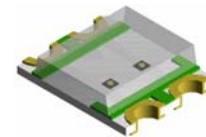


## 0605 SMT Package Bi-Color LED

### VS 3T1D9

#### Description

This is Bi-Color SMD LED series with dimension 1.6 mm (L) \* 1.3 mm (W) \* 0.4mm (H). The unique of these LEDs are made from AlGaInP & InGaN chips that provide high luminous intensity at low driving current. The lens design provides 120 degree viewing angle and suitable for backlighting purpose. The available colors are Red/Yellow-green, Yellow/Yellow-green or even Red/Blue. Any color combinations specified by customers can be accepted.





#### Applications

- Industrial control systems signal indicator
- Automotive features
- Front panel indicator
- Status indication



#### Electronic Optical Characteristics (at 20mA):

Part Number	Emitted Color	$\lambda$ (nm)		Iv(mcd)		VF(Volt)		View Angle	Lens
		$\lambda_d$	$\lambda_p$	Min	Typ.	Typ.	Max.		
VS 3T1D9	Red 	631	639	57	112	2.0	2.4	130	Yellow Diffuse
	Warm White 	X:0.39	Y:0.40	224	350	3.3	3.7		

#### Absolute Maximum Ratings ( at Ta=25°C)

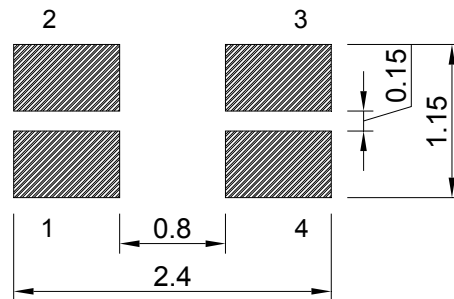
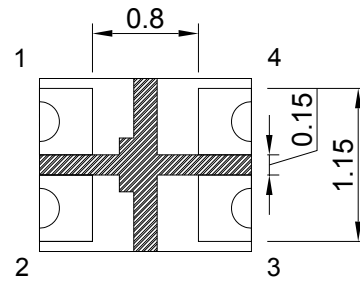
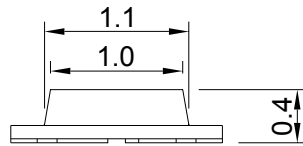
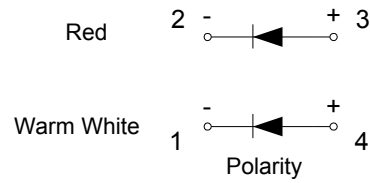
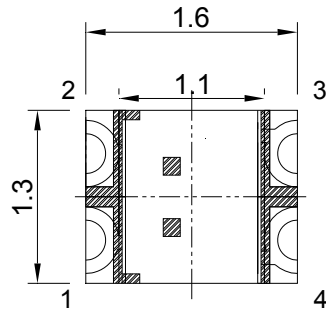
Emitted Color	P <sub>D</sub> (mW)	I <sub>F</sub> (mA)	I <sub>FP</sub> (mA)	I <sub>R</sub> (uA)@VR=5V	Topr (°C)	Tstg (°C)
Red	60	25	60 *	10	-40~+85	-40~+90
Warm White	90	25	100 *	50	-40~+85	-40~+90

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<sub>FP</sub> = Peak Forward Current under 1/10 duty, 1KHz condition

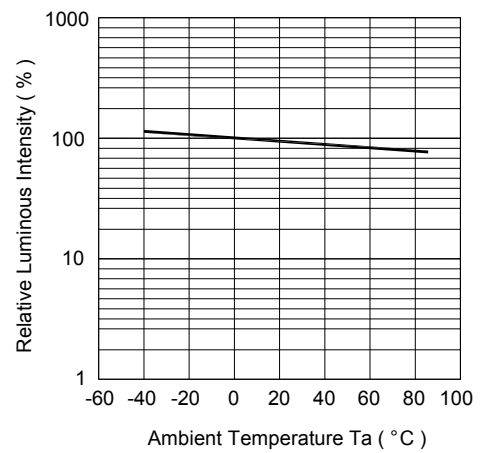
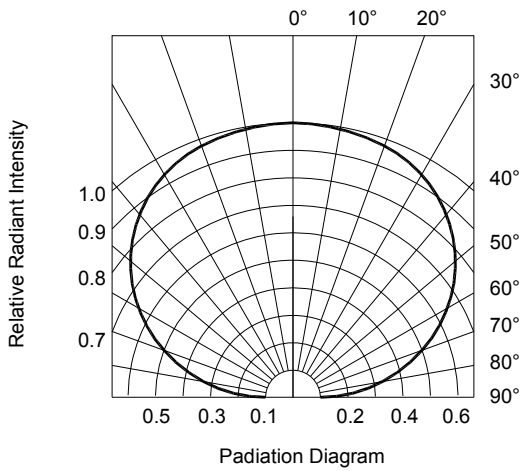
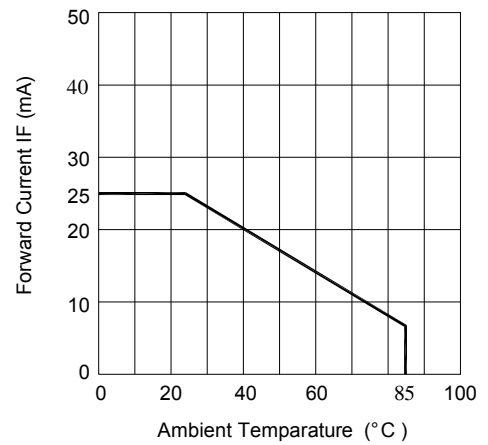
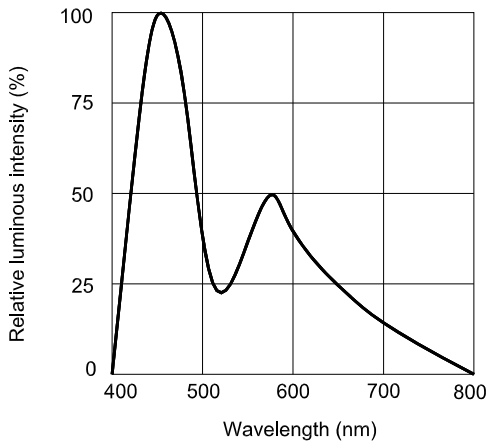
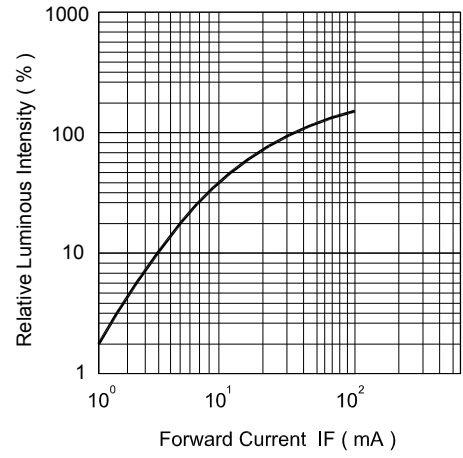
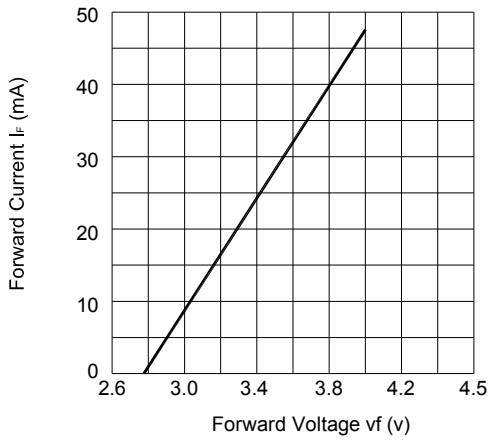
**Package Dimension:**

unit:mm


**Recommended Soldering Pad**
**Notes:**

1. All Dimensions are millimeters.
2. Tolerance is  $\pm 0.2\text{mm}$  unless otherwise specified.
3. Specifications are subject to change without notice.

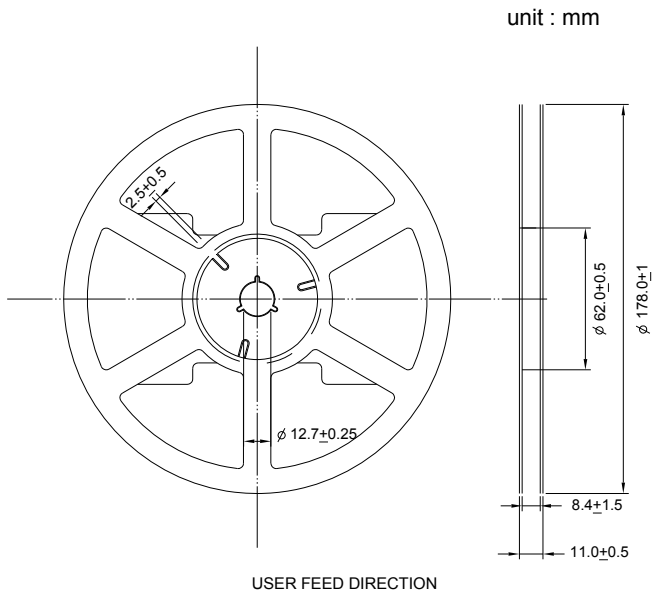
### Optical Characteristics Curves



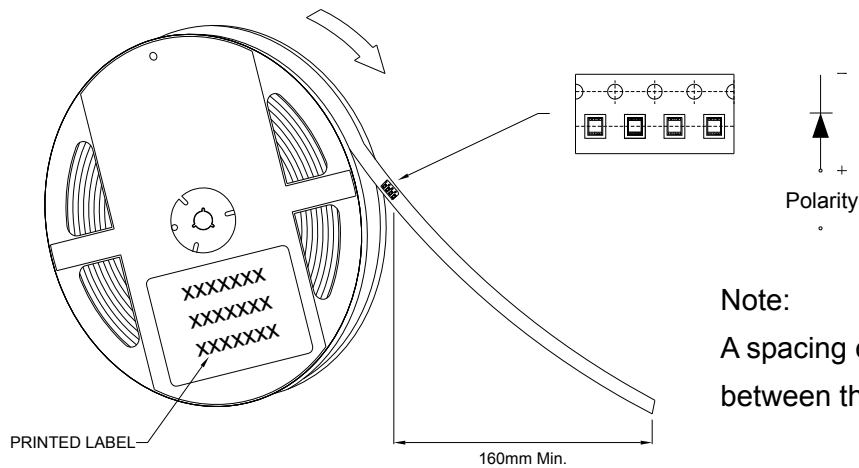
**White Color Ranks ( $I_F=20\text{mA}$ ,  $T_a=25^\circ\text{C}$ )**

Rank	CIE x	CIE y
D1	0.3575	0.3612
	0.3610	0.3850
	0.3988	0.4116
	0.3897	0.3823
D2	0.3545	0.3408
	0.3575	0.3612
	0.3897	0.3823
	0.3822	0.3580
E1	0.3897	0.3823
	0.3988	0.4116
	0.4390	0.4310
	0.4255	0.4000
E2	0.3822	0.3580
	0.3897	0.3823
	0.4255	0.4000
	0.4129	0.3725

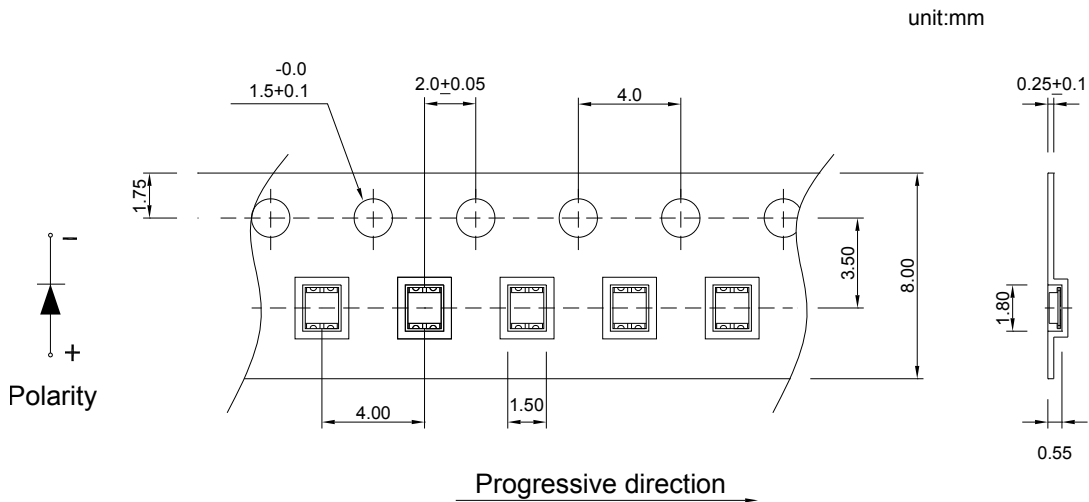
Measurement uncertainty of the color coordinates:  $\pm 0.01$

**Reel Dimension:**

**Note:**

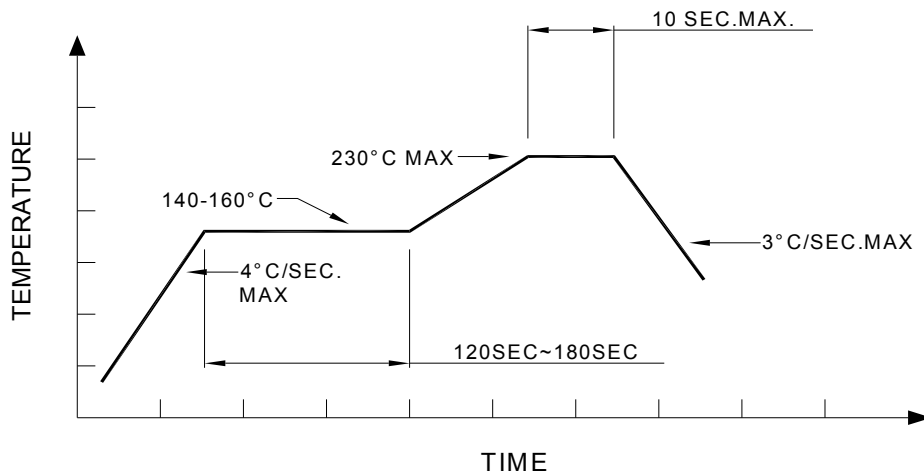
Available in 8mm carrier tape on 178mm diameter reels. (2000 pieces)


**Note:**

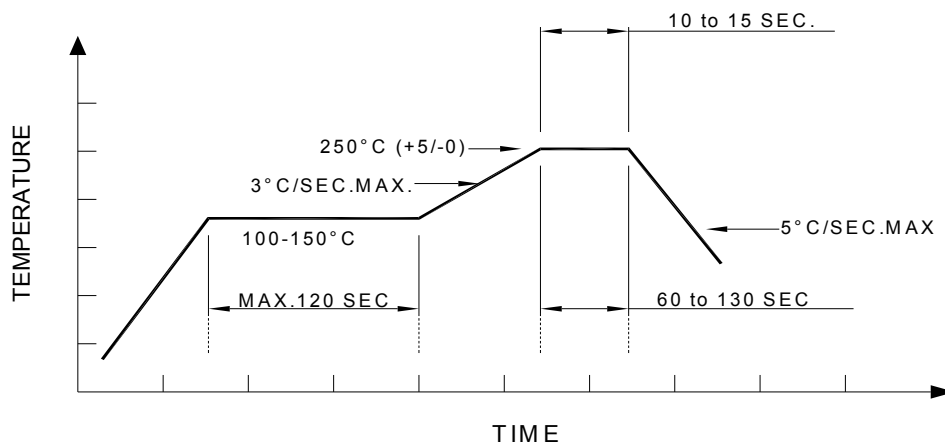
A spacing of approximately 160mm between the front edge of tape

**Tape Dimension:**


**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.