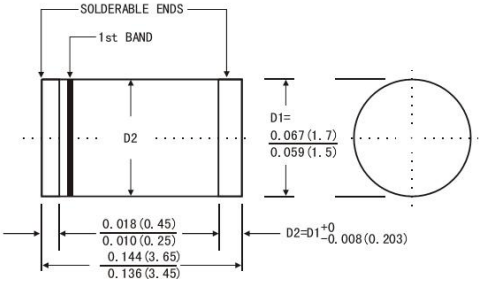
LM4001 THRU LM4007

SURFACE MOUNT SILICON RECTIFIERS

Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

Features

- The plastic package carries Underwrites Laboratory Flammability classification 94V-0
- For surface mounted application



MiniMELF (DO-213AA) Plastic Package

Mechanical Data

- Case: MiniMELF(DO-213AA), molded plastic body
- Terminals: Lead solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Maximum Ratings and Electrical characteristics

Ratings 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%.

Parameter	Symbols	LM4001	LM4002	LM4003	LM4004	LM4005	LM4006	LM4007	Units
Maximum Recurrent 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 at T_A = 75 °C	$I_{(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	25							A
Maximum Forward Voltage at 1 A	V_F	1.1							V
Maximum Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A = 125 °C	I_R	5 50							μA
Typical Junction Capacitance [1]	C_J	15							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	75							°C/W
Typical Thermal Resistance [3]	$R_{\theta JL}$	30							°C/W
Operating and Storage Temperature Range	T_j,T_{stg}	- 65 to + 175							°C

[1] Measured at 1 MHz and applied reverse voltage of 4 V D.C

[2] Thermal resistance from junction to ambient, 0.24 X 0.24" (6 X 6 mm) copper pads to each terminal

[3] Thermal resistance from junction to terminal, 0.24 X 0.24" (6 X 6 mm) copper pads to each terminal

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

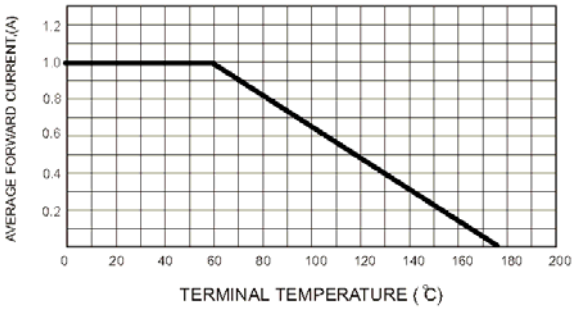


FIG.2-TYPICAL FORWARD CHARACTERISTICS

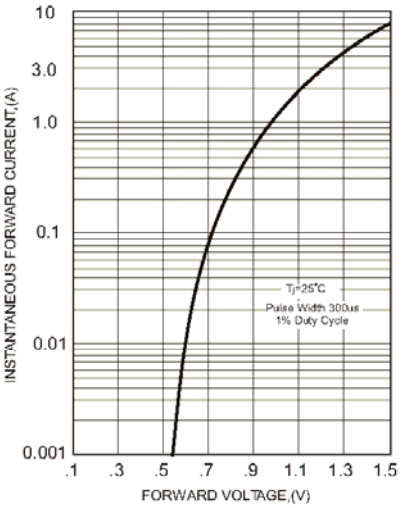


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

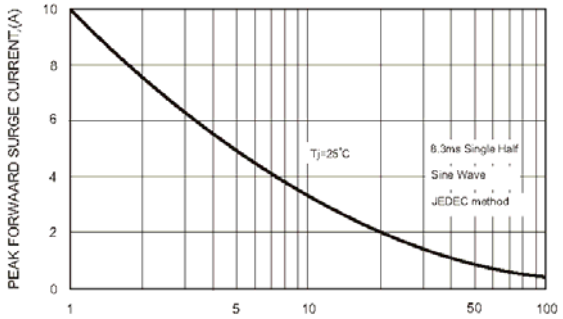


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

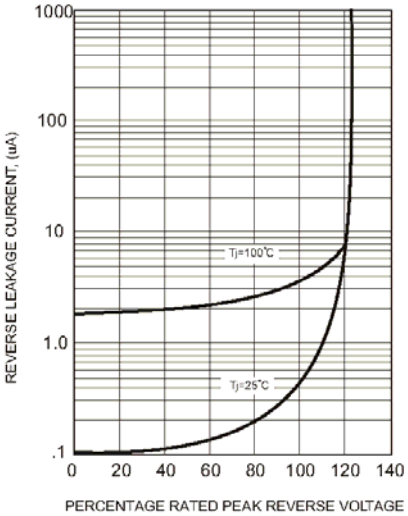


FIG.4-TYPICAL JUNCTION CAPACITANCE