

SM4933 THRU SM4937



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

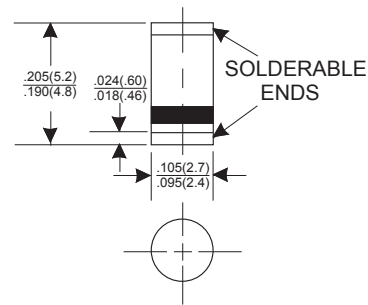
VOLTAGE RANGE

50 to 600 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	SM4933	SM4934	SM4935	SM4936	SM4937	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	V
Maximum RMS Voltage	35	70	140	280	420	V
Maximum DC Blocking Voltage	50	100	200	400	600	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)	200					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=1.0A, VR=30V.
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

RATING AND CHARACTERISTIC CURVES (SM4933 THRU SM4937)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

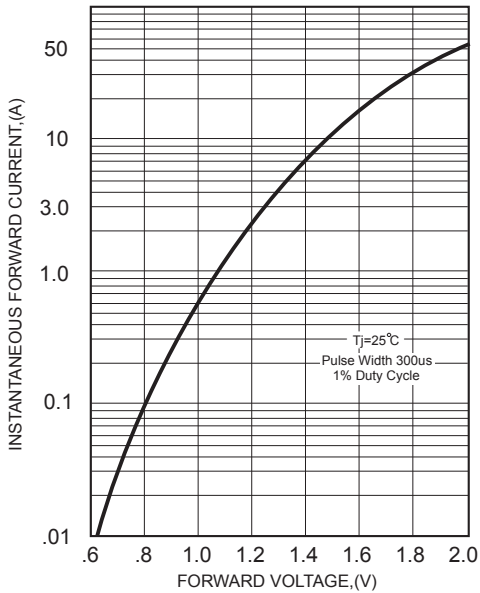


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

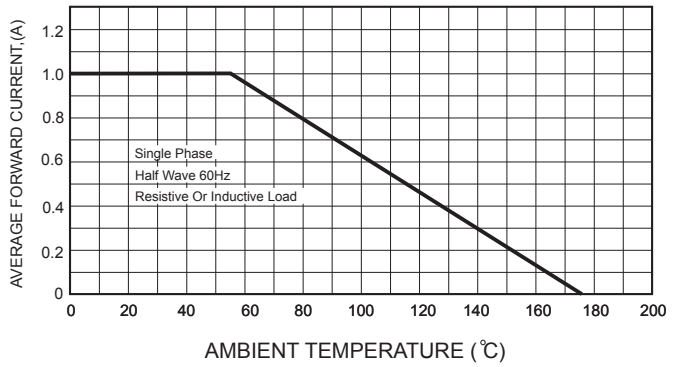


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

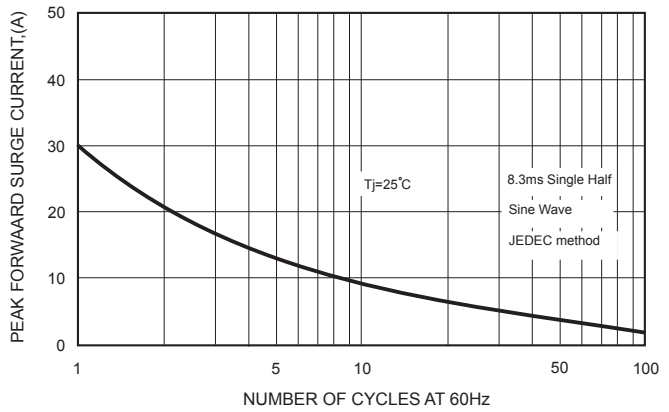
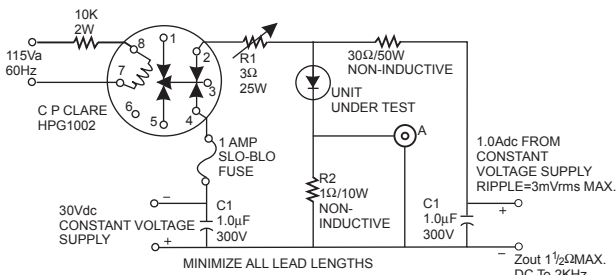


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



A- TEKTRONIX 545A, K PLUG IN PRE AMP P6000 PROBE OR EQUIVALENT
 R1- ADJUSTED FOR 14 BETWEEN POINT 2 OF RELAY AND RECTIFIER INDUCTIVE=3.8 μH
 R2- TEN 1W 10 Ω CARBON CORE IN PARALLEL
 $T_A = 25 \pm 1^\circ\text{C}$ FOR RECTIFIER

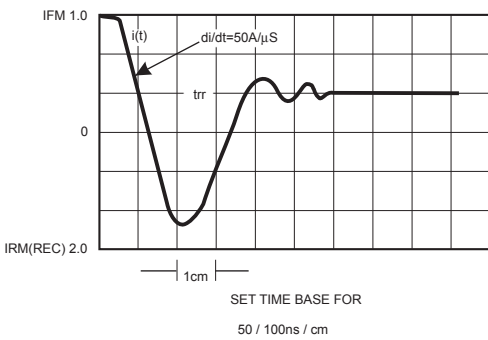


FIG.5-TYPICAL JUNCTION CAPACITANCE

