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ROUND TYPE LED LAMPS



Lead-Free Parts

LSGM3333-PF

DATA SHEET

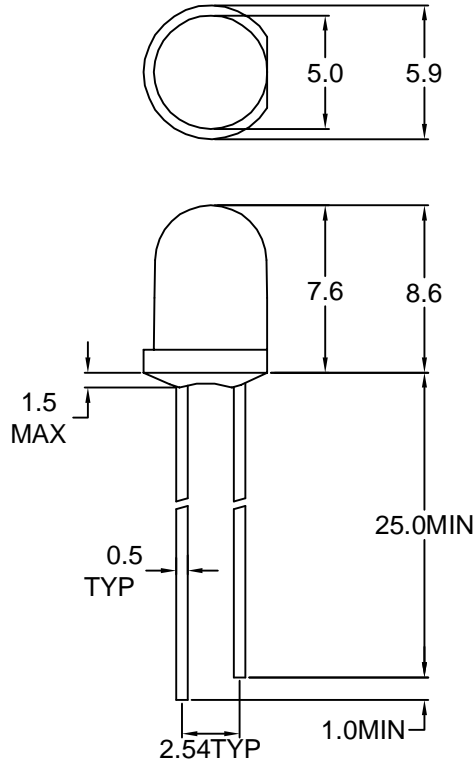
DOC. NO : QW0905-LSGM3333-PF

REV. : A

DATE : 23 - May - 2005

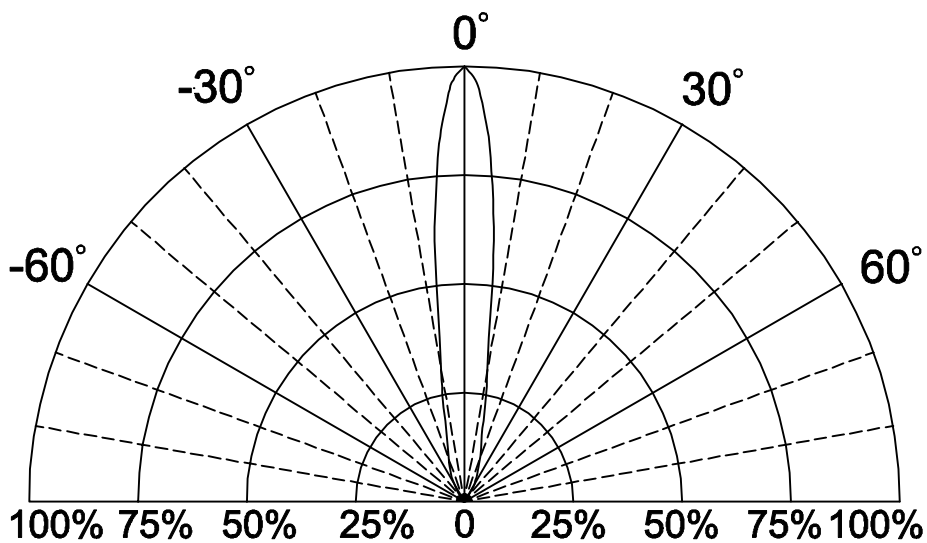


Package Dimensions



Note : 1.All dimension are in millimeter tolerance is ± 0.25 mm unless otherwise noted.
2.Specifications are subject to change without notice.

Directivity Radiation





Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Ratings	UNIT
		SGM	
Forward Current	IF	30	mA
Peak Forward Current Duty 1/10@10KHz	IFP	100	mA
Power Dissipation	PD	100	mW
Reverse Current @5V	Ir	50	μ A
Electrostatic Discharge	ESD	1000	V
Operating Temperature	Topr	-20 ~ +80	
Storage Temperature	Tstg	-30 ~ +100	
Soldering Temperature	Tsol	Max 260 for 5 sec Max (2mm from body)	

Typical Electrical & Optical Characteristics (Ta=25)

PART NO	MATERIAL	COLOR		Peak wave length P nm	Dominant wave length D nm	Spectral halfwidth nm	Forward voltage @20mA(V)		Luminous intensity @20mA(mcd)		Viewing angle 2 1/2 (deg)
		Emitted	Lens				Typ.	Max.	Min.	Typ.	
LSGM3333-PF	InGaN/SiC	Green	Water Clear	518	525	35	3.5	4.2	1500	2700	12

Note : 1.The forward voltage data did not including $\pm 0.1V$ testing tolerance.
2. The luminous intensity data did not including $\pm 15\%$ testing tolerance.



Typical Electro-Optical Characteristics Curve

SGM CHIP

Fig.1 Forward current vs. Forward Voltage

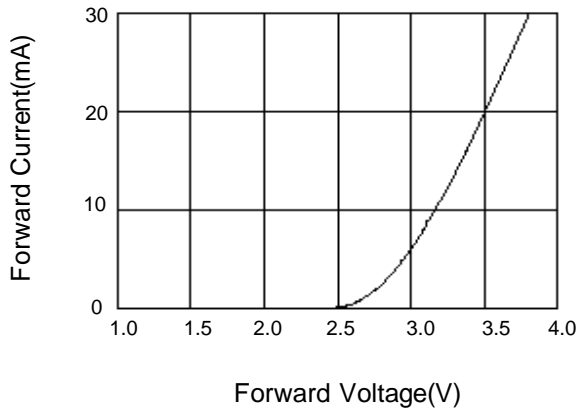


Fig.2 Forward Current vs. Relative Intensity

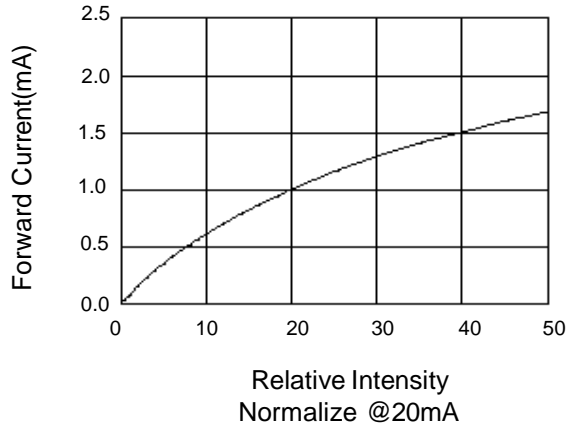


Fig.3 Forward Current vs. Temperature

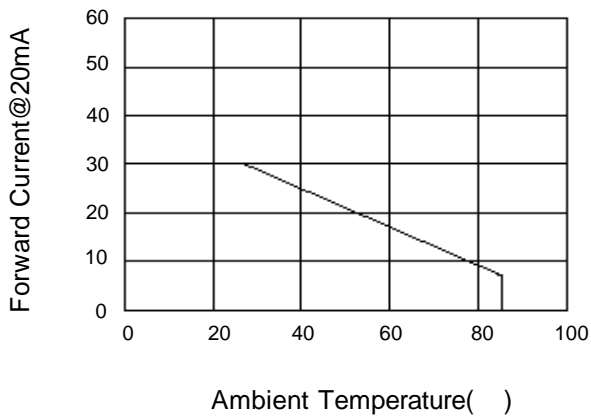


Fig.4 Relative Intensity vs. Temperature

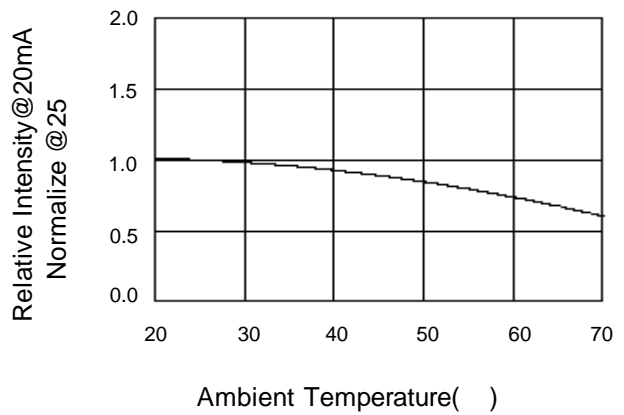
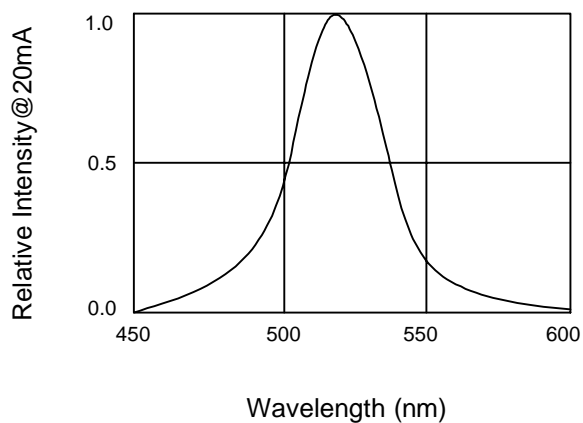
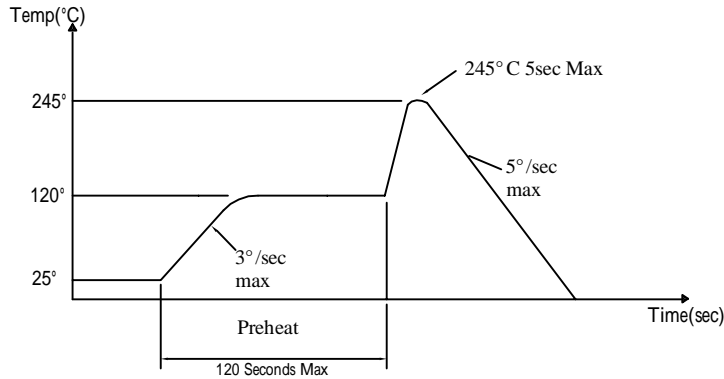


Fig.5 Relative Intensity vs. Wavelength





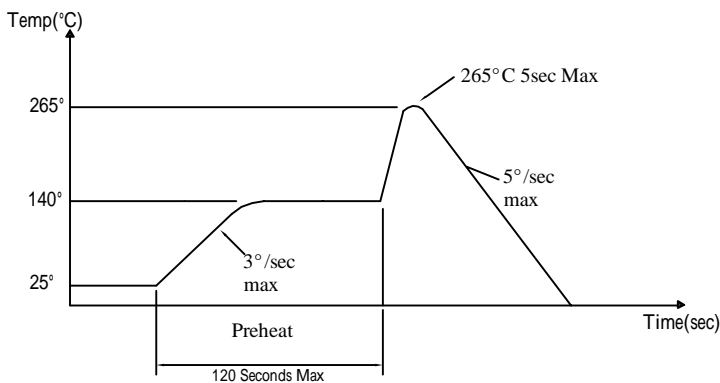
Wave soldering Profile



Soldering
Soldering Iron:30W Max
Temperature 300°C Max
Soldering Time:3 Seconds Max
Distance:2mm Min(From solder joint to case)

Dip Soldering
Preheat: 120°C Max
Preheat time: 120 seconds Max
Ramp-up
3°C/sec(max)
Ramp-Down:-5°C/sec(max)
Solder Bath:245°C Max
Dipping Time:5 seconds Max
Distance:2mm Min(From solder joint to case)

Wave Soldering Profile (Pb Free)



Soldering
Soldering Iron:30W Max
Temperature:350°C Max
Soldering Time:3seconds Max
Distance:2mm Min(From solder joint to case)

Dip Soldering
Preheat: 140°C Max
Preheat time: 120seconds Max
Ramp-up
3°C/sec(max)
Ramp-Down:-5°C/sec(max)
Solder Bath:265°C Max
Dipping Time:5 seconds Max
Distance:2mm Min(From solder joint to case)



Reliability Test:

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 ±5 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 ±5 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 ±5 2.RH=90 %~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 ±5 & -40 ±5 (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 ±5 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230 ±5 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2



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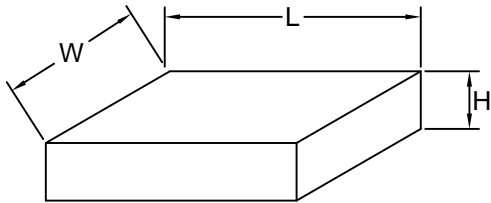
PACKING SPECIFICATION

1. 500PCS / BAG



2. 10 BAG / INNER BOX

SIZE : L X W X H 33cm X 19cm X 8cm



3. 12 INNER BOXES / CARTON

SIZE : L X W X H 58cm X 34cm X 34cm

