

Change Notice

M2100 & LB Series

Changes to LED Specifications for M2100 Series Paddles

Type of Change:

- Engineering Part Number
- Product Appearance



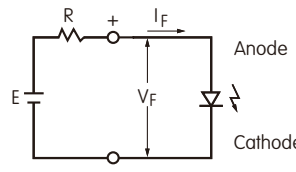
M2100 Series Paddles will have changes to the single color LEDs.

1. The LED specifications for M2100 Series illuminated paddles will be undergoing changes. These changes apply to the single color LED tipped paddle. This will result in revisions to the electrical values and will apply to models with red, yellow or green single color LEDs. The changes will effect both standard and custom switches. Following is the comparison between the specifications before and after the changes. Effected standard part numbers are on page 2.

CHANGES TO SPECIFICATIONS FOR SINGLE COLOR LED							
The electrical specifications shown are determined at a basic temperature of 25°C. The LED is an integral part of the switch and not available separately.		Before Change			After Change		
		C	E	F	C	E	F
Single Color LED with 1 Element		Red	Yellow	Green	Red	Yellow	Green
Maximum Forward Current	I_{FM}	25mA	30mA	25mA	30mA	30mA	30mA
Typical Forward Current	I_F	20mA	20mA	20mA	20mA	20mA	20mA
Forward Voltage	V_F	2.25V	2.1V	2.2V	2.1V	2.1V	2.2V
		$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$
Maximum Reverse Voltage	V_{RM}	5V	5V	5V	5V	5V	5V
Current Reduction Rate Above 25°C	ΔI_F	0.33mA/°C	0.40mA/°C	0.33mA/°C	0.40mA/°C	0.40mA/°C	0.40mA/°C
Ambient Temperature Range		-25°C ~ +50°C			-25°C ~ +70°C		

Notes

- The LED circuit is isolated and requires an external power source.
- For best results and safe use of LEDs, the supply voltage should be more than the LED forward voltage. Also, 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' 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)

Effective Date

Changes for the M2100 Series Paddles with single color LEDs will be effective November 2021.

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EFFECTED STANDARD PART NUMBERS						
M2112PCW01	M2112PCW02	M2112PCW03	M2112PCW13	M2112PCG01	M2112PCG02	M2112PCG03
M2112PEW01	M2112PEW02	M2112PEW03	M2112PEW13	M2112PEG01	M2112PEG02	M2112PEG03
M2112PFW01	M2112PFW02	M2112PFW03	M2112PFW13	M2112PFG01	M2112PFG02	M2112PFG03
M2112JCW01	M2112JCW02	M2112JCW03	M2112JCW13	M2112JCG01	M2112JCG02	M2112JCG03
M2112JEW01	M2112JEW02	M2112JEW03	M2112JEW13	M2112JEG01	M2112JEG02	M2112JEG03
M2112JFW01	M2112JFW02	M2112JFW03	M2112JFW13	M2112JFG01	M2112JFG02	M2112JFG03
M2113PCW01	M2113PCW02	M2113PCW03	M2113PCW13	M2113PCG01	M2113PCG02	M2113PCG03
M2113PEW01	M2113PEW02	M2113PEW03	M2113PEW13	M2113PEG01	M2113PEG02	M2113PEG03
M2113PFW01	M2113PFW02	M2113PFW03	M2113PFW13	M2113PFG01	M2113PFG02	M2113PFG03
M2113JCW01	M2113JCW02	M2113JCW03	M2113JCW13	M2113JCG01	M2113JCG02	M2113JCG03
M2113JEW01	M2113JEW02	M2113JEW03	M2113JEW13	M2113JEG01	M2113JEG02	M2113JEG03
M2113JFW01	M2113JFW02	M2113JFW03	M2113JFW13	M2113JFG01	M2113JFG02	M2113JFG03

EFFECTED STANDARD PART NUMBERS						
M2112PCG13	M2122PCW01	M2122PCW02	M2122PCW03	M2122PCG01	M2122PCG02	M2122PCG03
M2112PEG13	M2122PEW01	M2122PEW02	M2122PEW03	M2122PEG01	M2122PEG02	M2122PEG03
M2112PFG13	M2122PFW01	M2122PFW02	M2122PFW03	M2122PFG01	M2122PFG02	M2122PFG03
M2112JCG13	M2122JCW01	M2122JCW02	M2122JCW03	M2122JCG01	M2122JCG02	M2122JCG03
M2112JEG13	M2122JEW01	M2122JEW02	M2122JEW03	M2122JEG01	M2122JEG02	M2122JEG03
M2112JFG13	M2122JFW01	M2122JFW02	M2122JFW03	M2122JFG01	M2122JFG02	M2122JFG03
M2113PCG13	M2123PCW01	M2123PCW02	M2123PCW03	M2123PCG01	M2123PCG02	M2123PCG03
M2113PEG13	M2123PEW01	M2123PEW02	M2123PEW03	M2123PEG01	M2123PEG02	M2123PEG03
M2113PFG13	M2123PFW01	M2123PFW02	M2123PFW03	M2123PFG01	M2123PFG02	M2123PFG03
M2113JCG13	M2123JCW01	M2123JCW02	M2123JCW03	M2123JCG01	M2123JCG02	M2123JCG03
M2113JEG13	M2123JEW01	M2123JEW02	M2123JEW03	M2123JEG01	M2123JEG02	M2123JEG03
M2113JFG13	M2123JFW01	M2123JFW02	M2123JFW03	M2123JFG01	M2123JFG02	M2123JFG03

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Change Notice

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Changes to LED Specifications for LB Series Spot Illuminated Pushbuttons

Type of Change:

- Engineering Part Number
 Product Appearance

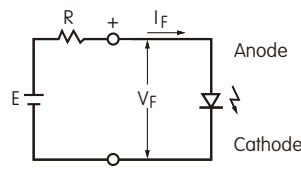
2. The LED specifications for snap-in LB Series spot illuminated pushbuttons will be undergoing changes. This will result in revisions to the electrical values and will apply to red, yellow and green single color LEDs. The changes will effect both standard and custom switches. Following is the comparison between the specifications before and after the changes. Effected standard part numbers are on the table below.

CHANGES TO SPECIFICATIONS FOR SINGLE COLOR LED							
		Before Change			After Change		
		1C Red	1D Amber	1F Green	1C Red	1D Amber	1F Green
Single Color LED with 1 Element		Red	Amber	Green	Red	Amber	Green
Maximum Forward Current	I_{FM}	25mA	30mA	25mA	30mA	30mA	30mA
Typical Forward Current	I_F	20mA	20mA	20mA	20mA	20mA	20mA
Forward Voltage	V_F	2.25V	2.1V	2.2V	2.1V	2.1V	2.2V
		$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$	$I_F = 20mA$
Maximum Reverse Voltage	V_{RM}	5V	5V	5V	5V	5V	5V
Current Reduction Rate Above 25°C	ΔI_F	0.33mA/°C	0.40mA/°C	0.33mA/°C	0.40mA/°C	0.40mA/°C	0.40mA/°C
Ambient Temperature Range		-25°C ~ +70°C			-25°C ~ +50°C		

The electrical specifications shown are determined at a basic temperature of 25°C. The LED is an integral part of the switch and not available separately. Single color LEDs are colored in OFF state. Polarity marks are on the switch.

Notes

- The LED circuit is isolated and requires an external power source.
- For best results and safe use of LEDs, the supply voltage should be more than the LED forward voltage. Also, 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' 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)

EFFECTED STANDARD PART NUMBERS

AT480 Square Spot Illuminated Cap				AT4016 Round Spot Illuminated Cap			
AT480CA	AT480CB	AT480CC	AT480CF	AT4016CA	AT4016CB	AT4016CC	AT4016CF
AT480DA	AT480DB	AT480DC	AT480DF	AT4016DA	AT4016DB	AT4016DC	AT4016DF
AT480FA	AT480FB	AT480FC	AT480FF	AT4016FA	AT4016FB	AT4016FC	AT4016FF

Effective Date

Changes for the LB Series Pushbuttons with single color LEDs and spot illumination will be effective November 2021.

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