

# SML-P1 Series

## PICOLED™-eco/PICOLED™

1006(0402)  
1.0×0.6mm(t=0.2mm)

### Features

- Ultra compact, thin size 1.0×0.6mm
- Thinnest size in the world\* t=0.2mm
- Original device technology enables high brightness and high reliability
- Accomplishes low power consuming application
- Specification assured at If=1mA (PICOLED™-eco)



\* Investigated Aug. 2009

### Specifications

#### PICOLED™-eco

Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)						Electrical and Optical Characteristics (Ta=25°C)										
			Power Dissipation PD(mW)	Forward Current If(mA)	Peak Forward Current IfP(mA)	Reverse Voltage VR(V)	Operating Temperature Topr(°C)	Storage Temperature Tstg(°C)	Forward Voltage Vf (Typ. V)	Reverse Current If (mA)	Max. (μA)	VR(V)	Dominant Wavelength λ D (nm)	Min. (nm)	Typ. (nm)	Max. (nm)	If(mA)	Min. (mcd)	Typ. (mcd)
■ SML-P11VT	AlGaN/P on GaAs	Red	50						1.8				621	626	631		1	3.6	
■ SML-P11UT		Orange	52	20	100 <sup>1</sup>	5	-40 to +85	-40 to +100		1	10	4	616	621	626		1.6	5.5	
■ SML-P11DT		Yellow							1.9				602	605	608	1	2.5	7.3	1
■ SML-P11YT		Yellowish Green	54										583	586	589		2.5	7.6	
■ SML-P11MT													566	569	572		0.63	2.1	

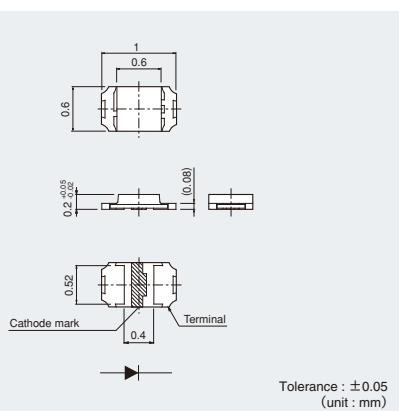
\*1:Duty1/10, 1kHz \*2:Reference

#### PICOLED™

Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)						Electrical and Optical Characteristics (Ta=25°C)										
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■ SML-P12VT	AlGaN/P on GaAs	Red	50						2.0				625	630	635		25	60	
■ SML-P12UT		Orange	52						2.1	20	4		615	620	625			85	
■ SML-P12DT		Yellow											602	605	608	20	40	100	
■ SML-P12YT		Yellowish Green	54	20	100 <sup>1</sup>	5	-40 to +85	-40 to +100	100				587	590	593	130		20	130
■ SML-P12MT		Green							2.2				569	572	575		10	35	
■ SML-P12PT		Blue	66										557	560	563		4.0	13	
■ SMLP12BC7T	InGaN	White							2.9	5	5		465	470	475		5.6	17	
□ SMLP12WBC7W													(x, y) (0.30, 0.30)		5	36	71	5	
■ SMLP12HBC7W		Pink	74										(x, y) (0.23, 0.10)		14	22			

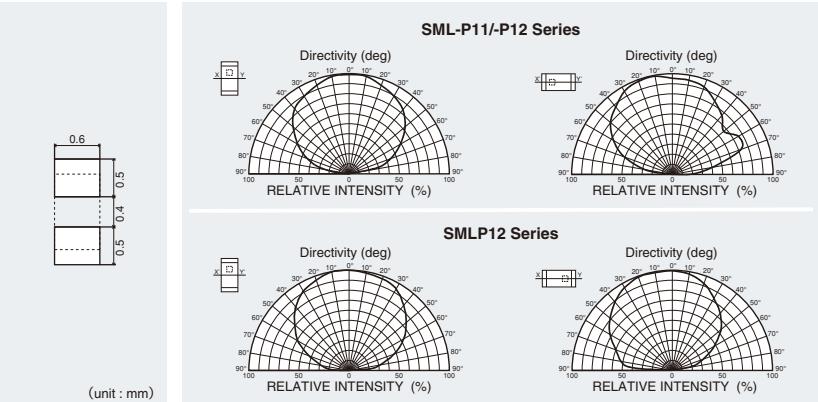
\*1:Duty1/10, 1kHz \*2:Reference

### Dimensions



### Recommended Solder Pattern

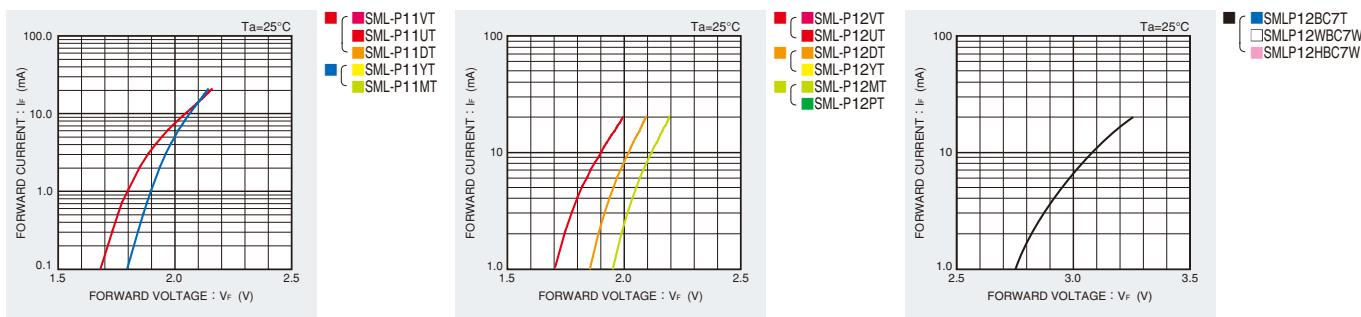
### Viewing Angle



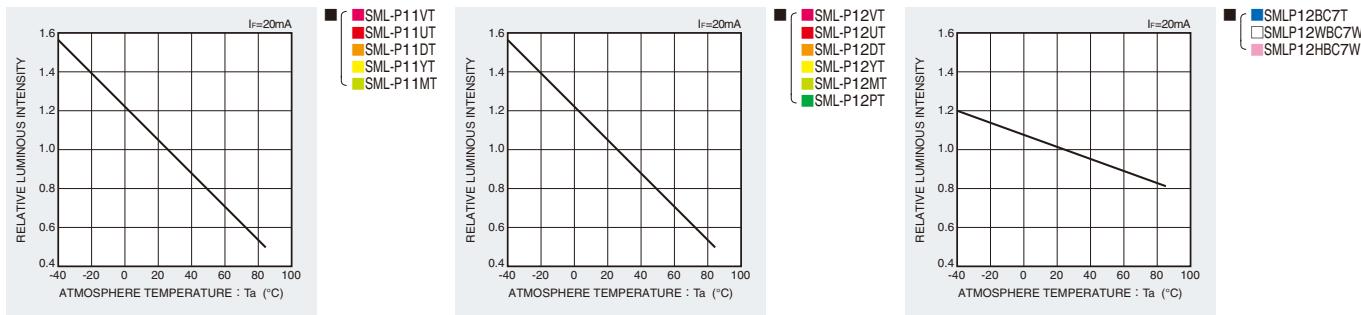
\* PICOLED™ is ROHM's pending trademark.

## Electrical Characteristics Curves

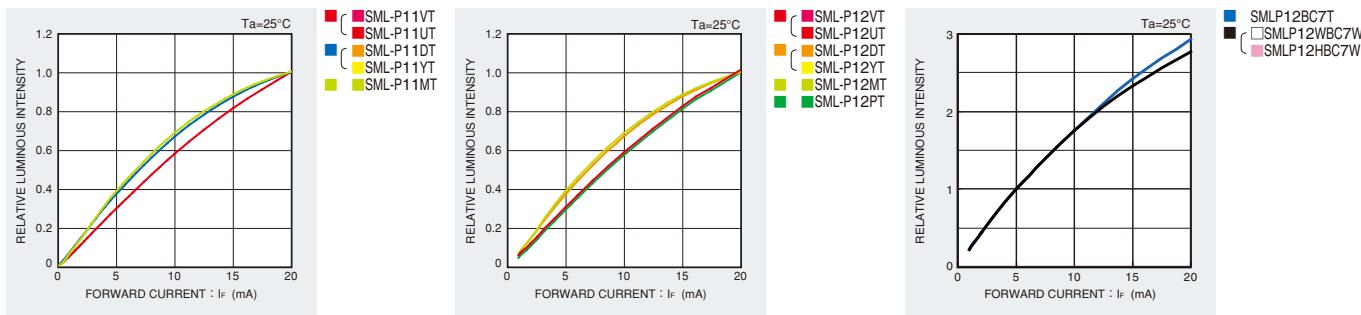
### Forward Current-Forward Voltage



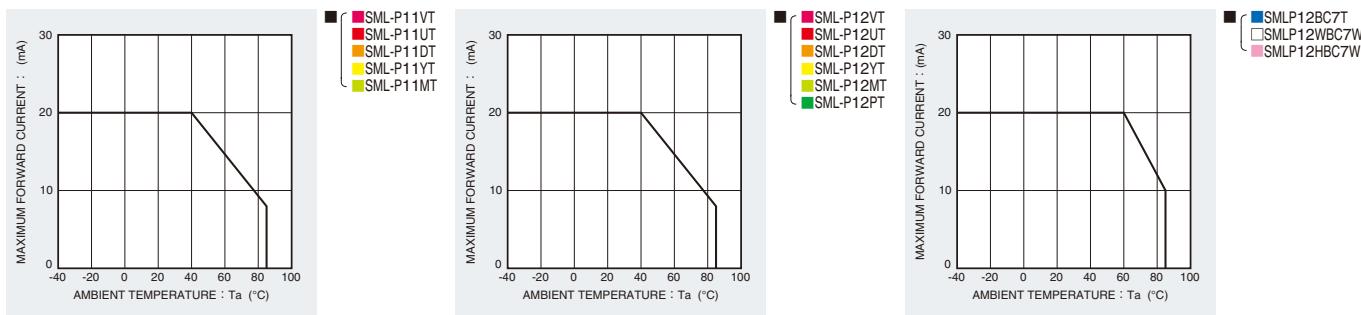
### Luminous Intensity-Atmosphere Temperature



### Luminous Intensity-Forward Current



### Derating



## **SML-P1 series**

## Rank Reference of Brightness

## ■ Red (V, U)

## ■ Orange (D)

■ **Yellow (Y)**

## ■ Green (M. P)

## ■ Blue (B)

(Ta=25°C, If=5mA)																
Package Size (mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W
		Height(mm)	0.9 to 1.4	1.4 to 2.2	2.2 to 3.6	3.6 to 5.6	5.6 to 9.0	9 to 14	14 to 22	22 to 36	36 to 56	56 to 90	90 to 140	140 to 220	220 to 360	360 to 560
Mini-mold Chin I LEDs	1006	0.2								SMI P12RC7T						

## ■ White (WB)

	Package size (mm)	Luminous Intensity (mcd)	N	P	Q	R	S	T	U	V	W
	Height(mm)		14 to 25	25 to 36	36 to 56	56 to 90	90 to 140	140 to 220	220 to 360	360 to 560	560 to 900
Mini-mold Chin I LEDs	1006	0.2							SMI P12WRC7W		

## ■ Pink (HB)

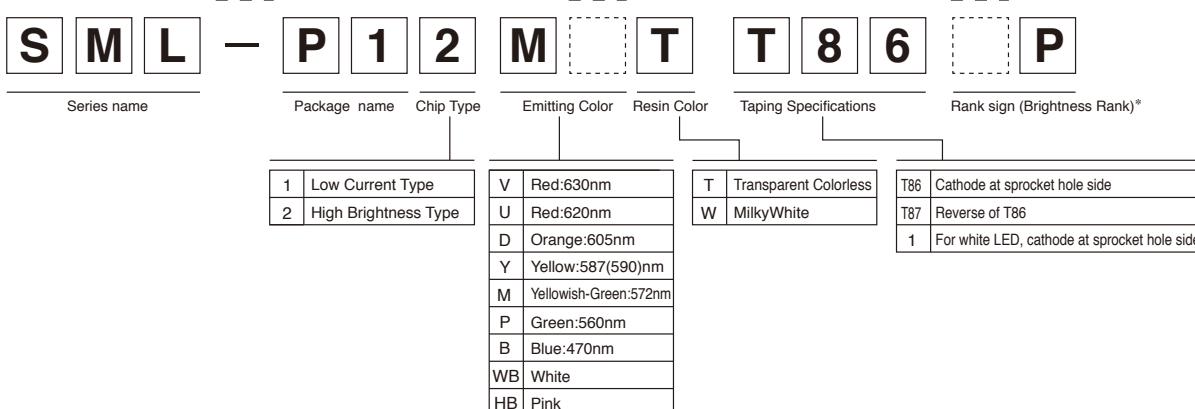
※ 1E=1mA

### Part No. Construction

\* “-” will be taken out for emitting color W/B/E series.

Special Code will be applied for  
Emitting color W/B/E series.

### Chromaticity rank(for white LED)



- \* Concerning the Brightness rank
- \* Please refer to the rank chart above for luminous intensity classification.
- \* Part name is individual for each rank.
- \* When shipped as sample, the part name will be a representative part name.  
General products are free of sample. Please contact sales if rank confirmation is needed.

## Packing Specification

ROHM LED products are being shipped with desiccant (silica gel) concluded in moisture-proof bags.  
Pasting the moisture sensitive label on the outer surface of the moisture-proof bags or enclosing the humidity indication card inside the bag is available upon request.  
Please contact the nearest sales office or distributor if necessary.

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