

SML-A1 Series

EXCELED™

1611(0605)
 1.6 × 1.15mm(t=0.55mm)

Features

- Compact size side-view LEDs

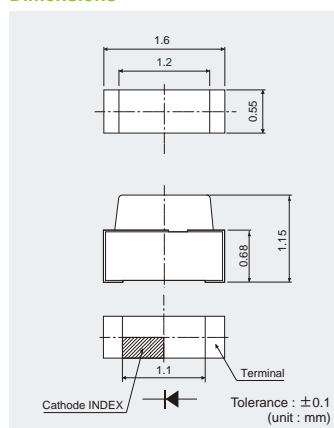
Color Type	V	U	D	W

Specifications

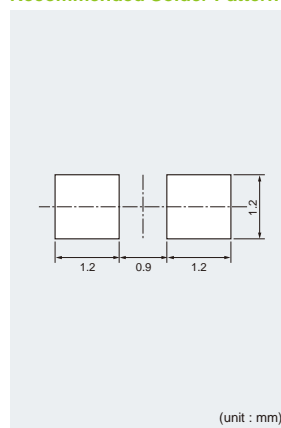
Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25℃)						Electrical and Optical Characteristics (Ta=25℃)										
			Power Dissipation Pd(mW)	Forward Current If(mA)	Peak Forward Current I _{PF} (mA)	Reverse Voltage Vr(V)	Operating Temperature Topr(℃)	Storage Temperature Tstg(℃)	Forward Voltage V _F Typ. (V)	If(mA)	Reverse Current Ir (μA)	Vr(V)	Dominant Wavelength λ _D (nm)			Luminous Intensity I _v (mcd)			
■ SML-A12V8T	AlGaInP on GaAs	Red	54	20					2.2				625	630	635		16	40	
■ SML-A12U8T													615	620	625		25	63	
■ SML-A12UT(J)			75	30					2.0				619	624	629		36		
■ SML-A12D8T		Orange	54	20			-40 to +85	-40 to +100	2.2		10		602	605	608		40	100	
■ SML-A12DT(J)			75	30	100 ₊₁	5			2.0	20		5		606	609		20	36	
■ SML-A12WT(J)		Yellow											587	590	593			63	
■ SML-A12Y8T			54	20					2.2								25		
■ SML-A12M8T		Yellowish Green											569	572	575		10	25	
■ SML-A12MT(J)			65	25			-30 to +85	-40 to +85	2.1		100			567	570	573		14	40
■ SML-A12P8T		Green	54	20			-40 to +85	-40 to +100	2.2		10		557	560	563		2.5	6.3	
■ SML-A12EC6T		Bluish-Green	68				-30 to +100		3.0				(520)	527	(535)		22	56	
■ SMLA12BC7T	InGaN	Blue	66	20	100 ₊₁	5		-40 to +100			5	100		465		475	5	5.6	16
■ SMLA13BC8T			84				-40 to +85		2.9			5		464		476			24
□ SMLA12WBC7W		White	33	10	50 ₊₁						10		(X,Y)	(0.30,0.30)			22	56	

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

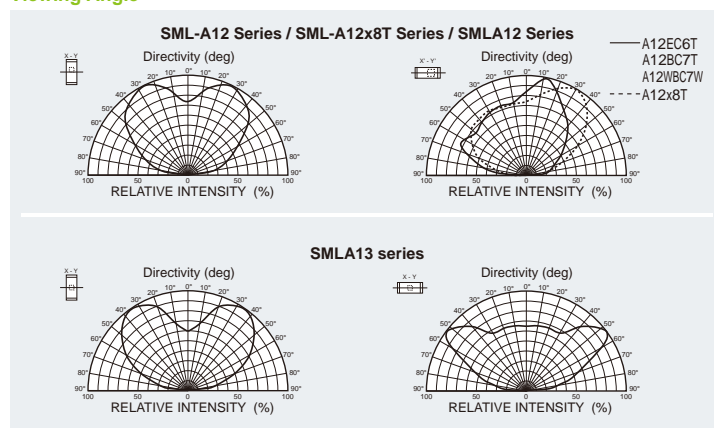
Dimensions



Recommended Solder Pattern



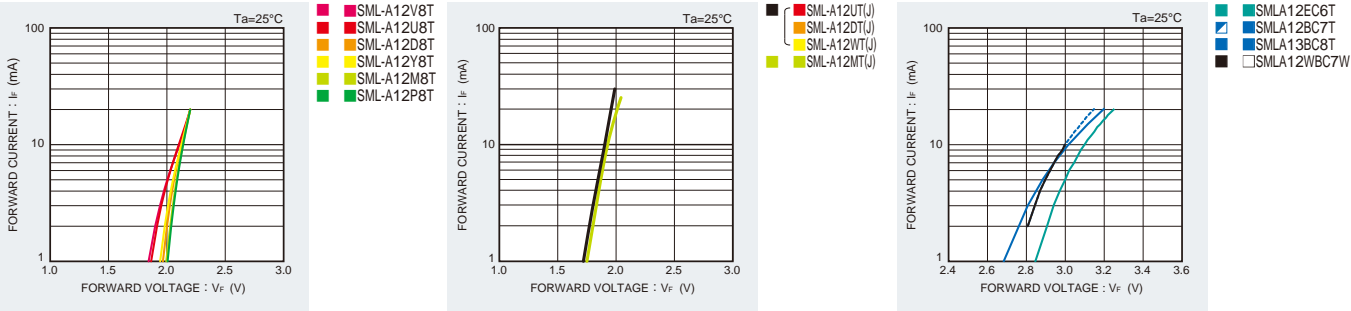
Viewing Angle



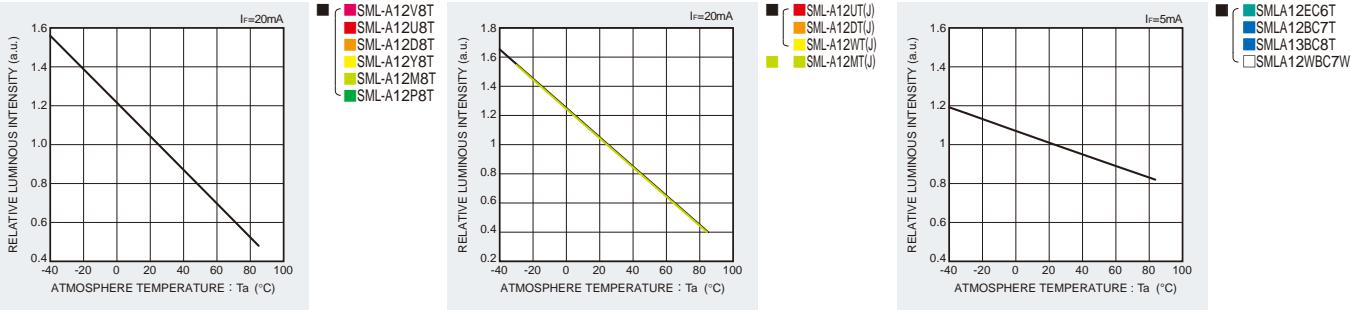
* EXCELED™ is ROHM's pending trademark.

Electrical Characteristics Curves

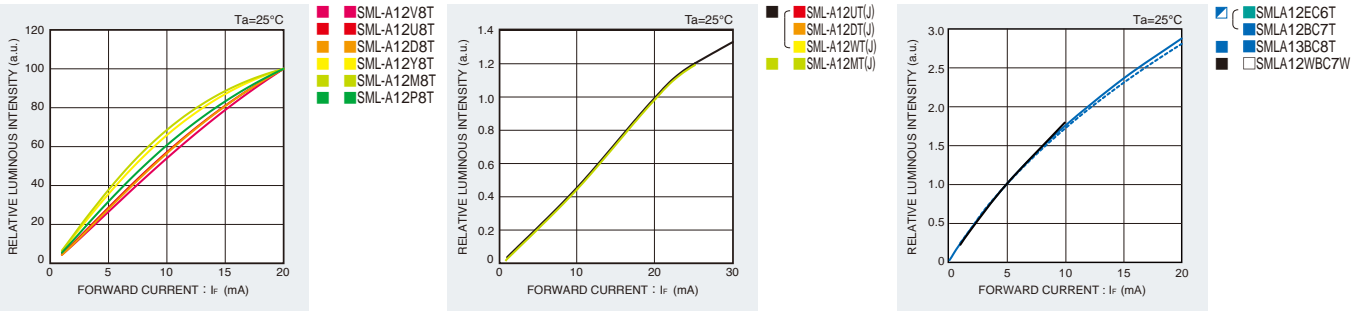
Forward Current-Forward Voltage



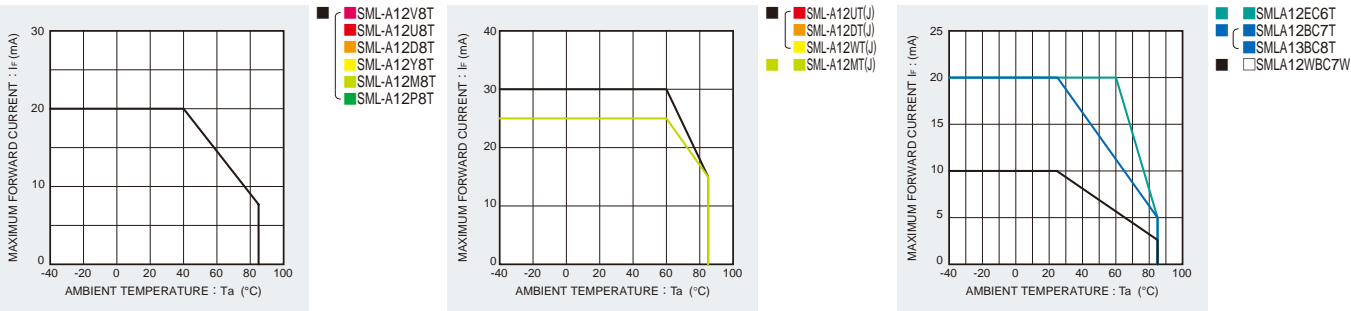
Luminous Intensity-Atmosphere Temperature



Luminous Intensity-Forward Current



Derating



SML-A1 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
Side View Chip LEDs	16115	0.55		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

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
Side View Chip LEDs	16115	0.55		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

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
Side View Chip LEDs	16115	0.55		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

Green (M, P)

(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
Side View Chip LEDs	16115	0.55		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

Bluish Green (E)

(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
Side View Chip LEDs	16115	0.55		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

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
Side View Chip LEDs	16115	0.55		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

White (WB)

(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
Side View Chip LEDs	16115	0.55		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

※Brightness on specification sheet include tolerance of within ± 10%.

Part No. Construction

* "-" will be taken out for emitting color B/E series.

Dice classification code

(Special classification code) Chromaticity rank(for white LED)

S	M	L	-	A	1	2	U	8	T	T	8	6	J		P
Series name				Package type	Chip Type		Emitting Color	Resin Color	Taping Specifications	Rank sign (Brightness Rank)*					
				2	High Brightness Type		V Red:630nm		T Transparent Colorless	T86 Cathode at sprocket hole side					
				3	Ultra High Brightness Type		U Red:620(624)nm		W MilkyWhite	T87 Reverse of T86					
							D Orange:605(606)nm								
							Y Yellow:587(590)nm								
							W Yellow:590nm								
							M Yellowish-Green:572nm								
							P Green:560nm								
							E Bluish-Green:527nm								
							B Blue:470nm								
							WB White								

- 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

- 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 Products 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.
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- 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 from non-compliance with any applicable laws or regulations.
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