



BY127, BY133, EM513, EM516, EM520

0.25 To 0.5 AMP. SILICON RECTIFIERS

FEATURES

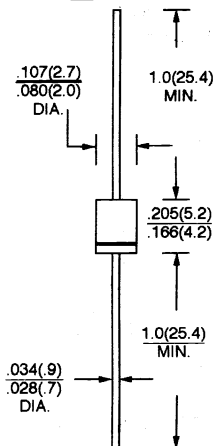
- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability

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

VOLTAGE RANGE
1250 to 2000 Volts
CURRENT
0.5 Ampere

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 current by 20%

TYPE NUMBER	SYMBOLS	BY127	BY133	EM513	EM516	EM520	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	1250	1400	1600	1800	2000	V
Maximum RMS Voltage	V _{RMS}	875	910	1120	1260	1400	V
Maximum D. C Blocking Voltage	V _{DC}	1250	1300	1600	1800	2000	V
Maximum Average Forward Rectified Current .375"9.5mm) lead length @ T _A = 50°C	I _{F(AV)}	0.5					A
Peak Forward Surge Current,8.3 ms single half sine – wave superimposed on rated load(JEDEC method)	I _{FSM}	25					A
Maximum Instantaneous Forward Voltage at 1.0A	V _F	1.0		1.1			V
Maximum D. C Reverse Current @T _A = 25°C At Rated D. C Blocking Voltage @T _A = 100°C	I _R	5.0 80.0		5.0 100			μA μA
Typical Junction Capacitance (Note 1)	C _J	8		6			pF
Typical Thermal Resistance (Note 2)	R _{θJA}	80		110			°C/W
Operation Temperate Range	T _J	– 65 to + 125					°C
Storage Temperature Range	T _{STG}	– 65 to + 125					°C

NOTE: (1) Measured at 1 MHz and applied reverse voltage of 4.0 V. D. C

(2) Thermal resistance from Junction to Ambient 0.375" (9.5mm) Lead Length, P. C. B mounted

RATINGS AND CHARACTERISTIC CURVES

BY127, BY133, EM153, EM516, EM520

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

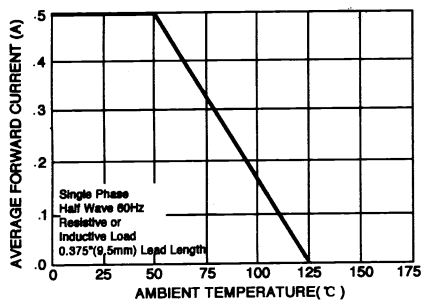


FIG. 2 - MAXIMUM NON - REPETITIVE FORWARD SURGE CURRENT

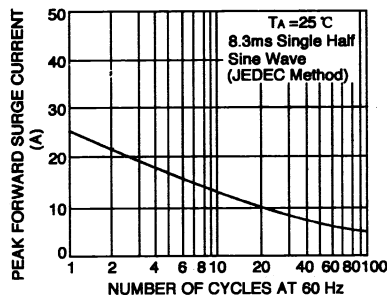


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS

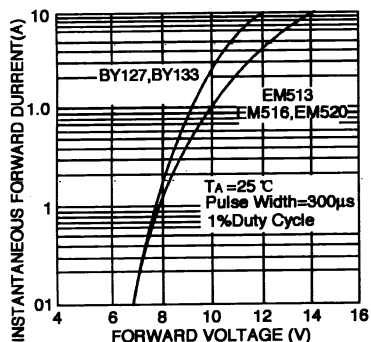


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

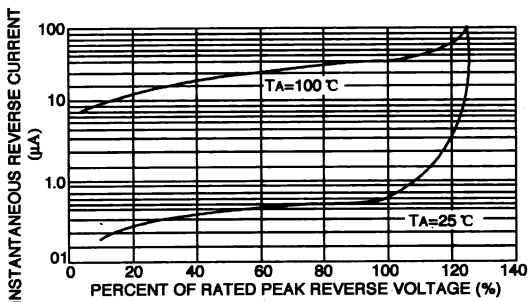


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

