



BY127M, BY133, EM513

PLASTIC SILICON RECTIFIERS

VOLTAGE 1250 to 1600 Volts **CURRENT** 1.0 Ampere

DO-41

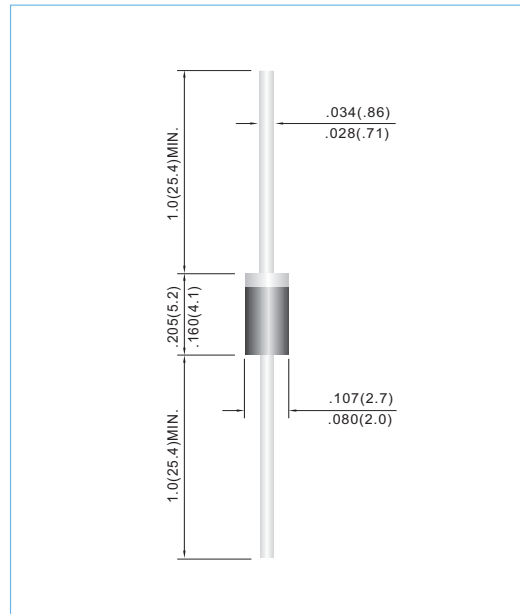
Unit: inch(mm)

FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Exceeds environmental standards of MIL-S-19500/228
- Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

- Case: DO-41 Molded plastic
- Epoxy: UL 94V-O rate flame retardant.
- Lead: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.012 ounces, 0.30 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.
For capacitive load, derate current by 20%.

| PARAMETER | SYMBOL | BY127M | BY133 | EM513 | UNITS |
|---|------------------------------------|-------------|-------|-------|-----------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 1250 | 1300 | 1600 | V |
| Maximum RMS Voltage | V_{RMS} | 875 | 910 | 1120 | V |
| Maximum DC Blocking Voltage | V_{DC} | 1250 | 1300 | 1600 | V |
| Maximum Average Forward Current .375" (9.5mm) lead length at $T_A=75^\circ\text{C}$ | $I_{F(AV)}$ | 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 | V_F | 1.1 | | | V |
| Maximum DC Reverse Current at $T_J=25^\circ\text{C}$ Rated DC Blocking Voltage $T_J=100^\circ\text{C}$ | I_R | 5.0 500 | | | μA |
| Typical Junction capacitance (Note 1) | C_J | 15 | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ $R_{\theta JL}$ | 50 25 | | | $^\circ\text{C} / \text{W}$ |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | $^\circ\text{C}$ |

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
2. Thermal Resistance from Junction to Ambient and from junction to lead at 0.375" (9.5mm) lead length P.C.B. mounted.



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RATING AND CHARACTERISTIC CURVES

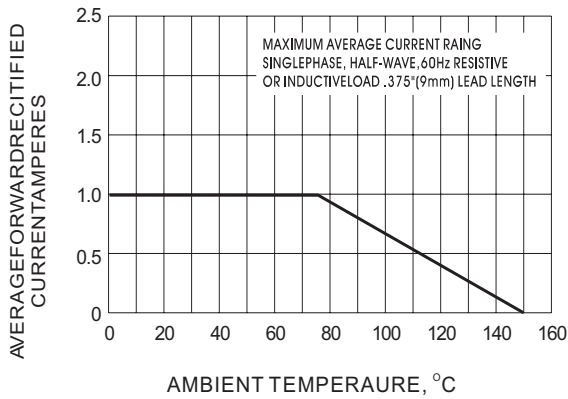


Fig.1-FORWARD CURRENT DERATING CURVE

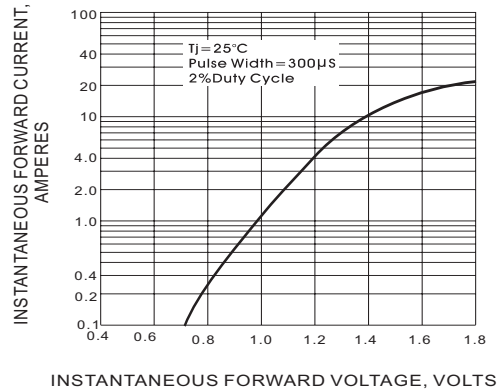


Fig.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

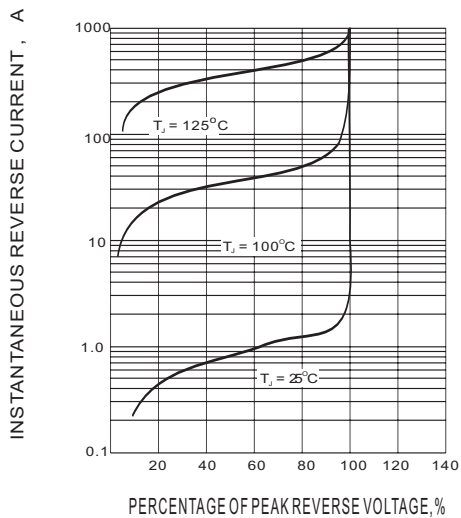


Fig.3-TYPICAL REVERSE CHARACTERISTIC

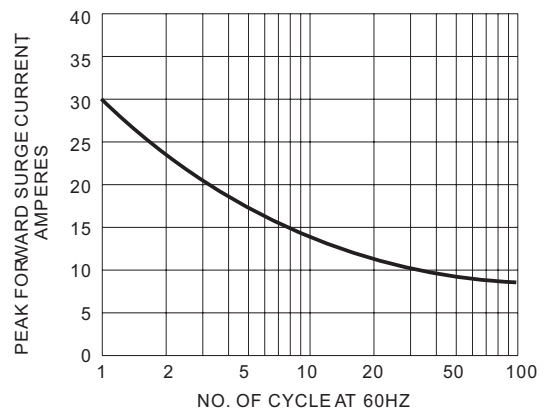


Fig.4-MAXIMUM NON-REPETITIVE SURGE CURRENT

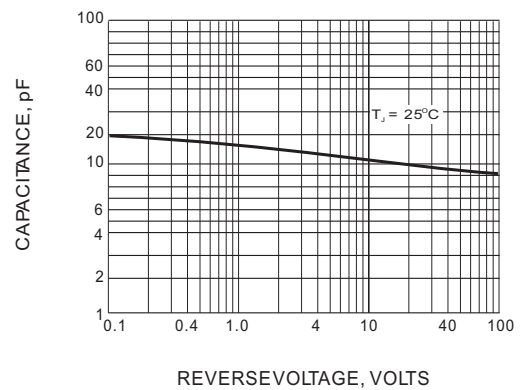


Fig.5-TYPICAL JUNCTION CAPACITANCE



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Part No_packing code_Version

- EM513_AY_00001
- EM513_AY_10001
- EM513_B0_00001
- EM513_B0_10001
- EM513_R2_00001
- EM513_R2_10001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th 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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