

Surface Mount Rectifiers

M3 - M7

Features

- For surface mounted applications
- Ideal for automated placement
- Low forward voltage drop
- High forward surge current capability
- RoHS compliant with Halogen-free



Mechanical Data

- Case: SMA molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	M3	M4	M5	M6	M7	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	200	400	600	800	1000	V
RMS Reverse Voltage	V _{RMS}	140	280	420	560	700	V
DC Blocking Voltage	V _{DC}	200	400	600	800	1000	V
Maximum Average Forward Output Current	I _{F_AV}	1.0					A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I _{FSM}	30					A

Thermal Characteristics

Parameter	Symbol	M3	M4	M5	M6	M7	Unit
Typical Thermal Resistance *1	R _{θJA}	70					°C/W
	R _{θJC}	25					
	R _{θJL}	30					
Operating Junction Temperature Range	T _J	-55 ~ +150					°C
Storage Temperature Range	T _{STG}	-55 ~ +150					°C

Note *1: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1mm copper pad area

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Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage	V_F	$I_F = 1.0\text{A}$		-	1.1	V
Maximum Reverse Current	I_R	Rated V_R	@ $T_A = 25^\circ\text{C}$	-	5.0	μA
			@ $T_A = 125^\circ\text{C}$	-	50.0	

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Ratings and Characteristics Curves (@ $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

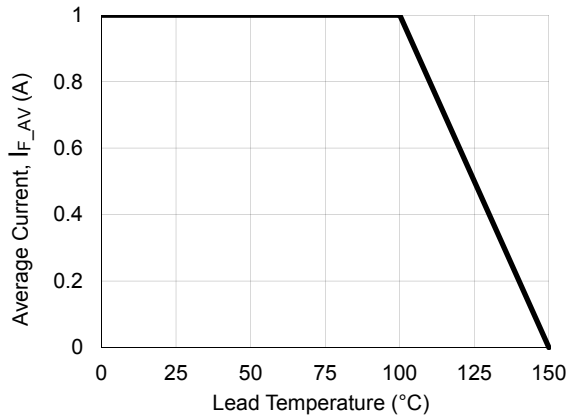


Fig.2 Surge Current Derating Curve

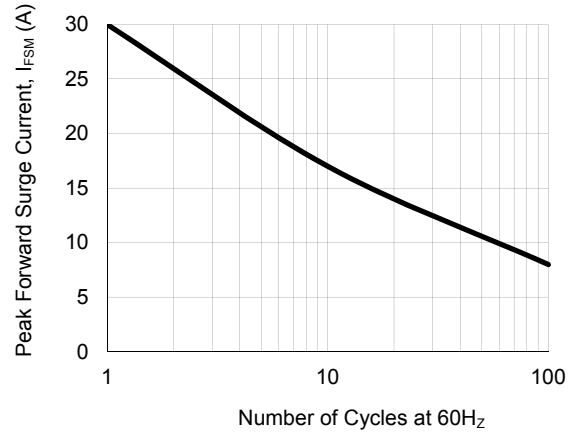


Fig.3 Typical Forward Voltage Characteristic

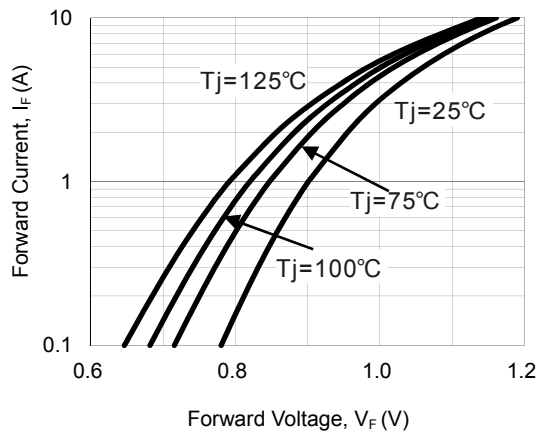
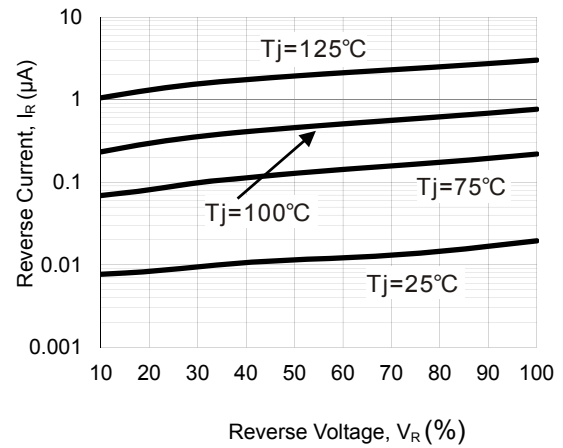


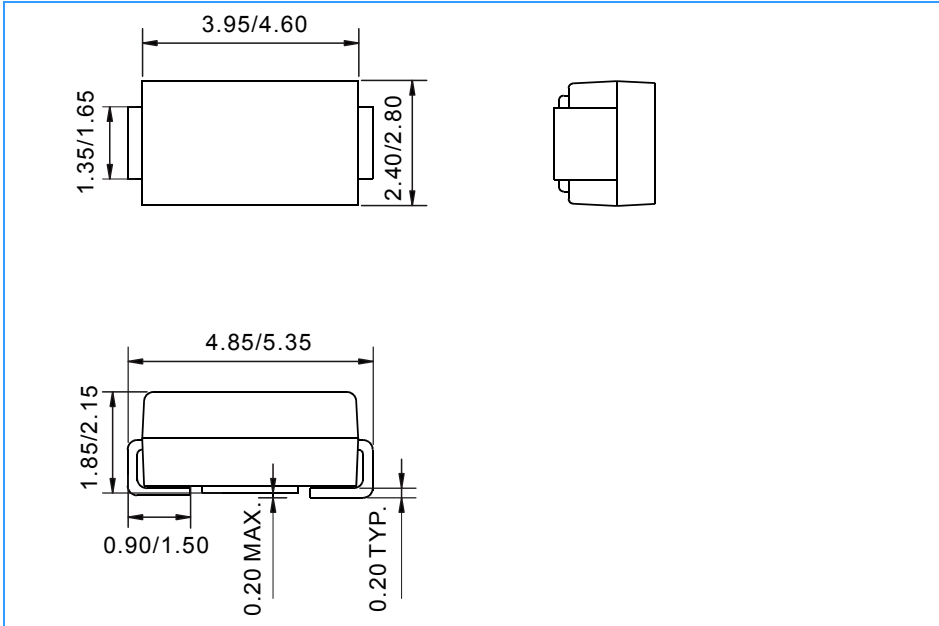
Fig.4 Typical Reverse Characteristic



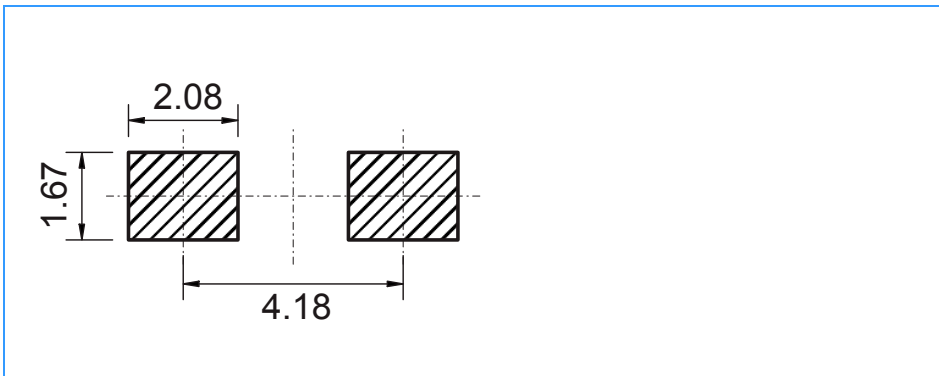
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
M3	M3	SMA	5000 / Tape & Reel
M4	M4	SMA	5000 / Tape & Reel
M5	M5	SMA	5000 / Tape & Reel
M6	M6	SMA	5000 / Tape & Reel
M7	M7	SMA	5000 / Tape & Reel