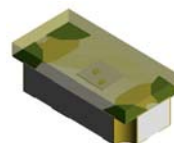


0402 Package SMD LED 0.3mm Height

VS 1WA9M

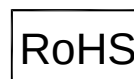
Description

The major breakthrough in VS 1WA9M White color emitted is package in dimension L x W x H, 1.0 * 0.5 * 0.3 mm. The dice used in this series is InGaN material. The advantages of InGaN are low power consumption and obtaining high luminous intensity under low current driving condition. The wavelengths and luminous intensities of this series are grouped under 5mA for uniformity. These LED are suitable for multiple usages in series connection applications.



Applications

- Cellular phone display
- Backlight keypads
- Industrial control systems signal indicator
- Automotive features



Electronic Optical Characteristics (at 5mA):

Part Number	Emitted Color	C.C		Lens Color	Iv(mcd)		View Angle	VF(V)	
		X	Y		Min.	Typ.		Min.	Max.
VS 1WA9M	White	0.29	0.30	Yellow	71	112	130	2.6	3.0

Absolute Maximum Ratings (at Ta=25°C)

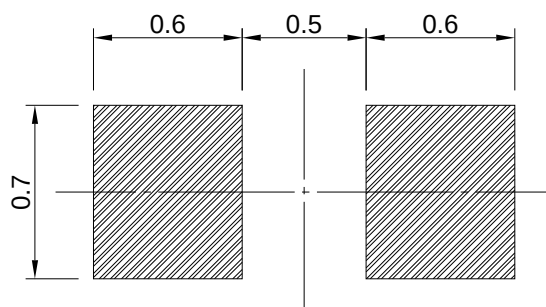
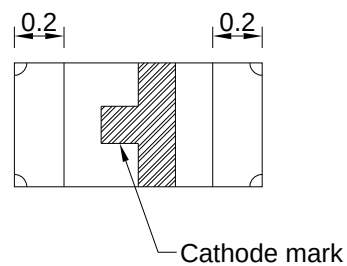
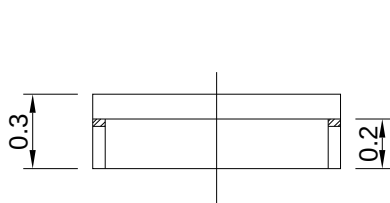
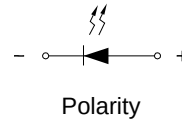
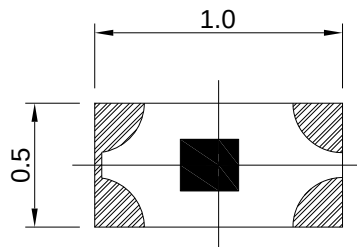
P _D (mW)	I _{FP} (mA)	I _F (mA)	Iron Solder (°C)	I _R (uA)@V _R =5V	Topr(°C)	Tstg(°C)
110	100*	25	350 ± 5 for 3 sec.	50	-40~+85	-40~+100

Note: Please take note the Absolute Maximum Rating values. Any operation beyond the specify ratings in this table will result degradation of LED life-span and may cause LED to fail.

* I_{FP}: Peak Forward Current under 1/10 duty, 1KHz condition

Package Dimension:

unit:mm

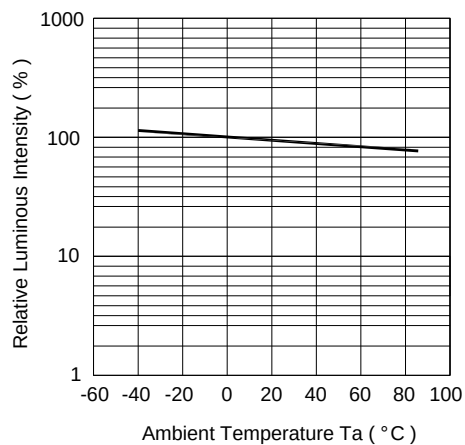
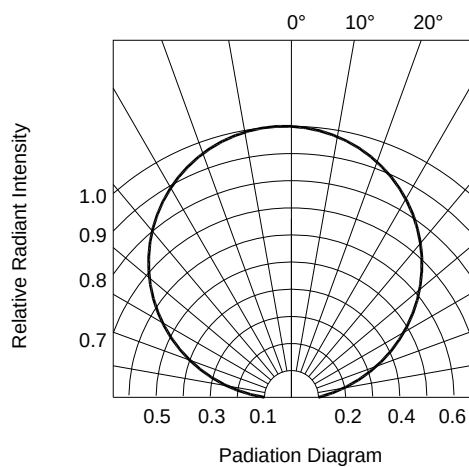
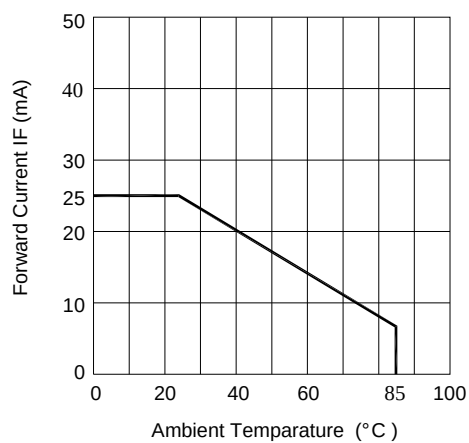
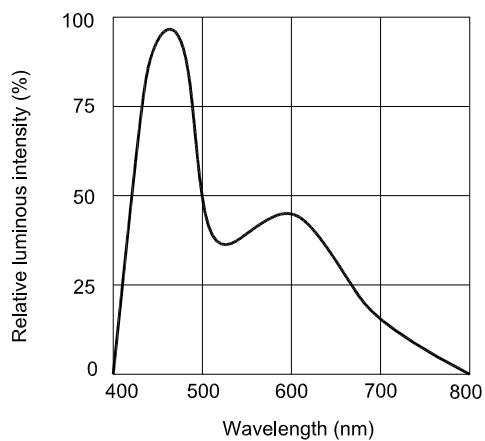
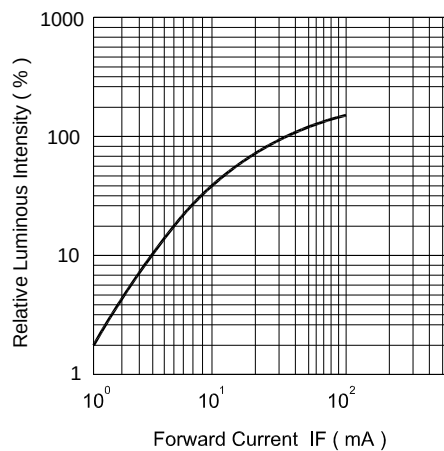
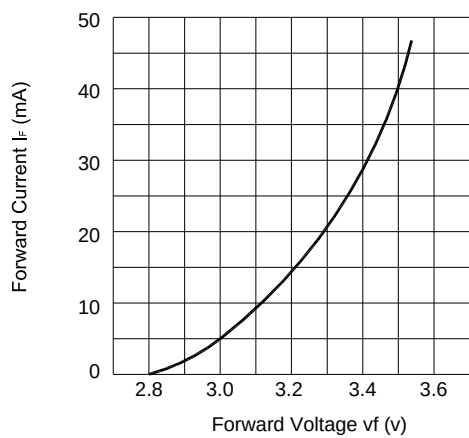


Recommended Soldering Pad

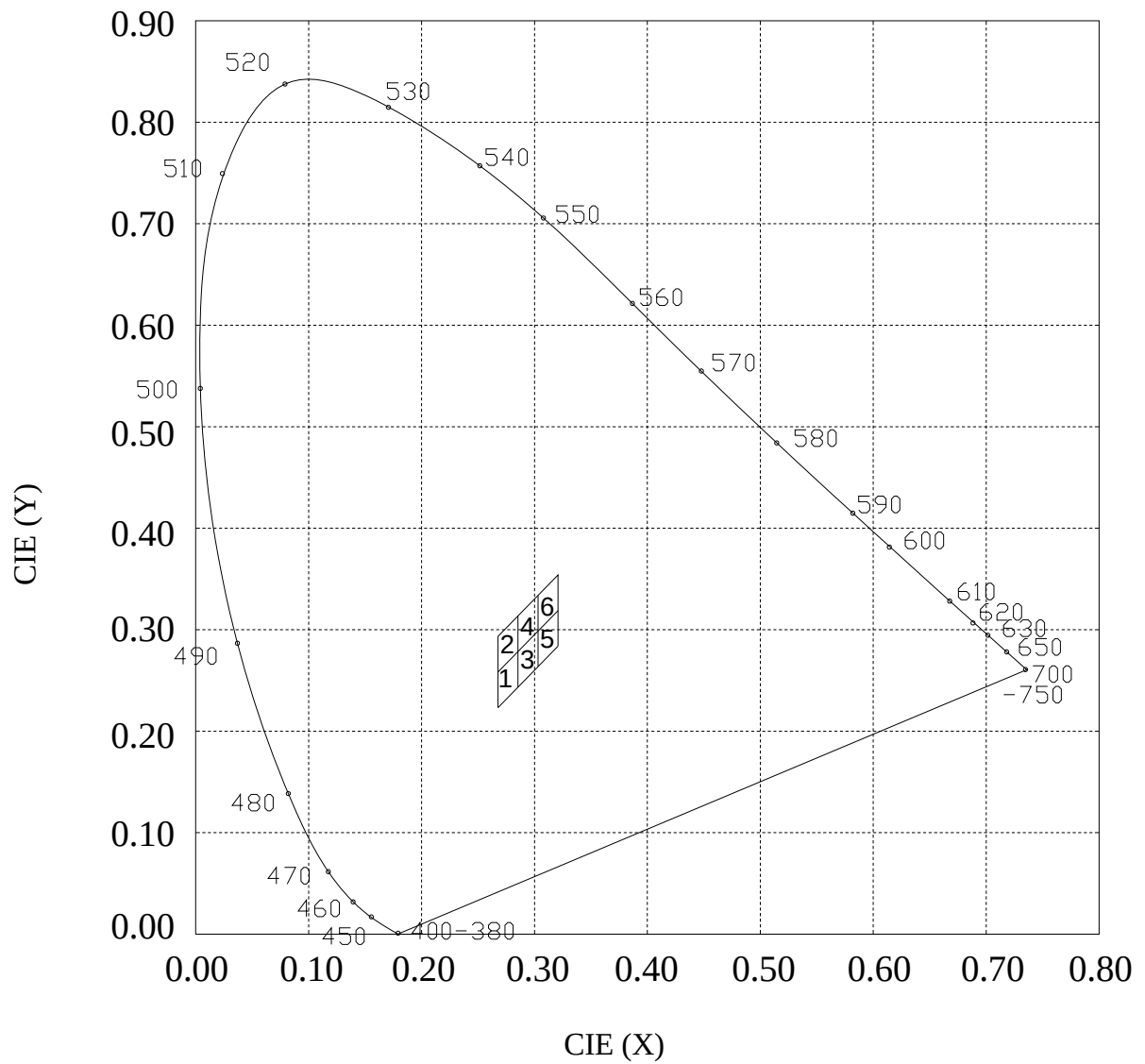
Notes:

1. All dimensions are millimeters.
2. Tolerance is ± 0.2 mm unless otherwise specified.
3. Specifications are subject to change without notice.

Typical Electro-optical Characteristics Curves



CIE Chromaticity Diagram



Color Ranks ($I_F=5\text{mA}$, $T_a=25^\circ\text{C}$)

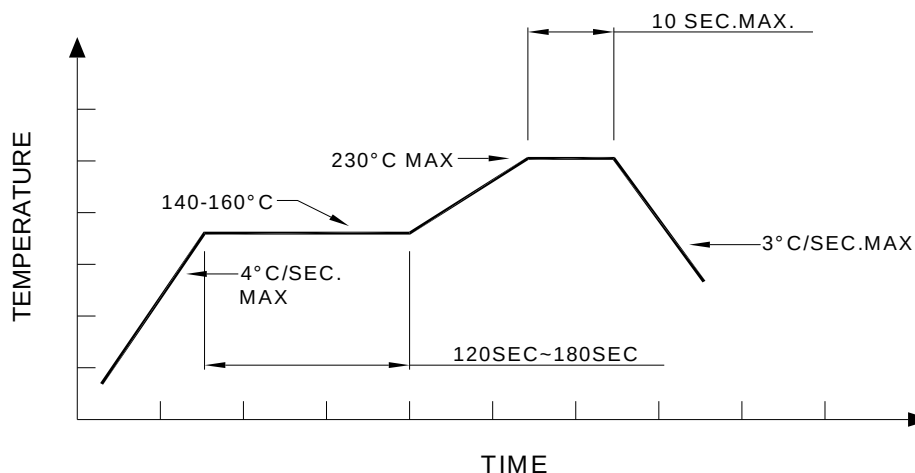
Rank	CIE x	CIE y
1	0.274	0.226
	0.274	0.258
	0.294	0.286
	0.294	0.254
2	0.274	0.258
	0.274	0.291
	0.294	0.319
	0.294	0.286
3	0.294	0.254
	0.294	0.286
	0.314	0.315
	0.314	0.282
4	0.294	0.286
	0.294	0.319
	0.314	0.347
	0.314	0.315
5	0.314	0.282
	0.314	0.315
	0.334	0.343
	0.334	0.311
6	0.314	0.315
	0.314	0.347
	0.334	0.376
	0.334	0.343

Measurement uncertainty of the color coordinates: ± 0.01

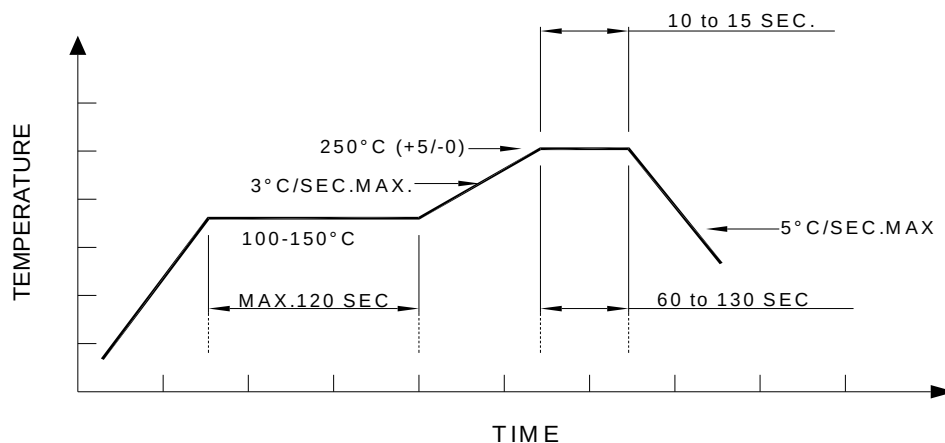
Specification for bin grade @ 5 mA

Iv(mcd)			VF(Volt)		
Code	Min.	Max.	Code	Min.	Max.
Q1	72	90	29	2.7	2.8
Q2	90	112	30	2.8	2.9
R1	112	140	31	2.9	3.0
R2	140	180	32	3.0	3.1
--	--	--	33	3.1	3.2

Recommended re-flow soldering profile:



Recommended Pb-free re-flow soldering profile:



Note:

All the specifications listed in this data sheet are suitable for general electronic equipment, office equipment and communication devices. Kindly consult Sales Representatives for specific reliabilities request, Forward Voltage, Luminous Intensity, Wavelength, Radiant Power or Viewing Angle.