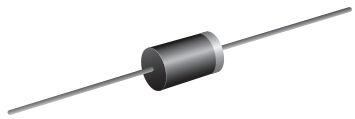
SUNMATE SEMICONDUCTORCO · LIMITED

M100A - M100M

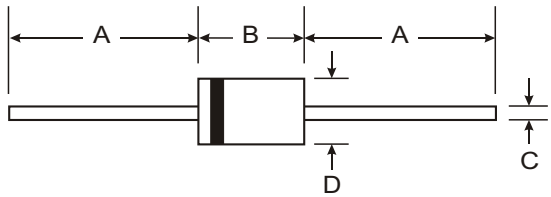
AXIAL LEADED SILICON RECTIFIER DIODES

VOLTAGE RANGE: 50 - 1000V
CURRENT: 1.0 A



Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



Mechanical Data

- Case: DO-41,Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Approx. Weight: 0.35 grams
- Mounting Position: Any
- Marking: Type Number

DO-41		
Dim	**Min**	**Max**
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

RoHS COMPLIANT

Maximum Ratings and Electrical Characteristics

T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	M100A	M100B	M100D	M100G	M100J	M100K	M100M	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A=100°C	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_A=75°C	I_{FSM}	50.0							A
Maximum instantaneous forward voltage at 1.0A	V_F	1.0					1.1		V
Maximum full load reverse current full cycle average 0.375" (9.5mm) lead length at T_A=55°C	$I_{R(AV)}$	100.0							µA
Maximum DC reverse current at rated DC blocking voltage T_A=25°C T_A=100°C	I_R	1.0 50.0							µA
Typical reverse recovery time (NOTE 1)	t_{rr}	2.0							µs
Typical junction capacitance (NOTE)2	C_J	15.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	50.0 25.0							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150							°C

NOTES:
(1) Measured with I_F=0.5A, I_R=0.1A, I_{rr}=0.25A
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted

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RATINGS AND CHARACTERISTIC CURVES M100A THRU M100M

FIG. 1 - FORWARD CURRENT DERATING CURVE

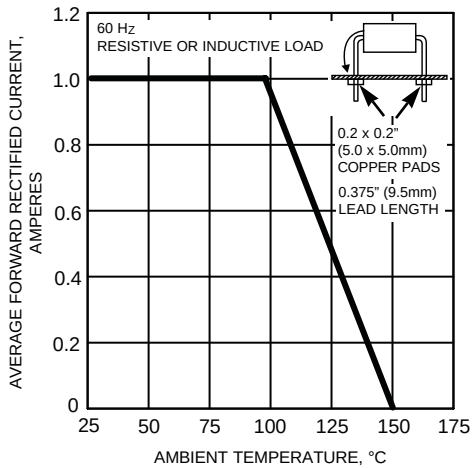

FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

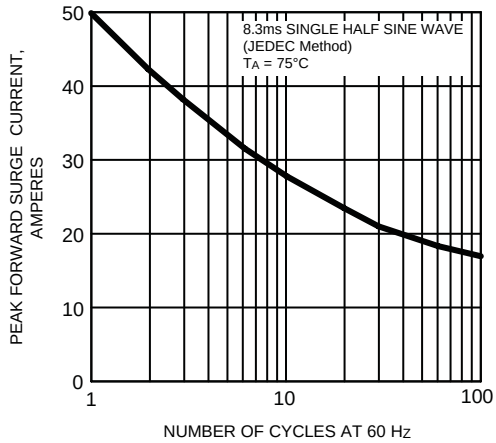

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

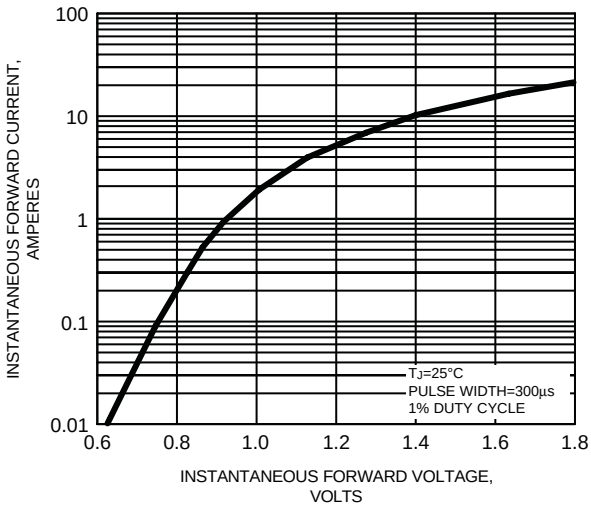

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

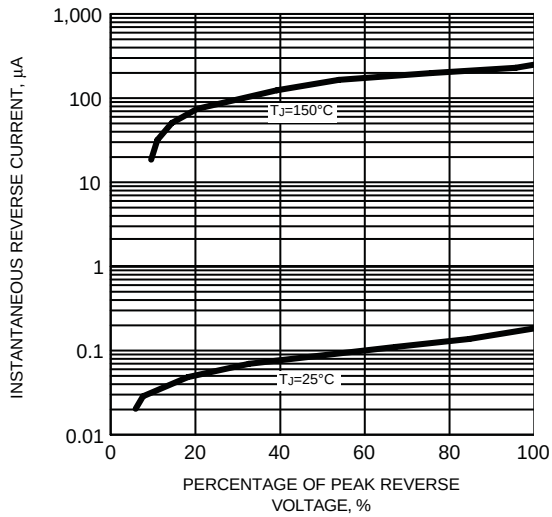

FIG. 5 - TYPICAL JUNCTION CAPACITANCE

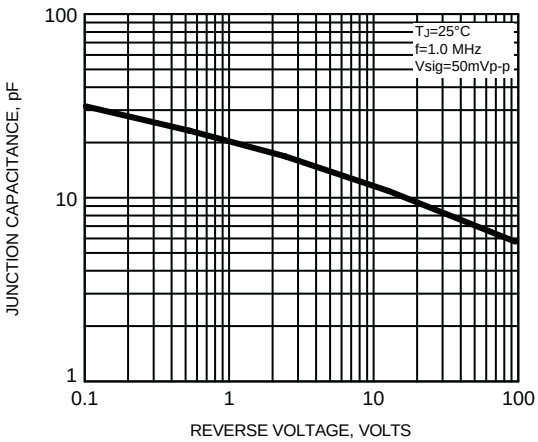
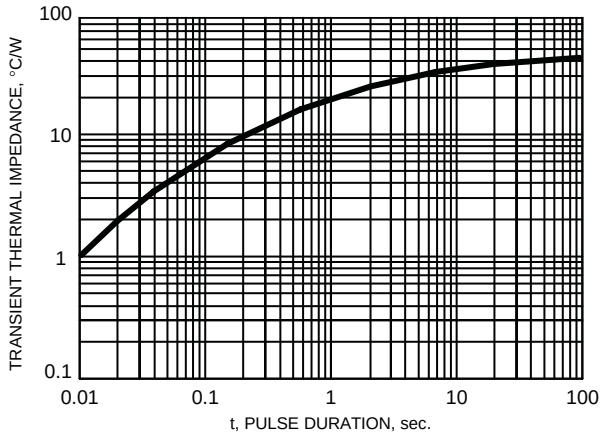
FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE