



BY127M, BY133, EM513

PLASTIC SILICON RECTIFIERS

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

DO-41

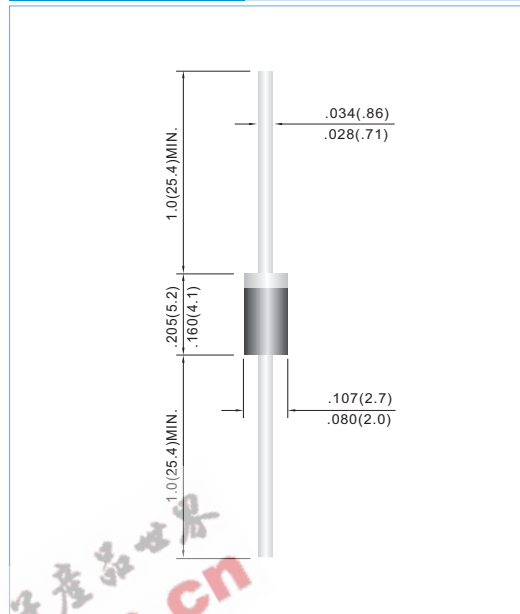
Unit: inch(mm)

FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Exceeds environmental standards of MIL-S-19500/228
- In compliance with EU RoHS 2002/95/EC directives

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

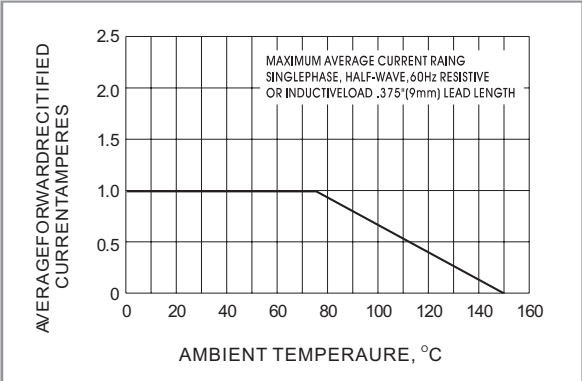


Fig.1- FORWARD CURRENT DERATING CURVE

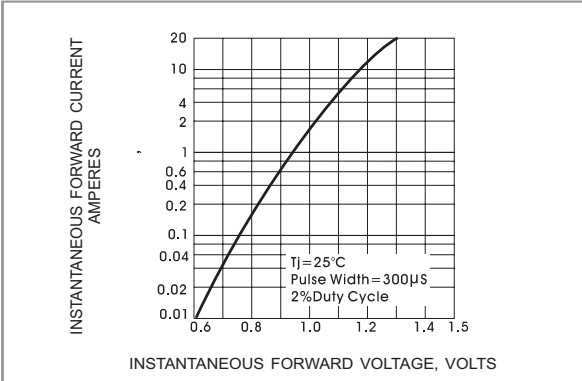


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

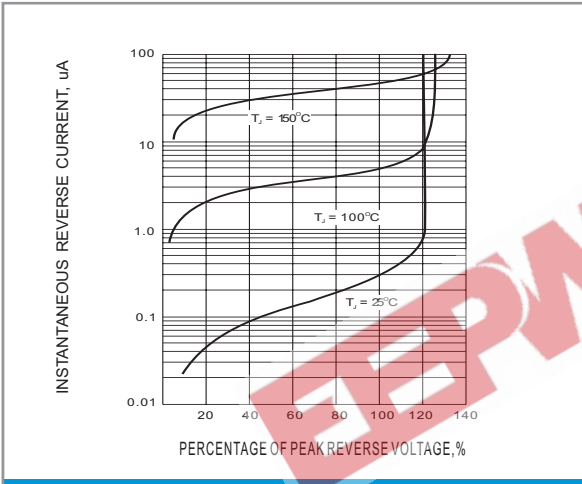


Fig.3- TYPICAL REVERSE CHARACTERISTIC

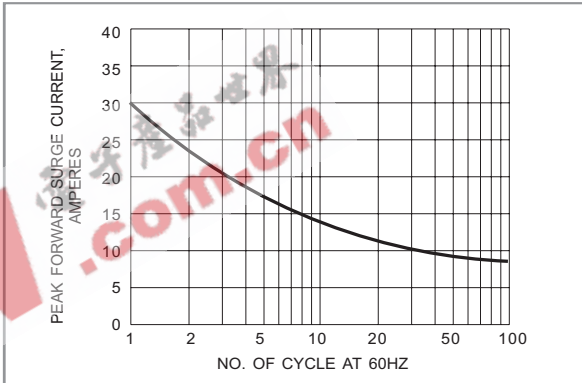


Fig.4- MAXIMUM NON - REPETITIVE SURGE CURRENT

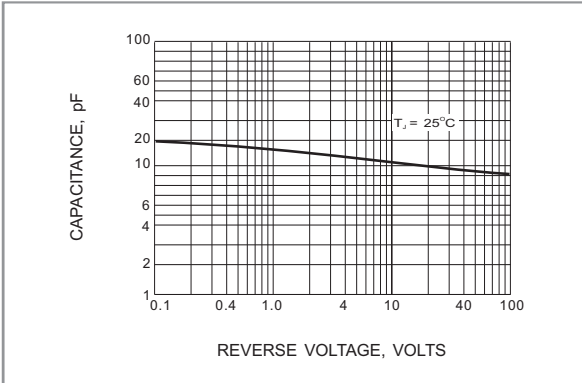


Fig.5- TYPICAL JUNCTION CAPACITANCE

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