

# BY127M, BY133, EM513

1.0 AMP SILICON RECTIFIERS



## FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability

## MECHANICAL DATA

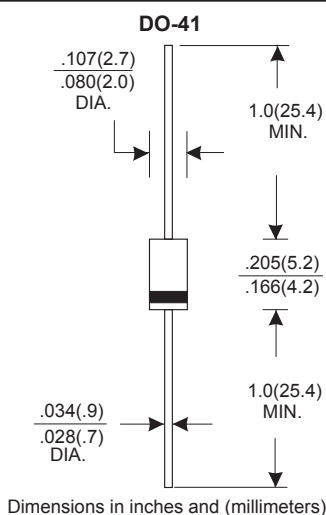
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.34 grams
- \* Both normal and Pb free product are available:
- \* Normal: 80~95% Sn, 5~20% Pb
- \* Pb free: 99 Sn above can meet Rohs environment substance directive request

## VOLTAGE RANGE

1250 to 1600 Volts

## CURRENT

1.0 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

TYPE NUMBER	BY127M	BY133	EM513	UNITS
Maximum Recurrent Peak Reverse Voltage	1250	1300	1600	V
Maximum RMS Voltage	875	910	1120	V
Maximum DC Blocking Voltage	1250	1300	1600	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length at Ta=75°C	1.0			A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	30			A
Maximum Instantaneous Forward Voltage at 1.0A	1.1			V
Maximum DC Reverse Current Ta=25°C	5.0			μA
at Rated DC Blocking Voltage Ta=100°C	50			μA
Typical Junction Capacitance (Note 1)	15			pF
Typical Thermal Resistance RθJA (Note 2)	50			°C/W
Operating and Storage Temperature Range Tj, Tstg	-65 — +150			°C

### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance from Junction to Ambient .375" (9.5mm) lead length.

RATING AND CHARACTERISTIC CURVES (BY127M, BY133, EM513)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

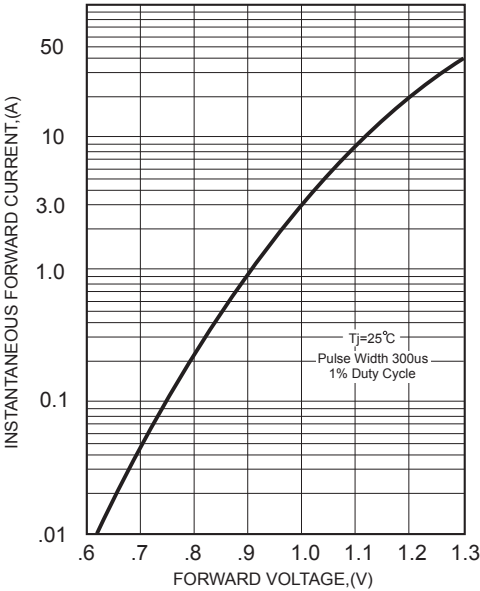


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

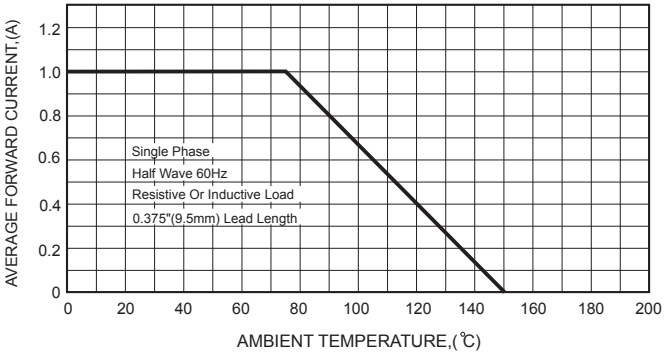


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

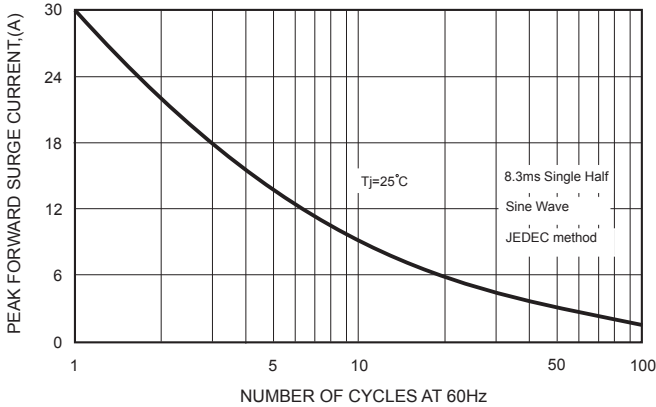


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

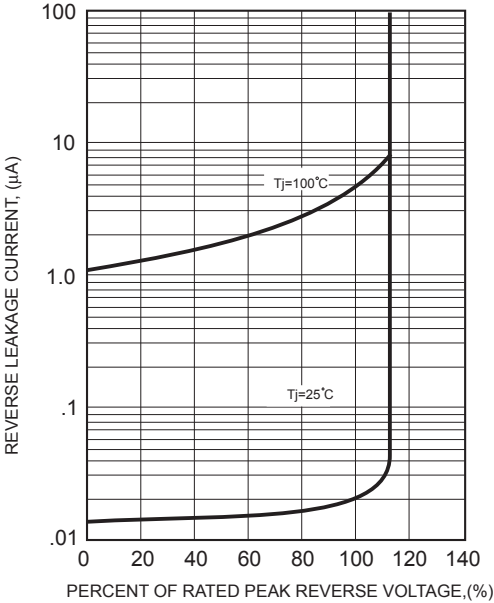


FIG.5-TYPICAL JUNCTION CAPACITANCE

