



## AXIAL SILASTIC GUARD JUNCTION STANDARD RECTIFIER

**EM513 THRU EM518**

**VOLTAGE RANGE**  
**CURRENT**

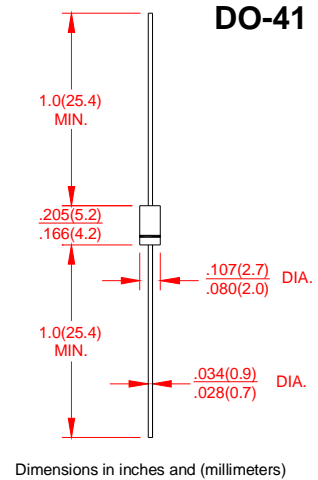
**1600 to 2000 Volts**  
**1.0 Ampere**

### FEATURES

- Low coat construction
- Low forward voltage drop
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33 grams



### 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	EM513	EM516	EM518	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	1600	1800	1300	Volts
Maximum RMS Voltage	$V_{RMS}$	1120	1260	1400	Volts
Maximum DC Blocking Voltage	$V_{DC}$	1600	1800	2000	Volts
Maximum Average Forward Rectified Current 0.375”(9.5mm) lead length at $T_A=25^\circ\text{C}$	$I_{(AV)}$	1.0			Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30			Amps
Maximum Instantaneous Forward Voltage @ 1.0A	$V_F$	1.1		1.2	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	5.0			$\mu\text{A}$
	$T_A = 100^\circ\text{C}$	50			
Maximum Full Load Reverse Current, full cycle average 0.375”(9.5mm)lead length at $T_L=75^\circ\text{C}$	$I_{R(AV)}$	30			$\mu\text{A}$
Typical Junction Capacitance (Note 1)	$C_J$	15			pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	50			$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	-55 to +150			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150			$^\circ\text{C}$

#### Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.
2. Thermal Resistance from junction to ambient at .375”(9.5mm) lead length, P.C.board mounted.



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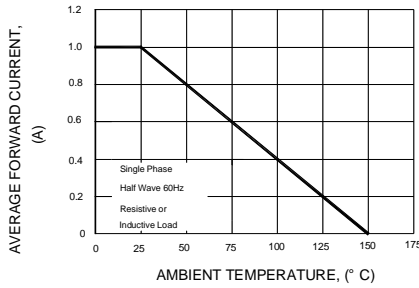
**EM513 THRU EM518**

**VOLTAGE RANGE  
CURRENT**

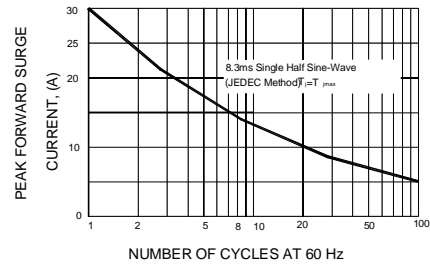
**1600 to 2000 Volts  
1.0 Ampere**

**RATING AND CHARACTERISTIC CURVES EM513 Thru EM518**

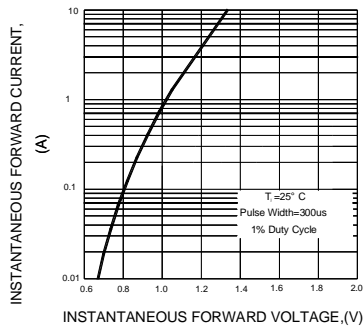
**FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE**



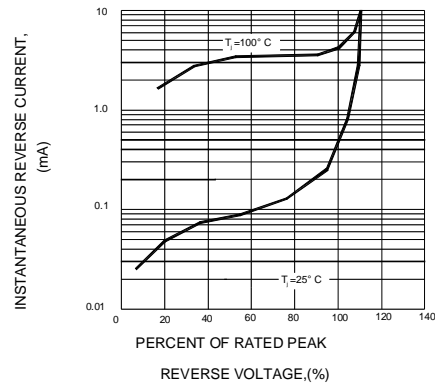
**FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-TYPICAL JUNCTION CAPACITANCE**

