Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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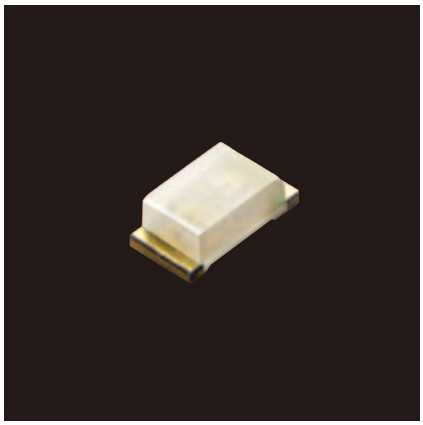
ROHM SEMICONDUCTOR

Data Sheet



SML-51 Series

1608(0603)
1.6×0.8mm(t=0.55mm)

Features

・Original device technology enables high brightness and high reliability
・High reliability due to the wide operation temperature(-40℃ to +100℃) (SML-512(A) Series)

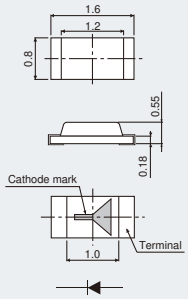
Color Type: V U C D / W M P B

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.*3 (nm)	Typ. (nm)	Max.*3 (nm)	IF(mA)	Luminous Intensity Iv Min.(mcd)	Typ.(mcd)	IF(mA)
SML-512VW(A)																	35.5	56	
SML-512VW		Red	75	30	100*2	5	-40 to +100	-40 to +100			10	5	626	630	636		22	63	
SML-512UW													619	624	629				
SML-511UW			62	25	60*1	4	-30 to +85	-40 to +85			100	4	615	620	625		14	40	
SML-512CW(A)	AlGaInP on GaAs	Orange	75	30	100*2	5	-40 to +100	-40 to +100	2.0		10	5	600	603	606		71	112	
SML-512DW										20			603	606	609	20	36	100	20
SML-511DW			62	25	60*1	4	-30 to +85	-40 to +85			100	4	602	605	608		14	40	
SML-512WW		Yellow	75	30	100*2	5	-40 to +100	-40 to +100			10	5	587	590	593		36	63	
SML-511WW			62		60*1	4	-30 to +85	-40 to +85				4					22	40	
SML-512MW		Yellowish Green	65	25					2.1		100		567	570	575		14		
SML-512PW(A)		Green			100*2	5	-40 to +100	-40 to +100				5	557	560	563		5.6	14	
SML512BC5T	InGaN	Blue	66	20					2.9	5			464	470	476	5		16	5

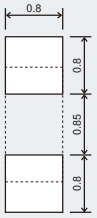
*1:Duty1/5, 200Hz / *2:Duty1/10, 1kHz / *3:Reference

Dimensions



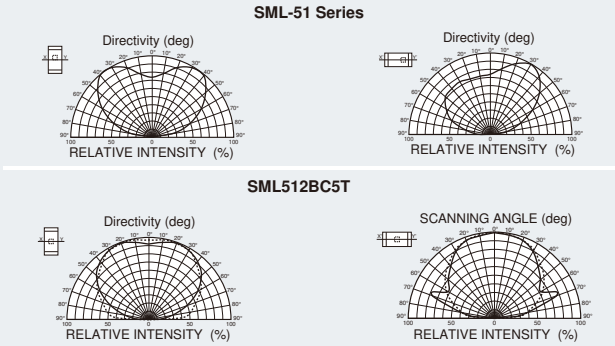
Tolerance : ±0.1
(unit : mm)

Recommended Solder Pattern



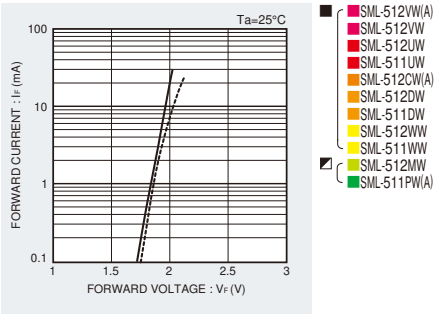
(unit : mm)

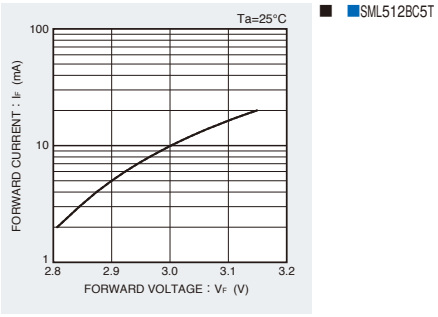
Viewing Angle



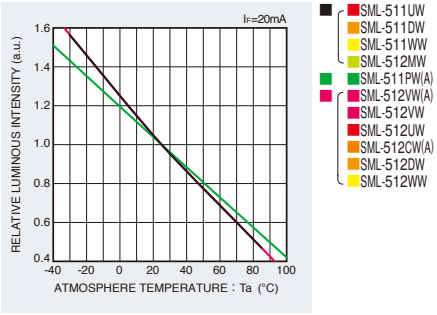
Electrical Characteristics Curves

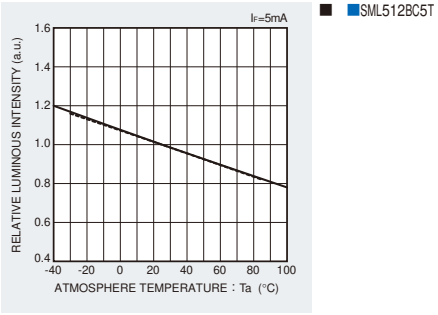
Forward Current-Forward Voltage



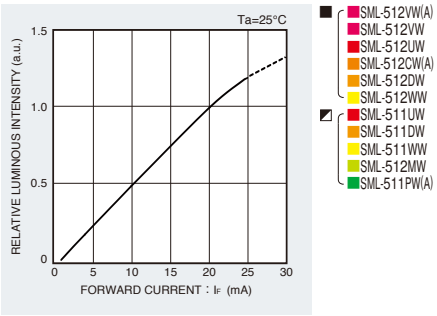


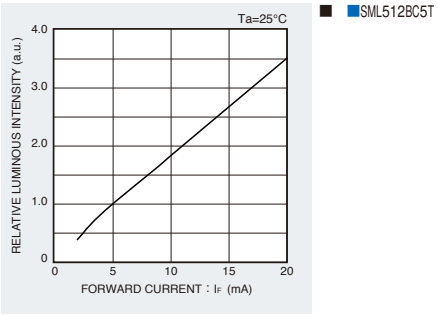
Luminous Intensity-Atmosphere Temperature



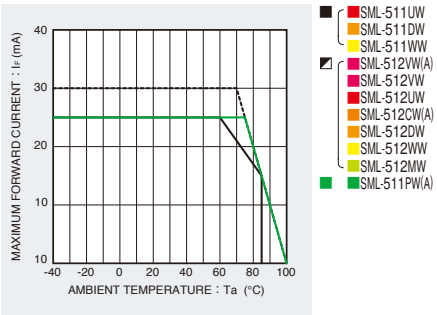


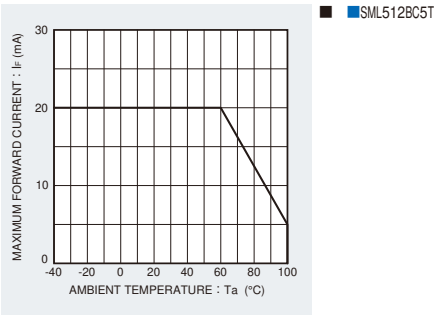
Luminous Intensity-Forward Current





Derating





Rank Reference of Brightness

Red (V, U)

(Ta=25˚C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	J	K	L	M	N	P	Q	R	S	T
			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
Mini-mold Chip LEDs	1608	0.55						SML-512VW※				
							SML-511UW※					
								SML-512UW※				

Orange (D)

(Ta=25˚C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	J	K	L	M	N	P	Q	R	S	T
			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
Mini-mold Chip LEDs	1608	0.55					SML-511DW※					
									SML-512DW※			

Yellow (W)

(Ta=25˚C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	J	K	L	M	N	P	Q	R	S	T
			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
Mini-mold Chip LEDs	1608	0.55						SML-511WW※				
									SML-512WW※			

Green (M)

(Ta=25˚C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	J	K	L	M	N	P	Q	R	S	T
			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
Mini-mold Chip LEDs	1608	0.55					SML-512MW※					

Blue (B)

(Ta=25˚C, IF=5mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	J	K	L	M	N	P	Q	R	S	T
			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
Mini-mold Chip LEDs	1608	0.55			SML-512BC5T							

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

SML-512(A)

(Ta=25˚C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV
			5.6 to 7.1	7.1 to 9.0	9.0 to 11.2	11.2 to 14	14 to 18	18 to 22.4	22.4 to 28	28 to 35.5	35.5 to 45	45 to 56	56 to 71	71 to 90	90 to 112	112 to 140	140 to 180	180 to 224
Mini-mold Chip LEDs	1608	0.55									SML-512VW(A)							
														SML-512CW(A)				
			SML-512PW(A)															

＊Please note that the brightness of some products may fall between ranks (half rank).

Part No. Construction

＊"–" will be taken out for emitting color B series.

Special Code will be applied for Emitting color W/B/E series.

(Special Code)

S	M	L	–	5	1	2	V	8	T	T	8	6	A	P
Series name				Package type		Chip Type	Emitting Color		Resin Color	Taping Specifications			Rank sign (Brightness Rank)＊	

1	Low Current Type
2	High Brightness Type

V	Red:630nm
U	Red:620nm
C	Orange:603nm
D	Orange:605nm
W	Yellow:590nm
M	Yellowish-Green:572nm
P	Green:560nm
B	Blue:470nm

T	Transparent Colorless
W	MilkyWhite

T86	Cathode at sprocket hole side
T87	Reverse of T86
1	For white LED, cathode at sprocket hole side

＊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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ROHM SEMICONDUCTOR

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