

Fast Recovery Rectifier

TRS3AB - TRS3GB

Features

- Low forward voltage drop
- High forward surge current capability
- Low-profile SMD ideal for automated manufacturing
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards



Mechanical Data

- Case: SMB 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	TRS3AB	TRS3BB	TRS3DB	TRS3GB	Unit
Peak repetitive reverse voltage	V _{RRM}	50	100	200	400	V
RMS reverse voltage	V _{RMS}	35	70	140	280	V
DC blocking voltage	V _{DC}	50	100	200	400	V
Maximum average forward output current	I _{F(AV)}	3.0				A
Peak forward surge current, 8.3ms single half-sine-wave	I _{FSM}	100				A

Thermal Characteristics

Parameter	Symbol	TRS3AB	TRS3BB	TRS3DB	TRS3GB	Unit
Typical thermal resistance *1	R _{θJA}	60				°C/W
	R _{θJC}	23				
	R _{θJL}	25				
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 Condition		Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage	V_F	$I_F = 3.0\text{A}$		-	1.3	V
Maximum Reverse Current	I_R	Rated V_R	@ $T_A = 25^\circ\text{C}$	-	5.0	μA
			@ $T_A = 125^\circ\text{C}$	-	200.0	
Maximum Reverse Recovery Time	t_{rr}	$I_F = 0.5\text{A}$, $I_{RM} = 1\text{A}$, $I_{R(REC)} = 0.25\text{A}$		-	150	ns

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

Fig.1 Forward Current Derating Curve

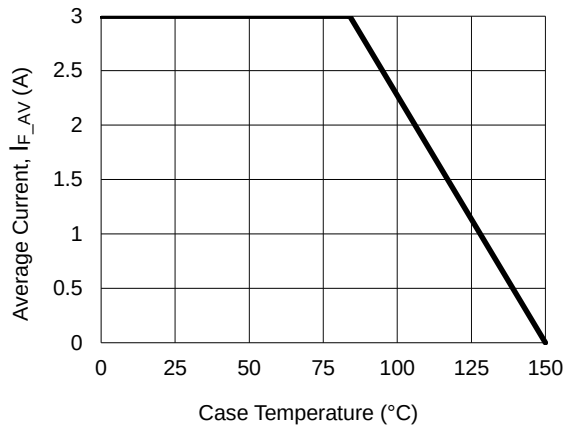


Fig.2 Surge Current Derating Curve

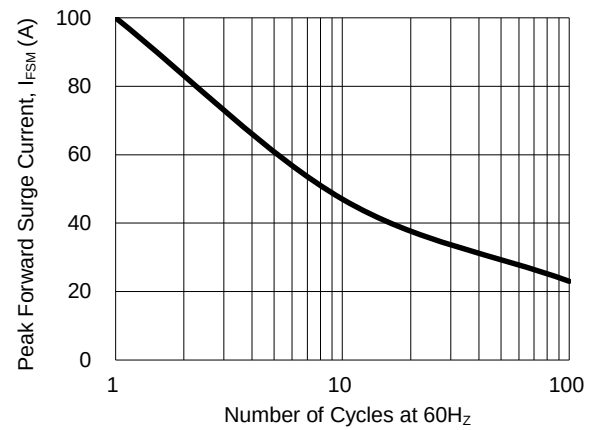


Fig.3 Typical Forward Voltage Characteristics

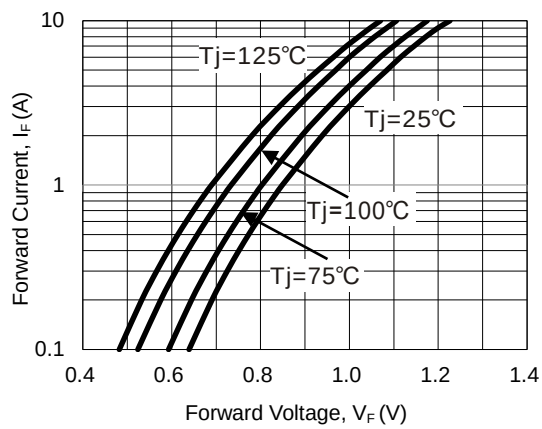
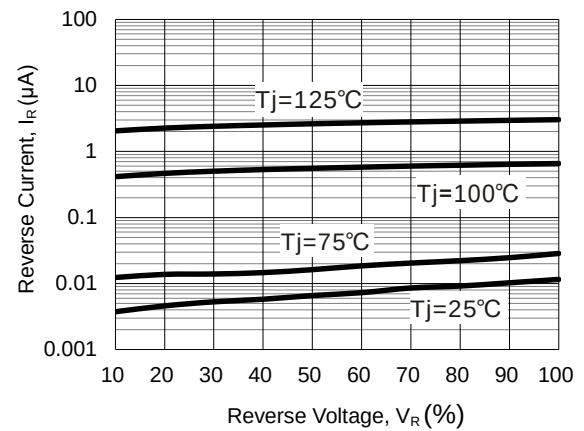


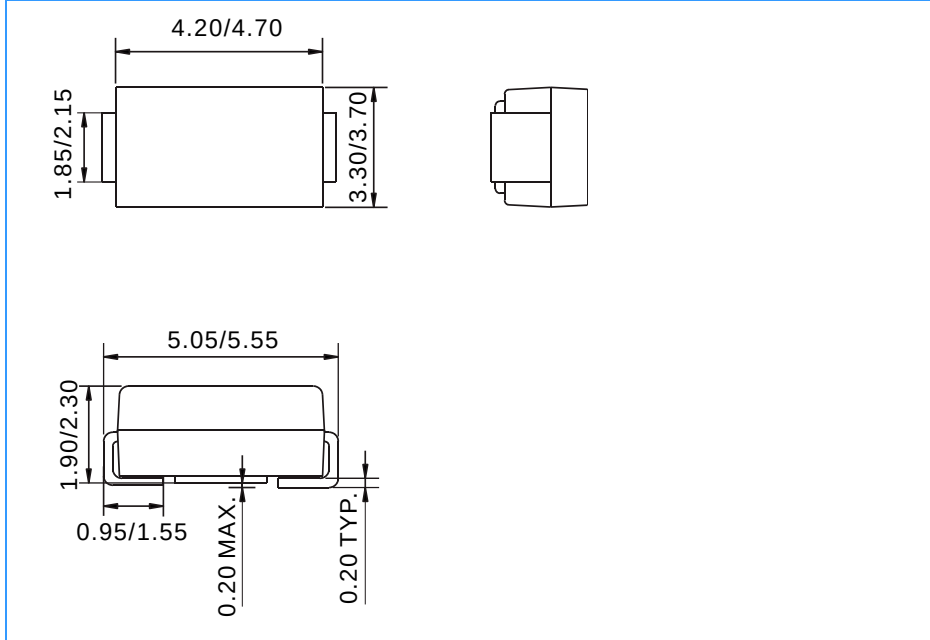
Fig.4 Typical Reverse Characteristics



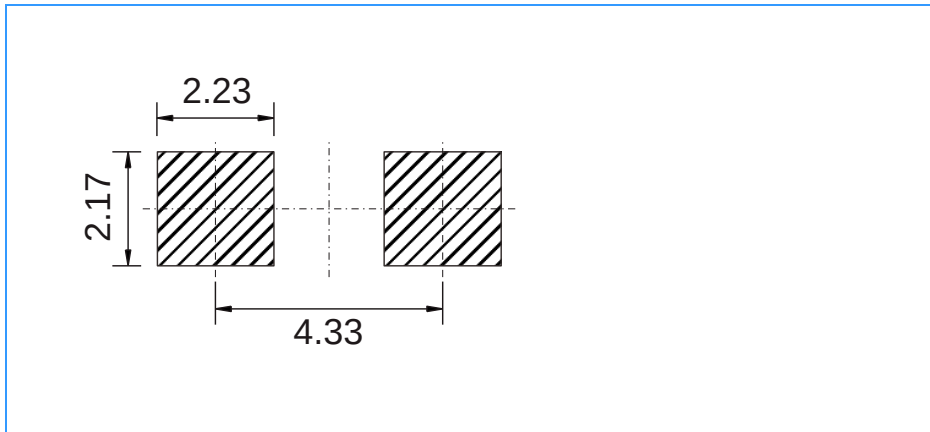
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Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit:mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TRS3AB	RS3AB	SMB	3000 / Tape & Reel
TRS3BB	RS3BB	SMB	3000 / Tape & Reel
TRS3DB	RS3DB	SMB	3000 / Tape & Reel
TRS3GB	RS3GB	SMB	3000 / Tape & Reel