

# MBRX120 THRU MBRX160

## 1.0 Amp Schottky Barrier Rectifier 20 to 60 Volts

### Features

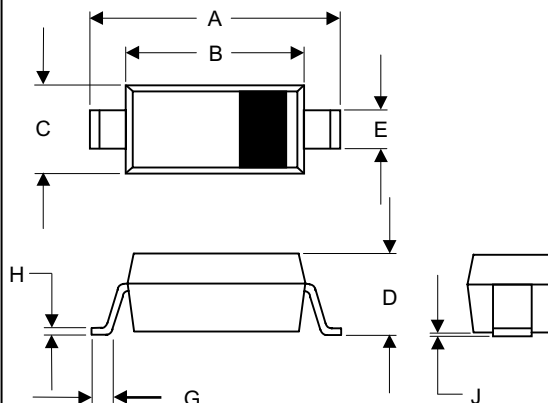
- Lead Free Finish/RoHS Compliant (Note1)("P" Suffix designates Compliant. See ordering information)
- Extremely Low Thermal Resistance
- For Surface Mount Application
- Low Forward Voltage
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1

### Maximum Ratings

- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance: 5°C/W Junction to Lead

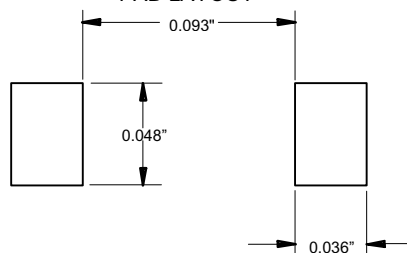
Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBRX120	X2	20V	14V	20V
MBRX130	X3	30V	21V	30V
MBRX140	X4	40V	28V	40V
MBRX160	X6	60V	42V	60V

### SOD123



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.140	.152	3.55	3.85	
B	.100	.112	2.55	2.85	
C	.055	.071	1.40	1.80	
D	-----	.053	-----	1.35	
E	.012	.031	0.30	.78	
G	.006	-----	0.15	-----	
H	-----	.01	-----	.25	
J	-----	.006	-----	.15	

#### SUGGESTED SOLDER PAD LAYOUT



### Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_J=90^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	20A	8.3ms half sine
Maximum Instantaneous Forward Voltage MBRX120 MBRX130 MBRX140 MBRX160	$V_F$	0.50V 0.55V 0.55V 0.72V	$I_{FM}=1.0A$ $T_A=25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	0.3mA	$T_J=25^\circ\text{C}$
Typical Junction Capacitance	$C_J$	30pF	Measured at 1.0MHz, $V_R=4.0V$

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.



# MBRX120 thru MBRX160

Figure 1  
Typical Forward Characteristics

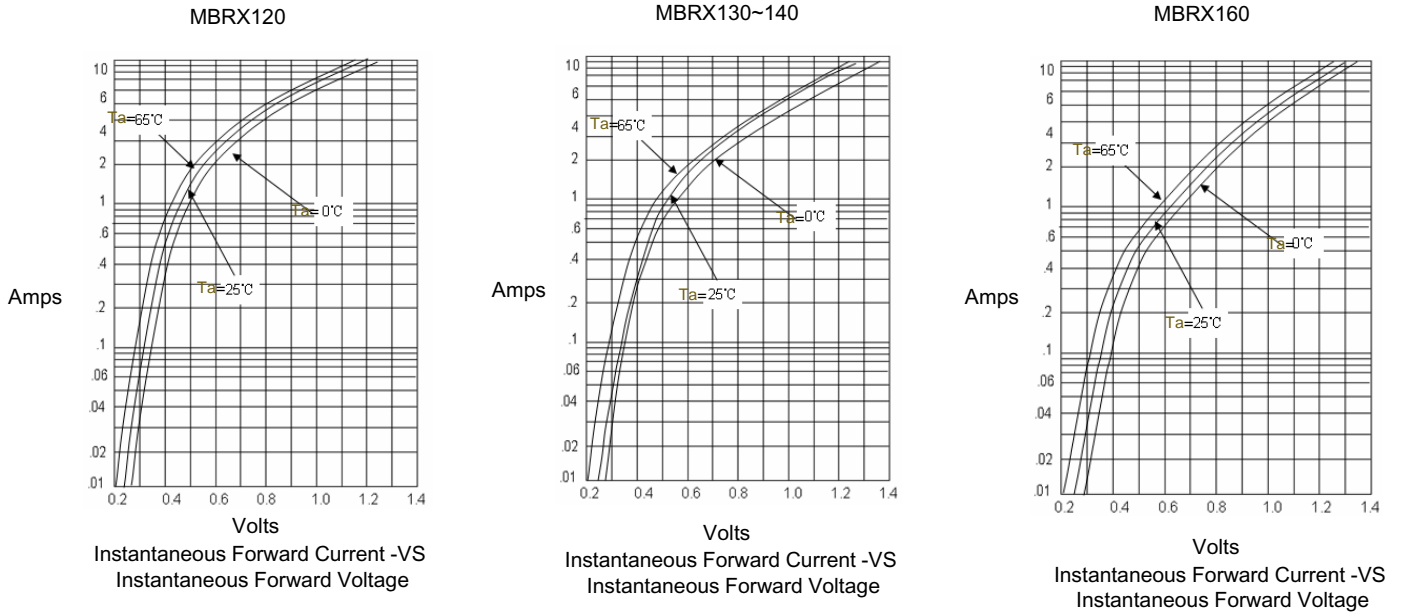
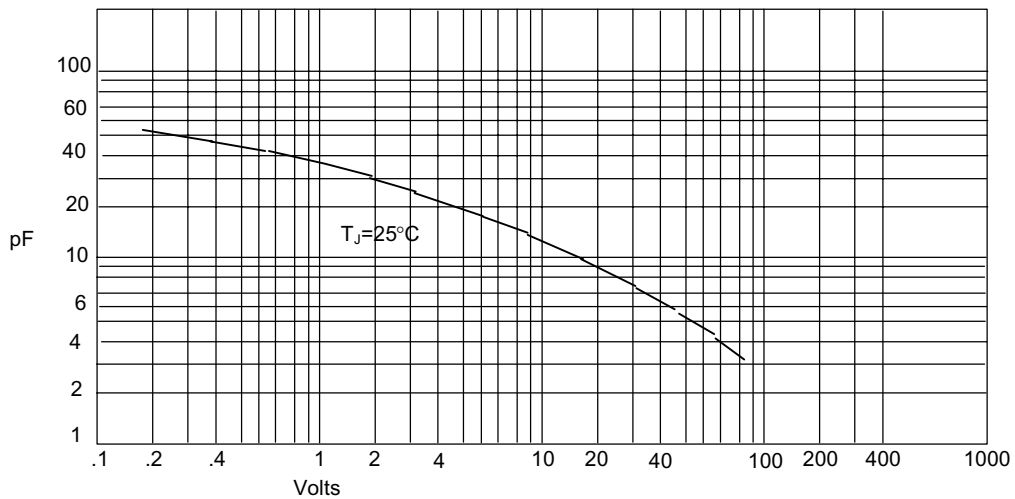


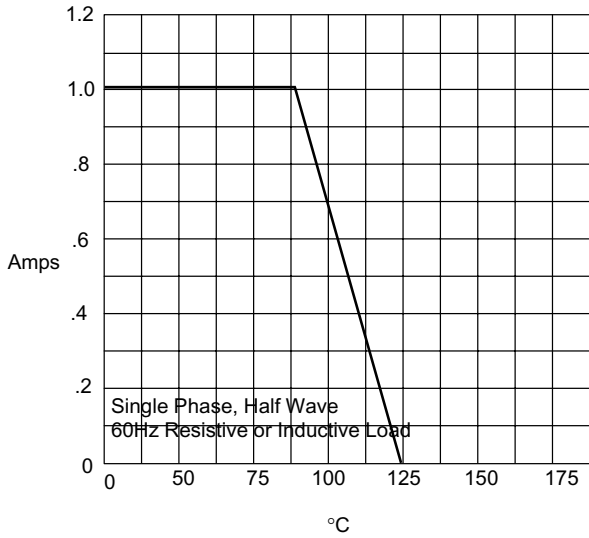
Figure 2  
Junction Capacitance





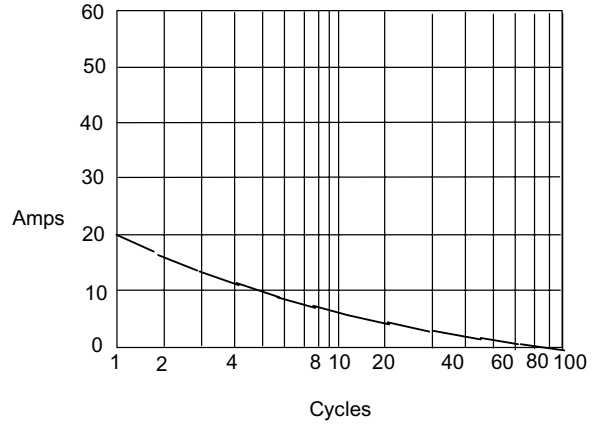
# MBRX120 thru MBRX160

Figure 3  
Forward Derating Curve



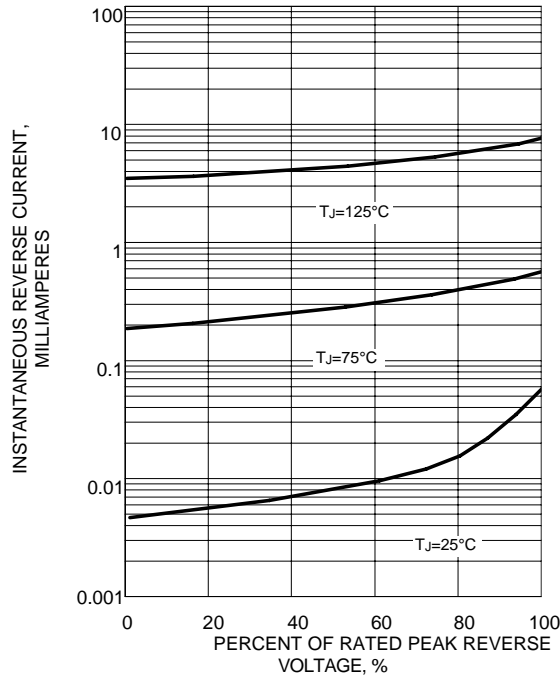
Average Forward Rectified Current - Amperes versus Ambient Temperature - °C

Figure 4  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus Number Of Cycles At 60Hz - Cycles

FIG. 5 - TYPICAL REVERSE CHARACTERISTICS



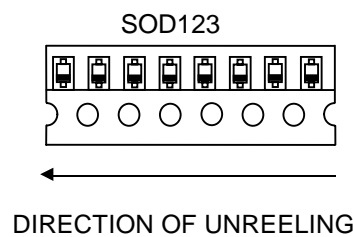
# **SURFACE MOUNT**

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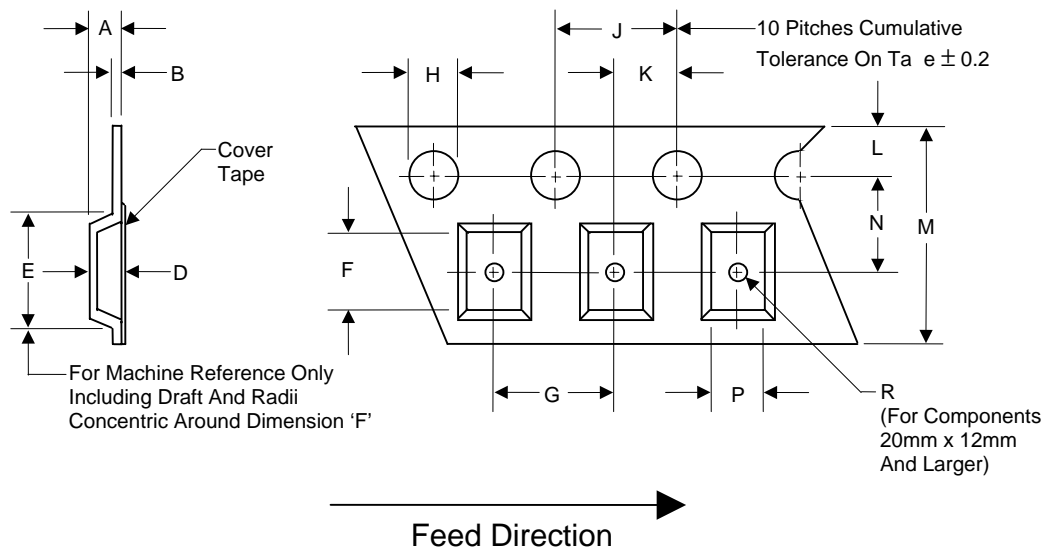
TYPE	TAPE SIZE (mm)	BULK/TUBE QUANTITY	7 INCH REEL QUANTITY	13 INCH REEL QUANTITY
SOD123	8	-----	3000	-----

## **TAPE DIMENSIONS AND ORIENTATION**

**8mm Tape (in millimeters)**



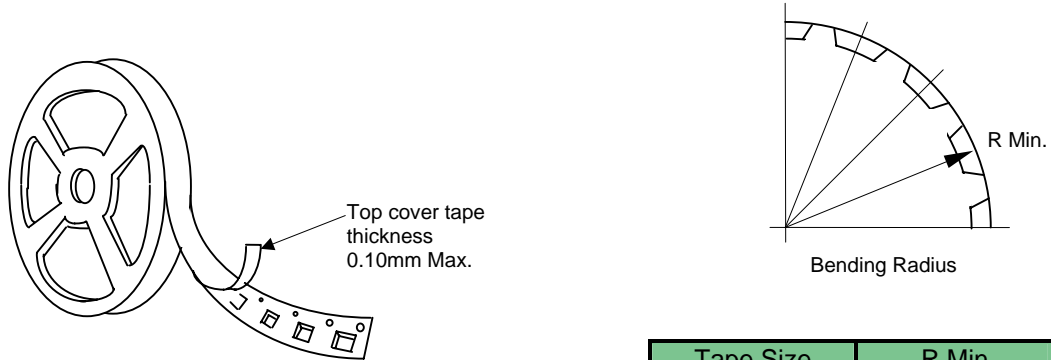
## **Embossed Carrier Tape Specifications (8mm Tape)**



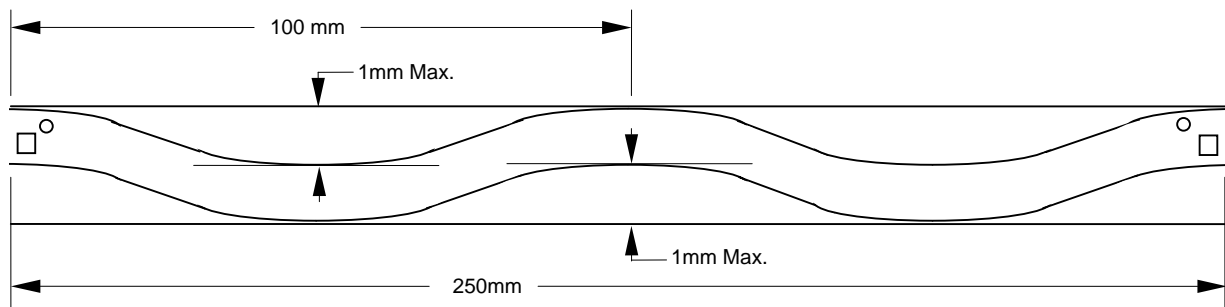
Tape Size	H	L	J	B (Max)	D, F, P	Constant Dimensions	
8	1.5 $+0.1, -0.0$	1.75 $\pm 0.10$	4.0 $\pm 0.1$	0.600	See Note 1		
Tape Size	E (Max)	R (Min)	N	A (Max)	K	M	Variable Dimensions
8mm	4.2	1.0	3.5 $\pm 0.05$	2.4	2.0 $\pm 0.05$	8.0 $\pm 0.30$	
Tape Size	G						
		4.0 $\pm 0.10$	8.0 $\pm 0.10$	12.0 $\pm 0.10$	16.0 $\pm 0.10$		
8mm		X					



## **SURFACE MOUNT**



Tape Size	R Min.
8mm	25mm



Camber (Top View)

Allowable camber to be 1mm/100mm non-accumulative over 250mm

