

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=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 P _D (mW)	Forward Current I _F (mA)	Peak Forward Current I _{FP} (mA)	Reverse Voltage V _R (V)	Operating Temperature Topr(°C)	Storage Temperature Tstg(°C)	Forward Voltage V _F Typ. (V)	I _F (mA)	Reverse Current I _R Max. (μA)	V _R (V)	Dominant Wavelength λ _D (nm)			Luminous Intensity I _v (mcd)		
■ SML-P11VT	AlGaInP on GaAs	Red	50	20	100 ^{*1}	5	-40 to +85	-40 to +100	1.8	1	10	4	621	626	631	1	3.6	
■ SML-P11UT													616	621	626		1.6	5.5
■ SML-P11DT		Orange	52	20	100 ^{*1}	5	-40 to +85	-40 to +100	1.9	1	10	4	602	605	608	1	7.3	
■ SML-P11YT		Yellow											583	586	589		2.5	7.6
■ SML-P11MT		Yellowish Green											566	569	572		0.63	2.1

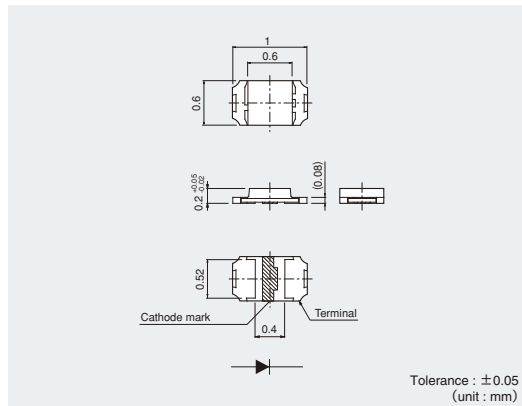
* 1:Duty1/10, 1kHz * 2:Reference

PICOLED™

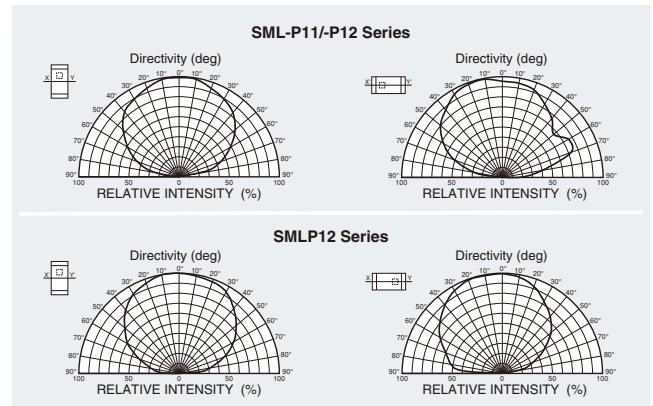
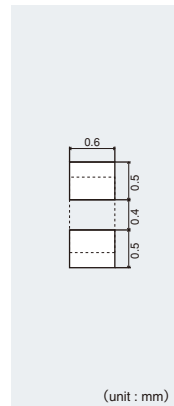
Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)					Electrical and Optical Characteristics (Ta=25°C)									
			Power Dissipation P _D (mW)	Forward Current I _F (mA)	Peak Forward Current I _{FP} (mA)	Reverse Voltage V _R (V)	Operating Temperature Topr(°C)	Storage Temperature Tstg(°C)	Forward Voltage V _F Typ. (V)	I _F (mA)	Reverse Current I _R Max. (μA)	V _R (V)	Dominant Wavelength λ _D (nm)			Luminous Intensity I _v (mcd)	
■ SML-P12VT	AlGaInP on GaAs	Red	50	20	100 ^{*1}	5	-40 to +85	-40 to +100	2.0	20	100	4	625	630	635	20	60
■ SML-P12UT													615	620	625		25
■ SML-P12DT		Orange	52	20	100 ^{*1}	5	-40 to +85	-40 to +100	2.1	20	100	4	602	605	608	20	100
■ SML-P12YT		Yellow											587	590	593		130
■ SML-P12MT		Yellowish Green											569	572	575		10
■ SML-P12PT	Green	54	20	100 ^{*1}	5	-40 to +85	-40 to +100	2.2	5	5	5	557	560	563	4.0	13	
■ SMLP12BC7T	InGaN	Blue	66	20	100 ^{*1}	5	-40 to +85	-40 to +100	2.9	5	10	5	465	470	475	5	17
□ SMLP12WBC7W		White											(x, y) (0.30, 0.30)	36	71		5
■ SMLP12HBC7W		Pink											(x, y) (0.23, 0.10)	14	22		5

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

Dimensions



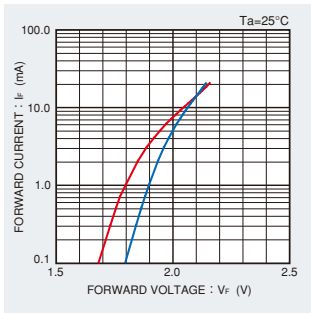
Recommended Solder Pattern Viewing Angle



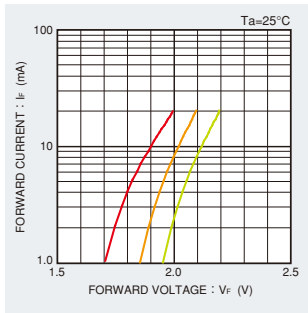
* PICOLED™ is ROHM's pending trademark.

Electrical Characteristics Curves

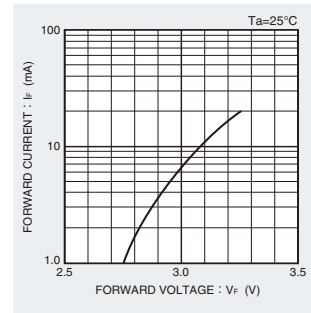
Forward Current-Forward Voltage



- SML-P11VT
- SML-P11UT
- SML-P11DT
- SML-P11YT
- SML-P11MT

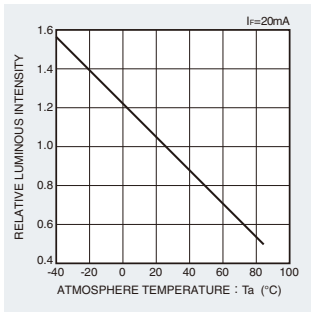


- SML-P12VT
- SML-P12UT
- SML-P12DT
- SML-P12YT
- SML-P12MT
- SML-P12PT

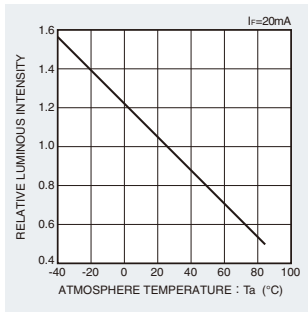


- SMLP12BC7T
- SMLP12WBC7W
- SMLP12HBC7W

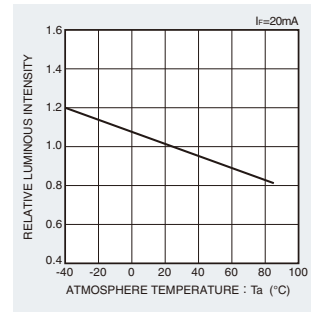
Luminous Intensity-Atmosphere Temperature



- SML-P11VT
- SML-P11UT
- SML-P11DT
- SML-P11YT
- SML-P11MT

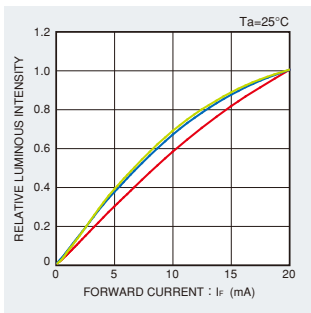


- SML-P12VT
- SML-P12UT
- SML-P12DT
- SML-P12YT
- SML-P12MT
- SML-P12PT

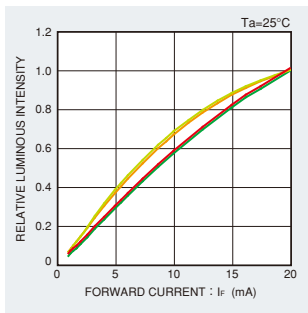


- SMLP12BC7T
- SMLP12WBC7W
- SMLP12HBC7W

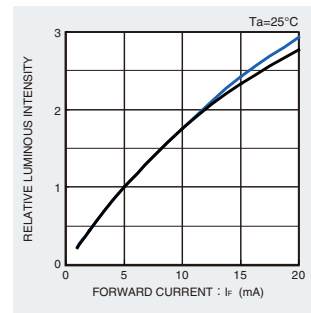
Luminous Intensity-Forward Current



- SML-P11VT
- SML-P11UT
- SML-P11DT
- SML-P11YT
- SML-P11MT

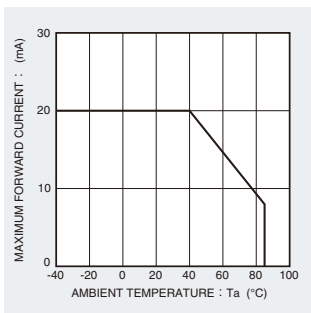


- SML-P12VT
- SML-P12UT
- SML-P12DT
- SML-P12YT
- SML-P12MT
- SML-P12PT

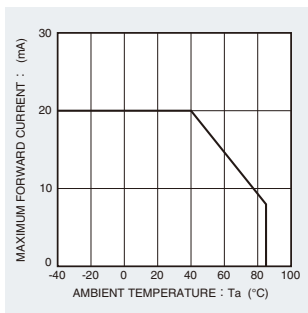


- SMLP12BC7T
- SMLP12WBC7W
- SMLP12HBC7W

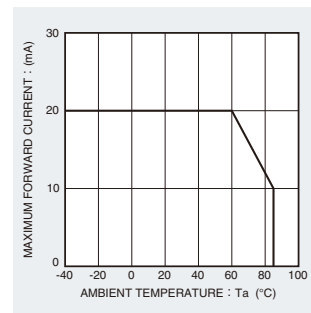
Derating



- SML-P11VT
- SML-P11UT
- SML-P11DT
- SML-P11YT
- SML-P11MT



- SML-P12VT
- SML-P12UT
- SML-P12DT
- SML-P12YT
- SML-P12MT
- SML-P12PT



- SMLP12BC7T
- SMLP12WBC7W
- SMLP12HBC7W

SML-P1 series

Rank Reference of Brightness

Red (V, U)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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-P12UT					
			SML-P11UT*					SML-P12UT										

Orange (D)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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)	Height(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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)	Height(mm)	Luminous Intensity (mcd)	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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 1800
Mini-mold Chip LEDs	1006	0.2	SML-P11MT*					SML-P12MT											
								SML-P12PT											

Blue (B)

(Ta=25°C, If=5mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W
			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)	Height(mm)	Luminous Intensity (mcd)	N	P	Q	R	S	T	U	V	W		
			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										

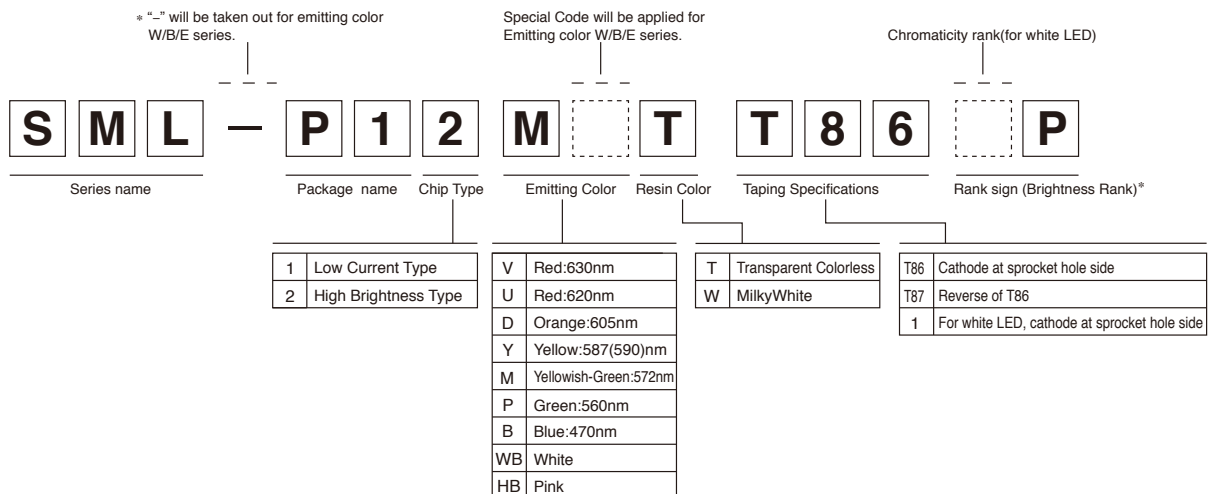
Pink (HB)

(Ta=25°C, If=5mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	N	P	Q	R	S	T	U	V	W		
			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.

Notes

No copying or reproduction of this document, in part or in whole, is permitted without the consent of ROHM Co.,Ltd.

The content specified herein is subject to change for improvement without notice.

The content specified herein is for the purpose of introducing ROHM's products (hereinafter "Products"). If you wish to use any such Product, please be sure to refer to the specifications, which can be obtained from ROHM upon request.

Examples of application circuits, circuit constants and any other information contained herein illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

Great care was taken in ensuring the accuracy of the information specified in this document. However, should you incur any damage arising from any inaccuracy or misprint of such information, ROHM shall bear no responsibility for such damage.

The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM and other parties. ROHM shall bear no responsibility whatsoever for any dispute arising from the use of such technical information.

The Products specified in this document are intended to be used with general-use electronic equipment or devices (such as audio visual equipment, office-automation equipment, communication devices, electronic appliances and amusement devices).

The Products specified in this document are not designed to be radiation tolerant.

While ROHM always makes efforts to enhance the quality and reliability of its Products, a Product may fail or malfunction for a variety of reasons.

Please be sure to implement in your equipment using the Products safety measures to guard against the possibility of physical injury, fire or any other damage caused in the event of the failure of any Product, such as derating, redundancy, fire control and fail-safe designs. ROHM shall bear no responsibility whatsoever for your use of any Product outside of the prescribed scope or not in accordance with the instruction manual.

The Products are not designed or manufactured to be used with any equipment, device or system which requires an extremely high level of reliability the failure or malfunction of which may result in a direct threat to human life or create a risk of human injury (such as a medical instrument, transportation equipment, aerospace machinery, nuclear-reactor controller, fuel-controller or other safety device). ROHM shall bear no responsibility in any way for use of any of the Products for the above special purposes. If a Product is intended to be used for any such special purpose, please contact a ROHM sales representative before purchasing.

If you intend to export or ship overseas any Product or technology specified herein that may be controlled under the Foreign Exchange and the Foreign Trade Law, you will be required to obtain a license or permit under the Law.



Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

<http://www.rohm.com/contact/>

