

Surface Mount Red / Yellow Green LED - 3.5mm × 2.8mm **multicomp**PRO

**RoHS
Compliant**



Features

- Dimensions: 3.5mm × 2.8mm × 1.9mm.
- Wide Viewing Angle.

Applications

- Automotive: Backlighting in dashboard and switch.
- Telecommunication: Indicator and Backlighting in telephone and fax.
- Flat Backlight for LCD switch and symbol.

Device Selection Guide

Part No.	Chip		Lens Colour
MP005919	Material	Emitted Colour	Water Clear
	(InGaAlP)	Red	
	(InGaAlP)	Green	

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Red	Green	Unit
Power Dissipation	P _D	62		mW
Forward Current	I _F	25		mA
Peak Forward Current*1	I _{FP}	100		mA
Reverse Voltage	V _R	5		V
Operating Temperature	T _{opr}	-40°C To +85°C		
Storage Temperature	T _{stg}	-40°C To +85°C		

Notes:

*1: Pulse width ≤ 0.1ms, Duty cycle ≤ 1/10

Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Device	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage	V _F	Red Green	1.8 1.8	2.2 2.2	2.6 2.6	V	I _F =20mA
Reverse Current	I _R		—	—	10	μA	V _R =5V
Dominant Wavelength	λ _D		617 568	—	629 576	nm	I _F =20mA
Luminous Intensity	I _v		225 100	—	500 225	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}		—	120	—	Deg.	I _F =20mA

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or chromaticity), the typical accuracy of the sorting process is as follows:

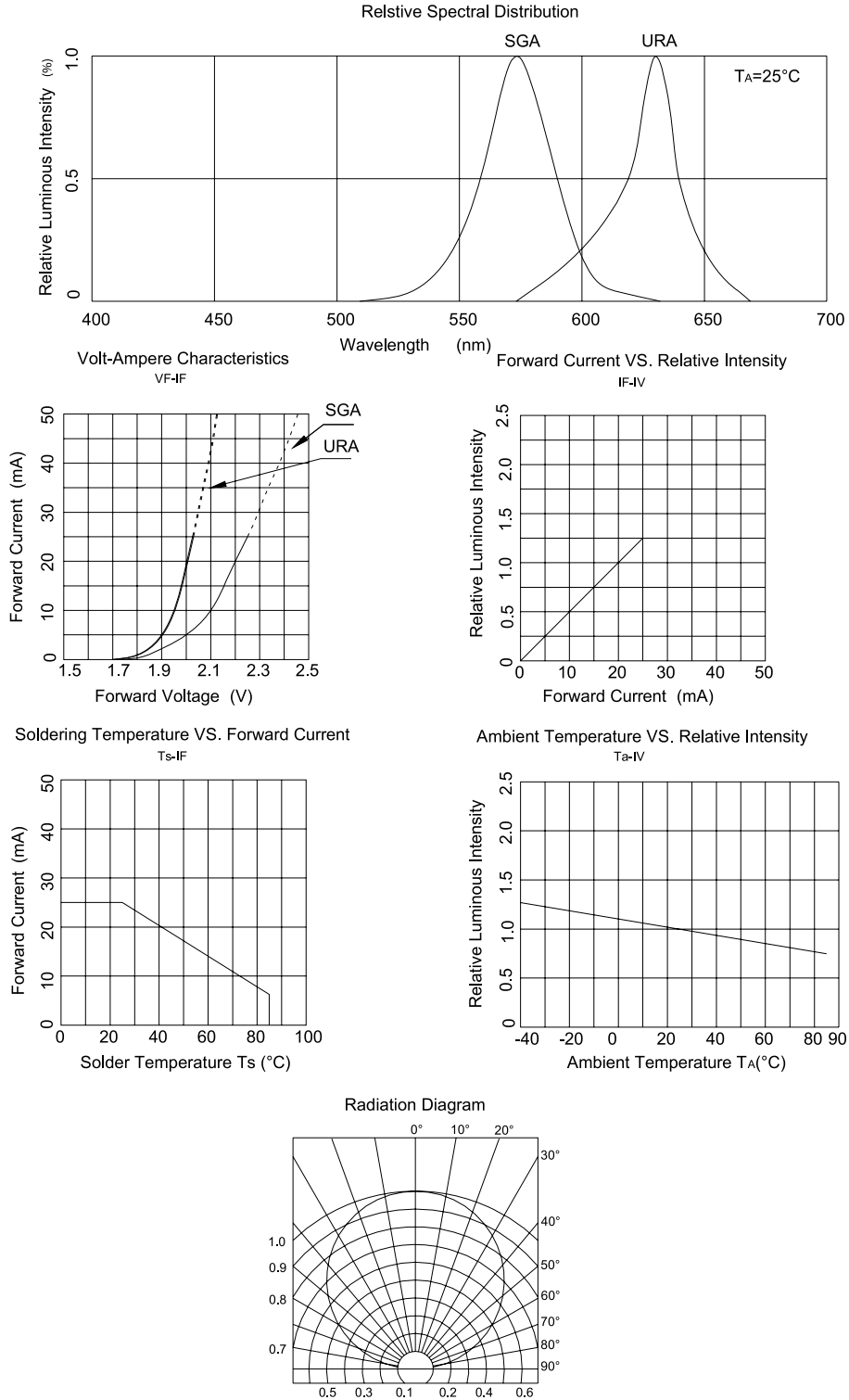
1. wavelength: ±1nm
2. Luminous Intensity: ±15%
3. Forward Voltage: ±0.1V

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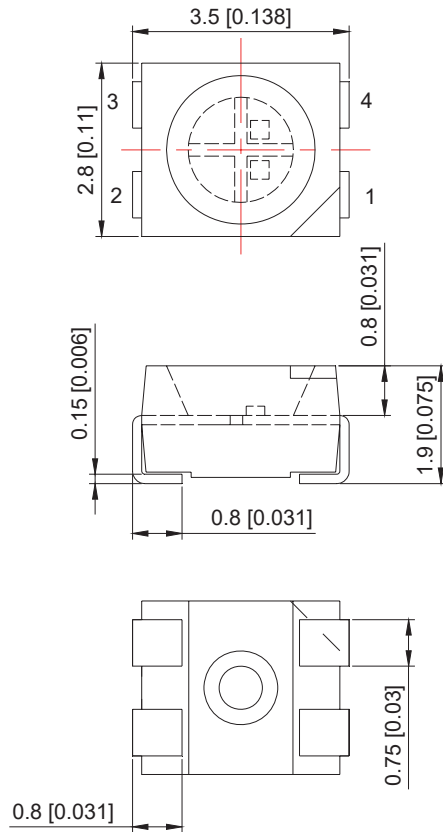
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Typical Electrical/Optical Characteristics Curves

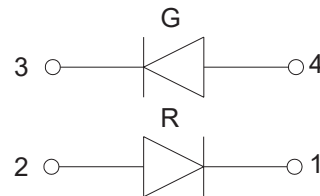
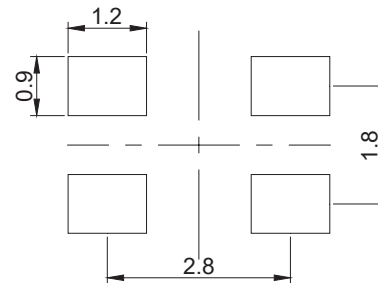


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Package Dimensions



Recommended soldering pattern



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.15 unless otherwise noted.
3. Specifications are subject to change without notice.

VF Rank

Red

Rank	VF(V)		Conditions
	Min	Max	
B	1.8	2	F=20mA
C	2	2.2	
D	2.2	2.4	
E	2.4	2.6	

Tolerance: $\pm 0.1V$

Green

Rank	VF(V)		Conditions
	Min	Max	
B	1.8	2	F=20mA
C	2	2.2	
D	2.2	2.4	
E	2.4	2.6	

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λD Rank

Red

Rank	λD(nm)		Conditions
	Min	Max	
5	617	621	IF=20mA
6	621	625	
7	625	629	

Tolerance:±1nm

Green

Rank	λD(nm)		Conditions
	Min	Max	
9B	568	570	IF=20mA
1C	570	572	
2C	572	574	
3C	574	576	

IV Rank

Red

Rank	IV(mcd)		Conditions
	Min	Max	
R	225	295	IF=20mA
S	295	385	
T	385	500	

Tolerance:±15%

Green

Rank	IV(mcd)		Conditions
	Min	Max	
N	100	1300	IF=20mA
P	130	170	
Q	170	225	

Reliability Test Items and Conditions

Test Item	Reference	Test Conditions	Time	Quantity	Criterion
Thermal Shock	JIS-C7021 A-4	100°C±5°C 15min ↓↑ -40°C±5°C 15min	200cycles 200	22	0/22
High Temperature Storage	JEITA ED- 4701 200 201	Ta=100°C	1000h 1000		
Low Temperature Storage	JEITA ED- 4701 200 202	Ta=-40°C			
High Temperature High Humidity Storage	JIS-C7021 B-11	Ta=85, RH=85%			
Resistance to Soldering Heat	GB/T 4937	Tsol*=(260±5)°C 10secs.			
Life Test	JESD22-A108	Ta=25°C±5°C IF=20mA			
High Temperature Life Test		Ts=55°C±5°C IF=20mA			

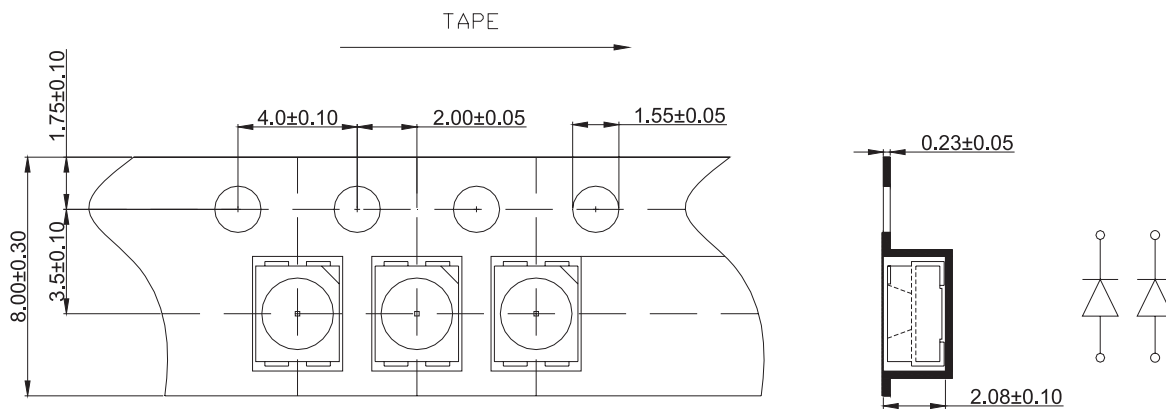
Note: Tsol-Temperature of tin liquid.

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Item	Symbol	Test Conditions	Failure Criteria	
			MIN.	MAX.
Forward Voltage	VF(V)	IF=20mA	-	U.S.L*1.1
Reverse Current	IR(uA)	VR=5V	-	10uA
Luminous Flux	IV(LM)	IF=20mA	L.S.L*0.7	-

Note:1.USL:Upper Specification Level
2.LSL:Lower Specification Level

Tape Specifications



Part Number Table

Description	Part Number
SMD LED, 3528, Red / Yellow Green, 500/225mcd, 120°	MP005919

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