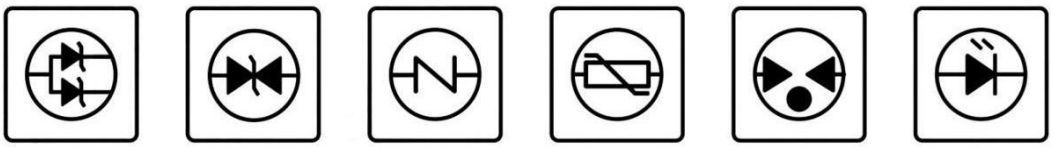
MSKSEMI 美森科
SEMICONDUCTOR



MBRAXXXT3G(MS)

Product specification

MBRAXXXT3G(MS)

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- For surface mount applications
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability

Mechanical Data

- **Case**: JEDEC DO-214AC molded plastic body
- **Terminals**: leads solderable per MIL-STD-750,
- Method 2026
- **Polarity**: Color band denotes cathode end

Reference News

Outline	Marking						
	MBRA 120	MBRA 130	MBRA 140	MBRA 150	MBRA 160	MBRA 180	MBRA 100
SMA	MBRA120T3G(MS)	MBRA130T3G(MS)	MBRA140T3G(MS)	MBRA150T3G(MS)	MBRA160T3G(MS)	MBRA180T3G(MS)	MBRA100T3G(MS)

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.

Parameter	Symbols	MBRA120 T3G(MS)	MBRA130 T3G(MS)	MBRA140 T3G(MS)	MBRA150 T3G(MS)	MBRA160 T3G(MS)	MBRA180 T3G(MS)	MBRA100 T3G(MS)	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	80	100	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	56	70	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	80	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	40							A
Maximum Forward Voltage at 1 A [1]	V_F	0.55			0.75		0.85		V
Maximum DC Reverse Current at T_a = 25 °C	I_R	0.2							mA
Rated DC Blocking Voltage [1] T_a = 100 °C		10							
Typical Thermal Resistance [2]	$R_{\theta JA}$ $R_{\theta JL}$	88 28							°C/W
Operating Junction Temperature Range	T_J	- 65 to + 125			- 65 to + 150				°C
Storage Temperature Range	T_S	- 65 to + 150							°C

1) Pulse test: 300 μs pulse width, 1% duty cycle

2) P.C.B mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVES

FIG.1-FORWARD CURRENT DERATING CURVE

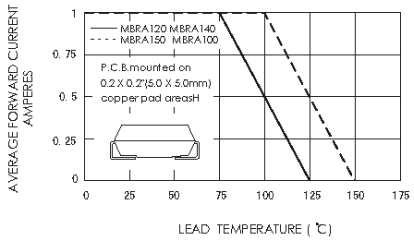


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

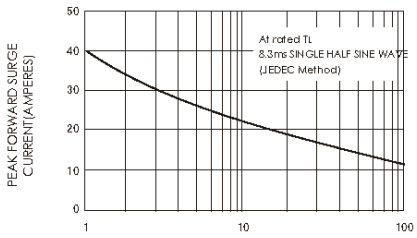


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

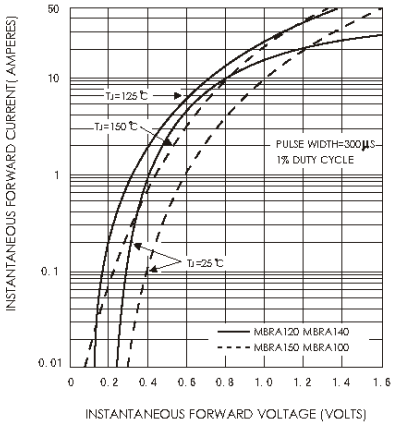


FIG.4-TYPICAL REVERSE CHARACTERISTICS

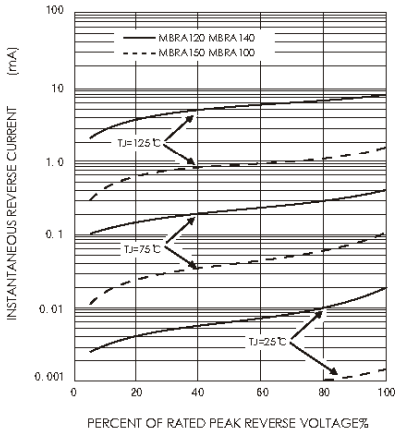
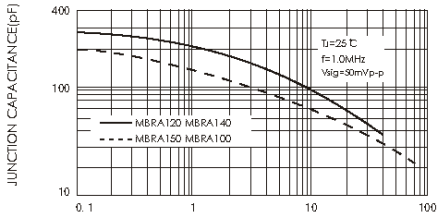
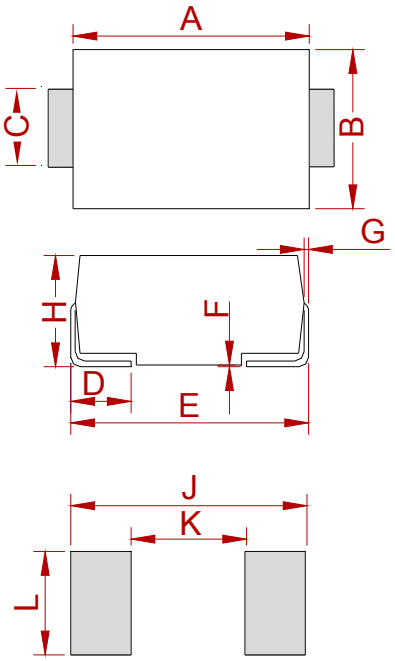


FIG.5-TYPICAL JUNCTION CAPACITANCE



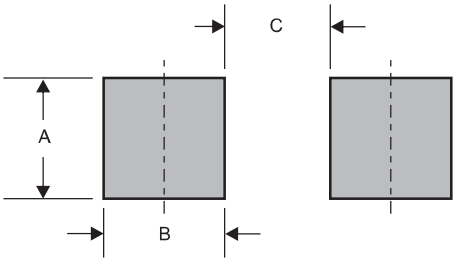
PACKAGE MECHANICAL DATA



DO-214AC (SMA)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.50		0.256	
K		2.30		0.090
L	1.70		0.067	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)

REELSPECIFICATION

P/N	PKG	QTY
MBRAXXXT3G(MS)	SMA	2000

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