

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 $I_F=1\text{mA}$ (PICOLED™-eco)

Color Type	V	U	D	Y
M	P	B	WB	HB

* 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 (V)	Reverse Current IR (μA)	Dominant Wavelength λD (nm)	Luminous Intensity Iv (mcd)	Typ. IF (mA)	Min. λD (nm)	Typ. λD (nm)	Max. λD (nm)
SML-P11VT	AlGaInP on GaAs	Red	50	20	100*1	5	-40 to +85	-40 to +100	1.8		621	1	3.6	621	626	631
SML-P11UT											616	1.6	5.5	621	626	
SML-P11DT		Orange	52						1	10	602	2.5	7.3	605	608	608
SML-P11YT		Yellow	54						1.9		583	7.6		586	589	
SML-P11MT		Yellowish Green									566	0.63	2.1	569	572	

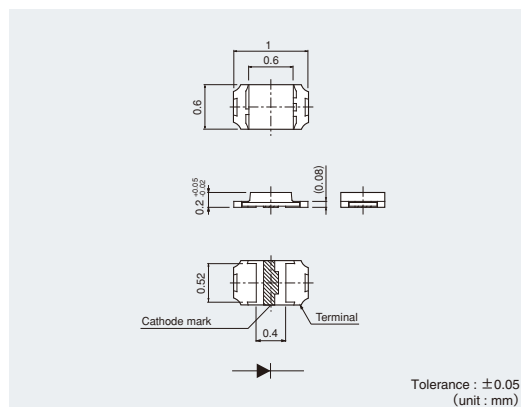
* 1: Duty 1/10, 1kHz * 2: Reference

PICOLED™

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SML-P12VT	AlGaInP on GaAs	Red	50	20	100*1	5	-40 to +85	-40 to +100	2.0		625	25	60	625	630	635
SML-P12UT											615	85		620	625	
SML-P12DT		Orange	52						2.1	20	602	40	100	605	608	608
SML-P12YT		Yellow	54	20	100*1	5	-40 to +85	-40 to +100		100	587	130		590	593	
SML-P12MT		Yellowish Green							2.2		569	10	35	572	575	
SML-P12PT	InGaN	Green	66								557	4.0	13	560	563	
SMLP12BC7T		Blue									465	5.6	17	470	475	
SMLP12WBC7W		White							2.9	5	(x, y) (0.30, 0.30)	36	71	5		
SMLP12HBC7W		Pink	74							10	(x, y) (0.23, 0.10)	14	22			

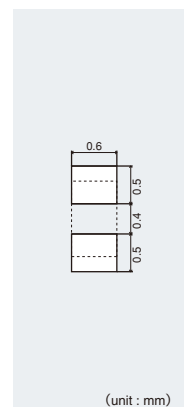
* 1: Duty 1/10, 1kHz * 2: Reference

Dimensions

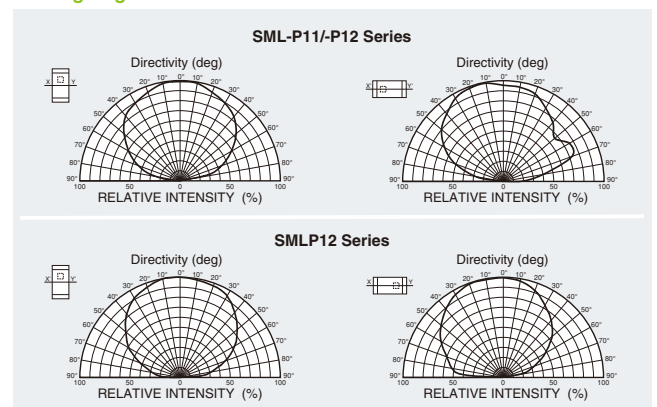


Tolerance : ±0.05
(unit : mm)

Recommended Solder Pattern



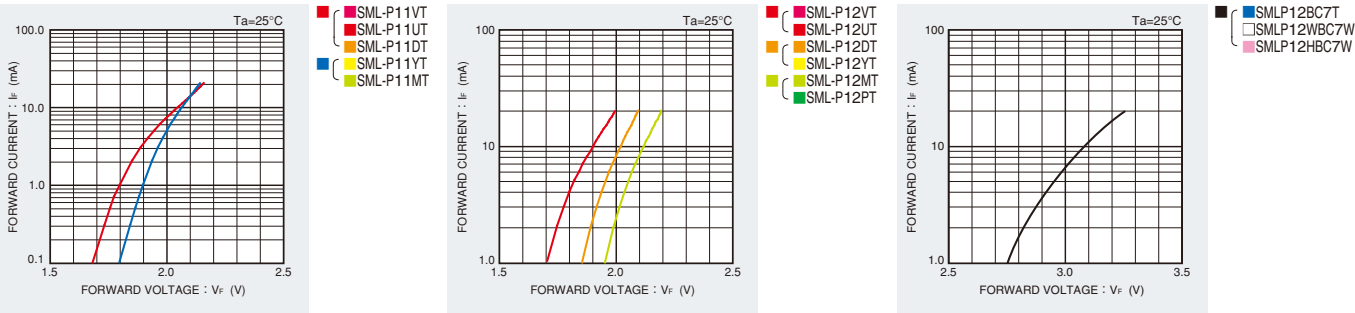
Viewing Angle



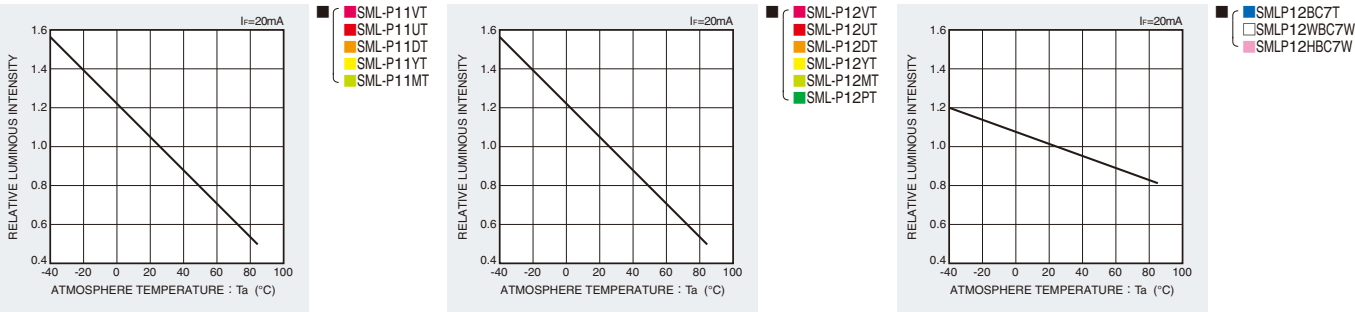
* PICOLED™ is ROHM's pending trademark.

Electrical Characteristics Curves

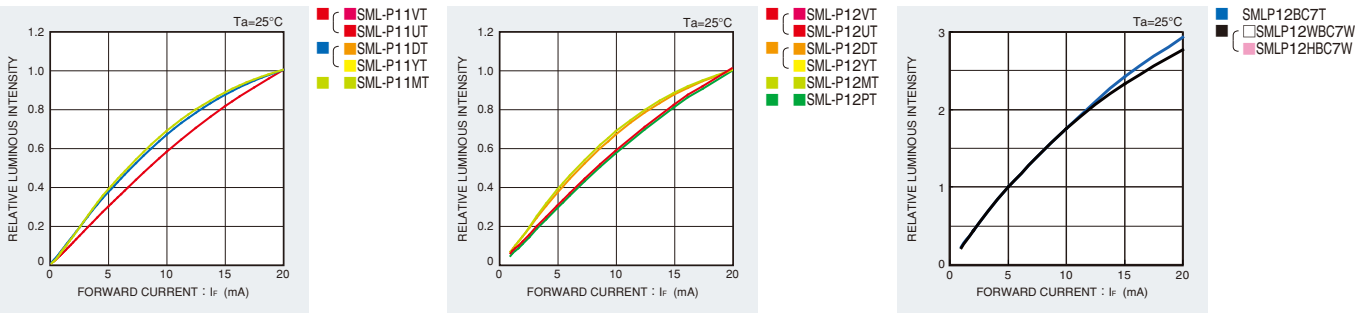
Forward Current-Forward Voltage



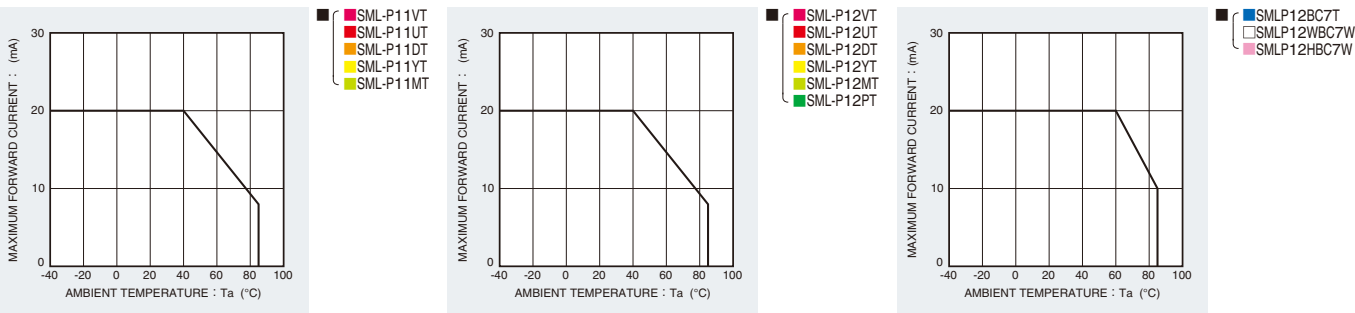
Luminous Intensity-Atmosphere Temperature



Luminous Intensity-Forward Current



Derating



SML-P1 series

Rank Reference of Brightness

■ Red (V, U)

(Ta=25°C, If=20mA)

	Package size(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
		Height(mm)	1.0 to 1.6	1.6 to 2.5	2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600
Mini-mold Chip LEDs	1006	0.2	SML-P11VT*							SML-P12VT								
			SML-P11UT*							SML-P12UT								

■ Orange (D)

(Ta=25°C, If=20mA)

	Package size(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
		Height(mm)	1.0 to 1.6	1.6 to 2.5	2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600
Mini-mold Chip LEDs	1006	0.2	SML-P11DT*							SML-P12DT								

■ Yellow (Y)

(Ta=25°C, If=20mA)

	Package size(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
		Height(mm)	1.0 to 1.6	1.6 to 2.5	2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600
Mini-mold Chip LEDs	1006	0.2	SML-P11YT*							SML-P12YT								

■ Green (M, P)

(Ta=25°C, If=20mA)

	Package size(mm)	Luminous Intensity (mcd)	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
		Height(mm)	0.63 to 1.0	1.0 to 1.6	1.6 to 2.5	2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600
Mini-mold Chip LEDs	1006	0.2	SML-P11MT*							SML-P12MT									
							SML-P12PT												

■ 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	560 to 900
Mini-mold Chip LEDs	1006	0.2					SMLP12BC7T										

■ White (WB)

(Ta=25°C, If=5mA)

	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 Chip LEDs	1006	0.2	SMLP12WBC7W								

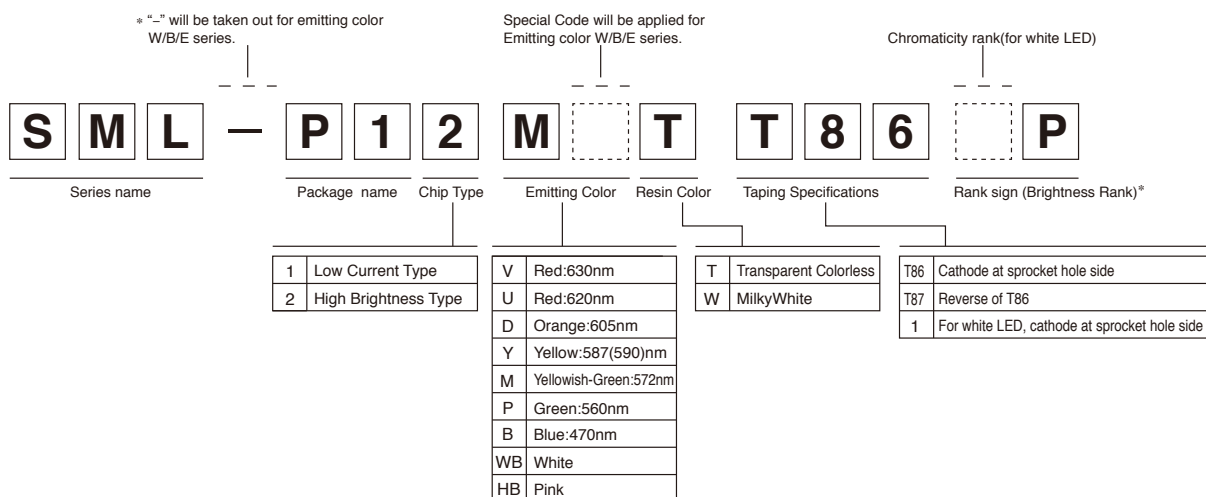
■ Pink (HB)

(Ta=25°C, If=5mA)

	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 Chip LEDs	1006	0.2	SMLP12HBC7W								

※:If=1mA

Part No. Construction



- * 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 ranks. Please contact sales if rank appointment 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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