

Surface Mount Rectifier

TS5DBF - TS5MBF

Features

- For surface mounted applications
- Ideal for automated placement
- Low forward voltage drop
- High forward surge current capability
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards



Mechanical Data

- Case: SMBF 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	TS5D BF	TS5G BF	TS5J BF	TS5K BF	TS5M BF	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}	5.0					A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I _{FSM}	150					A

Thermal Characteristics

Parameter	Symbol	TS5D BF	TS5G BF	TS5J BF	TS5K BF	TS5M BF	Unit
Typical Thermal Resistance *1	R _{θJA}	65					°C/W
	R _{θJC}	16					
	R _{θJL}	15					
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

Surface Mount Rectifier**TS5DBF - TS5MBF****Electrical Characteristics** (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage	V_F	$I_F = 5.0\text{A}$		-	1.15	V
Maximum Reverse Current	I_R	Rated V_R	@ $T_A = 25^\circ\text{C}$	-	10	μA
			@ $T_A = 125^\circ\text{C}$	-	250	

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

Fig.1 Forward Current Derating Curve

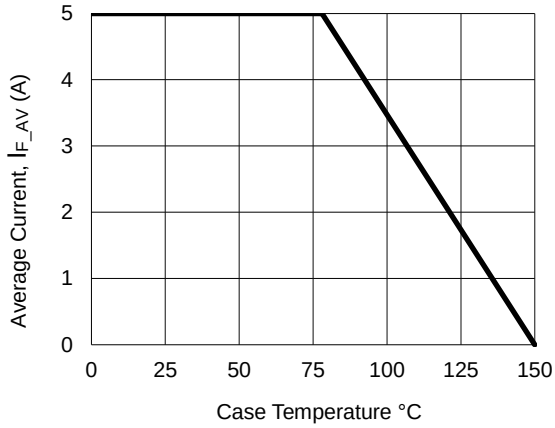


Fig.2 Surge Current Derating Curve

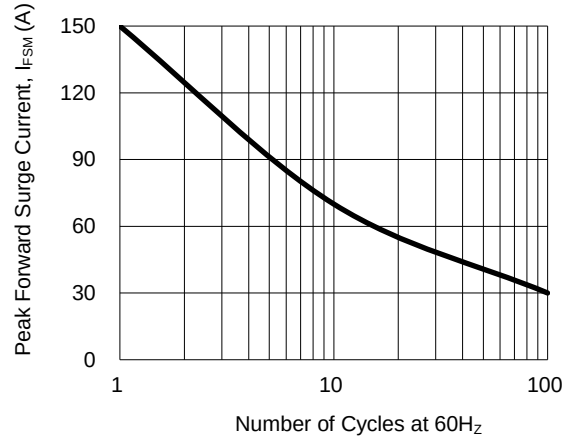


Fig.3 Typical Forward Voltage Characteristics

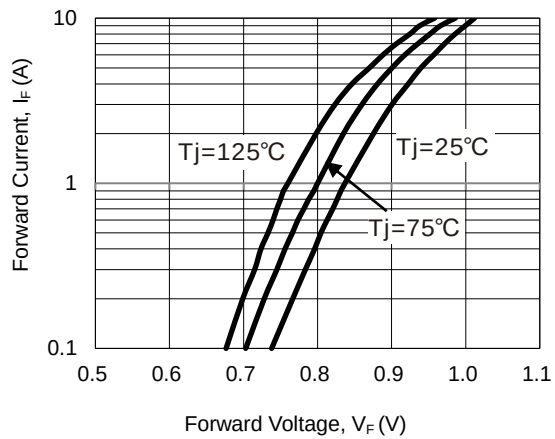
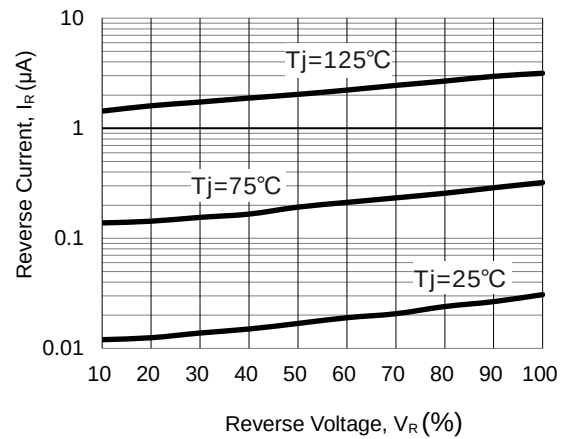


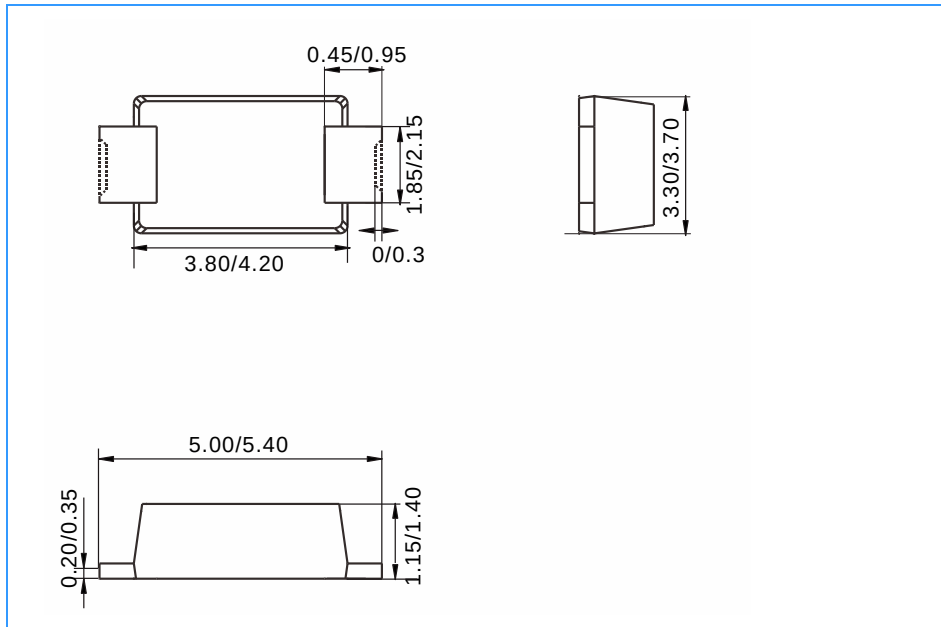
Fig.4 Typical Reverse Characteristic



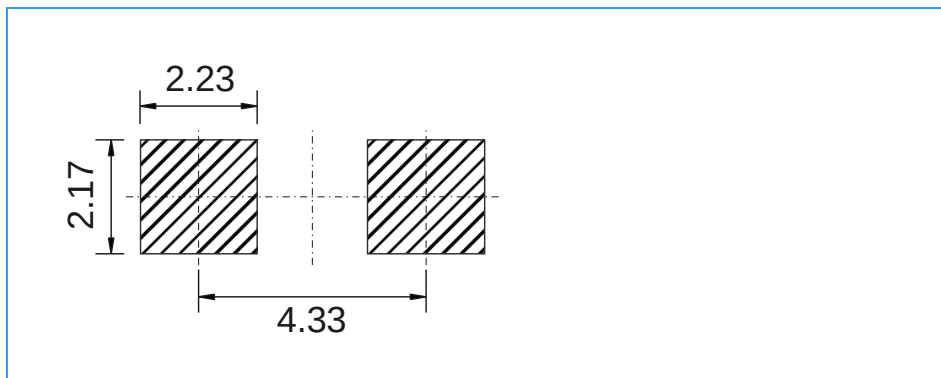
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TS5DBF	S5DBF	SMBF	4000 / Tape & Reel
TS5GBF	S5GBF	SMBF	4000 / Tape & Reel
TS5JBF	S5JBF	SMBF	4000 / Tape & Reel
TS5KBF	S5KBF	SMBF	4000 / Tape & Reel
TS5MBF	S5MBF	SMBF	4000 / Tape & Reel