



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C, unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Max. instantaneous forward voltage	I <sub>F</sub> = 0.5 A	T <sub>A</sub> = 25 °C	V <sub>F</sub> <sup>(1)</sup>	0.940	-	V
	I <sub>F</sub> = 1.0 A			1.016	1.1	
	I <sub>F</sub> = 0.5 A	T <sub>A</sub> = 125 °C		0.834	-	
	I <sub>F</sub> = 1.0 A			0.925	0.98	
Max. reverse current	Rated V <sub>R</sub>	T <sub>A</sub> = 25 °C	I <sub>R</sub> <sup>(2)</sup>	-	1.0	μA
		T <sub>A</sub> = 125 °C		3.7	50	
Typical reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	780	-	ns
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	5	-	pF

**Notes**

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C, unless otherwise noted)						
PARAMETER	SYMBOL	MSE1PB	MSE1PD	MSE1PG	MSE1PJ	UNIT
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	110				°C/W
	R <sub>θJL</sub> <sup>(1)</sup>	30				
	R <sub>θJC</sub> <sup>(1)</sup>	40				

**Note**

- (1) Thermal resistance from junction to ambient and junction to lead mounted on PCB with 6.0 mm x 6.0 mm copper pad areas. R<sub>θJL</sub> is measured at the terminal of cathode band.

IMMUNITY TO ELECTRICAL STATIC DISCHARGE TO THE FOLLOWING STANDARDS (T <sub>A</sub> = 25 °C, unless otherwise noted)					
STANDARD	TEST TYPE	TEST CONDITIONS	SYMBOL	CLASS	VALUE
AEC-Q101-001	Human body model (contact mode)	C = 100 pF, R = 1.5 kΩ	V <sub>C</sub>	H3B	> 8 kV
AEC-Q101-002	Machine model (contact mode)	C = 200 pF, R = 0 Ω		M4	> 400 V
JESD22-A114	Human body model (contact mode)	C = 100 pF, R = 1.5 kΩ		3B	> 8 kV
JESD22-A115	Machine model (contact mode)	C = 200 pF, R = 0 Ω		C	> 400 V
IEC 61000-4-2 <sup>(2)</sup>	Human body model (contact mode)	C = 150 pF, R = 330 Ω		4	> 8 kV
	Human body model (air-discharge mode) <sup>(1)</sup>	C = 150 pF, R = 330 Ω		4	> 15 kV

**Notes**

- (1) Immunity to IEC 61000-4-2 air discharge mode has a typical performance > 30 kV
- (2) System ESD standard

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MSE1PJ-M3/89A	0.006	89A	4500	7" diameter plastic tape and reel
MSE1PJHM3/89A <sup>(1)</sup>	0.006	89A	4500	7" diameter plastic tape and reel
MSE1PGHM3/I <sup>(1)</sup>	0.006	I	16 000	13" diameter plastic tape and reel

**Note**

- (1) AEC-Q101 qualified



### RATINGS AND CHARACTERISTICS CURVES ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

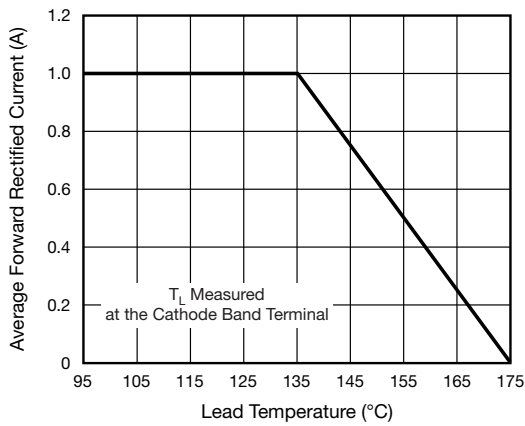


Fig. 1 - Forward Current Derating Curve

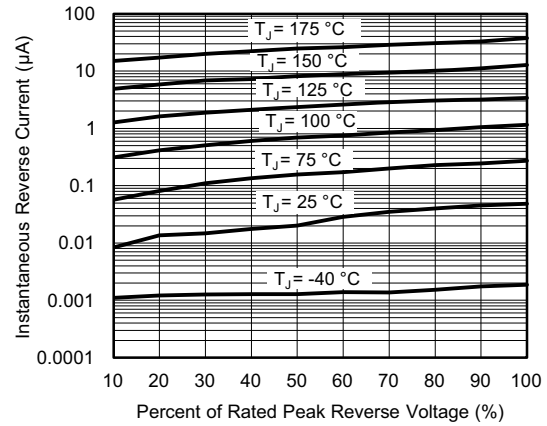


Fig. 4 - Typical Reverse Leakage Characteristics

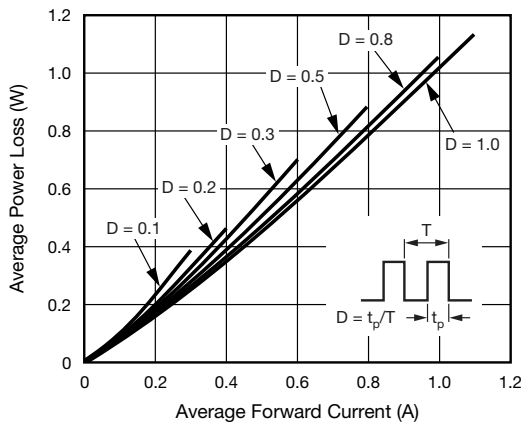


Fig. 2 - Forward Power Loss Characteristics

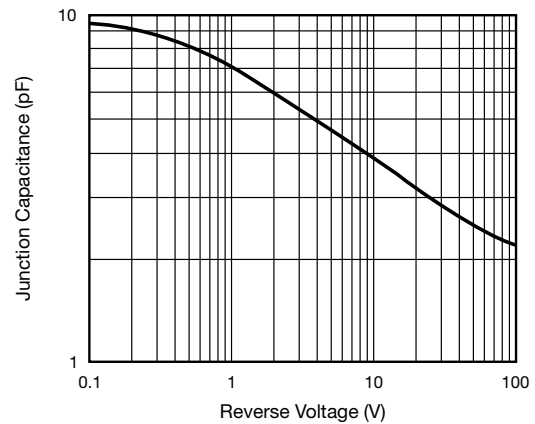


Fig. 5 - Typical Junction Capacitance

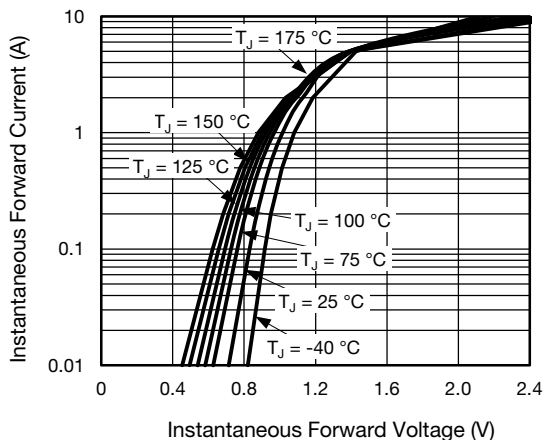


Fig. 3 - Typical Instantaneous Forward Characteristics

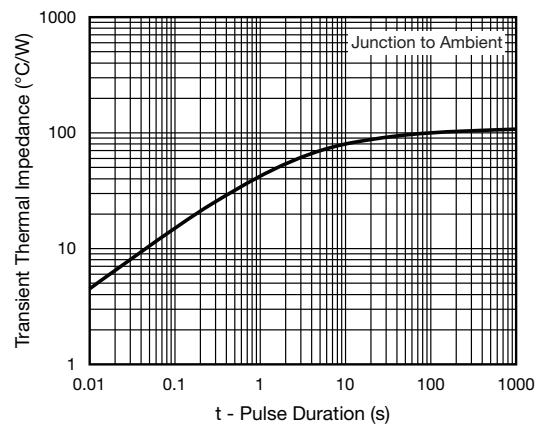
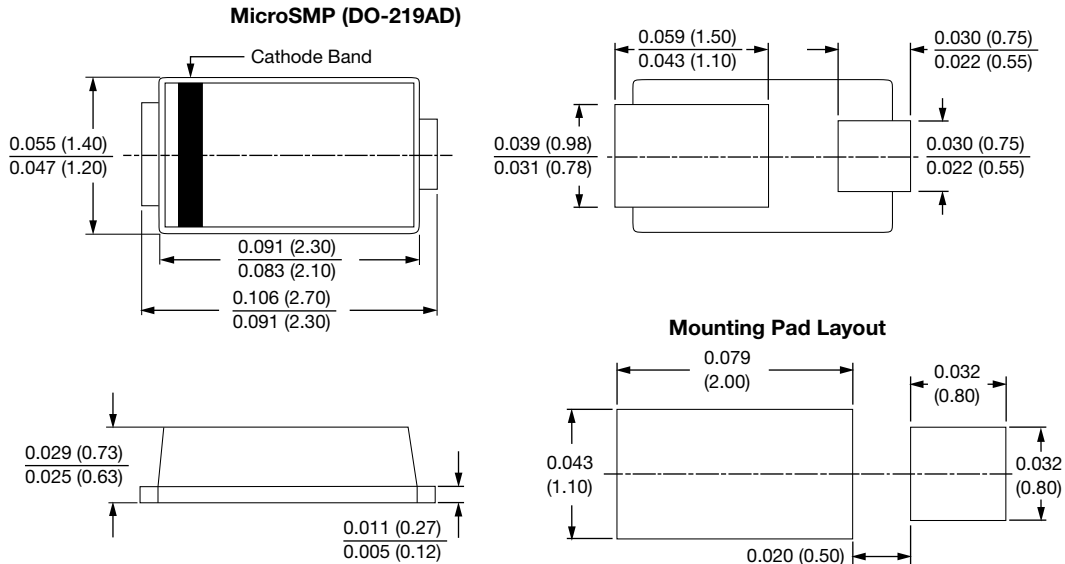


Fig. 6 - Typical Transient Thermal Impedance



## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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