



SURFACE MOUNT FAST SWITCHING RECTIFIER

SM4933 THRU SM4937

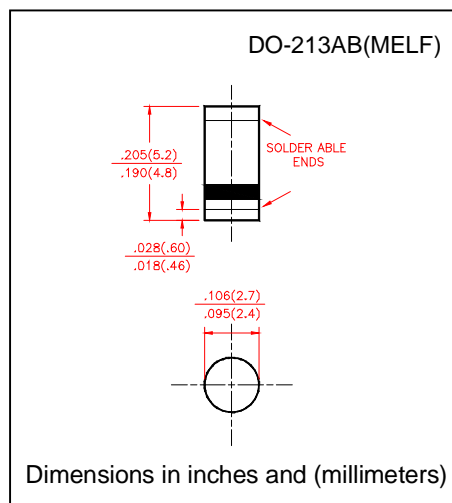
VOLTAGE RANGE 50 to 600 Volts
CURRENT 1.0 Ampere

FEATURES

- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed
260°C/10 second at terminals

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: plated, solderable per MIL-STD-202E method 208C
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.0046 ounce, 0.116gram



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 derate current by 20%

	SYMBOLS	SM4933	SM4934	SM4935	SM4936	SM4937	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length at $T_T=100^\circ\text{C}$	$I_{(AV)}$	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 at 1.0A	V_F	1.3					Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	5.0					μA
	$T_A = 125^\circ\text{C}$	100					
Typical reverse recovery time (NOTE 1)	T_{rr}	200					nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	CJ	8.0					PF
Typical Thermal Resistance (NOTE 2)	$R_{\theta JT}$	40					$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	(-55 to +150)					$^\circ\text{C}$
Storage Temperature Range	T_{STG}	(-55 to +150)					$^\circ\text{C}$

Notes:

1. Reverse Recovery Test Conditions: $I_R=1.0\text{A}$, $V_R=30\text{V}$, $di/dt=50\text{A}/\mu\text{S}$, $I_{RR}=10\%I_{RM}$
2. Thermal resistance from Junction to ambient at 0.375" (9.5mm) lead length mounted on PCB



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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

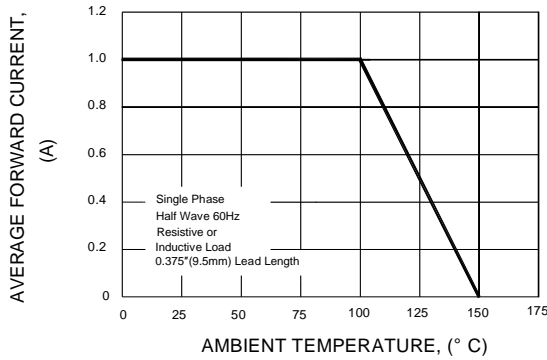


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

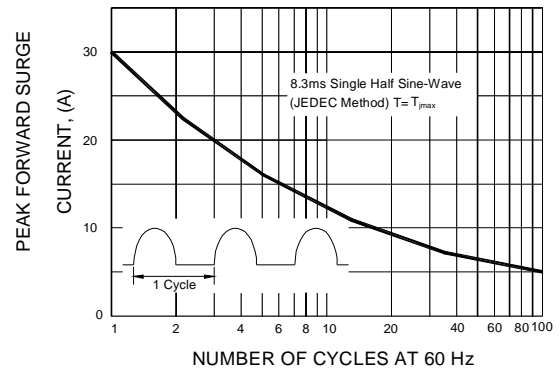


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

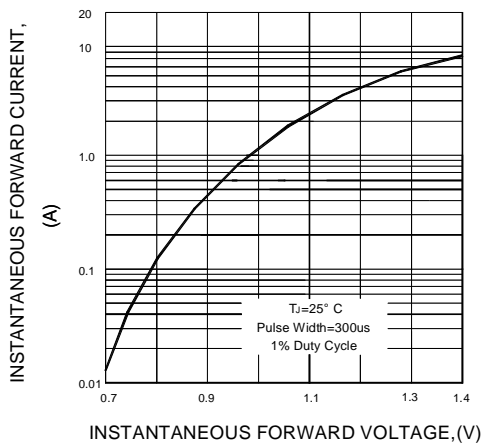


FIG.4-TYPICAL REVERSE CHARACTERISTICS

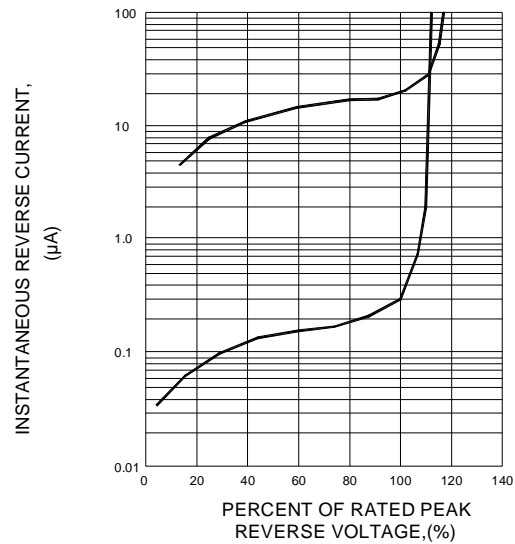


FIG.5-TYPICAL JUNCTION CAPACITANCE

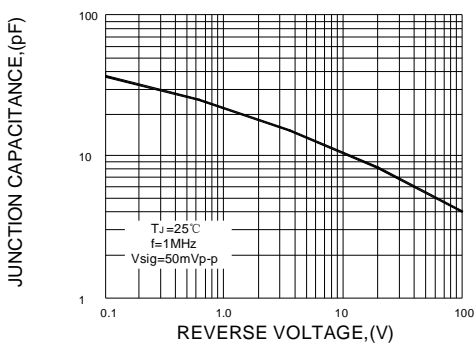


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

