

# PFS

## GENERAL PURPOSE SILICON RECTIFIER

**EM513 THRU EM520**

**VOLTAGE RANGE**  
**CURRENT**

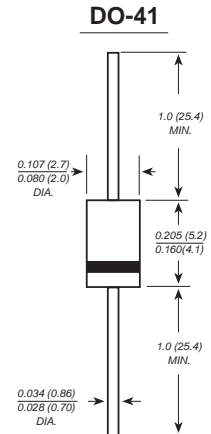
**1600 to 2000 Volts**  
**1.0 Ampere**

### FEATURES

- The plastic package carries Underwriters Laboratory
- Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

- Case : JEDEC DO-41 molded plastic body
- Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : 0.012 ounce, 0.33 grams



Dimensions in inches and (millimeters)

### 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 current derate by 20%.

	SYMBOLS	EM513	EM516	EM520	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	1600	1800	2000	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 $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0			Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0			Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.1			Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0			$\mu\text{A}$
Typical junction capacitance (NOTE 1)	$C_J$	15.0			pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	50.0			$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175			$^\circ\text{C}$

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



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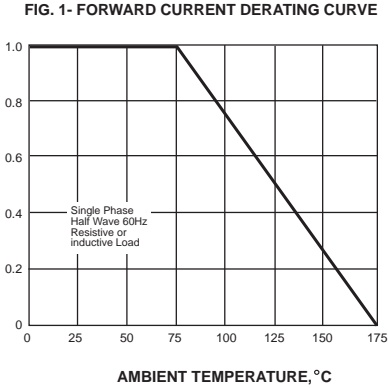
VOLTAGE RANGE

1600 to 2000 Volts

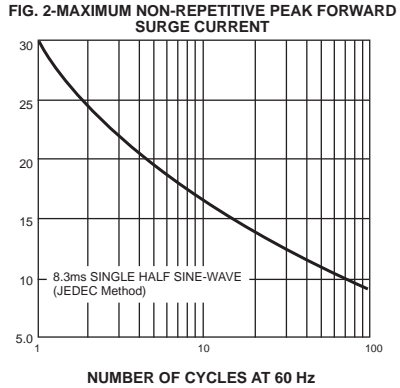
CURRENT

1.0 Ampere

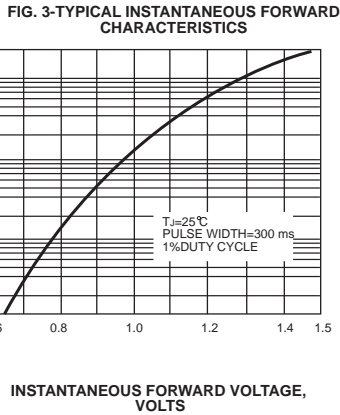
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES



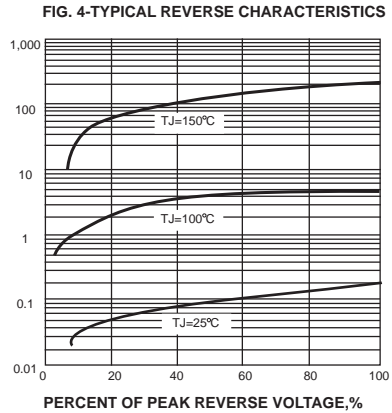
PEAK FORWARD SURGE CURRENT, AMPERES



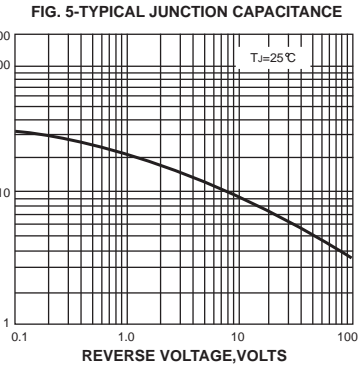
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



JUNCTION CAPACITANCE, pF



TRANSIENT THERMAL IMPEDANCE, °C/W

