

Change Notice

HB Series

Changes for AT633 Bright LEDs

Type of Change:

- Engineering Part Number
 Product Appearance

The AT633 bright LEDs for HB Illuminated Pushbuttons and Indicators will be undergoing changes. There will be revisions to electrical values and dimensions, and they will apply to red, amber and green LEDs for standard or custom switches and indicators. Following is the comparison between the specifications before and after the changes, and below compares the physical differences and dimension change.

Effected standard part numbers are on page 2.



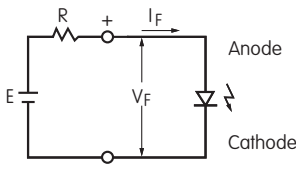
HB Series Pushbutton with AT633C LED

CHANGES TO LED SPECIFICATIONS FOR AT633

Electrical specifications are determined at a basic temperature of 25°C.		Before Change			After Change		
		C	D	F	C	D	F
	Color	Red	Amber	Green	Red	Amber	Green
Maximum Forward Current	I_{FM}	30mA	30mA	30mA	30mA	30mA	30mA
Typical Forward Current	I_F	20mA	20mA	20mA	20mA	20mA	20mA
Forward Voltage	V_F	1.95V	2.0V	2.1V	2.1V	2.05V	2.1V
		$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$
Maximum Reverse Voltage	V_{RM}	5V	5V	5V	10V	10V	10V
Current Reduction Rate Above 25°C	ΔI_F	0.42mA/°C	0.42mA/°C	0.42mA/°C	0.40mA/°C	0.40mA/°C	0.40mA/°C
Ambient Temperature Range		-25°C ~ +50°C			-25°C ~ +50°C		

Notes

- The LED circuit is isolated and requires an external power source.
- If the source voltage is greater than the LED's rated voltage, a ballast resistor must be connected in series with the LED. The resistor value can be calculated by using the formula shown here.
- The positional relationship changes between the LED terminals and the D flat.
- There are no changes to switches' 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_F = Forward Voltage (V)
 I_F = Forward Current (A)

CHANGES FOR AT633 LEDs

Before Change	After Change

Effective Date

Changes for AT633 Bright LEDs will be effective April 2020.

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Contact No. 358

NKK
SWITCHES

Change Notice

HB Series

Changes for AT633 Bright LEDs

Effected Standard Part Numbers

Bright LEDs

AT633C	AT633D	AT633F
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HB15 Switches

HB16 Switches

HB15SKW01-5C-AB	HB15SKW01-5F-JB	HB16SKW01-5C-AB	HB16SKW01-5F-JB
HB15SKW01-5D-AB	HB15CKW01-5C-CB	HB16SKW01-5D-AB	HB16CKW01-5C-CB
HB15SKW01-5F-AB	HB15CKW01-5D-DB	HB16SKW01-5F-AB	HB16CKW01-5D-DB
HB15SKW01-5C-CB	HB15CKW01-5F-FB	HB16SKW01-5C-CB	HB16CKW01-5F-FB
HB15SKW01-5D-DB	HB15CKW01-5C-JB	HB16SKW01-5D-DB	HB16CKW01-5C-JB
HB15SKW01-5F-FB	HB15CKW01-5D-JB	HB16SKW01-5F-FB	HB16CKW01-5D-JB
HB15SKW01-5C-JB	HB15CKW01-5F-JB	HB16SKW01-5C-JB	HB16CKW01-5F-JB
HB15SKW01-5D-JB	—	HB16SKW01-5D-JB	—

HB01 Indicators

HB02 Indicators

HB01KW01-5C-CB	HB01KW01-5C-JB	HB02KW01-5C-CB	HB02KW01-5C-JB
HB01KW01-5D-DB	HB01KW01-5D-JB	HB02KW01-5D-DB	HB02KW01-5D-JB
HB01KW01-5F-FB	HB01KW01-5F-JB	HB02KW01-5F-FB	HB02KW01-5F-JB

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