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DUAL COLOR LED LAMPS



Lead-Free Parts

LSRFUG42292/R1-PF

DATA SHEET

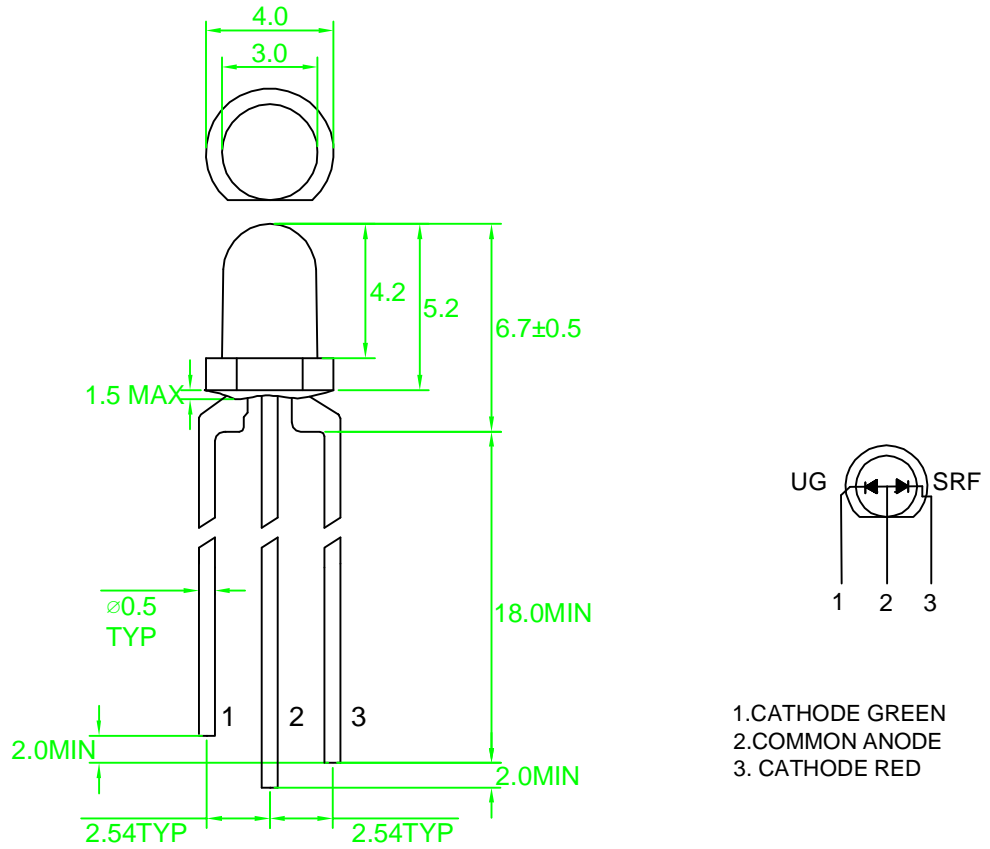
DOC. NO : QW0905-LSRFUG42292/R1-PF-0808

REV. : A

DATE : 08 - Apr. - 2016

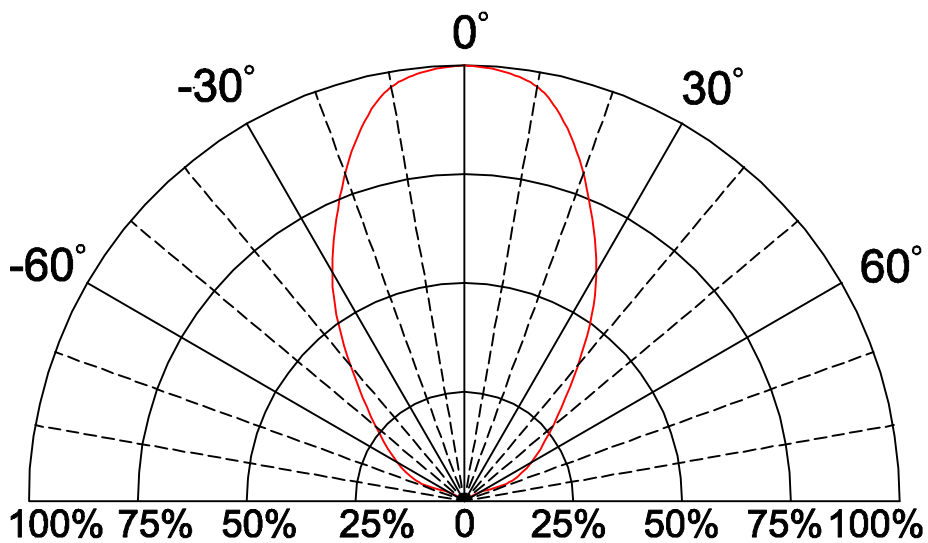


Package Dimensions



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 °C

Parameter	Symbol	Ratings		UNIT
		SRF	UG	
Forward Current	IF	25	25	mA
Peak Forward Current Duty 1/10@10KHz	IFP	75	75	mA
Power Dissipation	PD	65	65	mW
Reverse Current @5V	Ir	10	10	μA
Operating Temperature	Topr	-40 ~ +85		°C
Storage Temperature	Tstg	-40 ~ +100		°C

Typical Electrical & Optical Characteristics (Ta=25 °C)

PART NO	MATERIAL	COLOR		Dominant wave length λ Dnm	Spectral halfwidth Δ λ nm	Forward voltage @20mA(V)		Luminous intensity @20mA(mcd)		Viewing angle 2θ 1/2 (deg)
		Emitted	Lens			Min.	Typ.	Min.	Typ.	
LSRFUG42292/R1-PF	AlGaInP	Red	White Diffused	630	20	1.5	2.4	220	350	70
	AlGaInP	Green		574	30	1.7	2.6	120	220	70

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

Brightness Code For Standard LED Lamps

SRF CHIP

Group	Luminous Intensity(mcd) at 20 mA	
	Min.	Max.
A15	220	300
A16	300	350
A17	350	450
A18	450	550
A19	550	700
A20	700	900

Color Code

SRF CHIP

Group	Dominant Wave length(nm) at 20 mA	
	Min.	Max.
28	625	630
29	630	635
30	635	640

Brightness Code For Standard LED Lamps

UG CHIP

Group	Luminous Intensity(mcd) at 20 mA	
	Min.	Max.
A13	120	160
A14	160	220
A15	220	300
A16	300	350
A17	350	450
A18	450	550

Color Code

UGCHIP

Group	Dominant Wave length(nm) at 20 mA	
	Min.	Max.
6	566	568
7	568	570
8	570	572
9	572	574

Typical Electro-Optical Characteristics Curve

SRF CHIP

Fig.1 Forward current vs. Forward Voltage

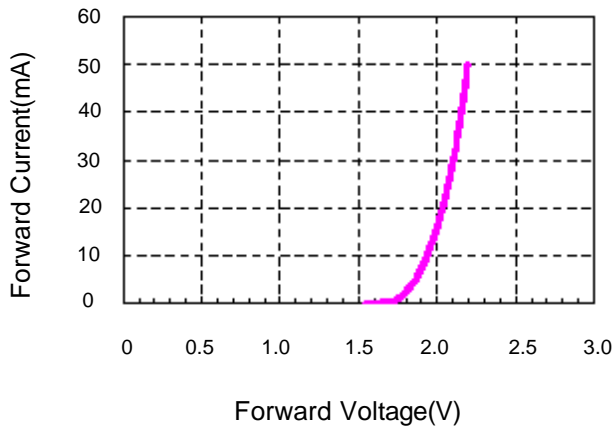


Fig.2 Relative Intensity vs. Forward Current

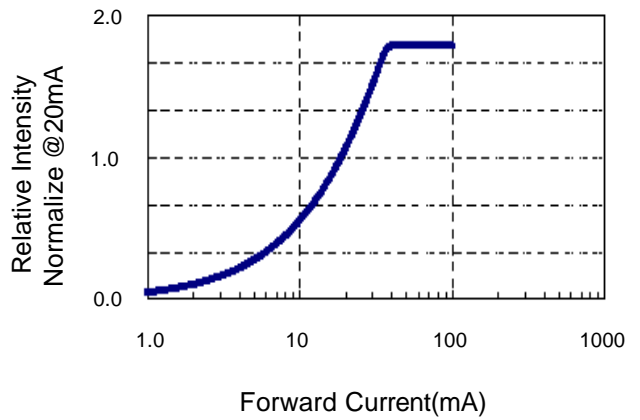


Fig.3 Forward Voltage vs. Temperature

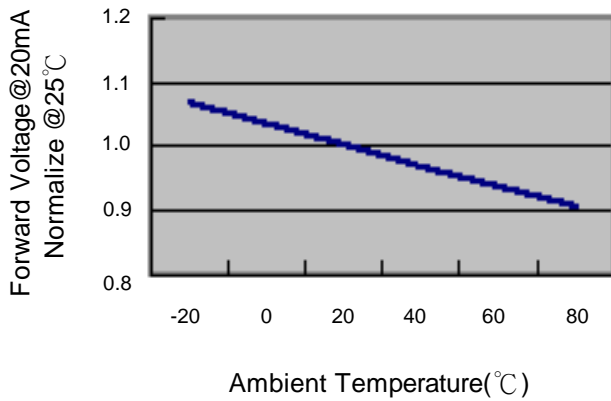


Fig.4 Relative Intensity vs. Temperature

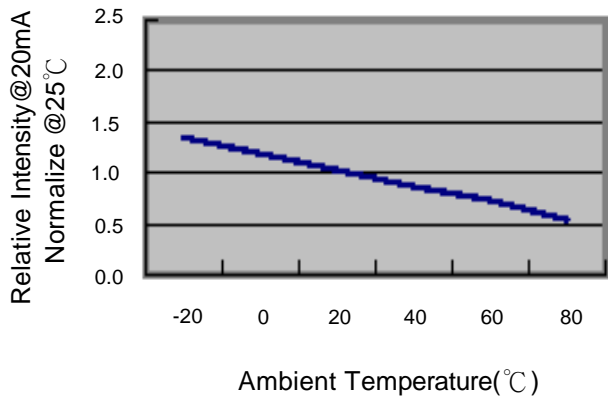
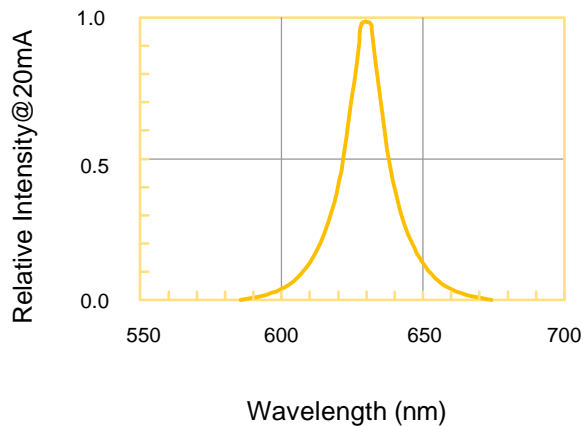


Fig.5 Relative Intensity vs. Wavelength



Typical Electro-Optical Characteristics Curve

UG CHIP

Fig.1 Forward current vs. Forward Voltage

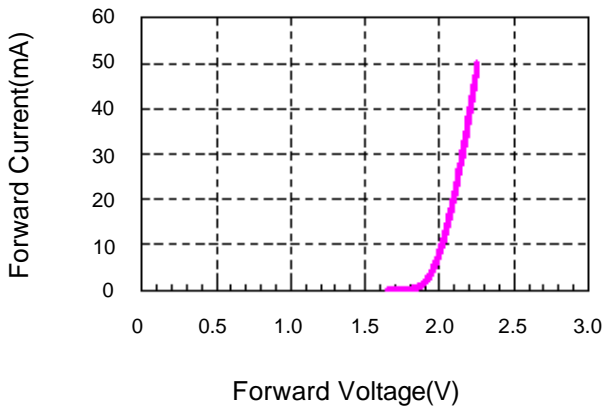


Fig.2 Relative Intensity vs. Forward Current

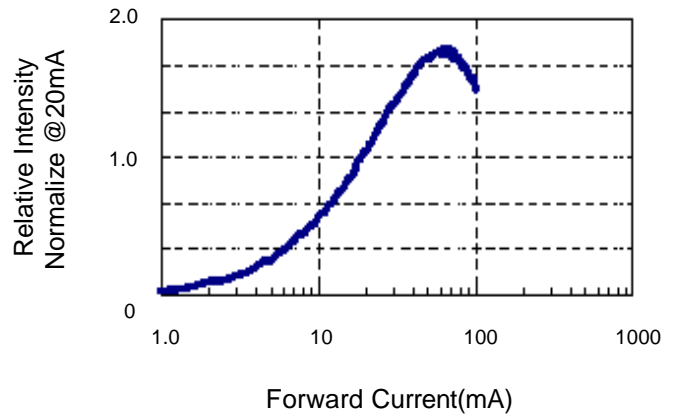


Fig.3 Forward Voltage vs. Temperature

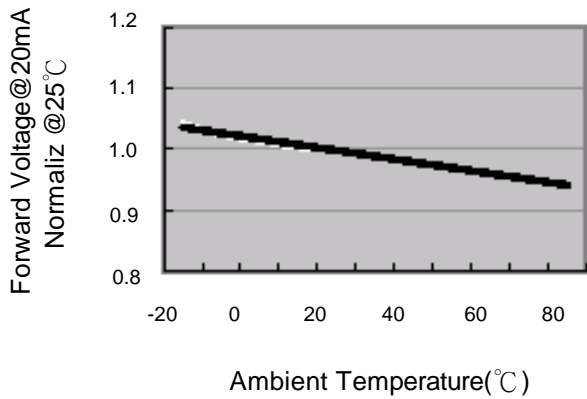


Fig.4 Relative Intensity vs. Temperature

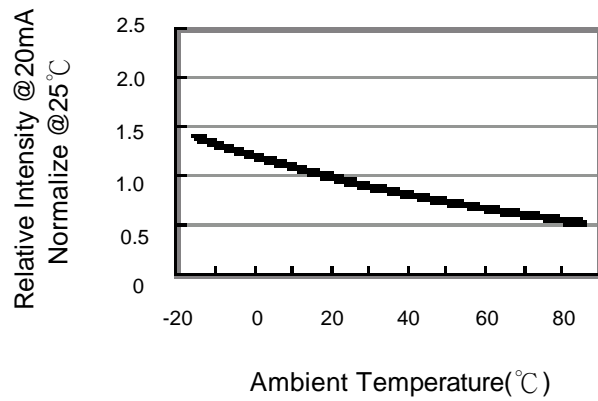
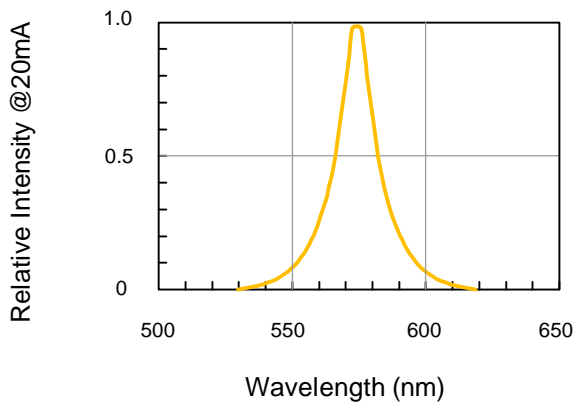


Fig.5 Relative Intensity vs. Wavelength

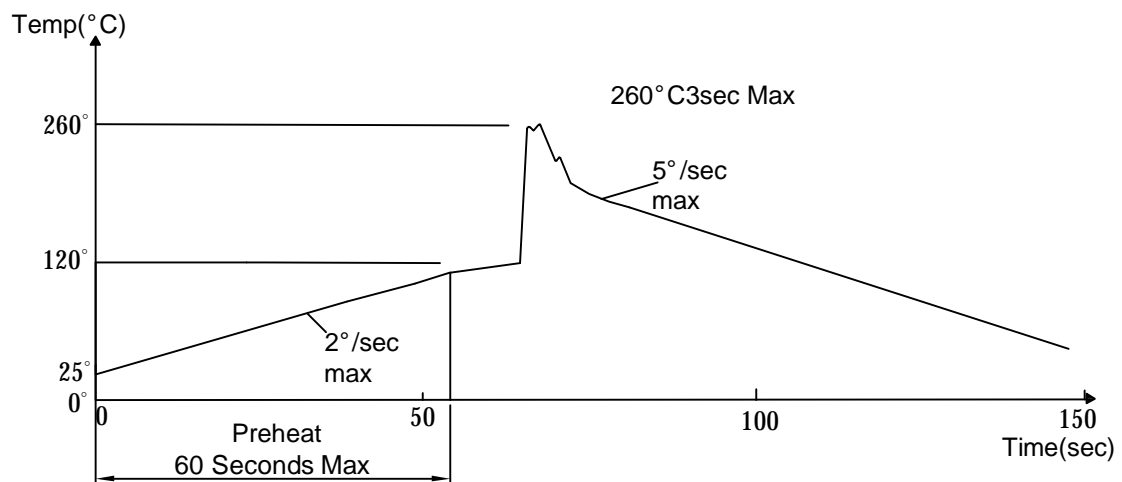


Soldering Condition(Pb-Free)**1.Iron:**

Soldering Iron:30W Max
Temperature 350° C Max
Soldering Time:3 Seconds Max(One time only)
Distance:2mm Min(From solder joint to body)

2.Wave Soldering Profile

Dip Soldering
Preheat: 120° C Max
Preheat time: 60seconds Max
Ramp-up
2° C/sec(max)
Ramp-Down:-5° C/sec(max)
Solder Bath:260° C Max
Dipping Time:3 seconds Max
Distance:2mm Min(From solder joint to body)

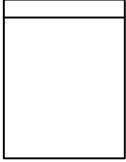


Note: 1.Wave solder should not be made more than one time.
2.You can just only select one of the soldering conditions as above.

Reliability Test:

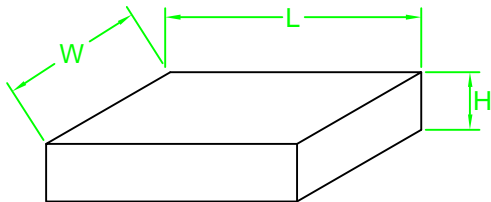
Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of detemining the resistance of a part in electrical and themal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °C±5°C 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 °C±5°C 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 °C±5°C 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 °C±5°C & -40 °C±5°C (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 °C±5°C 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=245 °C±5°C 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

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

