



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**BY133
THRU
EM520**

TECHNICAL SPECIFICATIONS OF GENERAL PURPOSE SILICON RECTIFIER

VOLTAGE RANGE - 1300 to 2000 Volts

CURRENT - 1.0 Ampere

FEATURES

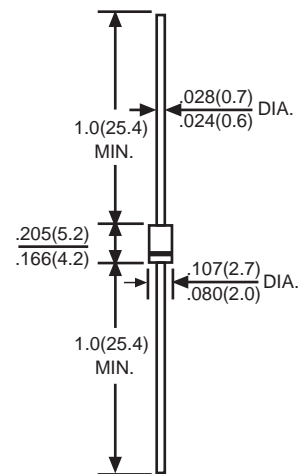
- * Low cost
- * Low leakage
- * Low forward voltage drop
- * High current capability

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rated flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 0.33 gram approx.



DO-41



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, 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	1120	1260	1400	Volts
Maximum DC Blocking Voltage	V _{DC}	1300	1600	1800	2000	Volts
Maximum Average Forward Rectified Current 375"(9.5mm) lead length at T _A = 50°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	5.0				μAmps
	@ T _A =100°C	500				
Maximum Full Load Reverse Current Average, Full Cycle .375"(9.5mm) lead length at T _L = 55°C		30				
Typical Junction Capacitance (Note 1)	C _J	15				pF
Typical Thermal Resistance (Note 2)	R _{θJA}	40				°C/W
Operating and Storage Temperature Range	T _J ,T _{STG}	-55 to +150				°C

Note 1: Measured at 1 MHz and applied reverse voltage of 4.0 volts.
Note 2: Typical thermal resistance from junction to ambient.

RATING AND CHARACTERISTIC CURVES (BY133 THRU EM520)

FIG. 1
TYPICAL FORWARD CURRENT
DERATING CURVE

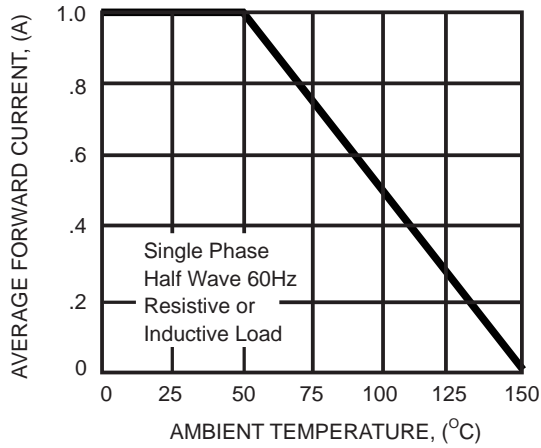


FIG. 2
MAXIMUM NON-REPETITIVE FORWARD
SURGE CURRENT

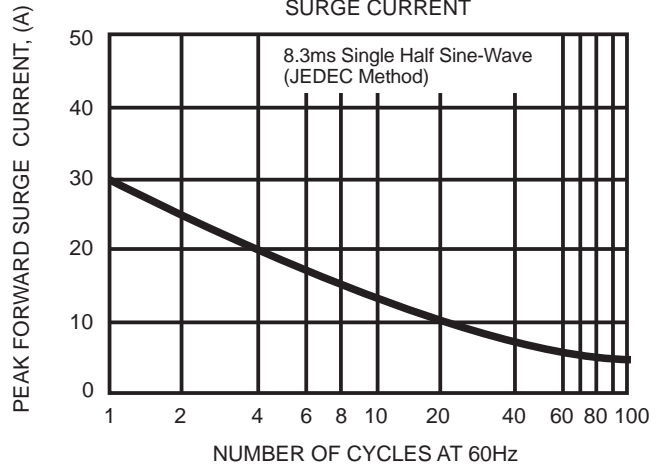


FIG. 3
TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

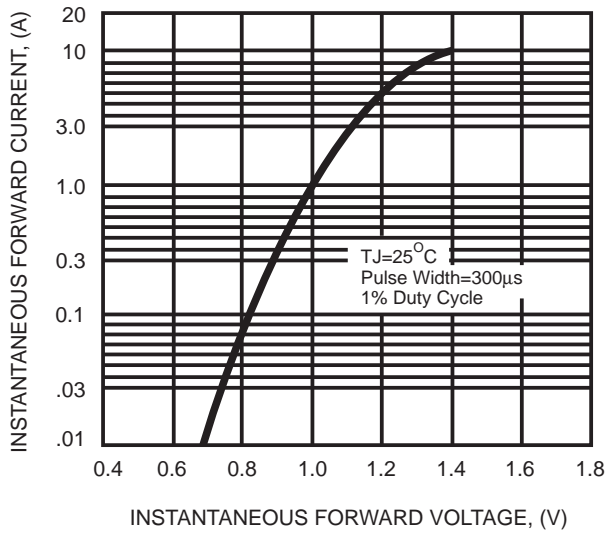


FIG. 4
TYPICAL REVERSE CHARACTERISTICS

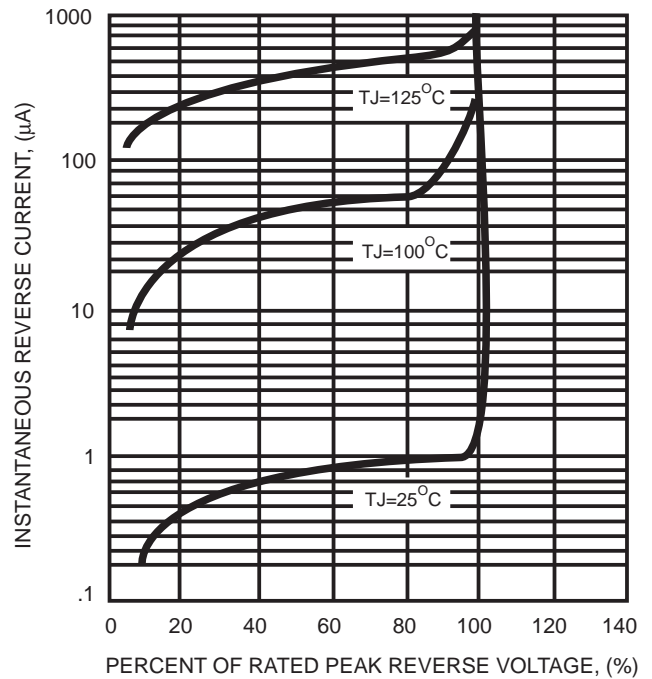
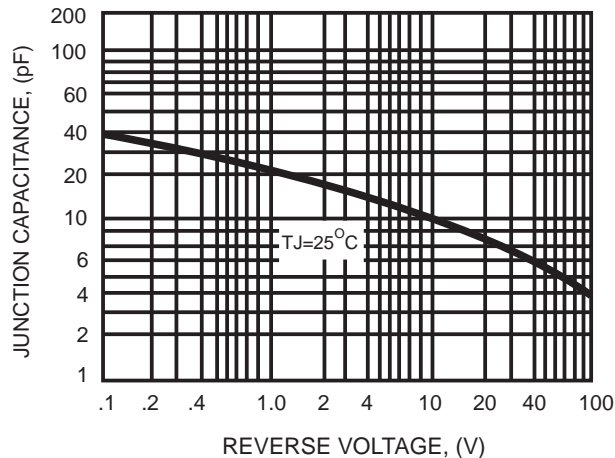


FIG. 5
TYPICAL JUNCTION CAPACITANCE



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