



# BY127 / BY133 / EM513 / EM516 Silicon Rectifier

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

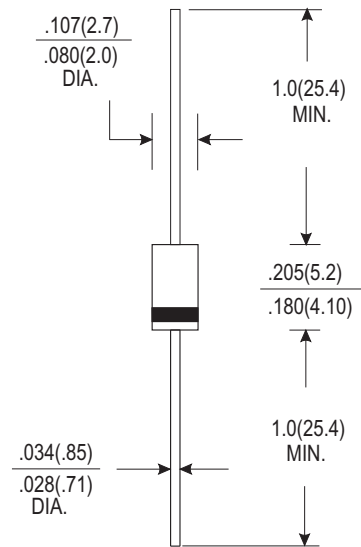
## Features

- \* 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.

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## RATINGS AND CHARACTERISTIC CURVES (BY127 THRU EM516)

FIG. 1 FORWARD CURRENT DERATING CURVE

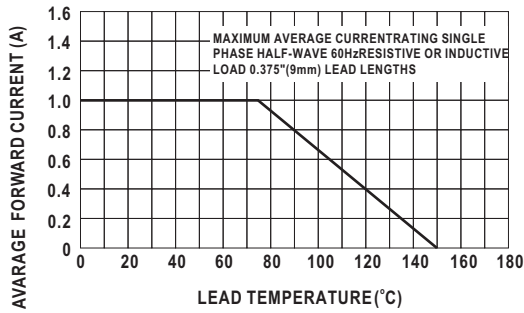


FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

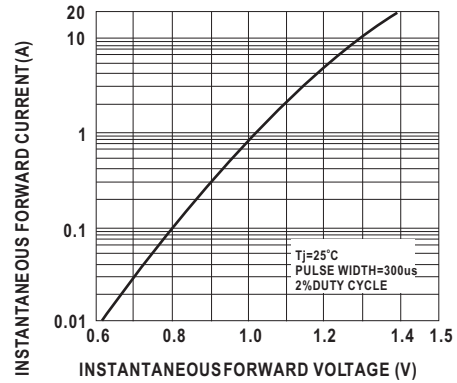


FIG. 3 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

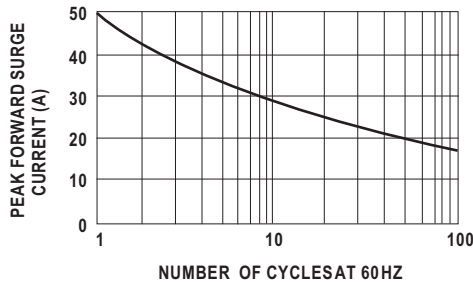


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

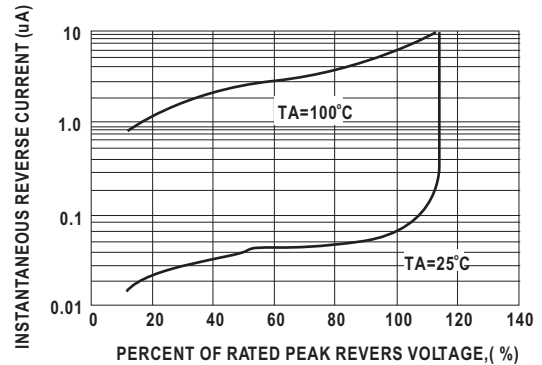


FIG. 5 TYPICAL JUNCTION CAPACITANCE

