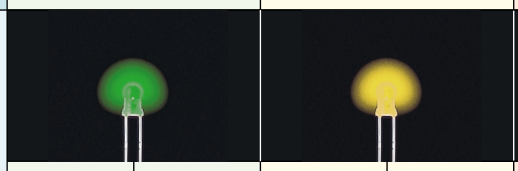
Standard Type φ3.1 Circular Type LED Lamps

SLR-342 Series

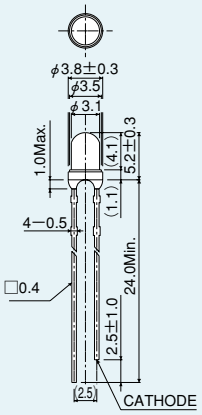
Shape	Emitting Surface Dimension (mm)	Green	Yellow	Orange	Red
		GaP		GaAsP on GaP	
		563nm	585nm	610nm	650nm
Circular Type	φ3.1				
		SLR-342MC / SLR-342MG	SLR-342YC / SLR-342YY	SLR-342DC / SLR-342DU	SLR-342VC / SLR-342VR

■ Absolute Maximum Ratings (Ta=25℃)

Part No.	Emitting color	Power dissipation P_D (mW)	Forward current I_F (mA)	Peak forward current I_{FP} (mA)	Reverse voltage V_R (V)	Operating temperature T_{opr} (°C)	Stotage temperature T_{stg} (°C)
SLR-342MC	Green	75	25	60	3	-25 to +85	-30 to +100
SLR-342MG							
SLR-342YC	Yellow						
SLR-342YY							
SLR-342DC	Orange	60	20				
SLR-342DU							
SLR-342VC	Red						
SLR-342VR							

＊I_{FP} measured under duty ≦1/5,pulse width ≦1ms.

■ External Dimensions (Unit : mm)



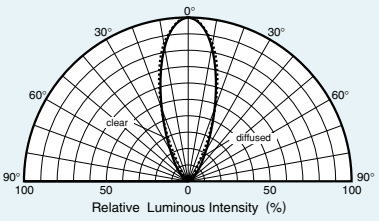
Tolerance:±0.2

■ Electrical Optical Characteristics (Ta=25℃)

Part No.	Resin Color	Forward voltage V_F Typ. (V)	I_F (mA)	Reverse current I_R Max. (μA)	V_R (V)	Light wavelength Peak λp Typ. (nm)	Half-wave Δλ Typ. (nm)	I_F (mA)	Brightness I_V Min. (mcd)	Typ. (mcd)	I_F (mA)
SLR-342MC	Colored Clear	2.1	10	10	3	563	40	10	9.0	25	10
SLR-342MG	Colored Diffused								5.6	16	
SLR-342YC	Colored Clear					585			3.6	10	
SLR-342YY	Colored Diffused										
SLR-342DC	Colored Clear	2.0				610			9.0	25	
SLR-342DU	Colored Diffused								5.6	16	
SLR-342VC	Colored Clear					650			9.0	25	
SLR-342VR	Colored Diffused								5.6	16	

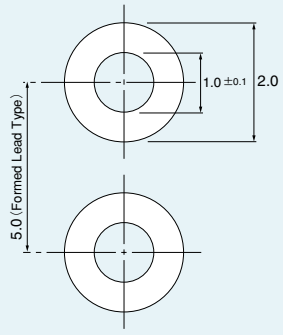
Note) SLR-342 series are available with forming taping style. For the bulk and straight taping style, we would recommend our SLR-343(LEDs with Pressure Release Structure)

■ Directivity



(TYP.)

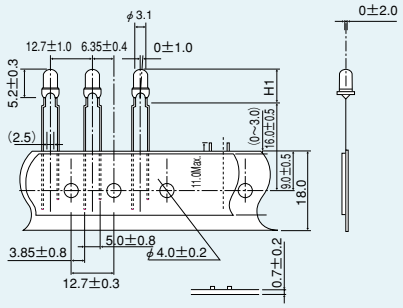
■ Recommemded Pad Layout



(Unit : mm)

■ Packaging Spacifications (Unit : mm)

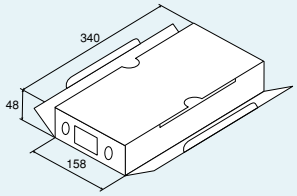
Formed Lead Type



Forming H1 Dimensions (mm)						
TB7	TC7	TE7	TF7	TG7	TH7	TJ7
8.9	9.9	11.9	12.9	13.9	14.9	15.9

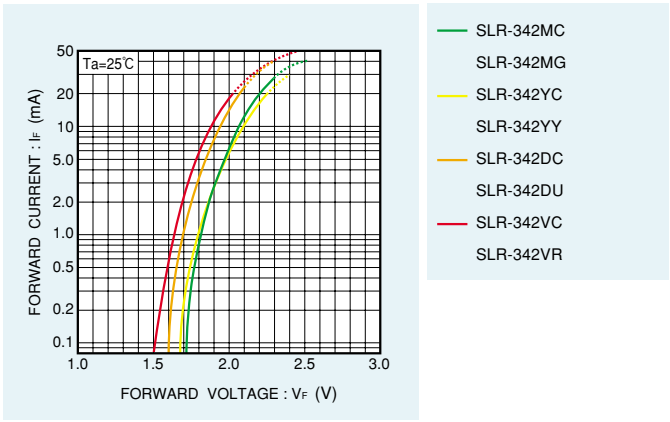
Packaging

Tape : 2000pcs/Box



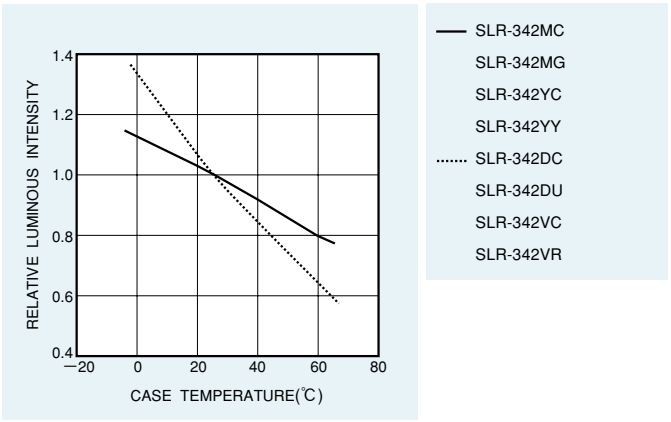
Electrical Characteristic Curves

Forward Current - Forward Voltage



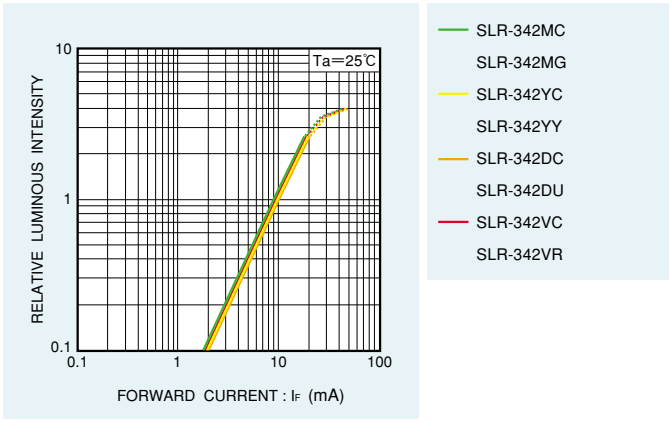
SLR-342MC
SLR-342MG
SLR-342YC
SLR-342YY
SLR-342DC
SLR-342DU
SLR-342VC
SLR-342VR

Relative Luminous Intensity - Case Temperature



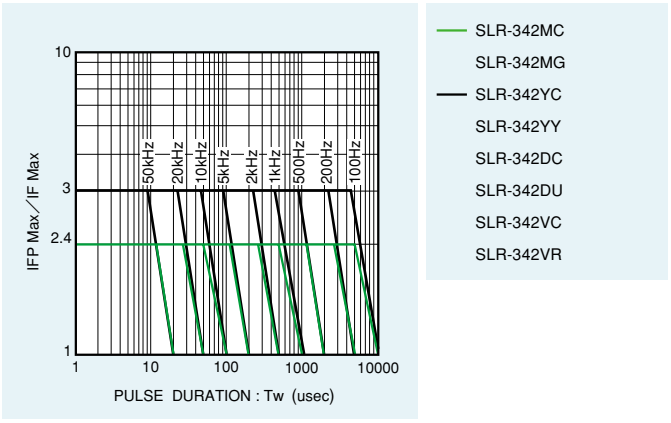
SLR-342MC
SLR-342MG
SLR-342YC
SLR-342YY
SLR-342DC
SLR-342DU
SLR-342VC
SLR-342VR

Relative Luminous Intensity - Forward Current



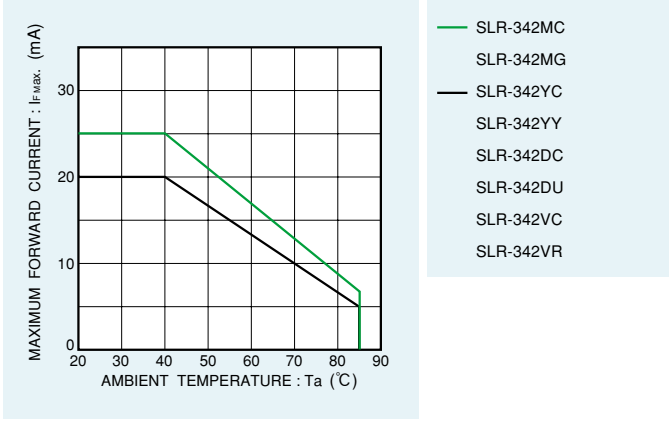
SLR-342MC
SLR-342MG
SLR-342YC
SLR-342YY
SLR-342DC
SLR-342DU
SLR-342VC
SLR-342VR

Ratio of Maximum Tolerable Peak Current - Pulse Duration



SLR-342MC
SLR-342MG
SLR-342YC
SLR-342YY
SLR-342DC
SLR-342DU
SLR-342VC
SLR-342VR

Derating



SLR-342MC
SLR-342MG
SLR-342YC
SLR-342YY
SLR-342DC
SLR-342DU
SLR-342VC
SLR-342VR

Notes

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Table of luminosity rankings

Product name	Rank code	Product name	Rank code	Product name	Rank code
SLA-360JT*1	XG, XH, XJ, XK	SLR-325VC	L, M, N, P	SLR-56YY	K, L, M, N
SLA-360LT*1	XC, XD, XE, XF	SLR-322VR	K, L, M, N	SLV-312DC	F, G, H, J
SLA-360MT*1	XD, XE, XF, XG	SLR-322DC	L, M, N, P	SLV-312MC	H, J, K, L
SLA-370JT*1	XJ, XK, XL, XM	SLR-332DU	K, L, M, N	SLV-312VC	F, G, H, J
SLA-370LT*1	XE, XF, XG, XH	SLR-332MC	L, M, N, P	SLV-312YC	F, G, H, J
SLA-370MT*1	XE, XF, XG, XH	SLR-332MG	L, M, N, P	SML-010JT*1	N, P, Q, R
SLA-560JT*1	XJ, XK, XL, XM	SLR-332VC	K, L, M, N	SML-010LT*1	L, M, N, P
SLA-560LT*1	XE, XF, XG, XH	SLR-332VR	K, L, M, N	SML-010VT*1	J, K, L, M
SLA-560MT*1	XE, XF, XG, XH	SLR-332YC	K, L, M, N	SML-010DT*1	K, L, M, N
SLA-570JT*1	XL, XM, XN, XP	SLR-332YY	J, K, L, M	SML-010YT*1	J, K, L, M
SLA-570LT*1	XG, XH, XJ, XK	SLR-342DC	M, N, P, Q	SML-010MT*1	L, M, N, P
SLA-570MT*1	XJ, XK, XL, XM	SLR-342DU	L, M, N, P	SML-010PT*1	J, K, L, M
SLA-580JT*1	XL, XM, XN, XP	SLR-342MC	M, N, P, Q	SML-020MLT*1,*2	PN,PM,NN,NM,MN,MM
SLA-580LT*1	XJ, XK, XL, XM	SLR-342MG	L, M, N, P	SML-020MVT*1,*2	PL,PK,NL,NK,ML,MK
SLA-580MT*1	XJ, XK, XL, XM	SLR-342VC	M, N, P, Q	SML-210JT*1	N, P, Q, R
SLB-24MG	F, G, H, J	SLR-342VR	L, M, N, P	SML-210LT*1	K, L, M, N
SLB-24YY	D, E, F, G	SLR-342YC	L, M, N, P	SML-210VT*1	H, J, K, L
SLB-24VR	D, E, F, G	SLR-342YY	K, L, M, N	SML-210DT*1	J, K, L, M
SLB-24DU	D, E, F, G	SLR-40MC	M, N, P, Q	SML-210YT*1	J, K, L, M
SLB-25MG	E, F, G, H	SLR-40MG	L, M, N, P	SML-210MT*1	K, L, M, N
SLB-25YY	E, F, G, H	SLR-40YC	L, M, N, P	SML-210PT*1	H, J, K, L
SLB-25DU	E, F, G, H	SLR-40YY	J, K, L, M	SML-211UT*4	G, H, J, K
SLB-25VR	E, F, G, H	SLR-40DC	L, M, N, P	SML-211DT*4	G, H, J, K
SLC-22DU	F, G, H, J	SLR-40DU	K, L, M, N	SML-211YT*4	F, G, H, J
SLC-22MG	G, H, J, K	SLR-40VC	L, M, N, P	SML-310JT*1	N, P, Q, R
SLC-22VR	G, H, J, K	SLR-40VR	K, L, M, N	SML-310LT*1	K, L, M, N
SLC-22YY	G, H, J, K	SLR-505MC	M, N, P, Q	SML-310VT*1	H, J, K, L
SLR-322DC	L, M, N, P	SLR-505MG	L, M, N, P	SML-310DT*1	J, K, L, M
SLR-322DU	J, K, L, M	SLR-505VC	L, M, N, P	SML-310YT*1	J, K, L, M
SLR-322MC	M, N, P, Q	SLR-505VR	J, K, L, M	SML-310MT*1	K, L, M, N
SLR-322MG	K, L, M, N	SLR-520MC	L, M, N, P	SML-310PT*1	H, J, K, L
SLR-322VC	L, M, N, P	SLR-520MG	L, M, N, P	SML-311UT*4	G, H, J, K
SLR-322VR	K, L, M, N	SLR-520VC	L, M, N, P	SML-311DT*4	G, H, J, K
SLR-322YC	K, L, M, N	SLR-520VR	K, L, M, N	SML-311YT*4	F, G, H, J
SLR-322YY	K, L, M, N	SLR-56DC	M, N, P, Q	SML-510MW*1	K, L, M, N
SLR-325MC	M, N, P, Q	SLR-56DU	K, L, M, N	SPB-25MVW*3	E, F, G, H
SLR-325MG	L, M, N, P	SLR-56MC	N, P, Q, R	SPR-39MVW*3	K, L, M, N
SLR-325YC	L, M, N, P	SLR-56MG	L, M, N, P	SPR-54MVW*3	K, L, M, N
SLR-325YY	J, K, L, M	SLR-56VC	M, N, P, Q	SPR-325MVW*3	L, M, N, P
SLR-325DC	L, M, N, P	SLR-56VR	K, L, M, N	SPR-505MVW*3	L, M, N, P
SLR-325DU	K, L, M, N	SLR-56YC	M, N, P, Q		

*1 Measured at IF = 20mA

*2 The former is the intensity rank at short wavelength (green), and the latter is the intensity rank at long wavelength (red).

*3 Intensity rank at short wavelength(green).

*4 IF = 2mA at time of intensity ranking.

*5 Rankings may change due to improvements in emitters. Check the data sheet for a product before using it.

Luminous intensity rankings

(Units : mcd)

Rank code	Range
D	0.22～0.45
E	0.36～0.71
F	0.56～1.1
G	0.90～1.8
H	1.4～2.8
J	2.2～4.5
K	3.6～7.1
L	5.6～11
M	9.0～18
N	14～28
P	22～45
Q	36～71
R	56～110
S	90～180
T	140～280
U	220～450
V	360～710

(Units : mcd)

Rank code	Range
XA	9.0～16.5
XB	13.5～24.0
XC	20.0～36.0
XD	30.0～52.0
XE	42.0～75.0
XF	61.0～110
XG	90～165
XH	135～240
XJ	200～360
XK	300～520
XL	420～750
XM	610～1100
XN	900～1650
XP	1350～2400

●For more information about rankings, contact your ROHM representative.

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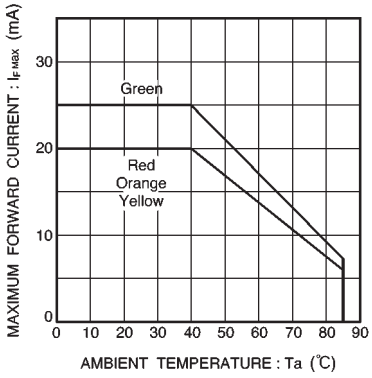


Fig. 3 Maximum forward current vs. ambient temperature

Determine the pulse drive conditions as follows.

1. Decide what repetition frequency (f) and duty factor (DF) will be used.
2. Determine the maximum tolerable peak current ratio from Figure 2.

$$\frac{I_F \text{ peak Max.}}{I_F \text{ Max.}}$$

3. Determine the maximum forward current from Figure 3.

For example, when Ta = 40°C or above, the maximum forward current (I_F Max.) decreases.

4. Calculate the maximum tolerable peak current (I_F peak Max.).

Example

If f = 1 kHz, DF = 10%, and Ta = 40°C, the maximum tolerable peak current ratio from Figure 2 is 3.0 for red, orange and yellow, and 2.4 for green.

The maximum forward current I_F Max. at Ta = 40°C is 20 mA for red, orange and yellow, and 25 mA for green.

Therefore, the maximum tolerable peak current under these conditions is as follows :

●Red, orange and yellow .. 20 mA × 3.0 = 60 mA

●Green ..... 25 mA × 2.4 = 60 mA

For the repetition frequency, we recommend 1 kHz or above.

(7) Decrease of rated current

The maximum rated forward current of LED lamps will vary depending on the ambient operating temperature. (Refer to Figure 3)

(8) Variation of luminous intensity depending on ambient temperature

ROHM LED lights have a temperature coefficient of approximately –1% for red and orange, and – 0.5% for yellow and green. (Refer to the luminous intensity vs. case temperature characteristics for each LED type.)

●Storage precautions

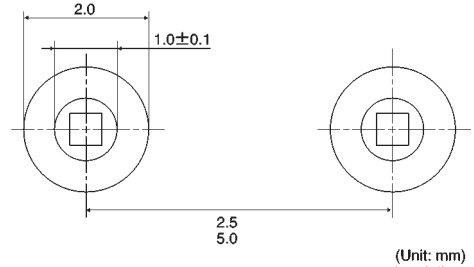
Storage in a dry box is best. However, if this is not possible we recommend the following conditions :

Temperature : 5 to 30°C

Humidity : 60%RH max.

●Recommended PCB

We recommend the following hole diameters. Note, however, that these may vary depending on the board material, degree of integration, and wiring.



(Unit: mm)
Lead diameter: 0.4mm
0.5mm

●LED lamp product names

The product names of ROHM LED lamps and chip LEDs are coded as follows :