



FAST RECOVERY RECTIFIER

SM4933 - SM4937

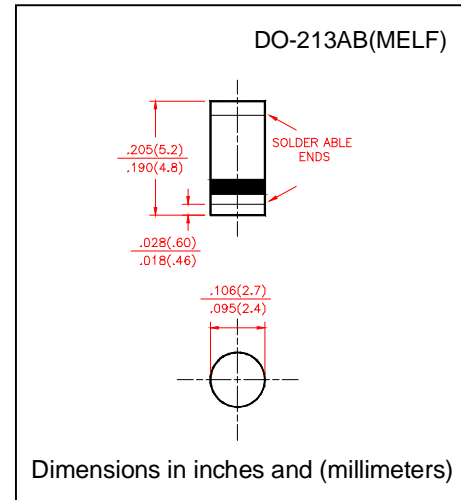
VOLTAGE RANGE - 50 to 600 V
CURRENT - 1 A

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℃		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℃	I _R	5.0					μA
	T _A = 125℃		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)		C _J	15					PF
Typical Thermal Resistance (NOTE 2)		R _{θJT}	40					℃/W
Operating Junction Temperature Range		T _J	(-55 to +150)					℃
Storage Temperature Range		T _{STG}	(-55 to +150)					℃

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

RATING AND CHARACTERISTIC CURVES SM4933 - SM4937

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

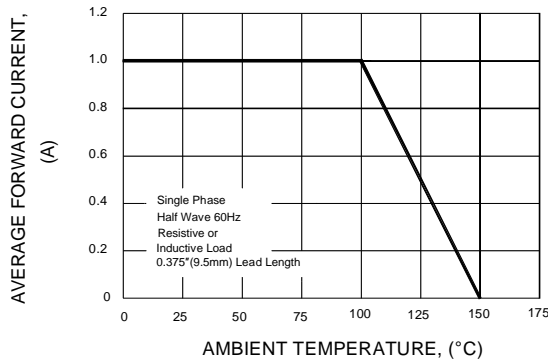


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

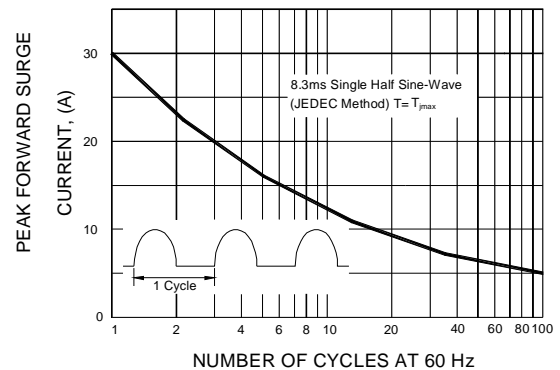


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

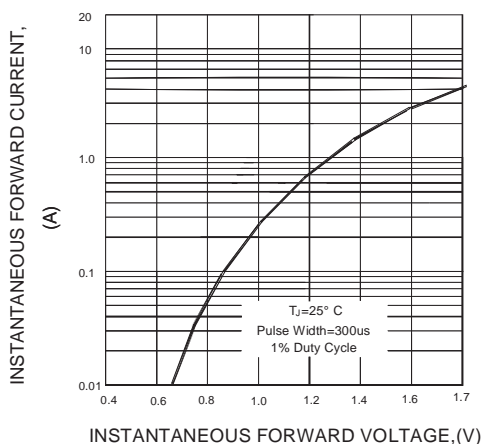


FIG.4-TYPICAL REVERSE CHARACTERISTICS

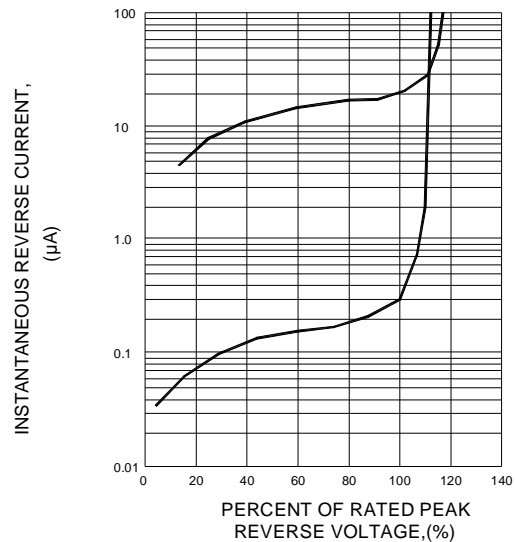


FIG.5-TYPICAL JUNCTION CAPACITANCE

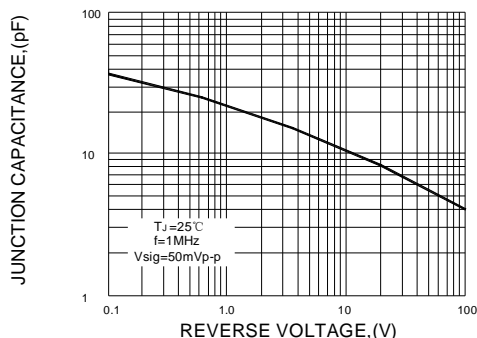


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

