

# SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS

**MBRX120--MBRX1A0**

## FEATURES

- Low forward surge current
- Ideal for surface mounted applications
- Low leakage current



Lead-free



## MECHANICAL DATA

- Case: JEDEC SOD-123FL, molded plastic over passivated chip
- Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end

## Maximum Ratings (@TA = 25°C unless otherwise specified)

Characteristic	Symbol	MBRX 120	MBRX 130	MBRX 140	MBRX 160	MBRX 180	MBRX 190	MBRX 1A0	UNITS
Device marking code		S2	S3	S4	S6	S8	S9	SA	
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	20	30	40	60	80	90	100	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	42	56	63	70	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	60	80	90	100	V
Maximum average forward rectified current T <sub>J</sub> =90°C	I <sub>(AV)</sub>	1.0							A
Peak forward surge current 8.3ms single half-sine-wave Superimpose on rated load	I <sub>FSM</sub>	30							A

## Thermal Characteristics

Characteristic	Symbol	MBRX 120	MBRX 130	MBRX 140	MBRX 160	MBRX 180	MBRX 190	MBRX 1A0	UNITS	
Maximum thermal resistance	R <sub>θJA</sub>	80							°C/W	
Typical Junction Capacitance	C <sub>J</sub>	60							PF	
Operating temperature range	T <sub>J</sub>	- 55 --- + 125				- 55 --- + 150				°C
Storage temperature range	T <sub>STG</sub>	- 55 --- + 150							°C	

## Electrical Characteristics (@TA = 25°C unless otherwise specified)

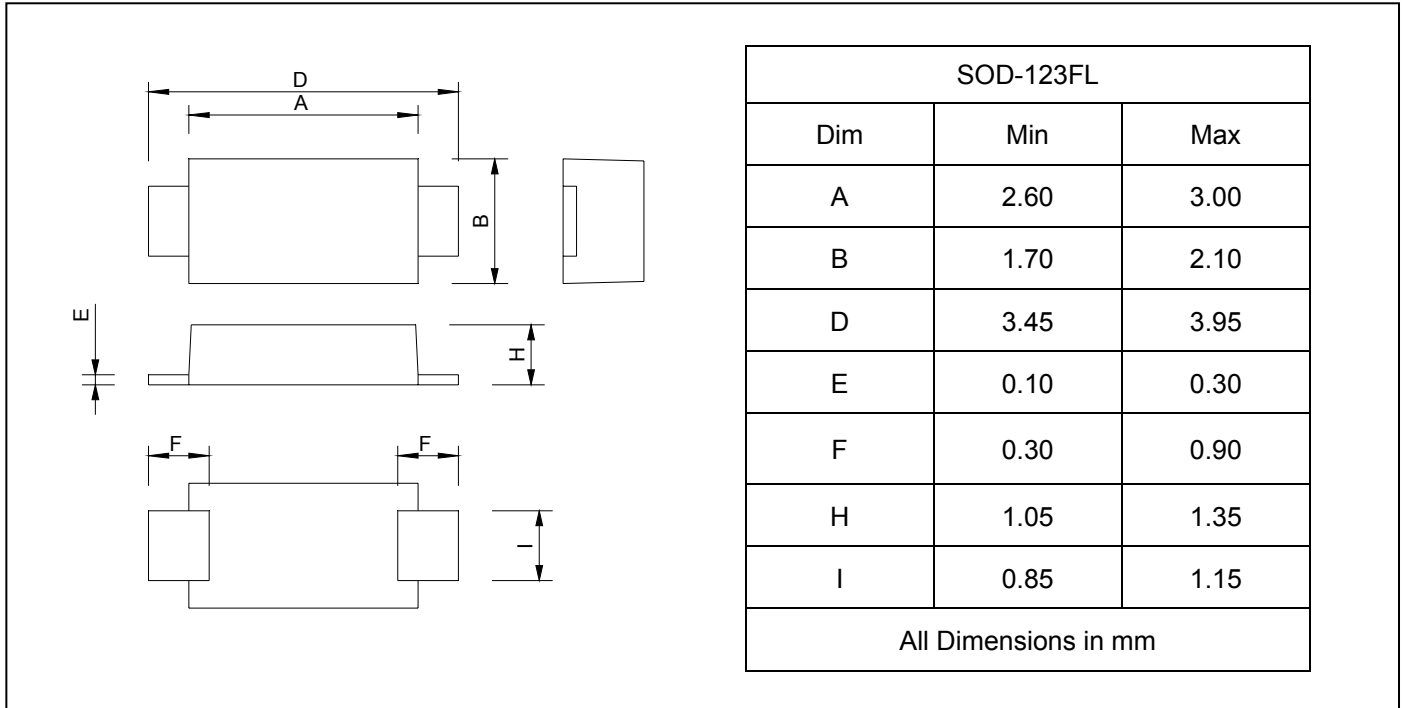
Characteristic	Symbol	MBRX 120	MBRX 130	MBRX 140	MBRX 160	MBRX 180	MBRX 190	MBRX 1A0	UNITS
Maximum instantaneous @I <sub>FM</sub> =1.0A forward voltage	V <sub>F</sub>	0.55			0.75	0.85			V
Maximum DC reverse current T <sub>J</sub> =25°C at rated DC blocking voltage T <sub>J</sub> =100°C	I <sub>R</sub>	10			0.3		5.0		m A



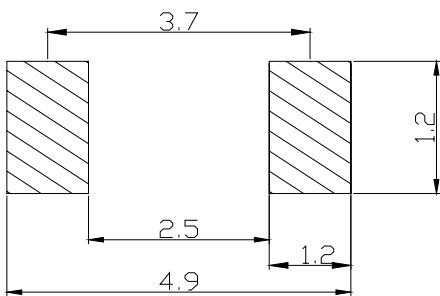
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**PACKAGE OUTLINE DIMENSIONS**



**SOLDERING FOOTPRINT**



Unit : mm

**PACKAGE INFORMATION**

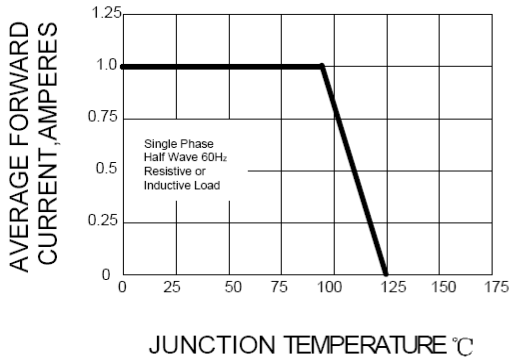
Device	Package	Shipping
MBRX120--MBRX1A0	SOD-123FL	10000/Tape&Reel



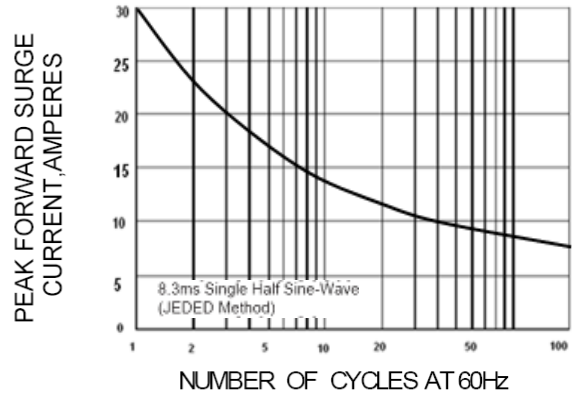
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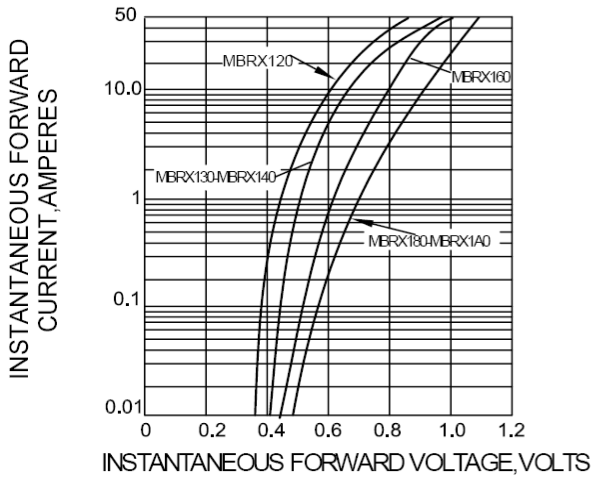
**FIG.1 – FORWARD DERATING CURVE**



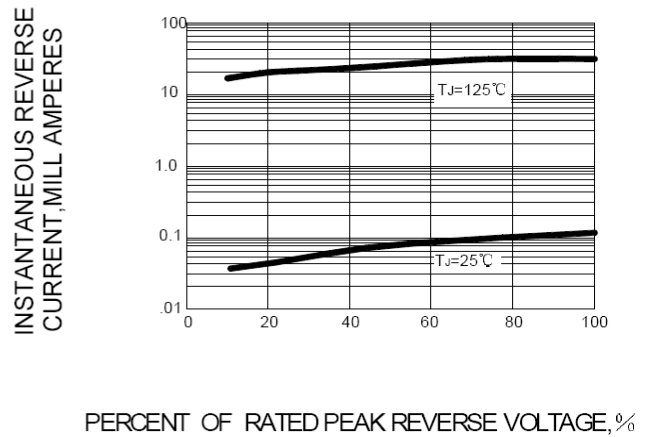
**FIG.2– PEAK FORWARD SURGE CURRENT**



**FIG.3 – TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-TYPICAL JUNCTION CAPACITANCE**

