



# MS14~MS120

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**VOLTAGE** 40 to 200 Volts **CURRENT** 1.0 Amperes

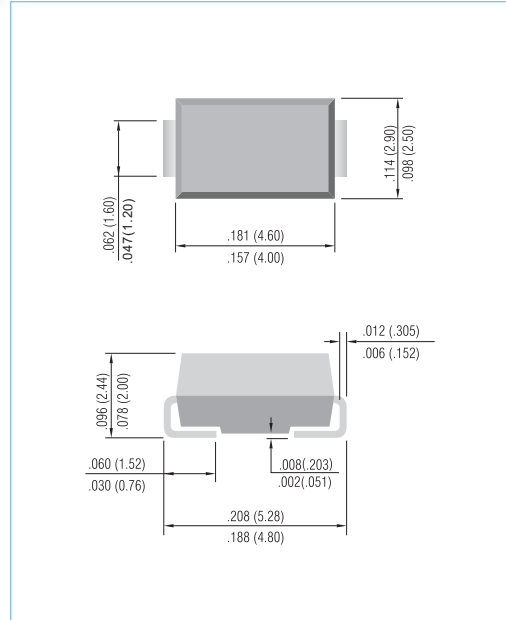
SMA / DO-214AC Unit: inch ( mm )

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Metal to silicon rectifier. majority carrier conduction
- Low power loss,high efficiency
- High surge capacity
- High current capacity ,low  $V_F$
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications.
- Lead free in comply with EU RoHS 2002/95/EC directives.

### MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals:Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode)
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.0023 ounce, 0.0679 gram



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

PARAMETER	SYMBOL	MS14	MS14A	MS15	MS16	MS18	MS19	MS110	MS115	MS120	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	40	45	50	60	80	90	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	28	31.5	35	42	56	63	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	40	45	50	60	80	90	100	150	200	V
Maximum Average Forward Current (See Figure 1)	$I_{F(AV)}$	1.0									A
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	30									A
Maximum Forward Voltage at 1.0A ( Note 1)	$V_F$	0.7		0.74		0.80		0.9		V	
Maximum DC Reverse Current $T_J=25^{\circ}C$ at Rated DC Blocking Voltage $T_J=100^{\circ}C$	$I_R$	0.05 20									mA
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	30 95									$^{\circ}C / W$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150				-65 to +175				$^{\circ}C$	

**NOTES:**

- 1.Pulse Test with PW =300μsec, 1% Duty Cycle.
- 2.Mounted on P.C. Board with 5.0mm<sup>2</sup> (.013mm thick) copper pad areas.



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## RATING AND CHARACTERISTIC CURVES

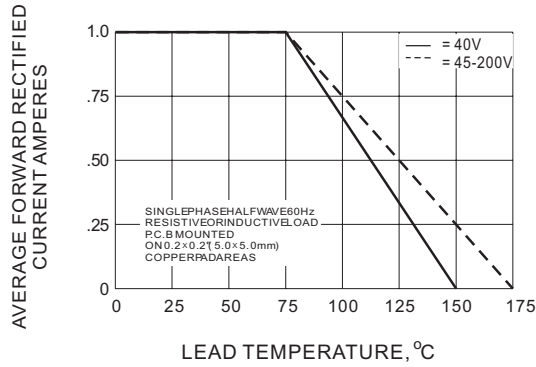


Fig.1-FORWARD CURRENT DERATING CURVE

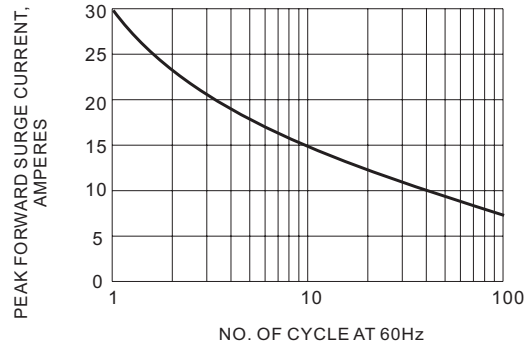


Fig.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

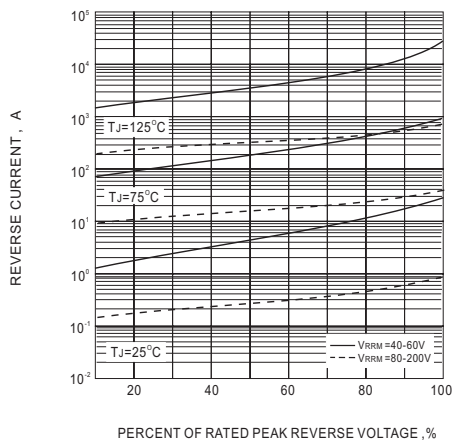


Fig.3-TYPICAL REVERSE CHARACTERISTIC

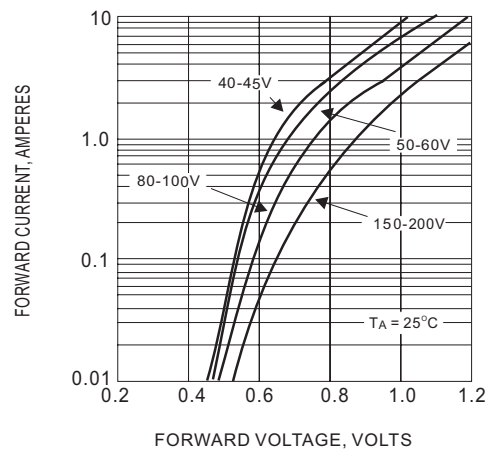
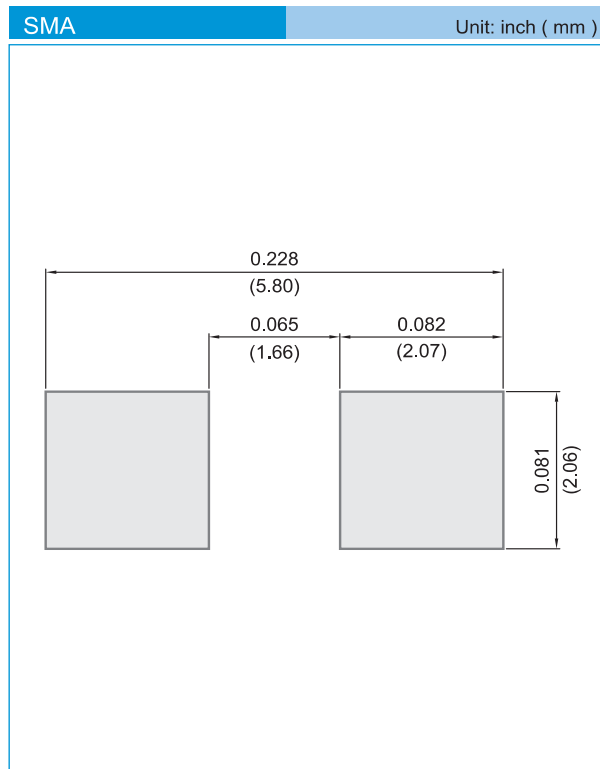


Fig.4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC



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### MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information
  - T/R - 7.5K per 13" plastic Reel
  - T/R - 1.8Kper 7" plastic Reel



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## Part No\_packing code\_Version

- MS14\_R1\_00001
- MS14\_R1\_10001
- MS14\_R2\_00001
- MS14\_R2\_10001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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