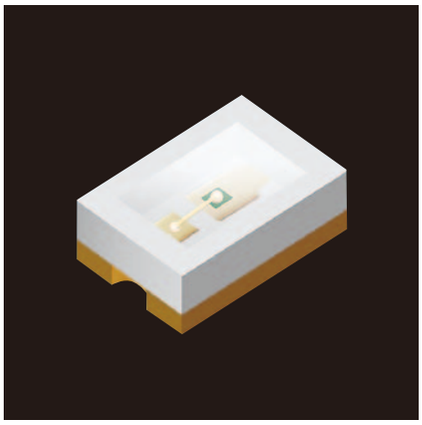
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ROHM SEMICONDUCTOR

Data Sheet



SML-M1 Series

20125(0805)
2.0×1.25mm(t=0.8mm)

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.

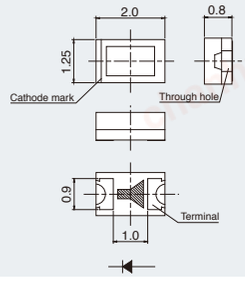
HB GB CB AB SB Warm White

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-M13VT	AlGaInP on GaAs	Red	63	25	100*1	5	-40 to +85	-40 to +100	2.0	20*1	10	5	625	630	635	20	40	75	20
SML-M13UT													615	620	625		63	120	
SML-M13DT		Orange											602	605	608		100	200	
SML-M13YT		Yellow											587	590	593			160	
SML-M13MT		Yellowish Green	68						2.2				569	572	575		25	45	
SML-M13PT		Green		30									557	560	563		6.3	16	
SMLM12BC7T	InGaN	Blue	66	20			-30 to +85		2.9	5*1	100		465	470	475	5	-	36	5
SMLM12WBC7W		White					-40 to +100				10		(x, y) (0.30, 0.30)				56	100	

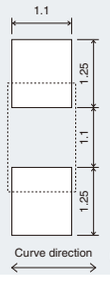
*1: Duty1/10 1KHz *2: Reference

Dimensions



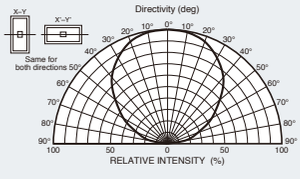
Unit : mm
Tolerance : ±0.2

Recommended Solder Pattern



Unit : mm

Viewing Angle



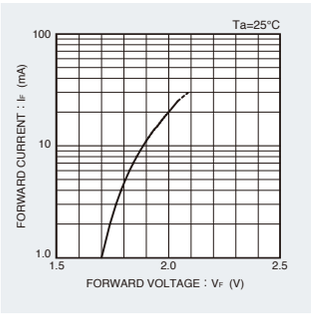
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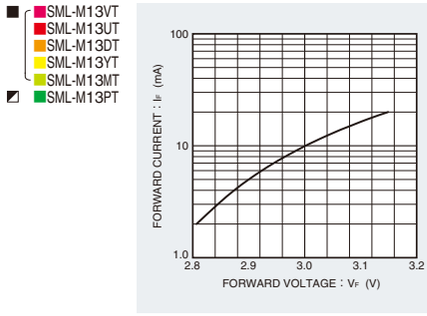
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SML-M1 Series

Electrical Characteristics Curves

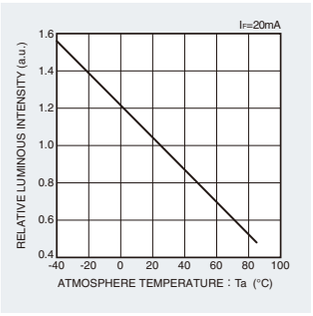
Forward Current-Forward Voltage

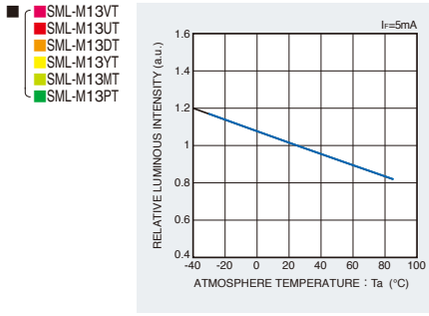






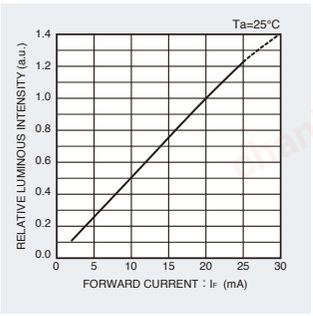
Luminous Intensity-Atmosphere Temperature

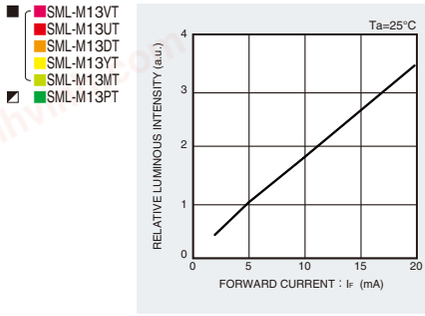






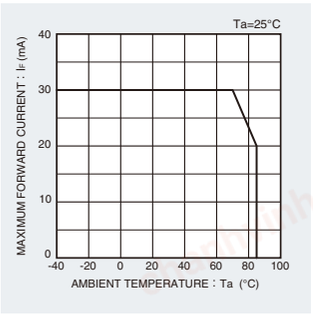
Luminous Intensity-Forward Current

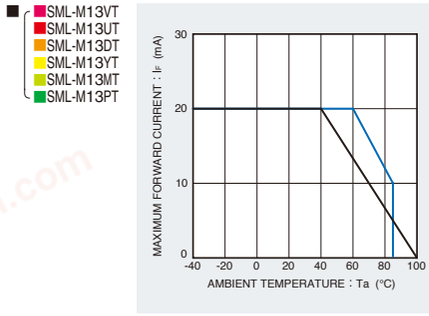






Derating







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SML-M1 Series

Rank Reference of Brightness

Red (V, U)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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
Small LEDs with reflector	20125	0.8						SML-M13VT							
									SML-M13UT						

Orange (D)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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
Small LEDs with reflector	20125	0.8								SML-M13DT					

Yellow (Y)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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
Small LEDs with reflector	20125	0.8								SML-M13YT					

Green (M, P)

(Ta=25°C, IF=20mA)

	Package size(mm)	Luminous Intensity (mcd) / Height(mm)	K	L	M	N	P	Q	R	S	T	U	V	W	X
			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
Small LEDs with reflector	20125	0.8		SML-M13PT			SML-M13MT								

Blue (B)

(Ta=25°C, IF=5mA)

	Package size (mm)	Luminous Intensity (mcd) / Height(mm)	K	L	M	N	P	Q	R	S	T	U	V	W
			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
Small LEDs with reflector	20125	0.8				SMLM12BC7T								

White (WB)

(Ta=25°C, IF=5mA)

	Package size (mm)	Luminous Intensity (mcd) / Height(mm)	P	Q	R	S	T	U	V	W
			25 to 36	36 to 56	56 to 90	90 to 140	140 to 220	220 to 360	360 to 560	560 to 900
Small LEDs with reflector	20125	0.8		SMLM12WBC7W						

Part No. Construction

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

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

Chromaticity rank(for white LED)

S	M	L	–	M	1	2	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	Ultra High Brightness Type

Emitting Color	
V	Red:630nm
U	Red:620nm
D	Orange:605nm
Y	Yellow:587(590)nm
M	Yellowish-Green:572nm
P	Green:560nm
B	Blue:470nm
WB	White

Resin Color	
T	Transparent Colorless
W	MilkyWhite

Taping Specifications	
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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