

# Change Notice

# LB Series

## Discontinuation of AT635 Bright LED & Caps & Replacement with AT637 Bright LED & Caps

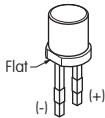

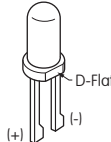
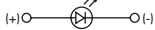
Type of Change:

- Engineering
- Part Number
- Product
- Appearance

LB Series switches and indicators with bright LED AT635 and corresponding caps will be discontinued and replaced with bright LED AT637 and new caps. The table below outlines the products that will be discontinued and alternate parts. The LED specifications table compares the differences in values between AT635 and AT637 LEDs. Page 2 has LED assembly instructions and displays the alternate cap specifications, and page 3 lists effected standard part numbers. These changes will include both standard and custom products.

LB SERIES DISCONTINUED PART NOS. & ALTERNATE PART NOS.		
Part Description	Discontinued Part No.	Alternate Part No.
Bright LED without Resistor	AT635	AT637
Square Cap for Bright LED without Resistor for Pushbutton or Indicator	AT4176	AT4191
Rectangular Cap for Bright LED without Resistor for Pushbutton or Indicator	AT4177	AT4192
Round Cap for Bright LED without Resistor for Pushbutton or Indicator	AT4178	AT4193
Round Panel Seal Cap for Bright LED without Resistor for Pushbutton	AT4179	AT4194

Discontinued LED AT635 does not fit with alternate caps AT4191, AT4192, AT4193 or AT4194.  
Alternate LED AT637 does not fit with discontinued caps AT4176, AT4177, AT4178 or AT4179.

DIFFERENCES IN LED SPECIFICATIONS								
Before Change: AT635 Bright LED					After Change: AT637 Bright LED			
Part Nos. Colors	AT635C Red	AT635D Amber	AT635F Green	Part Nos. Colors	AT637C Red	AT637D Amber	AT637F Green	
Maximum Forward Current	$I_{FM}$ 30mA	30mA	30mA	Maximum Forward Current	$I_{FM}$ 30mA	30mA	30mA	
Typical Forward Current	$I_F$ 20mA	20mA	20mA	Typical Forward Current	$I_F$ 20mA	20mA	20mA	
Forward Voltage	$V_F$ 1.9V	2.0V	2.1V	Forward Voltage	$V_F$ 2.05V	2.05V	2.1V	
	$I_F = 20mA$				$I_F = 20mA$			
Maximum Reverse Voltage	$V_{RM}$ 5V	5V	5V	Maximum Reverse Voltage	$V_{RM}$ 10V	10V	10V	
Current Reduction Rate Above 25°C	$\Delta I_F$	0.42mA/°C		Current Reduction Rate Above 25°C	$\Delta I_F$	0.40mA/°C		
Ambient Temperature Range	-25° ~ +50°C			Ambient Temperature Range	-25° ~ +50°C			
<b>AT635</b> LEDs are colored in OFF state.  T-1½ Bi-pin	 			<b>AT637</b> LEDs are colored in OFF state.  T-1½ Bi-pin	 			

### Effective Dates

Orders for the discontinued products listed will be accepted through July 31, 2021. The end of sales date is December 31, 2021. The start date for sales of the alternate products listed is January 29, 2021.

## NKK SWITCHES CO., LTD.

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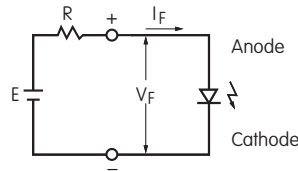
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## Discontinuation of AT635 Bright LED & Caps & Replacement with AT637 Bright LED & Caps

**Notes**

- The LED circuit is isolated and requires an external power source.
- For best results and safe use of the LEDs, the supply voltage should be more than the LED forward voltage. In addition, an appropriately valued ballast resistor should be used. Without the ballast resistor, the LED will be damaged or destroyed. The resistor value can be calculated by using the formula shown here.
- There are no changes to the switches' or indicators' external dimensions.
- Contact information is below if more details are needed.

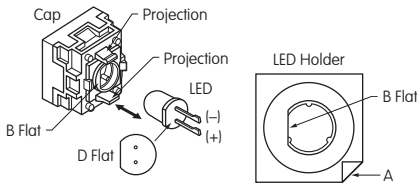


$$R = \frac{E - V_F}{I_F}$$

Where: R = Resistor Value (Ohms)  
E = Source Voltage (V)  
V<sub>F</sub> = Forward Voltage (V)  
I<sub>F</sub> = Forward Current (A)

**ASSEMBLY INSTRUCTIONS for AT637**

**Lamp Installation & LED Orientation**



Align D Flat on the LED with B Flat in the holder when inserting the LED. To correctly join the lamp holder and the cap base, match the cut corners (A).

**ALTERNATE CAP PART NOS. & SPECIFICATIONS**

AT4191 Square Cap	AT4192 Rectangular Cap	AT4193 Round Cap	AT4194 Round Cap for Panel Seal
Transparent Clear Lens & Translucent Colored Diffuser	Transparent Clear Lens & Translucent Colored Diffuser	Transparent Clear Lens & Translucent Colored Diffuser	Transparent Clear Lens & Translucent Colored Diffuser
Material: Polycarbonate Finish: Glossy	Material: Polycarbonate Finish: Glossy	Material: Polycarbonate Finish: Glossy	Material: Polycarbonate Finish: Glossy
AT4191JB, AT4191JC, AT4191JD, AT4191JF	AT4192JB, AT4192JC, AT4192JD, AT4192JF	AT4193JB, AT4193JC, AT4193JD, AT4193JF	AT4194JB, AT4194JC, AT4194JD, AT4194JF

There are no changes to the products' external dimensions when the caps are installed on the switches or indicators.  
Contact information is below if more details are needed.

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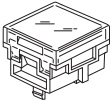
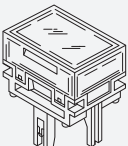
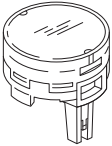

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DISCONTINUED & ALTERNATE PART NOS. FOR LED			
Part Description	Discontinued Part No.	Alternate Part No.	LED Color
Bright LED without Resistor	AT635C	AT637C	Red
Bright LED without Resistor	AT635D	AT637D	Amber
Bright LED without Resistor	AT635F	AT637F	Green

DISCONTINUED & ALTERNATE PART NOS. FOR CAPS			
Part Description	Discontinued Part No.	Alternate Part No.	Lens/Diffuser Colors
Square Cap for Bright LED LB Series Switches or Indicators To be Used with AT637 	AT4176JB	AT4191JB	Clear/White
	AT4176JC	AT4191JC	Clear/Red
	AT4176JD	AT4191JD	Clear/Amber
	AT4176JF	AT4191JF	Clear/Green
Rectangular Cap for Bright LED LB Series Switches or Indicators To be Used with AT637 	AT4177JB	AT4192JB	Clear/White
	AT4177JC	AT4192JC	Clear/Red
	AT4177JD	AT4192JD	Clear/Amber
	AT4177JF	AT4192JF	Clear/Green
Round Cap for Bright LED LB Series Switches or Indicators To be Used with AT637 	AT4178JB	AT4193JB	Clear/White
	AT4178JC	AT4193JC	Clear/Red
	AT4178JD	AT4193JD	Clear/Amber
	AT4178JF	AT4193JF	Clear/Green
Panel Seal Round Cap for Bright LED LB Series Switches To be Used with AT637 	AT4179JB	AT4194JB	Clear/White
	AT4179JC	AT4194JC	Clear/Red
	AT4179JD	AT4194JD	Clear/Amber
	AT4179JF	AT4194JF	Clear/Green

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