



# MS14~MS120

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**VOLTAGE** 40 to 200 Volt **CURRENT** 1 Ampere

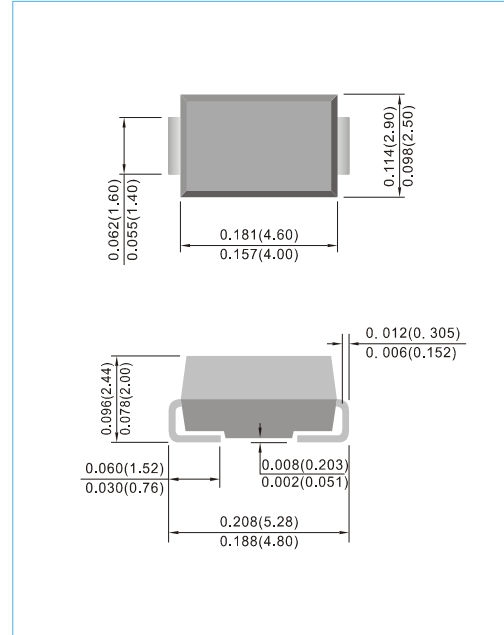
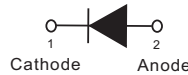
**SMA / DO-214AC** Unit : inch(mm)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications in order to optimize board space
- Metal to silicon rectifier. majority carrier conduction
- Low power loss,high efficiency
- High surge capacity
- High current capacity ,low  $V_F$
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

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



## 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									A	
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	30									A	
Maximum Forward Voltage at 1A (Notes 1)	$V_F$	0.7	0.74		0.8			0.9		V		
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^\circ\text{C}$	$I_R$	1							0.5		$\mu\text{A}$	
Typical DC Reverse Current at Rated DC Blocking Voltage $T_J=125^\circ\text{C}$		0.3			0.2			0.02		mA		
Typical Thermal Resistance (Notes 2)	$R_{\theta JL}$ $R_{\theta JA}$					30 95					$^\circ\text{C} / \text{W}$	
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150									-65 to +175	$^\circ\text{C}$

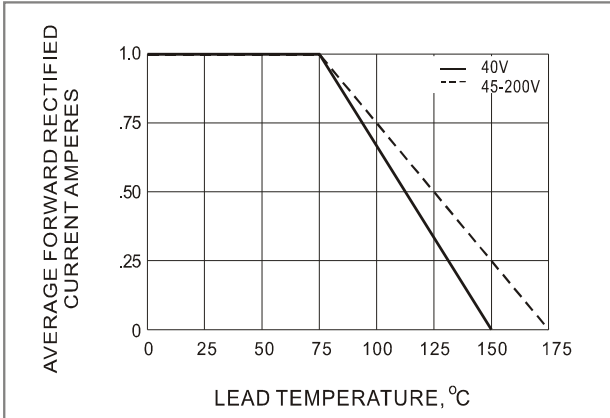
### NOTES :

- 1.Pulse Test with  $PW = 300\mu\text{sec}$ , 1% Duty Cycle.
- 2.Mounted on P.C. Board with  $5\text{mm}^2$  (0.013mm thick) copper pad areas.

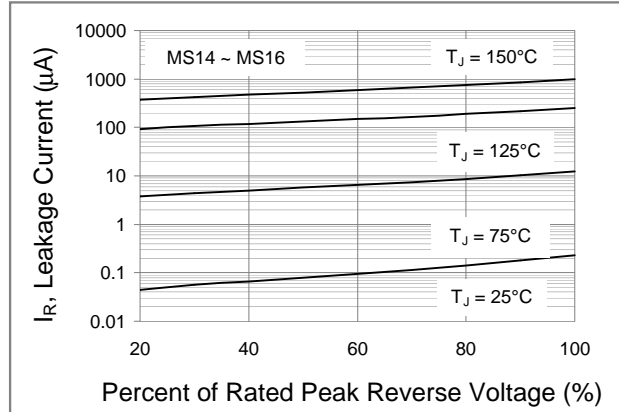


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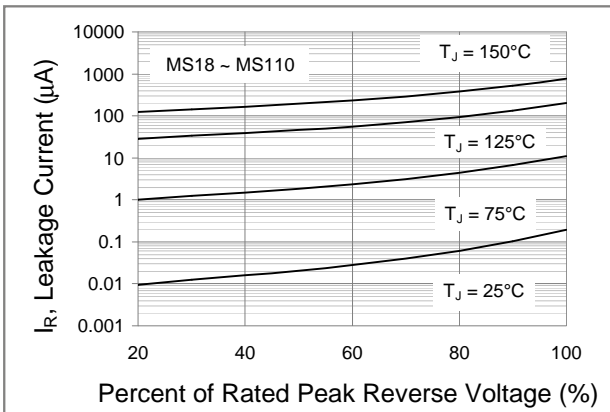
## RATING AND CHARACTERISTIC CURVES



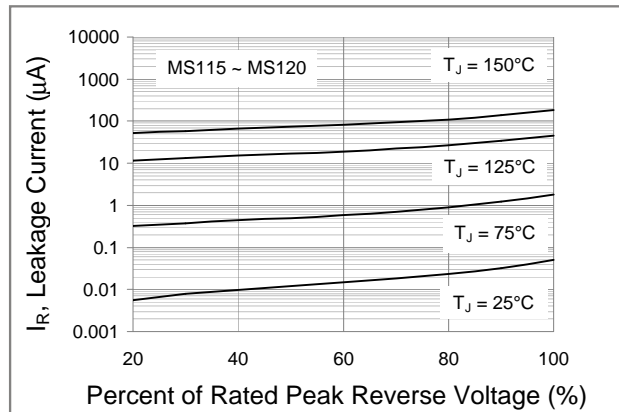
**Fig.1 FORWARD CURRENT DERATING CURVE**



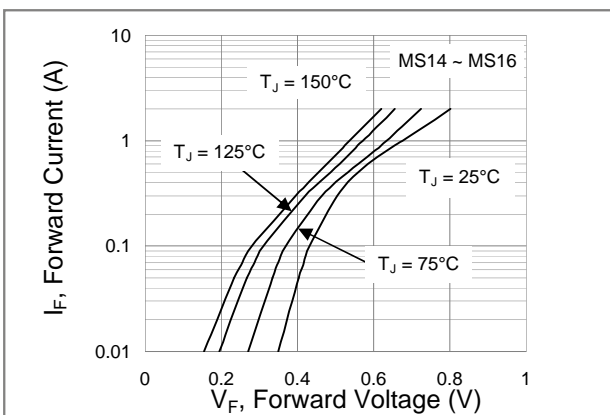
**Fig.2 Typical Reverse Characteristics**



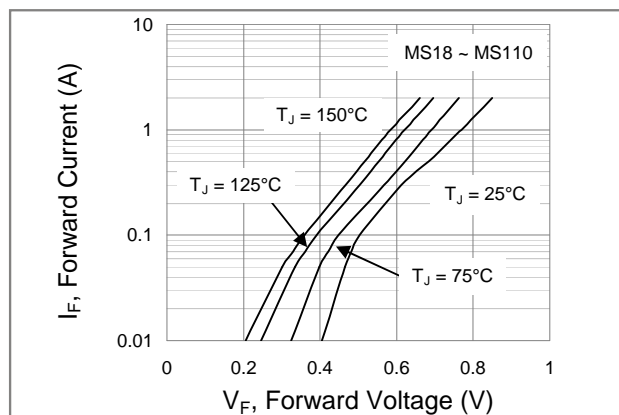
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



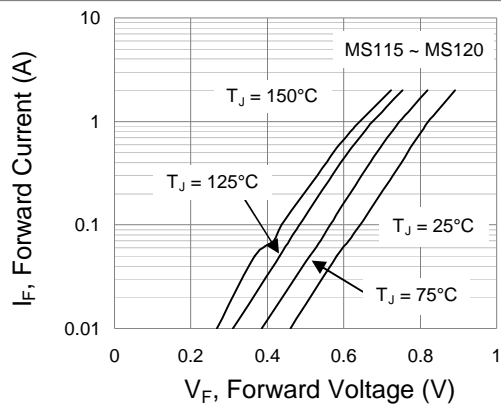
**Fig.5 Typical Forward Characteristics**



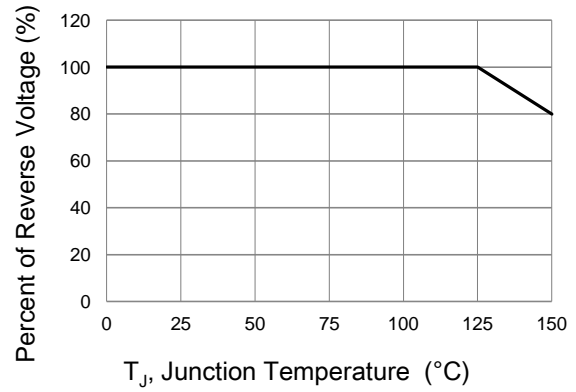
**Fig.6 Typical Forward Characteristics**



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**Fig.7 Typical Forward Characteristics**

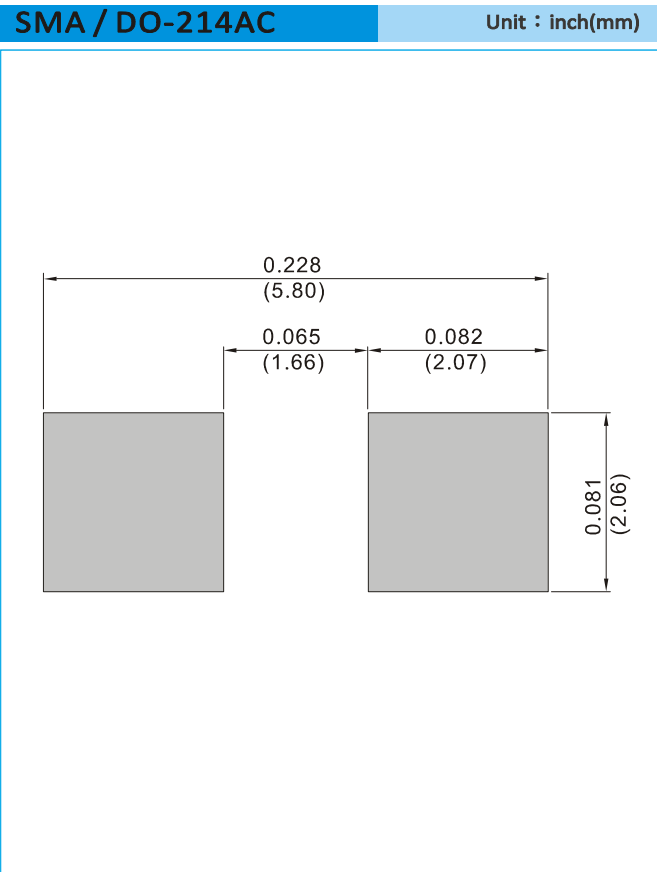


**Fig.8 Operating Temperature Derating Curve**



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### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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



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### Part No\_packing code\_Version

MS14\_R1\_00001

MS14\_R2\_00001

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)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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