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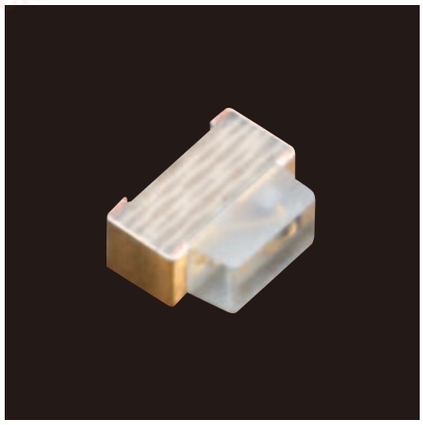
ROHM SEMICONDUCTOR

Data Sheet



SML-A1 Series

EXCELED™

1611(0605)
1.6×1.15mm(t=0.55mm)

Features

・Side-view type
・1.6×1.15mm, t=0.55mm

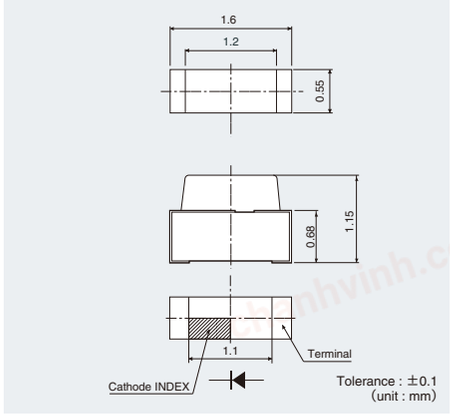
Color Type: V U D W / Y M P B WB

Specifications

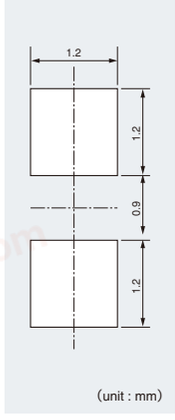
Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25℃)						Electrical and Optical Characteristics (Ta=25℃)									
			Power Dissipation PD(mW)	Forward Current IF(mA)	Peak Forward Current IFP(mA)	Reverse Voltage VR(V)	Operating Temperature Topr(℃)	Storage Temperature Tstg(℃)	Forward Voltage VF		Reverse Current IR		Dominant Wavelength λD				Luminous Intensity Iv		
									Typ.(V)	IF(mA)	Max.(μA)	VR(V)	Min.*2(nm)	Typ.(nm)	Max.*2(nm)	IF(mA)	Min.(mcd)	Typ.(mcd)	IF(mA)
■SML-A12V8T	AlGaInP on GaAs	Red	54	20	100*1	5	-40 to +85	-40 to +100	2.2	20	10	5	625	630	635	20	16	40	20
■SML-A12U8T													615	620	625		25	63	
■SML-A12UT(J)			75	30					2.0				619	624	629		36		
■SML-A12D8T		Orange	54	20					2.2				602	605	608		40	100	
■SML-A12DT(J)			75	30					2.0					606	609		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	
■SMLA12BC7T	InGaN	Blue	66	20	100*1	5	-40 to +85	-40 to +100	2.9	5	100	5	465	470	475	5	5.6	16	5
■SMLA13BDT			84				-30 to +85		3.2	20			464		476	20	56	140	20
□SMLA12WBC7W		White	66				-40 to +85		2.9	5	10		(x, y) (0.30,0.30)			5	22	56	5
□SMLA13WBDW			74						3.1	10			(x, y) (0.31,0.31)			10	90	180	10

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

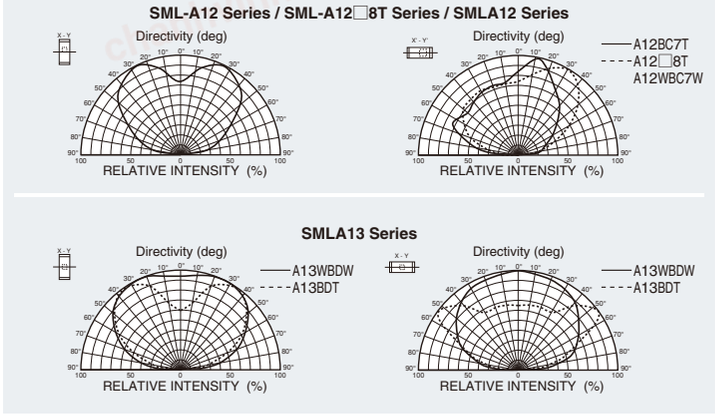
Dimensions



Recommended Solder Pattern



Viewing Angle



*EXCELED™ is ROHM's pending tradmark.

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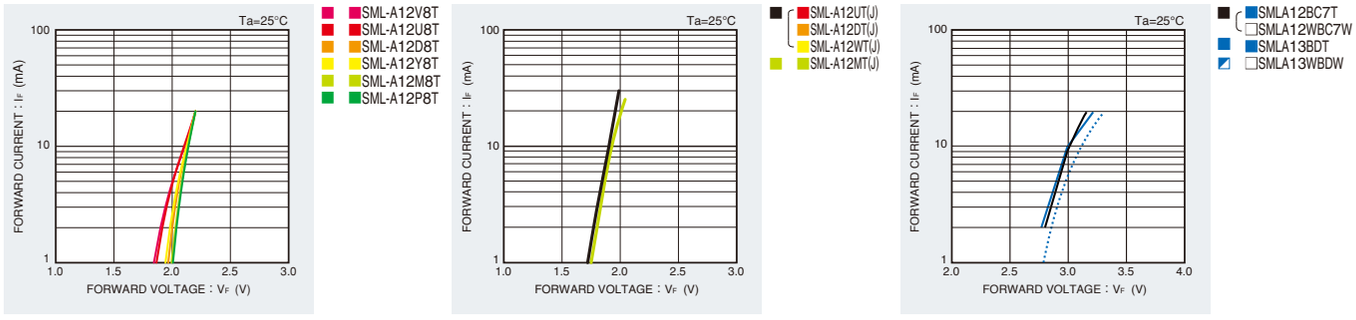
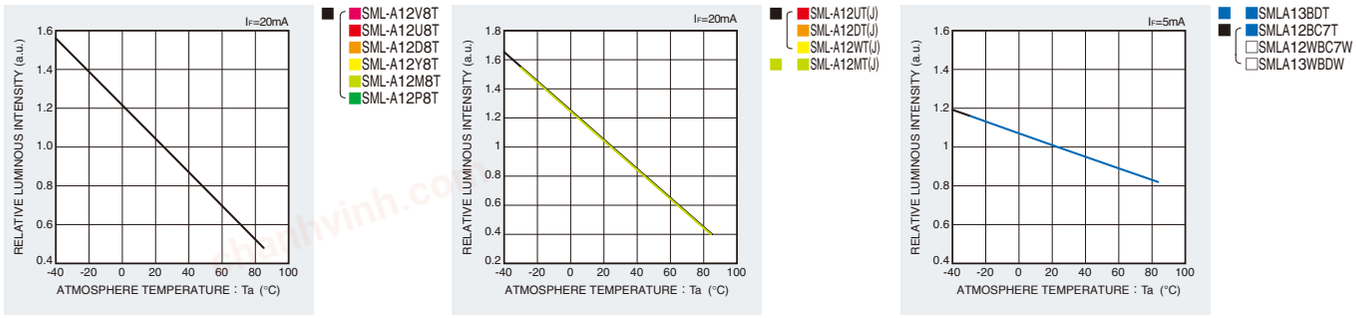
SML-A1 Series

Electrical Characteristics Curves

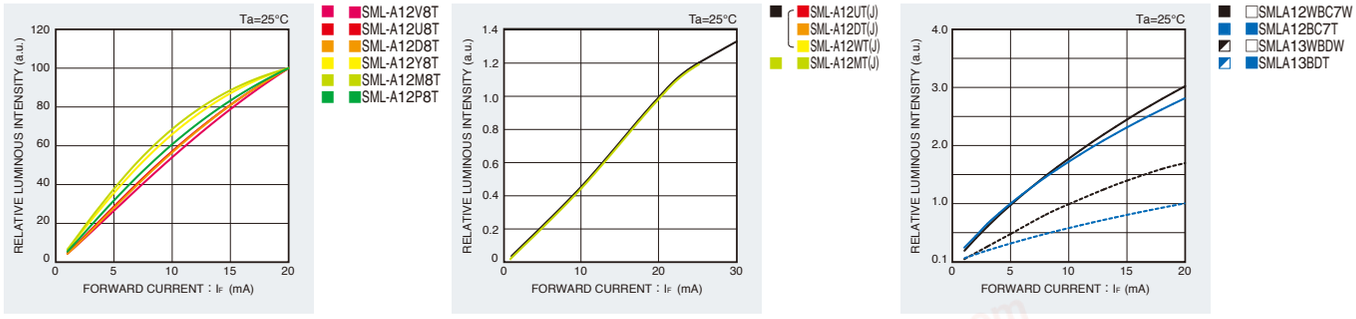
Forward Current-Forward Voltage



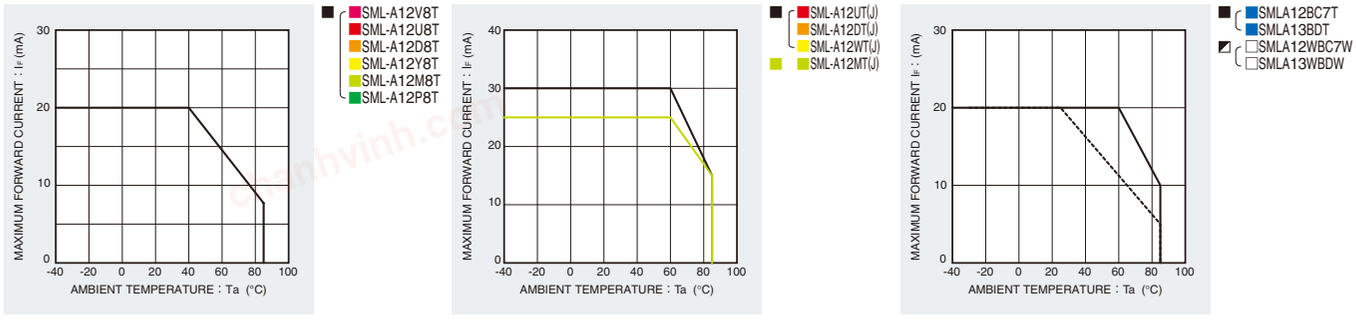
Luminous Intensity-Atmosphere Temperature



Luminous Intensity-Forward Current



Derating



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SML-A1 Series

Rank Reference of Brightness

Red (V, U)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	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
Side View Chip LEDs	16115	0.55							SML-A12V8T									
										SML-A12U8T								
											SML-A12UT※							

Orange (D)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	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
Side View Chip LEDs	16115	0.55									SML-A12D8T							
											SML-A12DT※							

Yellow (Y)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	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
Side View Chip LEDs	16115	0.55								SML-A12Y8T								
											SML-A12WT※							

Green (M, P)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	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
Side View Chip LEDs	16115	0.55							SML-A12MT※									
								SML-A12M8T										
					SML-A12P8T													

Blue (B)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	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
Side View Chip LEDs	16115	0.55					SMLA12BC7T※2					SMLA13BDT					

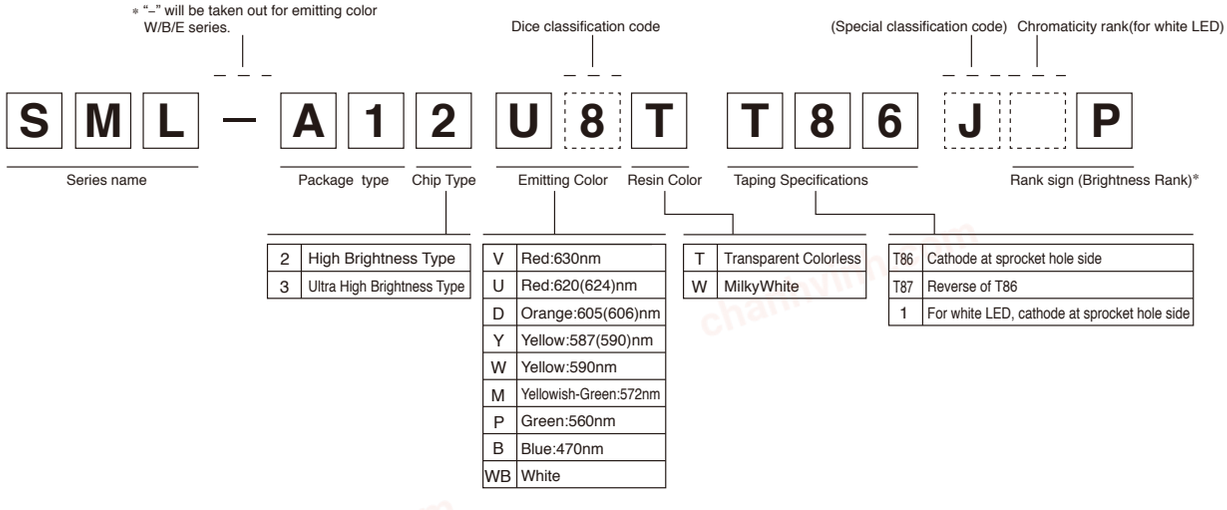
White (WB)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	P	Q	R	S	T	U	V	W	X1	X2	Y1	Y2	Z1
			25 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 1100	1100 to 1400	1400 to 1800	1800 to 2200	2200 to 2800
Side View Chip LEDs	16115	0.55	SMLA12WBC7W※2												
						SMLA13WBDW※1									

※Brightness on specification sheet include tolerance of within ± 10%.
※1:IF=10mA ※2:IF=5mA

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 distributer if necessary.

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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.

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