularly when soldering.

Recommended soldering conditions:

Hand Soldering		DIP Soldering	
Temp. at tip of iron	400℃ Max. (30W Max.)	Preheat temp.	100℃ Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp.	265 Max.
Distance	3mm Min.(From solder joint to case)	Bath time.	5 sec Max.
		Distance	3mm Min.

EVERLIGHT ELECTRONICS CO., LTD.
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C
Tel: 886-2-2267-2000, 2267-9936
Fax: 886-2267-6244, 2267-6189, 2267-6306
http:\\www.everlight.com