

# M1 THRU M7



康比電子  
HORNBY ELECTRONIC

## ***SURFACE MOUNT PLASTIC PASSIVATED JUNCTION RECTIFIER***

**REVERSE VOLTAGE:** 50 to 1000 VOLTS

**FORWARD CURRENT:** 1.0 AMPERE

### ***FEATURES***

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Low forward voltage drop
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering : 260°C /10 seconds at terminals

### ***MECHANICAL DATA***

Case: Molded plastic, SMX

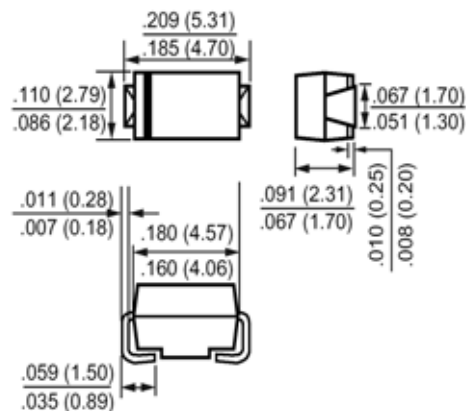
Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity: Color band denotes cathode end

Packaging: 12mm tape per EIA STD RS-481

Weight: 0.002 ounce, 0.064 gram

### **SMX**



Dimensions in inches and (millimeters)

### ***Maximum Ratings and Electrical Characteristics***

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	M1	M2	M3	M4	M5	M6	M7	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at $T_L=75$	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							Amp
Maximum Forward Voltage at 1.0A	$V_F$	1.1							Volts
Maximum Reverse Current at $T_A=25$ at Rated DC Blocking Voltage $T_A=125$	$I_R$	5.0 100							$\mu$ Amp
Typical Junction Capacitance (Note 1)	$C_J$	12							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	28							/W
Maximum Reverse Recovery Time (Note 3)	$T_{RR}$	2.5							$\mu$ S
Operating Junction Temperature Range	$T_J$	-55 to +150							
Storage Temperature Range	$T_{stg}$	-55 to +150							

### **NOTES:**

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to ambient mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

3- Reverse Recovery Test Conditions :  $I_F=0.5A$  ,  $I_R=1A$  ,  $I_{RR}=0.25A$ .

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## SURFACE MOUNT PLASTIC PASSIVATED JUNCTION RECTIFIER



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### RATINGS AND CHARACTERISTIC CURVES

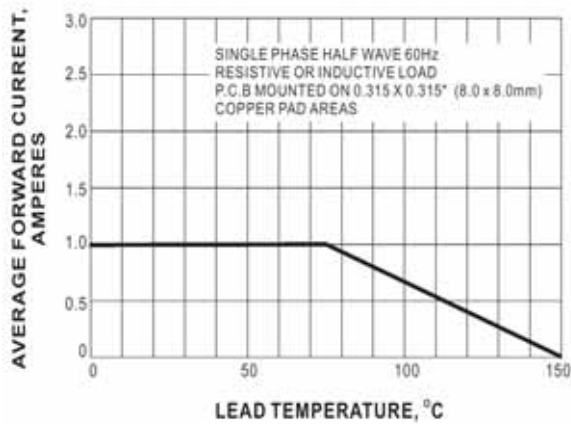


Fig.1-FORWARD CURRENT DERATING CURVE

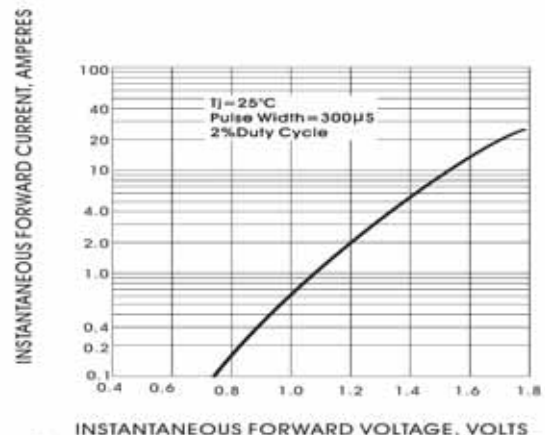


Fig. 2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER ELEMENT

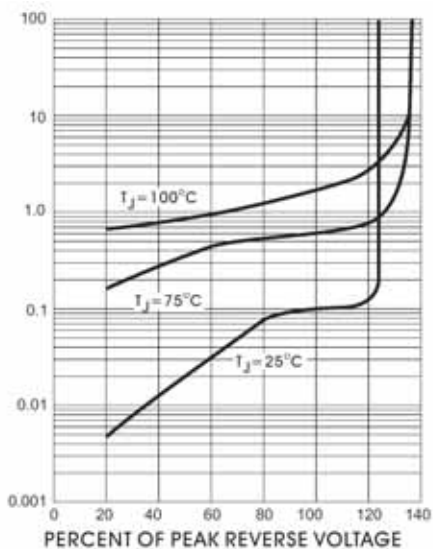


Fig. 3- TYPICAL REAK REVERSE CHARACTERISTICS

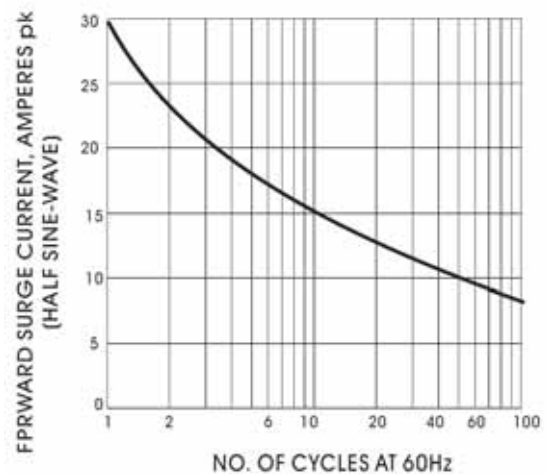


Fig. 4- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

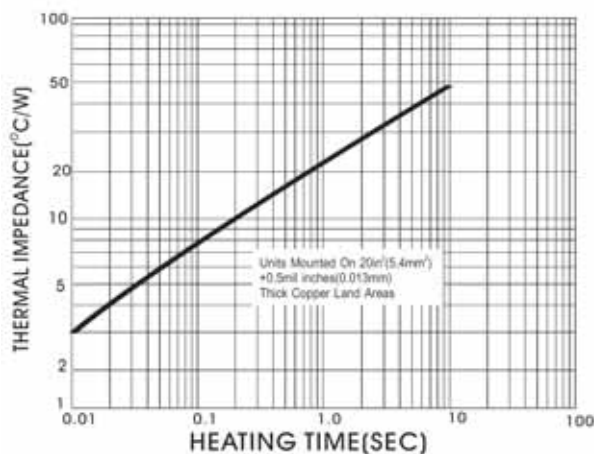


Fig. 5- TRANSIENT THERMAL IMPEDANCE

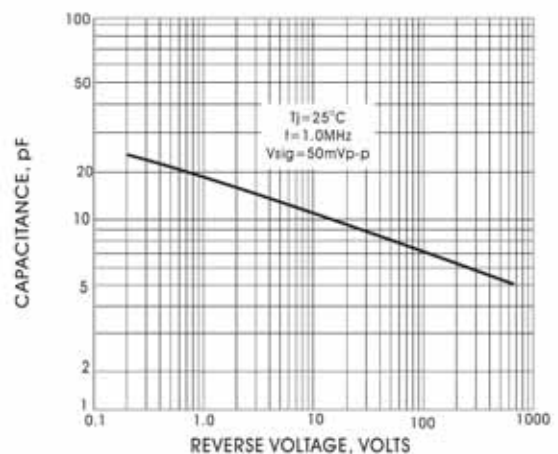


Fig. 6- TYPICAL JUNCTION CAPACITANCE PER ELEMENT