

Standard Surface Mounted Rectifiers

Reverse Voltage - 1600 to 2000 V

Forward Current - 1.0 A

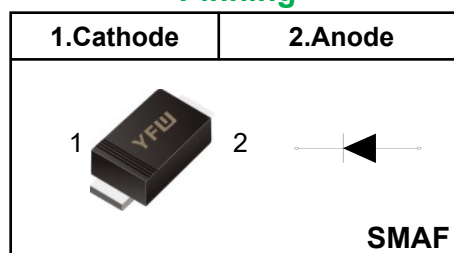
FEATURES

- ◆The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆Idea for printed circuit board
- ◆Glass passivated Junction chip
- ◆Low reverse leakage
- ◆High forward surge current capability
- ◆High temperature soldering guaranteed 250°C/10 seconds at terminals

MECHANICAL DATA

- ◆Case : Molded plastic body
- ◆Terminals : Solder plated, solderable per MIL-STD-750,Method 2026
- ◆Polarity : Polarity symbol marking on body
- ◆Mounting Position : Any
- ◆Weight : 0.0014 ounce, 0.038 grams

Pinning



Marking Code

SM513F	SM513F
SM516F	SM516F
SM520F	SM520F

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%.

Parameter	Symbols	SM513F	SM516F	SM520F	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1600	1800	2000	V
Maximum RMS voltage	V_{RMS}	1120	1260	1400	V
Maximum DC Blocking Voltage	V_{DC}	1600	1800	2000	V
Maximum Average Forward Rectified Current at $T_L = 100^\circ\text{C}$	$I_{(AV)}$	1.0			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load	I_{FSM}	30.0			A
Maximum Instantaneous Forward Voltage at 1.0 A	V_F	1.10			V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	I_R	10 500			uA
Typical junction capacitance (Note1)	C_J	18.0			pF
Typical Thermal Resistance	$R_{\theta JA}$	70			°C/W
Operating Junction Temperature Range	T_j	-55 ~ +150			°C
Storage Temperature Range	T_{stg}	-55 ~ +150			°C

Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

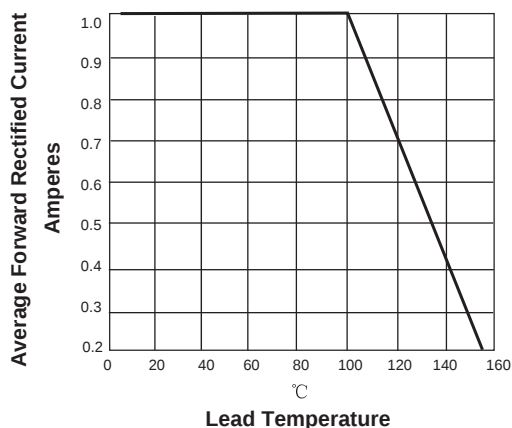


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

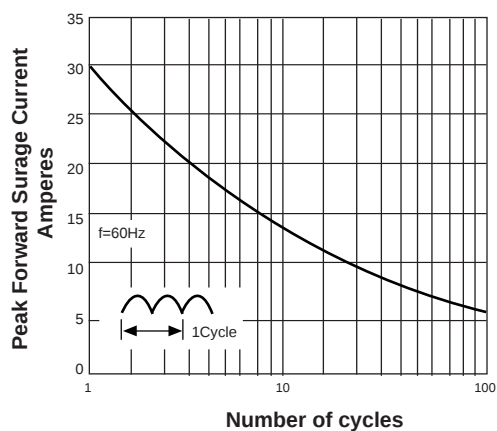


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

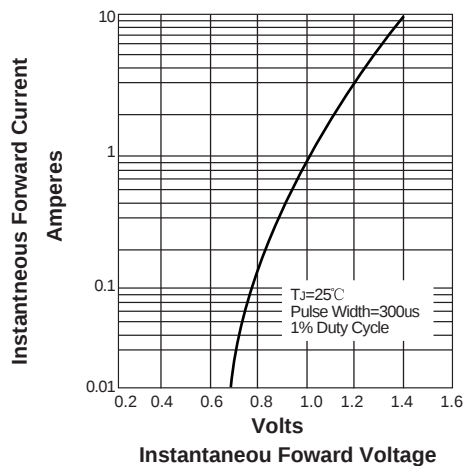
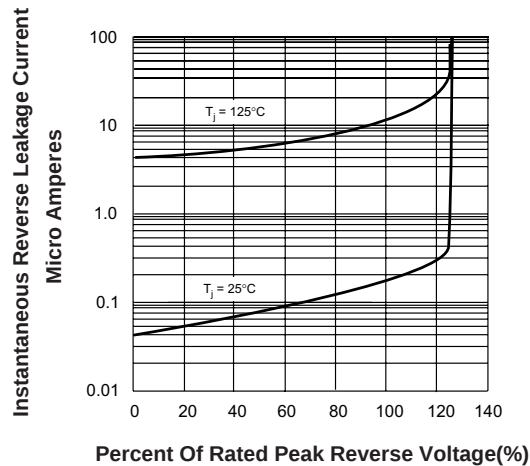
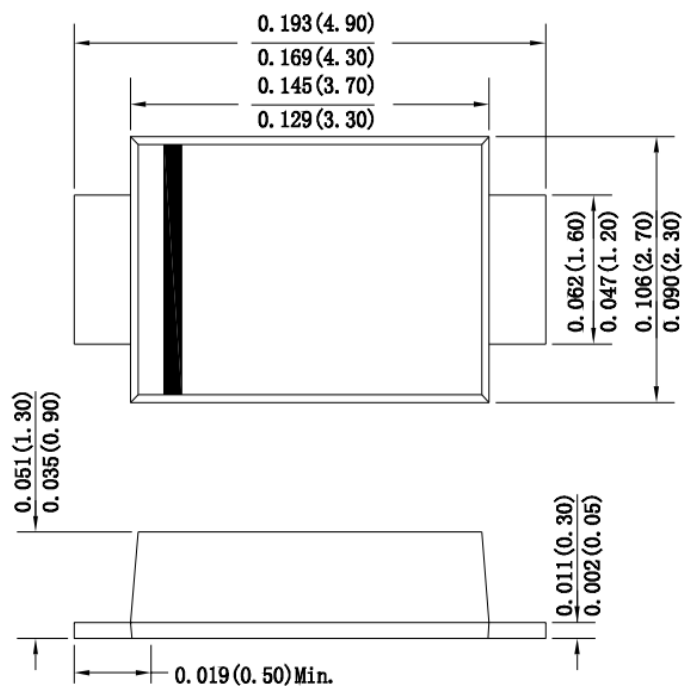


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Package Outline

SMAF



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMAF	Tape/Reel, 13" reel	10000	EIA-481-1
	Tape/Reel, 7" reel	3000	EIA-481-1