

SME1A -SME1M

SURFACE MOUNT HIGH EFFICIENT RECTIFIERS

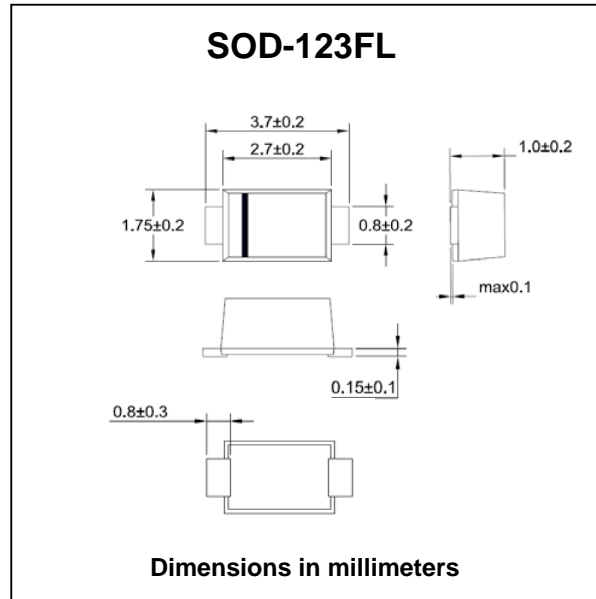
PRV : 50 - 1000 Volts
Io : 1.0 Ampere

FEATURES :

- * Glass passivated junction chip
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Fast switching for high efficiency
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case: JEDEC SOD-123FL, molded plastic over passivated chip
- * Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- * Polarity: Color band denotes cathode end
- * Mounting position : Any
- * Weight: 0.02 gram (Approximate)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

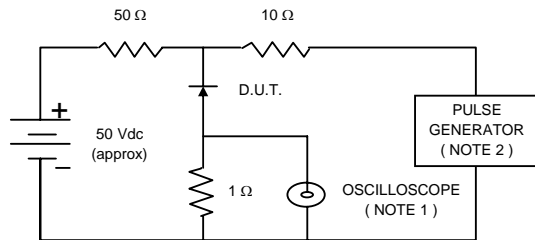
RATING	SYMBOL	SME1A	SME1B	SME1D	SME1E	SME1G	SME1J	SME1K	SME1M	UNIT	
Marking		EA	EB	ED	EE	EG	EJ	EK	EM		
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V	
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	560	700	V	
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	1000	V	
Maximum Average Forward Current $T_a = 55\text{ }^\circ\text{C}$	$I_{F(AV)}$	1.0								A	
Maximum Peak Forward Surge Current, 8.3ms Single half sine wave superimposed on rated load (JEDEC Method)	I_{FSM}	30								A	
Maximum Forward Voltage at $I_F = 1.0\text{ A}$	V_F	1.1					1.7		2.2		V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$	I_R	5.0								μA	
at Rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$	$I_{R(H)}$	50								μA	
Maximum Reverse Recovery Time (Note 1)	T_{rr}	50					75				ns
Typical Junction Capacitance (Note 2)	C_J	50								pF	
Junction Temperature Range	T_J	- 65 to + 150								$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	- 65 to + 150								$^\circ\text{C}$	

Notes :

- (1) Reverse Recovery Test Conditions : $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$.
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

RATING AND CHARACTERISTIC CURVES (SME1A - SME1M)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.
 3. All Resistors = Non-inductive Types.

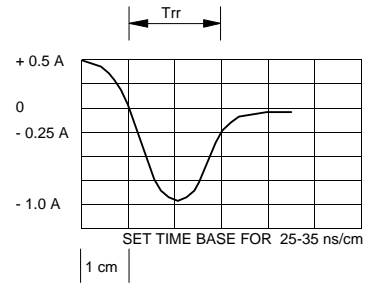


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

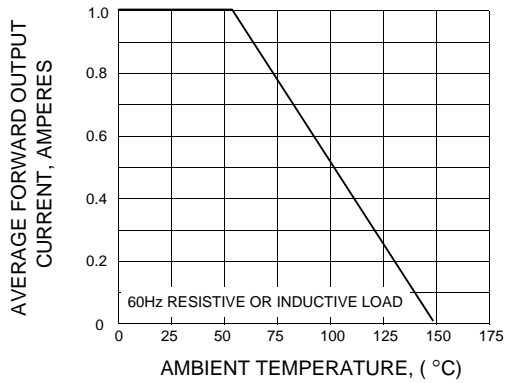


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

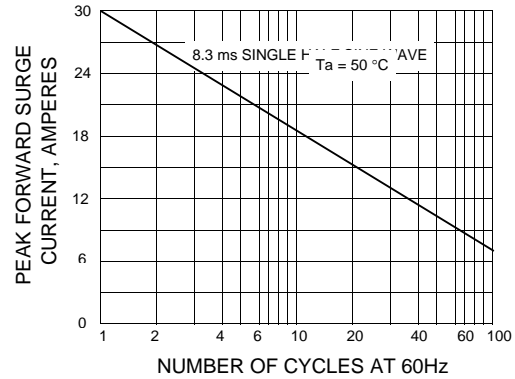


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

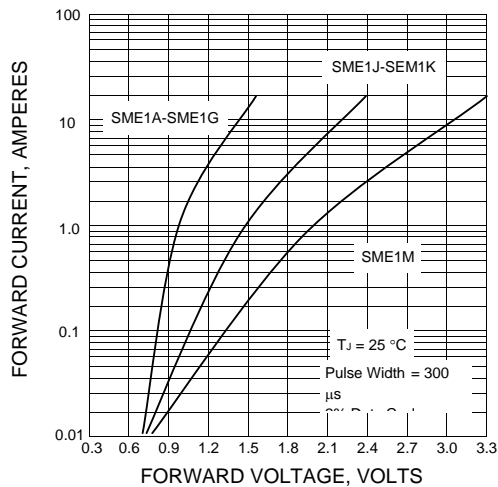


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

