SM4001 thru SM4009

Surface Mount Rectifiers

REVERSE VOLTAGE - **50 to 1600**Volts
FORWARD CURRENT - **1.0** Ampere

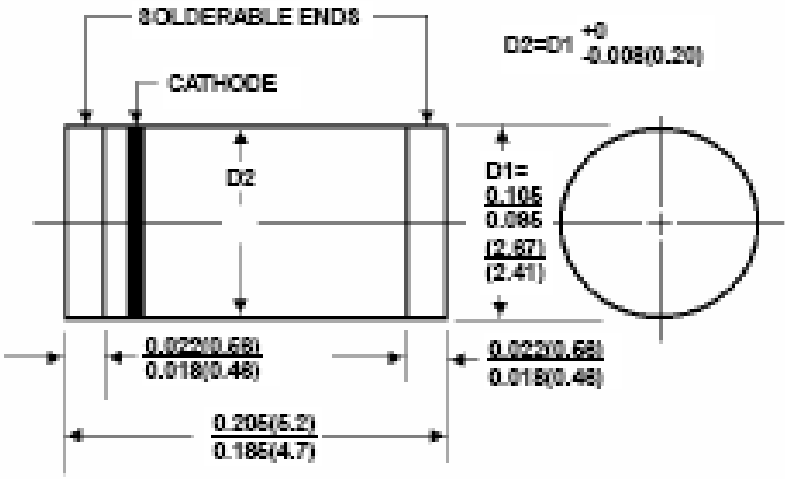
FEATURES

- For surface mount applications
- Glass passivated chip junction
- Low leakage current
- High forward surge capability
- High temperature soldering guaranteed:
  260°C/10 seconds at terminals

MECHANICAL DATA

- Case: Molded plastic body
- Terminals: Solder plated
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0046 ounce, 0.116 gram

DO-213AB(MELF LL-41)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	SM 4001	SM 4002	SM 4003	SM 4004	SM 4005	SM 4006	SM 4007	SM 4008	SM 4009	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	1300	1600	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	910	1120	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	1300	1600	V
Maximum Average Forward Rectified Current (see fig.1)	$I_{F(AV)}$	1.0									A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave	I_{FSM}	30									A
Maximum Instantaneous Forward Voltage at 1.0A	V_F	1.1					1.2				V
Maximum DC Reverse Current @T_A=25℃ @T_A=125℃	I_R	10 50									μA
Maximum Full Load Reverse Current, Full Cycle Average at T_A= 75℃	$I_{R(AV)}$	30									μA
Typical Junction capacitance (Note1)	C_J	8									pF
Typical Thermal Resistance (Note2) (Note3)	$R_{\theta JA}$ $R_{\theta JT}$	75 30									℃/W
Operating Temperature Range	T_J	-50 to +150									℃
Storage Temperature Range	T_{STG}	-50 to +150									℃

Note:1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts

2.Thermal resistance from junction to ambient,0.24×0.24"(6.0×6.0mm)copper pads to each terminal

3. Thermal resistance from junction to terminal,0.24×0.24"(6.0×6.0mm)copper pads to each terminal

RATING AND CHARACTERISTIC CURVES
SM4001 thru SM4009

FIG. 1 - FORWARD CURRENT DERATING CURVE

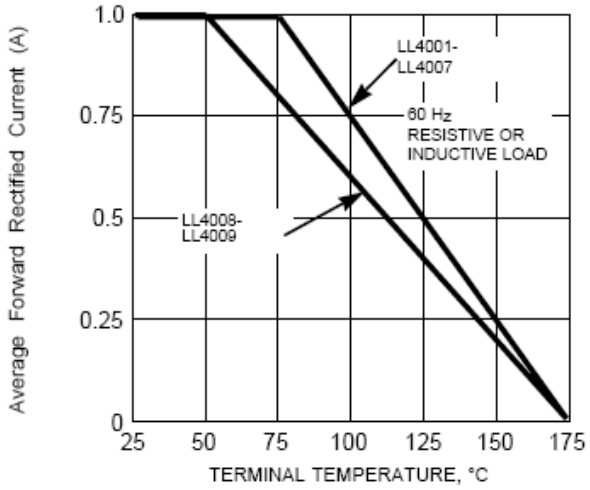


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

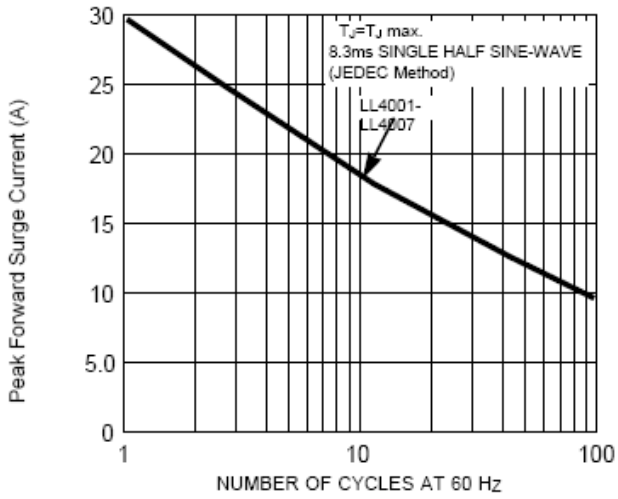


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

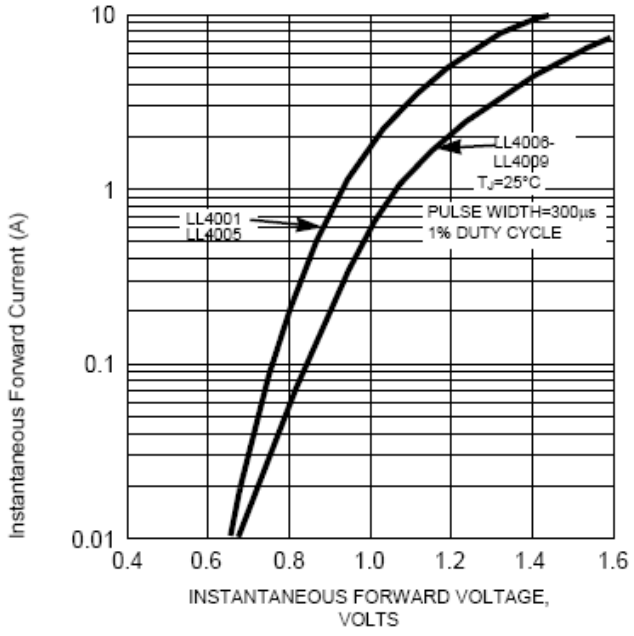


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

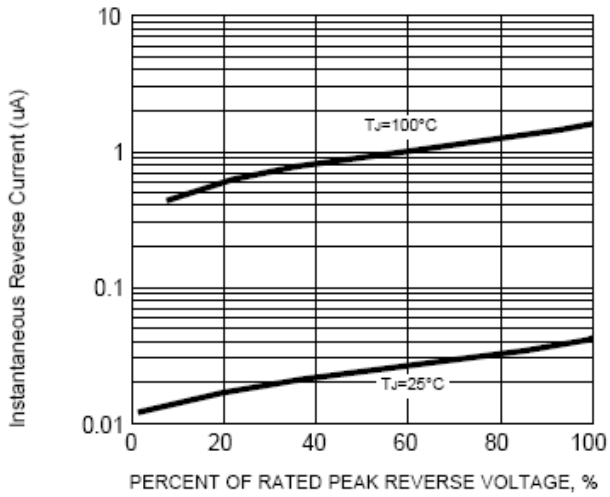


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

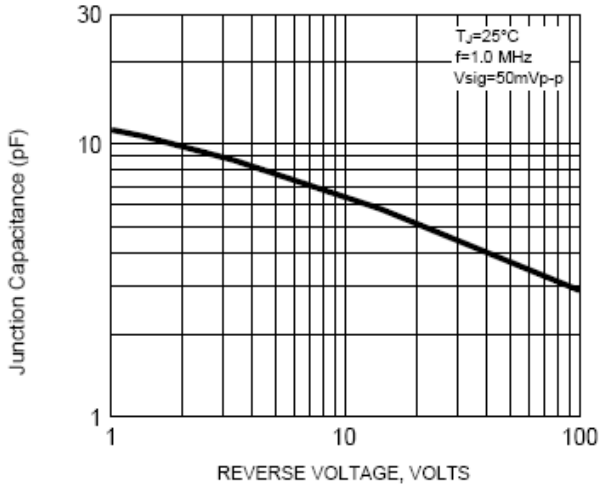


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE