



AXIAL SILASTIC GUARD JUNCTION STANDARD RECTIFIER

EM513 THRU EM518

**VOLTAGE RANGE
CURRENT**

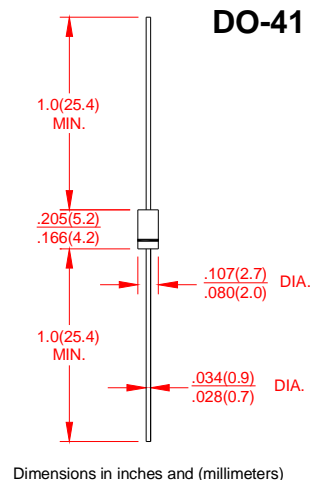
**1600 to 2000 Volts
1.0 Ampere**

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 | $T_A = 25^\circ\text{C}$ | I_R | | | μA |
| | $T_A = 100^\circ\text{C}$ | | | | |
| 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 | | | μA |
| 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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RATING AND CHARACTERISTIC CURVES EM513 Thru EM518

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

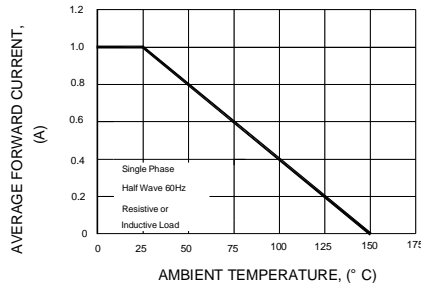


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

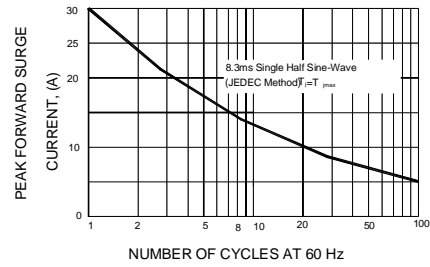


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

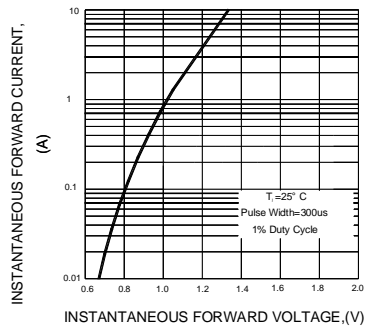


FIG.4-TYPICAL REVERSE CHARACTERISTICS

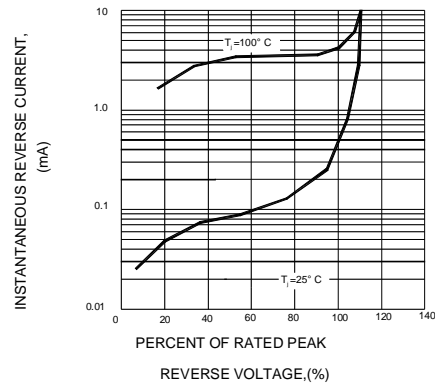


FIG.5-TYPICAL JUNCTION CAPACITANCE

