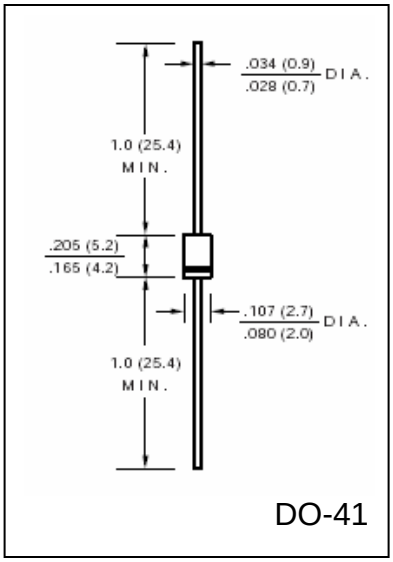
GENERAL PURPOSE HIGH VOLTAGE RECTIFIER

EM513 THRU EM518

VOLTAGE RANGE **1600 to 2000 Volts**
CURRENT **1.0 Ampere**

FEATURES

- High reverse voltage
- Low forward voltage
- Low reverse leakage
- High surge current capacity
- High Temperature soldering guaranteed: 260 ^{O}C / 10 second, 0.375" (9.5mm) lead length



DO-41

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V – 0 rate flame retardant
- Polarity: Color Band denotes cathode end
- Lead: Plated axial lead, solderable per MIL – STD-202E Method 208C
- Mounting Position: Any
- Weight: 0.012 ounce, 0.33 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25^{O}C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

	SYMBOLS	EM513	EM516	EM518	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1600	1800	20000	Volts
Maximum RMS Voltage	V_{RMS}	1120	1260	1400	Volts
Maximum DC Blocking Voltage	V_{DC}	1600	1800	2000	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length at T_A = 75^{O}C	$I_{(AV)}$	1.0			Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	30			Amps
Maximum Instantaneous Forward Voltage @ 1.0A	V_F	1.1		1.2	Volts
Maximum DC Reverse Current at Rated T_A = 25 ^{O}C DC Blocking Voltage per element T_A = 100 ^{O}C	I_R	5.0 50			µA
Maximum Full Load Reverse Current, full cycle Average 0.375" (9.5mm) lead length at T_L = 75 ^{O}C	$I_{R(AV)}$	30			µA
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	15			pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	50			^{O}C/W
Operating Junction Temperature	T_J	(-65 to +175)			^{O}C
Storage Temperature Rang	T_{STG}	(-65 to +175)			^{O}C

Notes:

1. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length

Lead Free
RoHS Compliant

RATINGS AND CHARACTERISTIC CURVES EM513 THRU EM518

FIG.1-TYPICAL FORWARD CURRENT
DERATING CURVE

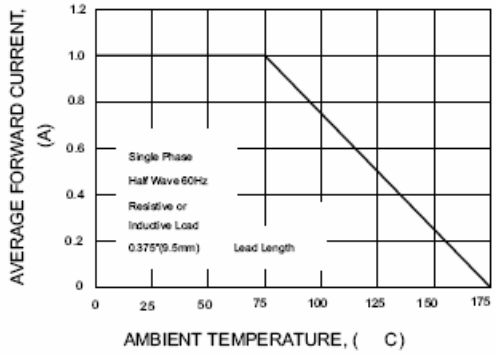


FIG.2-MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT

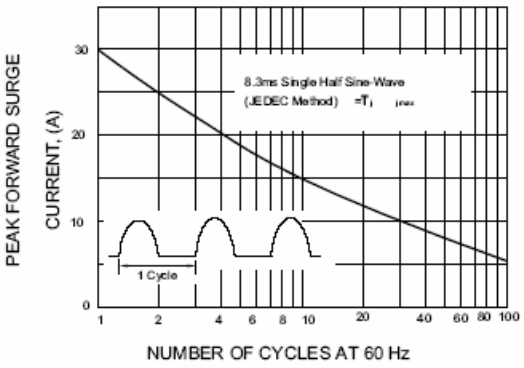


FIG.3-TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

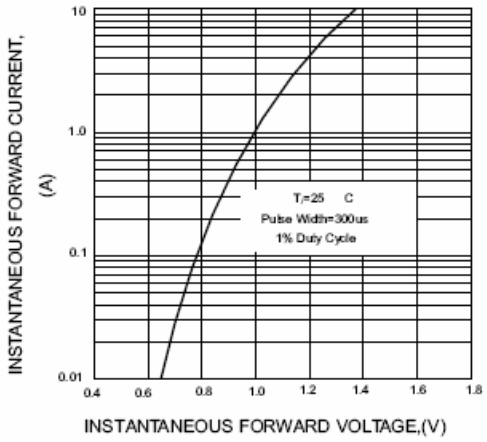


FIG.4-TYPICAL REVERSE
CHARACTERISTICS

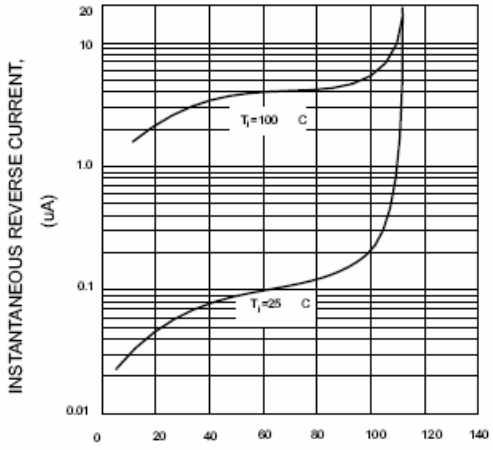


FIG.5-TYPICAL JUNCTION CAPACITANCE