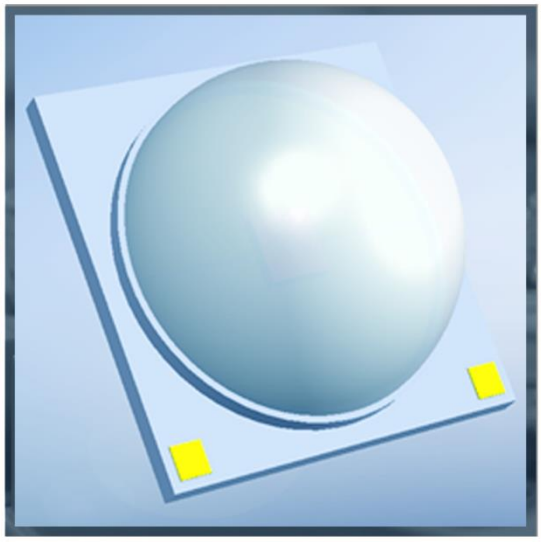
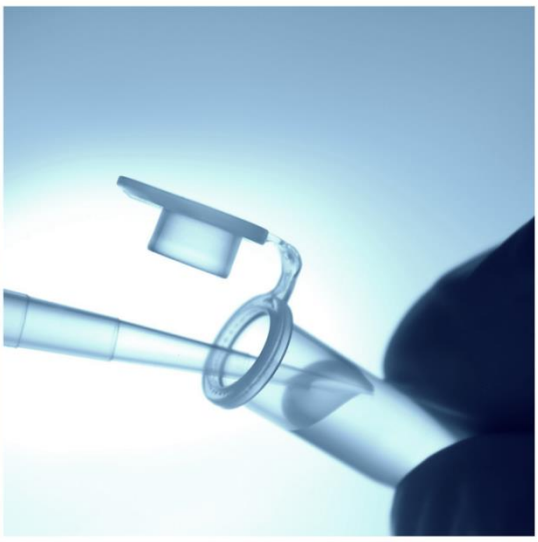
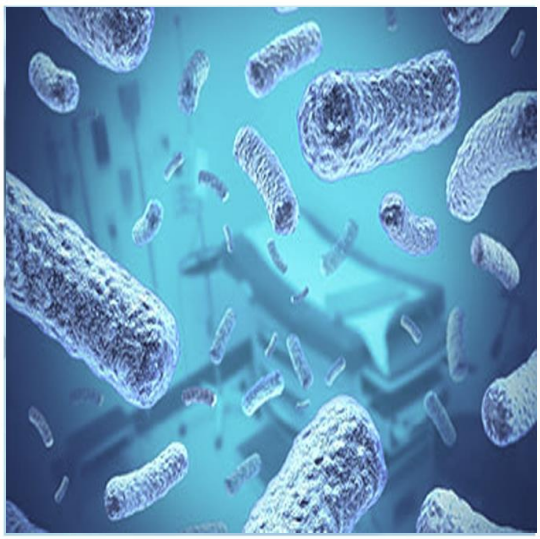
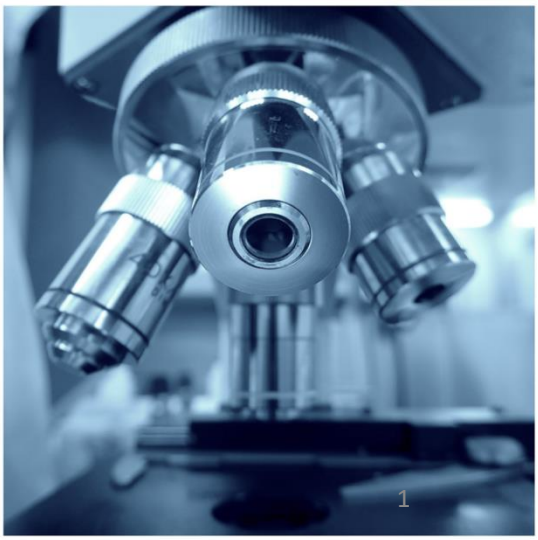
UV-C LED

Product Specifications

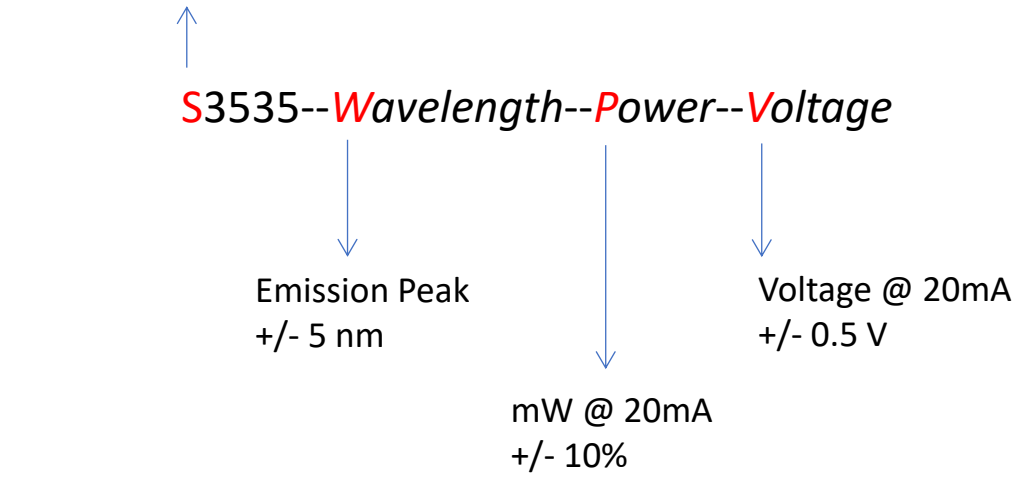
3535 Packaged LED

BOLB Inc.
Livermore, California
V1.7 March 2018

SMD type package



Example:

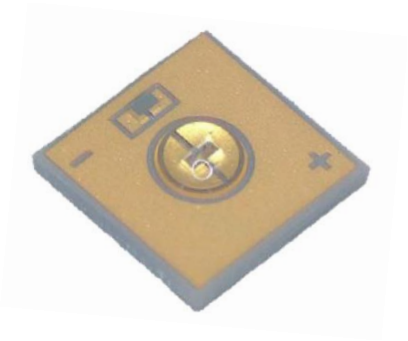
S3535-W265-P5.0-V7.0

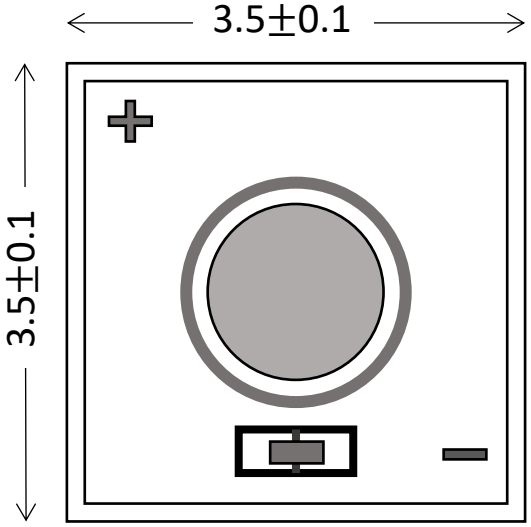
Interpretation:

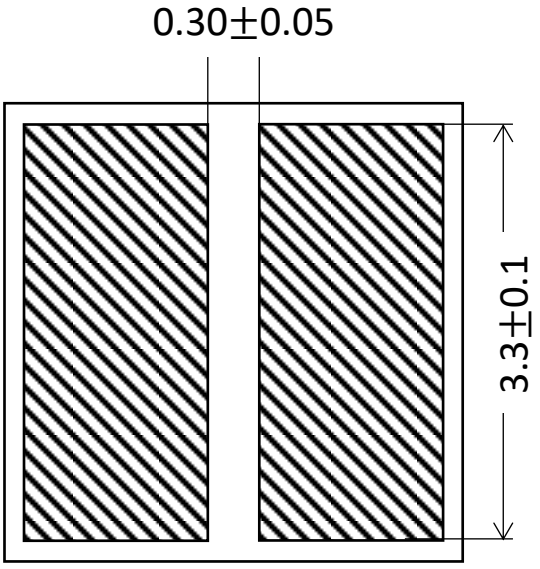
Surface Mount type 3.5x3.5mm packaged LED
Peak wavelength = 265 +/- 5nm
Power output @ 20mA = 5 mW (+/-10%)
Forward voltage @20mA = 7.0V (+/- 0.5V)

info@bolb.co
WWW.BOLB.CO

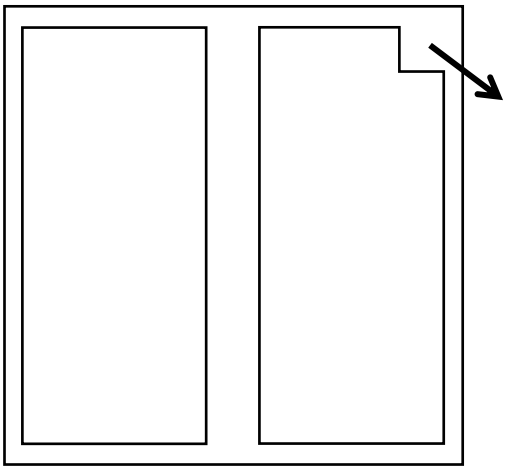
3535 Packaged LED Diagram

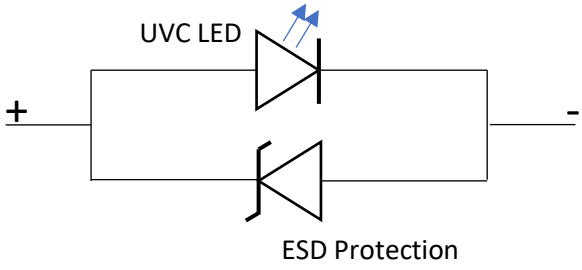


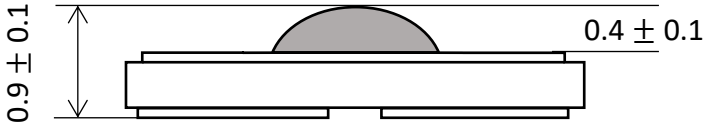




Recommended Solder Pattern on PCB







All Units = mm

TABLE 1. Performance @ 20mA forward current (25°C ambient, packaged)

Parameter	Symbol	Unit	Min.	Typ.	Max
Peak Wavelength	λp	nm	260	270	275
Radiant Flux	φe	mW	3.8	4.5	5.2
			6.0*	9.0*	11.0*
Forward Voltage	VF	V	6.5	7.5	8.5
			5.0*	5.6*	6.5*
Spectrum Half Width	Δλ	nm		9.5	
View Angle	2θ½	°		150	
Thermal Resistance	RJ-b	℃/W		<10 (TBD)	

*G2 type LEDs: Sampling stage with very limited availability

FIG 1. Forward Current vs. Forward Voltage

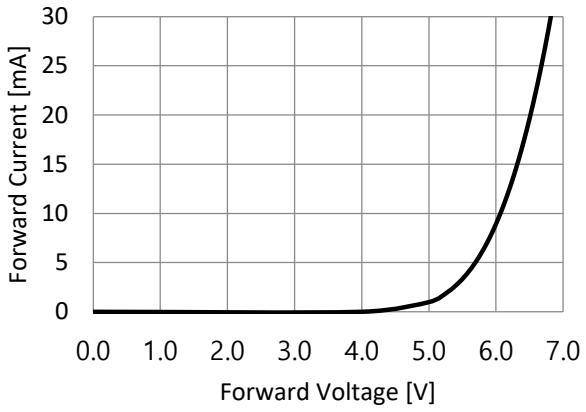


FIG 2. Relative Radiant Flux vs. Forward Current

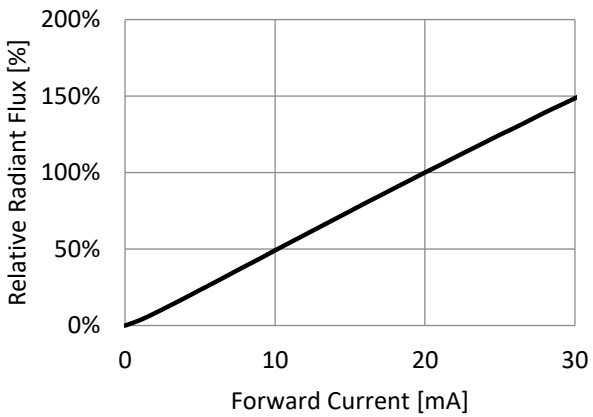


FIG 3. Peak Wavelength vs. Forward Current

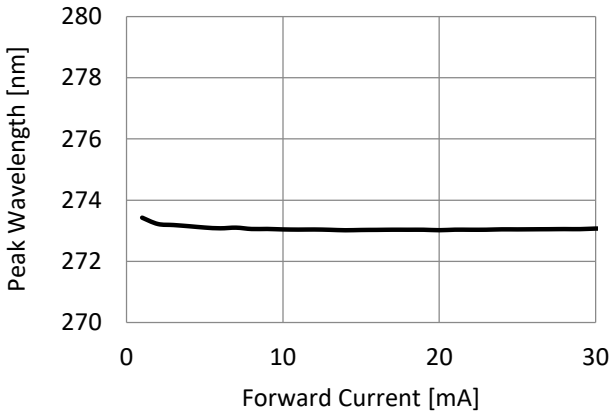


FIG 4. Spectrum

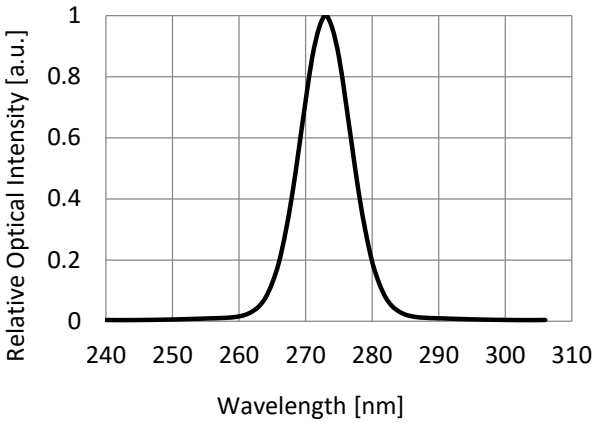


Fig 5. Forward Voltage vs Ambient Temperature

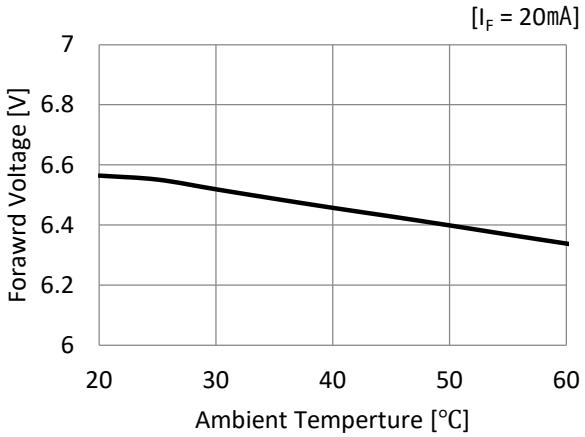


Fig 6. Relative Radiant Flux vs Ambient Temperature

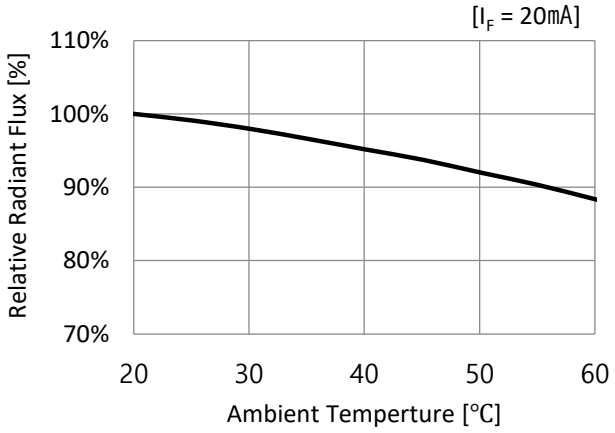


Fig 7. Far-field Emission Pattern

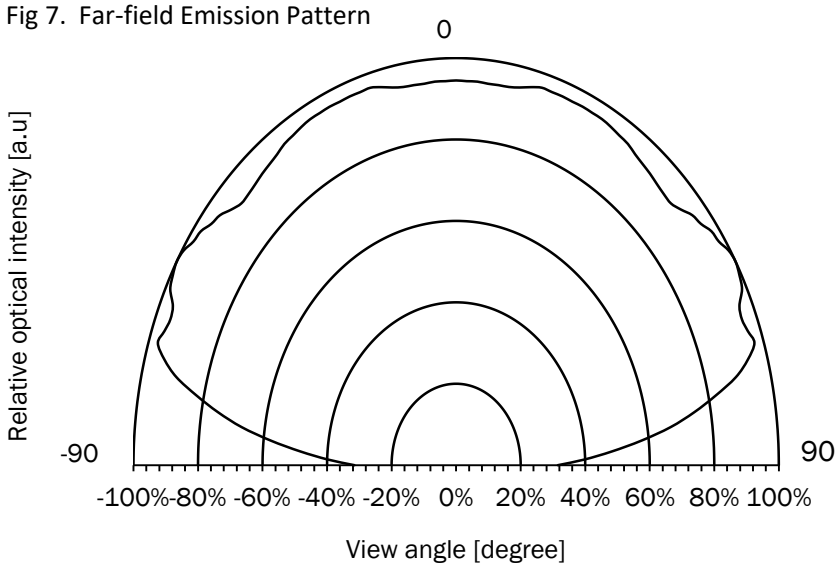


TABLE 2. Device lifetime (forward current =20mA, T = 25°C)

Parameter	Symbol	Unit	Min.	Typ.	Max
70% Power Lifetime	L70	hours	850	1000	2000
50% Power Lifetime	L50	hours	1200	2000	5000

TABLE 3. Bin Structures

[Ta =25℃, I_F = 20mA]

Designate	Information	Code	Min	Typ.	Max.
W	Peak Wavelength	265	260	265	270
		275	270	275	280
P	Radiant Flux (Φ_e)	1.5	1.0	1.5	2.0
		2.5	2.0	2.5	3.0
		3.5	3.0	3.5	4.0
		4.5	4.0	4.5	5.0
		5.5	5.0	5.5	6.0
		G2*	**6.0**	**-**	**11.0**
V	Forward Voltage (V)	5.5	5.0	5.5	6.0
		6.0	6.0	6.5	7.0
		6.5	7.0	7.5	8.0
		7.0	8.0	8.5	9.0
		H	9.0	9.5	10.0

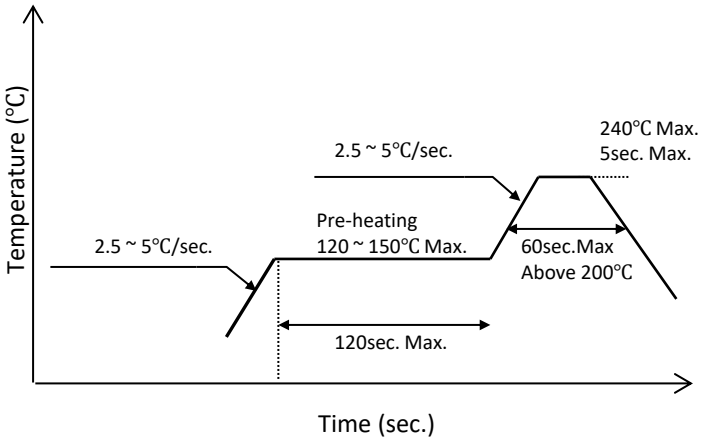
***G2**: *Sampling stage with very limited availability*

Note: Bin Code method

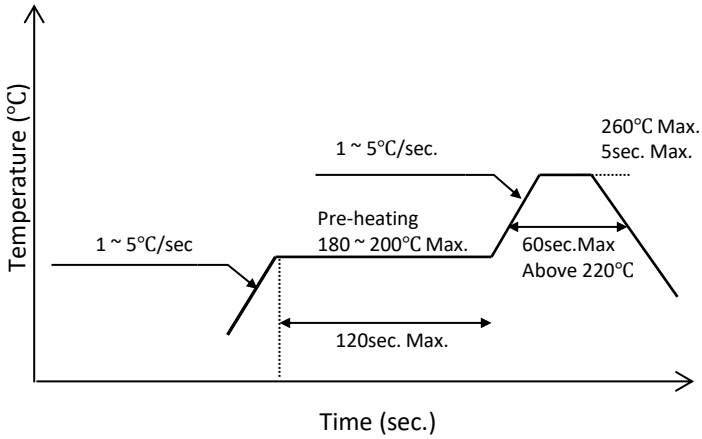
Bin Code (W-P-V): Peak Wavelength = W ; Radiant Flux = P ; Forward Voltage = V

FIG 8. Solder reflow temperature profile

■ Lead Solder (40/60 alloy)



■ Lead-Free (SAC305 alloy) Solder



Reflow Soldering		
	Lead Solder (40/60 alloy)	Lead-Free Solder (SAC305 alloy)
Pre-Heating	120 ~ 150°C	180 ~ 200°C
Pre-Heat Time	120sec. Max.	120sec. Max.
Peak Temperature	240°C Max.	260°C Max.
Soldering Time	5sec. Max.	5sec. Max.

- Recommended solder composition: 305 alloy (SnAgCu)
- Recommended stencil thickness is 60~80um
- Recommended stencil solder paste area is 60~80%
- Forming gas (5%-7%H_2 in N_2) ambient recommended for best results
- After reflow soldering, Rapid cooling should be avoided
- When soldering, do not use a hot plate. A convection type reflow oven is preferred. (Fig 9.)

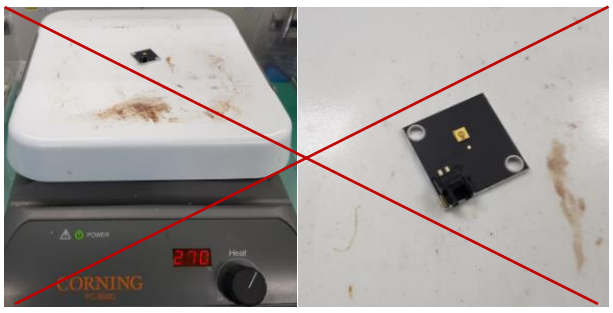


Fig 9. Do not use a hot plate to mount led-package onto PCB. A reflow oven is recommended.

ESD Protection

Workplace setup should follow the recommendations given in JEDEC standard document JESD625B “Requirements for Handling Electrostatic-Discharge-Sensitive (ESDS) Devices” or IEC 61340-5-1,2 and 3. The operators should be properly trained to handle UVC flipchips according the guidelines listed below:

• Always wear conductive wrist straps that is continuously monitored when working or handling assembled boards containing unprotected chips.

• Use an ion blower to neutralize the static discharge that may build up on the surface of the UVC flipchips during storage and handling.

• Always keep unused UVC flipchips in the protective ESD storage bag. Depending on the final application, it may be necessary to include additional ESD protection, such as a TVS protection diode on the substrate on which UVC flip chip is reflowed. Bolb Inc. includes a TVS chip inside each LED package.

•Use tweezers to pick up UVC LEDs, teflon coated tweezers would be recommended to avoid scratching UVC LEDs.

•Recommend holding the sidewalls of the LEDs (See Fig 10.)

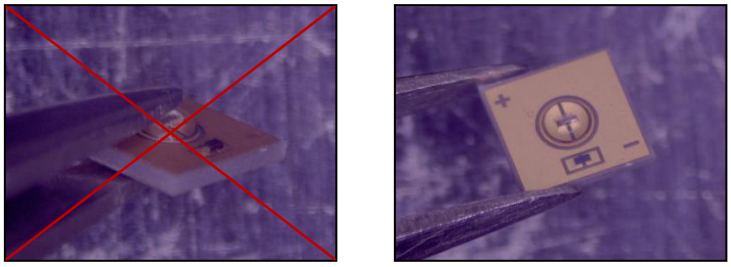


Fig 10. incorrect handling (left) and correct handling (right) of UVC LED Package

UVC flipchip emits deep ultraviolet radiation, with extremely high intensity near its surface. This allows rapid disinfection but safety precautions must be observed during assembly and testing.

By purchasing the UVC LEDs from the manufacturer, the customer hereby agrees to absolve the manufacturer's responsibility of any bodily harm as a result of failure to observe the precautions, warnings and guidelines contained within this Specifications.

All assembly workers, observers and bystanders must wear eye and skin protection when the UVC LEDs are energized. Bare eye observation (including through microscopes) and bare-hand handling of a UVC LED in operation is PROHIBITED.

UVC light can be easily absorbed, so any oil or other absorbent liquid or solid substance must NOT be allowed to touch the sapphire side of the UVC chip, or the dome lens on a packaged LED.

Do not apply pressure to the dome lens on packaged LED.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Standard LEDs - Through Hole ***category:***

Click to view products by BOLB ***manufacturer:***

Other Similar products are found below :

LTL-10254W LTL-1214A LTL-1BEDJ LTL-2231AT LTL-3251A LTL-4262N LTL-5234 LTL87HTBK LTW-87HD4B 7383/V7C3-BSTA-L/PR3/MS G22041431007J2C000 HLMP-AG64-X10ZZ HLMP-EG1A-Z10DV HLMP-EL3B-WXKDD HLMP-HB74-UVBDD HLMP-HG65-VY0DD HLMP-HM74-34CDD HLMP-HM75-34CDD 1L0532V23G0TD001 NSPW500CS C4SMA-BGF-CQ34Q3C2 L53GC13 264-7SURTS530-A3 L-C150JRCT S4SMS-BJF-CQ42QGF2 S4SMS-GJF-CW12QMF2 LD CQDP-1U3U-W5-1-K LNX998CKBDA LO566UHR3-70G-A3 SLA560WBD2PT3 LP379PPG1C0G0300001 SLR-322MCT32 SLR-342DUT32 SLR-342MC3F SLR343BC7TT32 SLR343BCTT32 SLX-LX3044GD SLX-LX3044ID SLX-LX3044YD SNW-LX504SRC/4 1.90690.3330000 SSL-LX20483ID SSL-LX3034YD SSL-LX5093LGT-11 SSL-LX5093PGC SSL-LX5093SRC/F SSL-LX5093SYT SSL-LX5099SRSGC-CA SSL-LX509E3SIT SSL-LX509FT3ID