

SMF101 THRU SMF107



1.0 AMP SURFACE MOUNT FAST RECOVERY RECTIFIERS



FEATURES

- * Low forward voltage drop
- * Low leakage current
- * High reliability

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Metallurgically bonded construction
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 0.015 grams

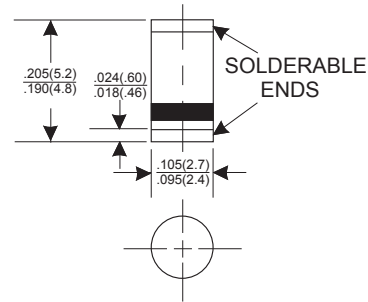
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere

SM-1



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	SMF101	SMF102	SMF103	SMF104	SMF105	SMF106	SMF107	UNITS	
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current									
See Fig. 2								1.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)								30	A
Maximum Instantaneous Forward Voltage at 1.0A								1.3	V
Maximum DC Reverse Current Ta=25°C								5.0	μA
at Rated DC Blocking Voltage Ta=100°C								100	μA
Maximum Reverse Recovery Time (Note 1)				150	250	500			nS
Typical Junction Capacitance (Note 2)								15	pF
Operating and Storage Temperature Range T _J , T _{STG}								-65 — +175	°C

NOTES:

- Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

RATING AND CHARACTERISTIC CURVES (SMF101 THRU SMF107)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

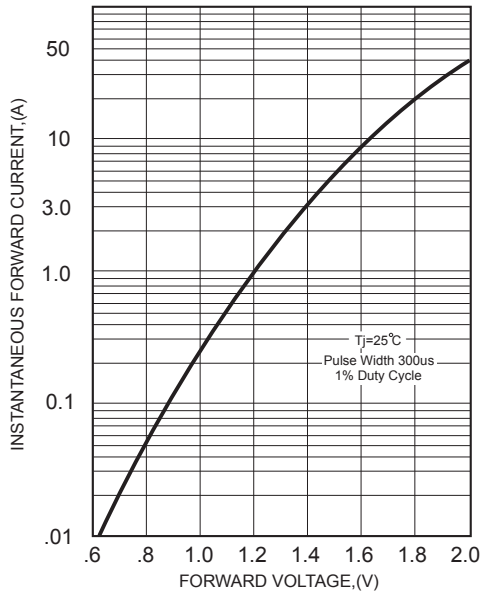


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

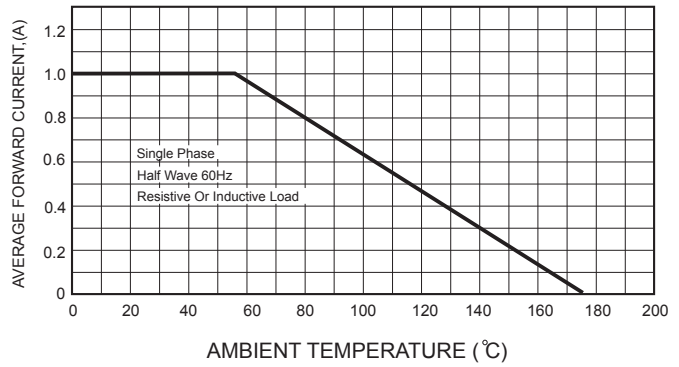
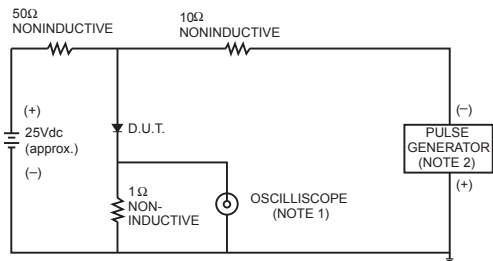


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



- NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

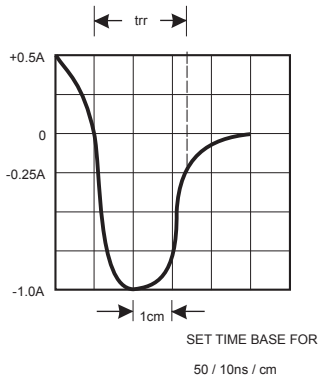


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

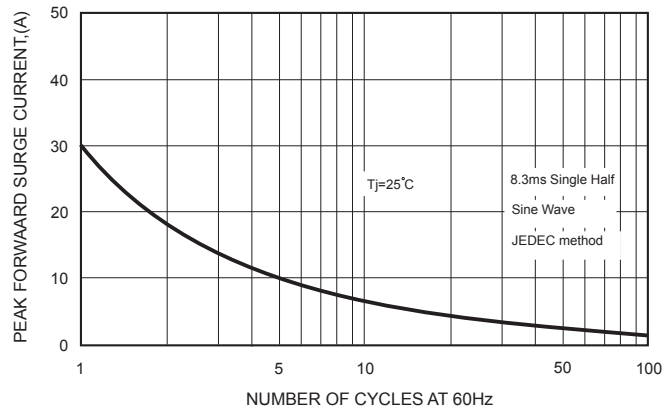


FIG.5-TYPICAL JUNCTION CAPACITANCE

