BY133 THRU EM520

TECHNICAL SPECIFICATIONS OF SILICON RECTIFIER

VOLTAGE RANGE - 1300 to 2000 Volts CURRENT - 1.0 Ampere

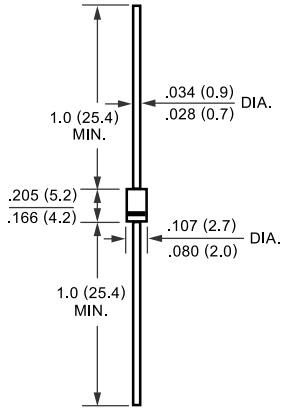
FEATURES

* Low cost
* Low leakage
* Low forward voltage drop
* High current capability

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: MIL-STD-202E, Method 208 guaranteed
* 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

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%.

		SYMBOL	BY133	EM513	EM516	EM520	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	1300	1600	1800	2000	Volts
Maximum RMS Voltage		V_{RMS}	910	1100	1560	1400	Volts
Maximum DC Blocking Voltage		V_{DC}	1300	1600	1800	2000	Volts
Maximum Average Forward Rectified Current at T_A = 75°C		I_O	1.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	30				Amps
Maximum Instantaneous Forward Voltage at 1.0A DC		V_F	1.1				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	I_R	5.0				uAmps
	@T_A = 100°C		500				
Maximum Full Load Reverse Current Average, Full Cycle .375*(9.5mm) lead length at T_L = 75°C			30				uAmps
Typical Junction Capacitance (Note)		C_J	15				pF
Typical Thermal Resistance		$R_{\theta JA}$	50				°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-65 to + 175				°C

NOTES : Measured at 1 MHz and applied reverse voltage of 4.0 volts

RATING AND CHARACTERISTIC CURVES (BY133 THRU EM520)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

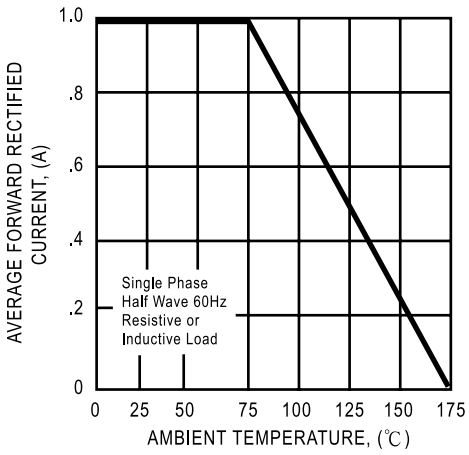


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

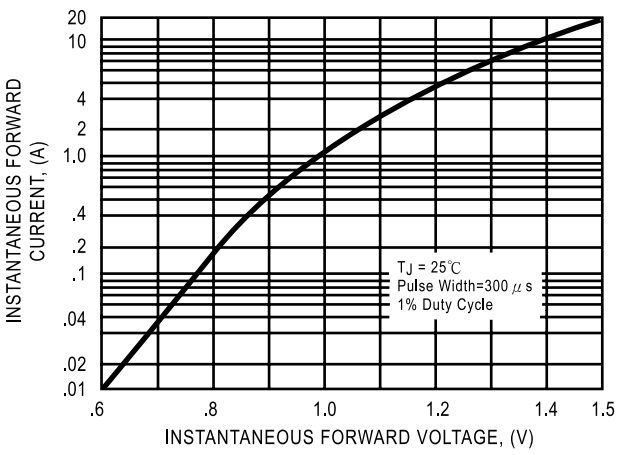


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

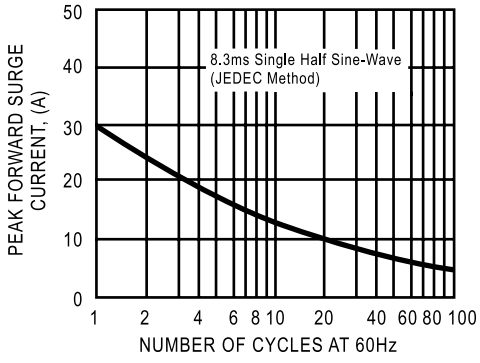


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

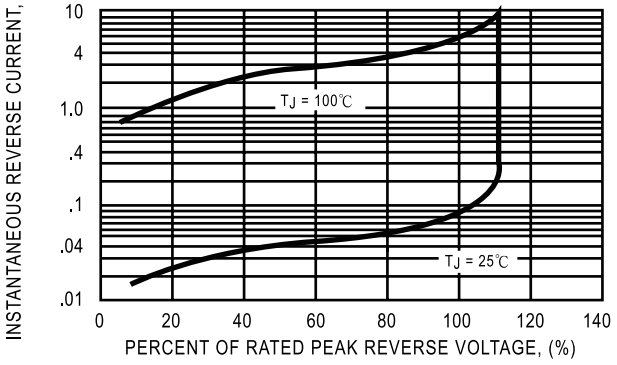


FIG. 5 - TYPICAL JUNCTION CAPACITANCE