

Technical Data Sheet

5.0mm Round Type LED Lamps

333HD

■ Features :

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust
- Pb free



■ Descriptions :

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

■ Applications :

- TV set
- Monitor
- Telephone
- Computer

PART NO.	Material	Emitted Color	Lens Color
333HD	GaP	Bright Red	Red Diffused

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Electro-Optical Characteristics (Ta=25°C)

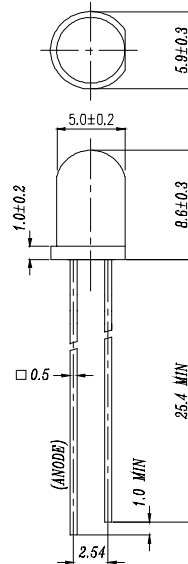
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V _F	I _F = 10 mA	1.5	2.0	2.4	V
Reverse Current	I _R	V _R = 5 V	/	/	10	μA
Luminous Intensity	I _v	I _F = 10 mA	1.0	2.0	/	mcd
Viewing Angle	2θ 1/2	I _F = 10 mA	/	60	/	deg
Peak Wavelength	λ _p	I _F = 10 mA	/	697	/	nm
Dominant Wavelength	λ _d	I _F = 10 mA	/	650	/	nm
Spectrum Radiation Bandwidth	Δλ	I _F = 10 mA	/	90	/	nm

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Package Dimensions



- Notes:**
1. All dimensions are in millimetres
 2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead.
 3. Tolerances unless Dimension ± 0.25 mm.

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Forward Current	I_F	15	mA
Operating Temperature	T_{opr}	-40 to +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +100	$^\circ\text{C}$
Soldering Temperature	T_{sol}	260 ± 5	$^\circ\text{C}$
Power Dissipation	P_d	45	mW
Peak Forward Current	$I_F(\text{Peak})$	50	mA
Reverse Voltage	V_R	5	V

Note: *1: I_{FP} Conditions --Pulse Width $\leq 1\text{msec}$ and Duty $\leq 1/10$.

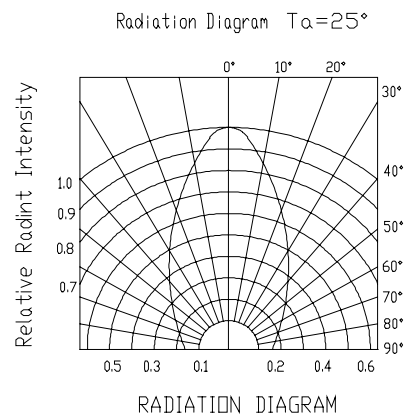
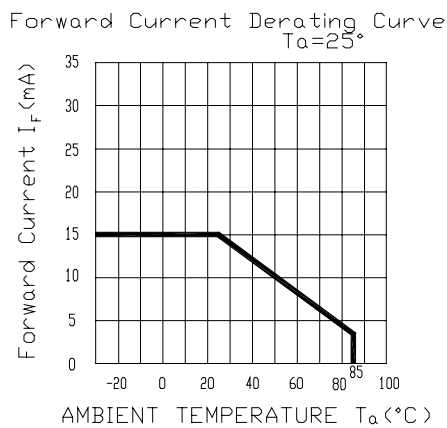
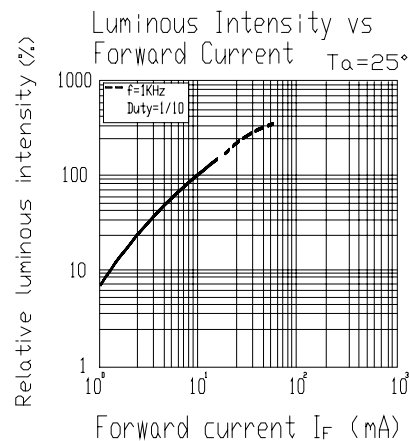
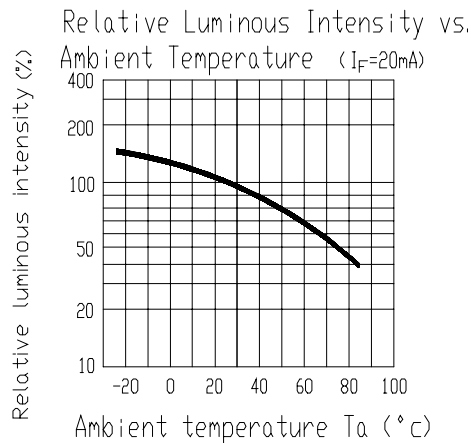
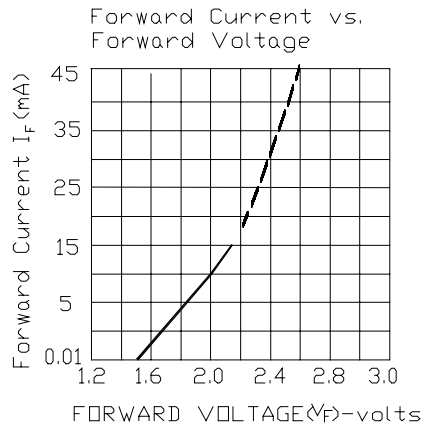
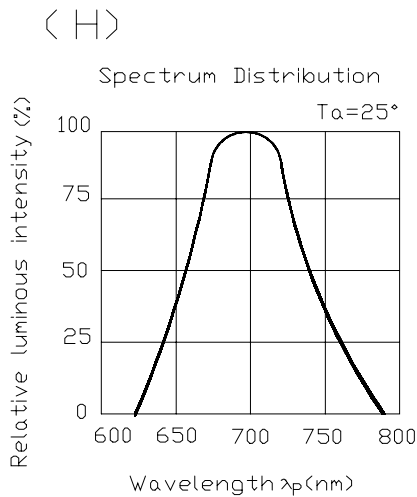
*2: Soldering time ≤ 5 seconds.

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Typical Electro-Optical Characteristic Curves:



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■ Reliability test items and conditions:

NO	Item	Test Conditions	Test Hours/Cycle	Sample size	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	10 SEC	76 PCS	0/1
2	Temperature Cycle	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -40°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	TEMP : 25°C IF = 10mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C / 85% RH	1000 HRS	76 PCS	0/1