

Change Notice JB & JWS Illuminated Series

Change to JB Tactiles LED Specifications

Type of Change:

- Engineering Part Number
 Product Appearance



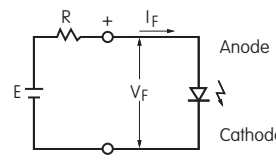
LED Changes for JB Illuminated Tactiles

The JB Illuminated Tactiles will have a change to the LED specifications for Red, Yellow and Green. The change will effect all illuminated models, both standard and custom. The specification changes are outlined below, followed by effected standard part numbers.

LED COLORS & SPECIFICATIONS							
LEDs are supplied as an integral part of illuminated devices and are not available separately. LED polarity markings are on the bottom of the switch. The electrical specifications shown here are determined at a basic temperature of 25°C.		Before Change			After Change		
	Color	C	E	F	C	E	F
		Red	Yellow	Green	Red	Yellow	Green
	Maximum Forward Current I_{FM}	25mA	25mA	25mA	30mA	20mA	30mA
	Typical Forward Current I_F	20mA	20mA	20mA	10mA	10mA	10mA
	Forward Voltage V_F	2.0V	2.2V	2.1V	1.8V	2.0V	2.1V
	Maximum Reverse Voltage V_{RM}	4V	4V	4V	5V	5V	5V
	Current Reduction Rate ΔI_F	* 0.42mA/°C			** 0.50mA/°C	** 0.33mA/°C	** 0.50mA/°C
Ambient Temperature Range	-25°C ~ +70°C			-25°C ~ +70°C			

Notes

- The LED circuit is isolated and requires an external power source.
- If the source voltage exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula shown here.
- The changes to LED specifications do not effect any external dimensions of the switches.
- Contact the factory if further 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)

* JB PART NUMBERS EFFECTED BY LED SPECIFICATION CHANGES		
JB15LPC	JB15HLPC	JB15HBPC
JB15LPE	JB15HLPE	JB15HBPE
JB15LPF	JB15HLPF	JB15HBPF

* These basic part numbers with any combination of LED color and cap type and color are included in the change.

Effective Date

Changes to JB Illuminated Tactile LEDs will be effective March 2016.

NKK SWITCHES CO., LTD. <http://www.nkk.com> E-mail: nkkswitches@nkkswitches.co.jp

715-1 Unane, Takatsu-ku, Kawasaki-shi, 213-8553 Japan TEL: +81 44 813 8001 FAX: +81 44 813 8031

Change Notice JB & JWS Illuminated Series

Change to JWS Rockers LED Specifications

Type of Change:

- Engineering Part Number
- Product Appearance



LED Changes for JWS Spot Illuminated Rockers

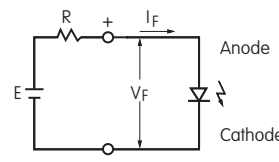
The JWS Spot Illuminated Rockers will have a change to the LED specifications for Red, Amber and Green. The change will effect all illuminated models, both standard and custom. The specification changes are outlined below, followed by effected standard part numbers.

LED COLORS & SPECIFICATIONS

LEDs are supplied as an integral part of illuminated devices and are not available separately.		Before Change			After Change		
		C	D	F	C	D	F
	Color	Red	Amber	Green	Red	Amber	Green
LED polarity markings are on the bottom of the switch.	Maximum Forward Current I_{FM}	25mA	25mA	25mA	30mA	20mA	30mA
The electrical specifications shown here are determined at a basic temperature of 25°C.	Typical Forward Current I_F	20mA	20mA	20mA	10mA	10mA	10mA
	Forward Voltage V_F	2.0V	2.2V	2.1V	1.8V	2.0V	2.1V
	Maximum Reverse Voltage V_{RM}	4V	4V	4V	5V	5V	5V
	Current Reduction Rate Above 25°C ΔI_F	0.42mA/°C	0.42mA/°C	0.42 mA/°C	No Current Reduction Rate within Specified Operating Temperature		
	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 exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula shown here.
- The changes to LED specifications do not effect any external dimensions of the switches.
- Contact the factory if further 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)

JWS PART NUMBERS EFFECTED BY LED SPECIFICATION CHANGES

JWS11RAAC	JWS11RCAC	JWS11BAAC-A	JWS11BCAC-A
JWS11RAAD	JWS11RCAD	JWS11BAAD-A	JWS11BCAD-A
JWS11RAAF	JWS11RCAF	JWS11BAAF-A	JWS11BCAF-A

Effective Date

Changes to JWS Illuminated Rocker LEDs will be effective March 2016.

NKK SWITCHES CO., LTD. <http://www.nkk.com> E-mail: nkkswitches@nkkswitches.co.jp

715-1 Unane, Takatsu-ku, Kawasaki-shi, 213-8553 Japan TEL: +81 44 813 8001 FAX: +81 44 813 8031