SML-T1 series

Actual size
1608(0603)
1.6×0.8mm(t=0.55mm)

Features

- Compact LED with reflector
- Die is located at the center of the package,achieving equivalent distribution of light emission.
- New emitting color,including the pastel colors available upon request.

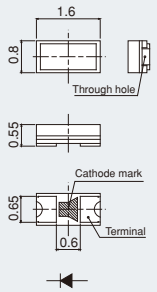
Color Type: V U D Y W / M P F B WB / GB CB AB SB HB (Warm White)

Specifications

Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25℃)						Electrical and Optical Characteristics (Ta=25℃)										
			Power Dissipation PD(mW)	Forward Current IF(mA)	Peak Forward Current IFP(mA)	Reverse Voltage VR(V)	Operating Temperature Topr(℃)	Storage Temperature Tstg(℃)	Forward Voltage VF Typ.(V)	VF IF(mA)	Reverse Current IR Max.(μA)	IR VR(V)	Dominant Wavelength λD Min.*2 (nm)	Typ. (nm)	Max.*2 (nm)	IF(mA)	Luminous Intensity Iv Min. (mcd)	Typ. (mcd)	IF(mA)
SML-T13VT	AlGaInP	Red	75	30	100*1	5	-40 to +85	-40 to +100	2.0	20	10	5	625	630	635	20	40	75	20
SML-T13UT													615	620	625		63	120	
SML-T13DT		Orange											602	605	608			200	
SML-T13YT		Yellow											587	590	593		100	160	
SML-T13WT													584	587	590				
SML-T13MT		Yellowish Green											569	572	575		25	45	
SML-T13FT		Green	81						2.2				561.5	564	566.5		16	32	
SML-T13PT													557	560	563		6.3	16	
SMLT12BC7T		Blue											464	470	476		14	28	
SMLT12WBC7W		White	66						2.9	5			(x, y) (0.30, 0.30)			5	36	90	5
SMLT12WBC8CW(A)		White				12						12	(x, y) (0.30, 0.28)				71	120	
☆ SMLT12ABC7W	InGaN	Blue Lagoon		20									(x, y) (0.17, 0.35)				56	110	
☆ SMLT12CBC7W		Ice Blue					-40 to +100						(x, y) (0.188, 0.280)				110	160	
☆ SMLT12GBC7W		Blue Green	70			5			3.0	10		5	(x, y) (0.238, 0.405)			10	140	220	10
SMLT12SBC7W		Sapphire Blue											(x, y) (0.19, 0.19)				56	110	
☆ SMLT12HBC8W		Pink											(x, y) (0.310, 0.235)					140	

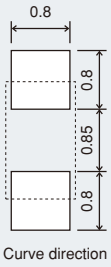
*1:Duty1/10, 1KHz *2:Reference

Dimensions



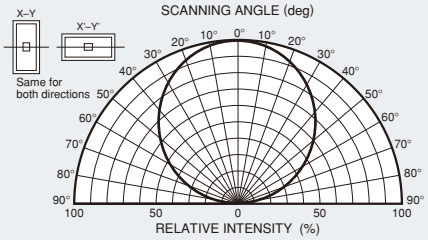
Unit : mm
Tolerance : ±0.2

Recommended Solder Pattern



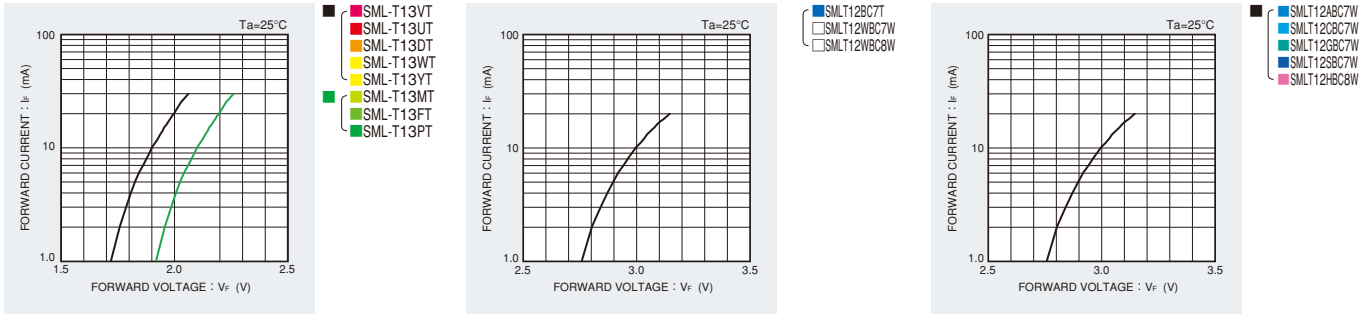
Unit : mm

Viewing Angle

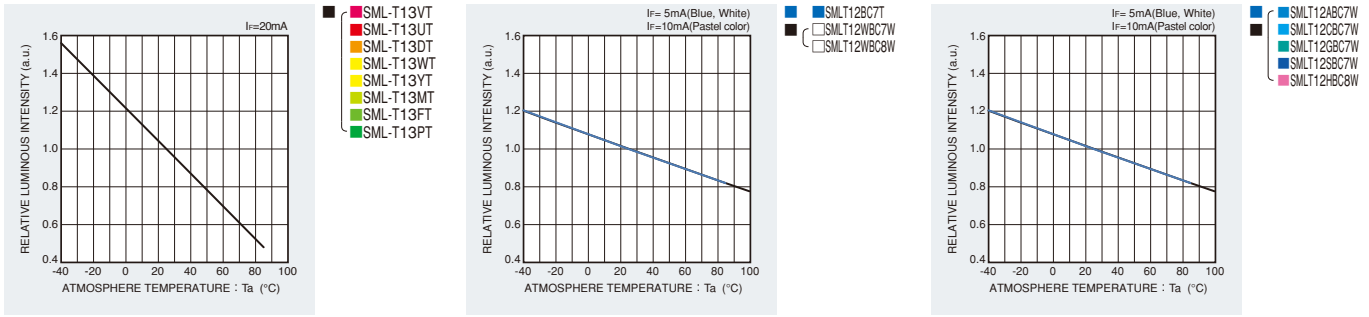


Electrical Characteristics Curves

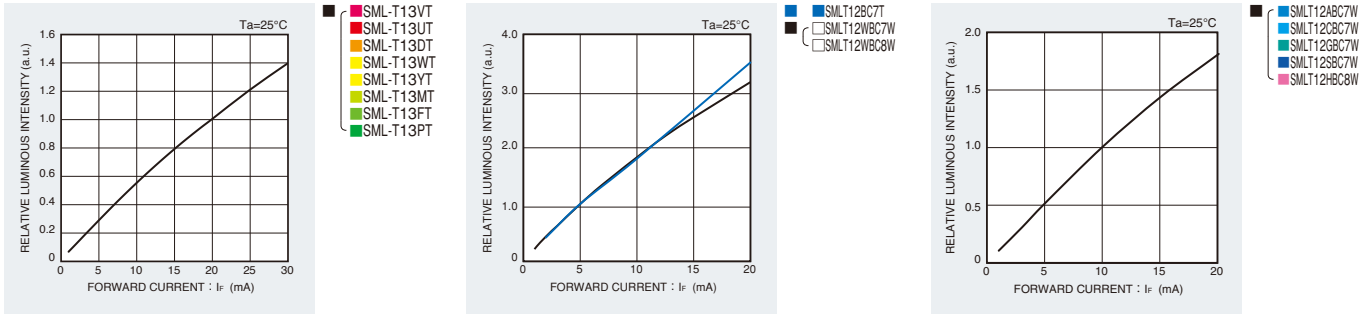
Forward Current-Forward Voltage



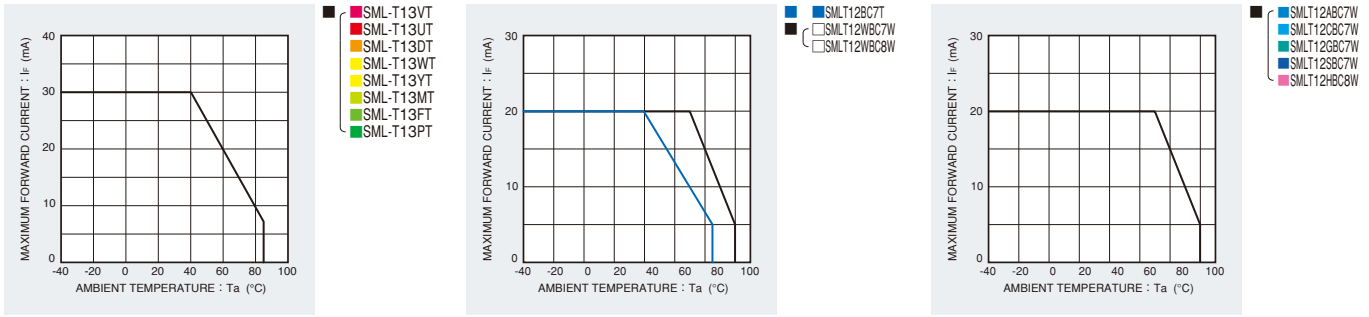
Luminous Intensity-Atmosphere Temperature



Luminous Intensity-Forward Current



Derating



Rank Reference of Brightness

Red (V, U)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) / I_F(mA)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
				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	1600 to 2500	2500 to 4000
Reflector	1608	0.55	20									SML-T13VT									
													SML-T13UT								

Orange (D)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) / I_F(mA)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y
				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	1600 to 2500
Reflector	1608	0.55	20											SML-T13DT						

Yellow (Y, W)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) / I_F(mA)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y
				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	1600 to 2500
Reflector	1608	0.55	20											SML-T13YT						
														SML-T13WT						

Green (M, P, F)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) / I_F(mA)	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y
				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	1600 to 2500
Reflector	1608	0.55	20									SML-T13MT									
									SML-T13PT												
											SML-T13FT										

Blue (B)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) / I_F(mA)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
				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	900 to 1400
Reflector	1608	0.55	5						SMLT12BC7T										

White (WB)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) / I_F(mA)	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
				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	900 to 1400	1400 to 2200	2200 to 3600
Reflector	1608	0.55	5				SMLT12WBC7W									
								SMLT12WBC8W								

Pastel Color

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) / I_F(mA)	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
				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	900 to 1400	1400 to 2200	2200 to 3600
Reflector	1608	0.55	10					SMLT12ABC7W								
									SMLT12CBC7W							
										SMLT12GBC7W						
								SMLT12SBC7W								
								SMLT12HBC8W								

Part No. Construction

＊ "–" will be taken out for emitting color W/B/E series and pastel color.

(Special classification code)

Rank sign (Chromaticity Rank)＊ (for white LED and pastel color)

S	M	L	–	T	1	3	M		T	T	8	6		P
Series name				Package name		Chip Type	Emitting Color		Resin Color	Taping Specifications			Rank sign (Brightness Rank)＊	

Chip Type	
2	High Brightness Type
3	

Emitting Color	
V	Red:630nm
U	Red:620nm
D	Orange:605nm
Y	Yellow:590nm
W	Yellow:587nm
M	Yellowish-Green:572nm
P	Green:560nm
B	Blue:470nm
WB	White
AB	Blue lagoon
CB	Ice blue
GB	Blue green
SB	Sapphire blue
HB	Pink

Resin Color	
T	Transparent Colorless
W	MilkyWhite

Taping Specifications	
T86	Cathode at sprocket hole side
T87	Reverse of T86
1	For white LED and pastel color, cathode at sprocket hole side

＊ Concerning the rank
- Please refer to the rank chart above for luminous intensity classification.
- Please refer to the Specification sheet for color 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 distributer if necessary.

Notes

1) The information contained herein is subject to change without notice.

2) Before you use our Products, please contact our sales representative and verify the latest specifications :

3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Poducts beyond the rating specified by ROHM.

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

5) 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 or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.

6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.

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

8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.

10) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.

11) ROHM has used reasonable care to ensur the accuracy of the information contained in this document. However, ROHM does not warrants that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.

12) Please use the Products in accordance with any applicable environmental laws and regulations, such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting non-compliance with any applicable laws or regulations.

13) When providing our Products and technologies contained in this document to other countries, you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.

14) This document, in part or in whole, may not be reprinted or reproduced without prior consent of ROHM.

ROHM SEMICONDUCTOR

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/