

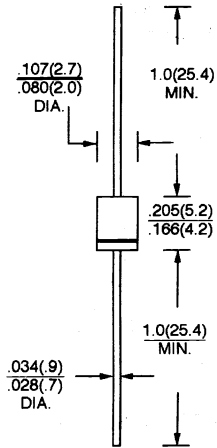


BY127, BY133, EM513, EM516, EM520

0.25 To 0.5 AMP. SILICON RECTIFIERS

VOLTAGE RANGE
1250 to 2000 Volts
CURRENT
0.5 Ampere

DO-41



Dimensions in inches and (millimeters)

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

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 @ $T_A = 50^\circ C$	$I_{F(AV)}$	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 @ $T_A = 25^\circ C$ At Rated D. C Blocking Voltage @ $T_A = 100^\circ C$	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)	$R_{\theta JA}$	80		110			$^\circ C/W$
Operation Temperature Range	T_J	- 65 to + 125					$^\circ C$
Storage Temperature Range	T_{STG}	- 65 to + 125					$^\circ C$

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

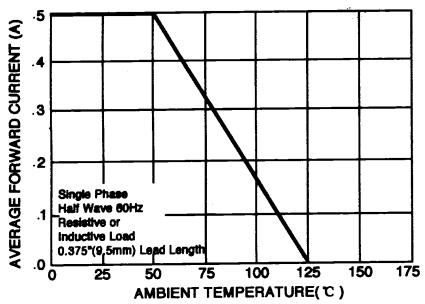


FIG. 2 – MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

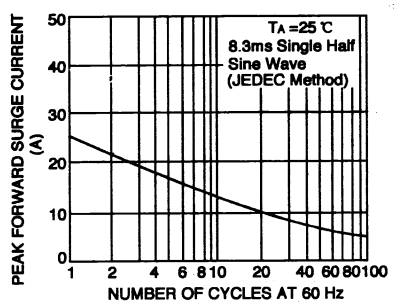


FIG. 3 – TYPICAL FORWARD CHARACTERISTICS

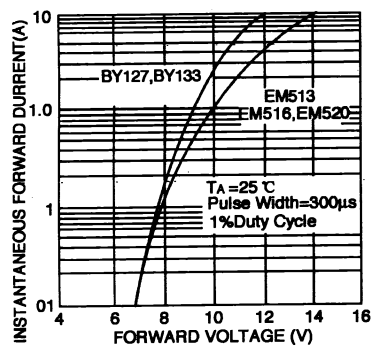


FIG. 4 – TYPICAL REVERSE CHARACTERISTICS

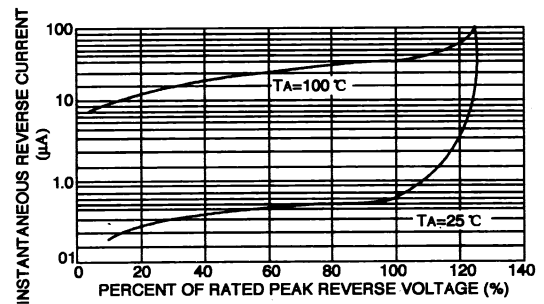


FIG. 5 – TYPICAL JUNCTION CAPACITANCE

