



BY127 / BY133 / EM513 / EM516 Silicon Rectifier

**Voltage Range 1250 to 1800 Volts
Current 1.0Ampere**

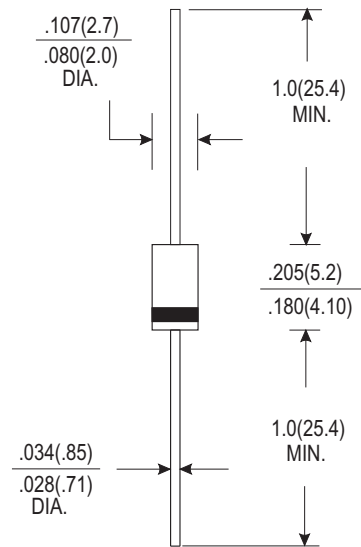
Features

- * The Plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- * Construction utilizes void-free molded plastic technique
- * Low reverse leakage
- * Low forward voltage drop
- * High forward surge current capability
- * High current capability
- * High reliability

Mechanical Data

- * Case: Molded plastic body
- * Terminals: Lead solderable per MIL-STD-750,method 2026
- * Polarity: Color band denotes cathode end
- * Mounting Position: Any
- * Weight: 0.33 gram

DO-41



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

Type Number	Symbols	BY127	BY133	EM513	EM516	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	1250	1300	1600	1800	Volts
Maximum RMS Voltage	V_{RMS}	875	930	1120	1270	Volts
Maximum DC Blocking Voltage	V_{DC}	1250	1300	1600	1800	Volts
Maximum Average Forward Rectified Current 0.375"(9.5mm)lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0				Amp
Peak Forward Surge Current,8.3 ms half sing wave superimposed on rated load (JEDEC method)	I_{FSM}	30.0				Amps
Maximum Instantaneous Forward Voltage at 1.0A	V_F	1.1				Volts
Maximum Reverse Current at rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	5.0				uA
	$T_A=100^\circ\text{C}$	200.0				
Typical thermal resistance (Note 2)	$R\theta_{JA}$	50.0				°C/W
	$R\theta_{JL}$	25.0				
Typical junction capacitance (Note1)	C_j	15.0				pF
Operating and storage temperature range	$T_j T_{STG}$	-50 to +150				°C

Notes:

1. Measured at 1 MHz and applied reverse voltage of 4.0 V DC.
2. Thermal resistance from junction to ambient and from junction to lead at 0.375"(9.5mm)lead length,P.C.B. mounted.

[Http://www.upm.com.tw](http://www.upm.com.tw)

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RATINGS AND CHARACTERISTIC CURVES (BY127 THRU EM516)

FIG. 1 FORWARD CURRENT DERATING CURVE

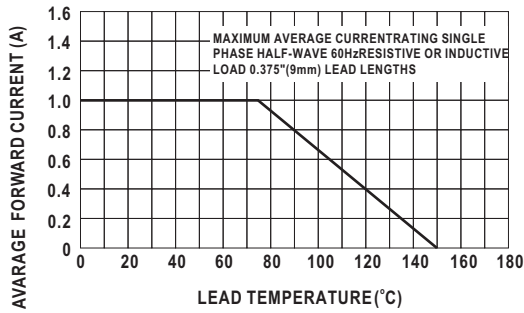


FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

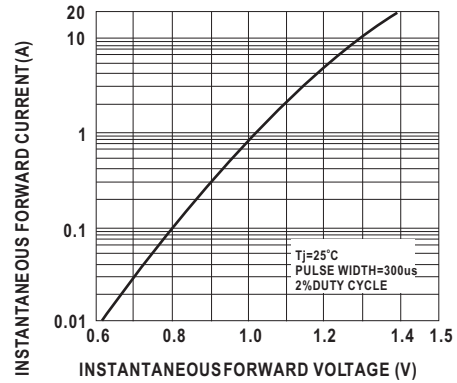


FIG. 3 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

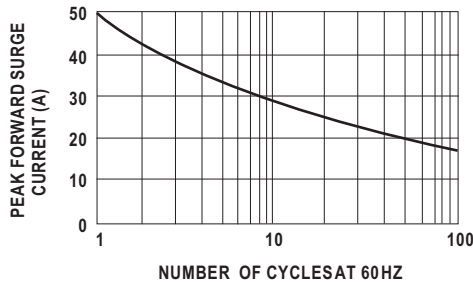


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

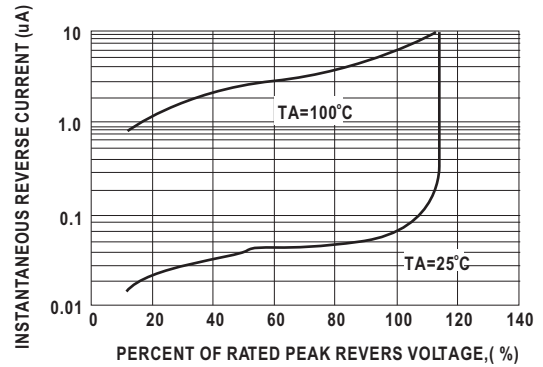


FIG. 5 TYPICAL JUNCTION CAPACITANCE

