

Super-Fast Rectifiers

THES3GB

Features

- For surface mounted applications
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- 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	THES3GB	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	400	V
RMS Reverse Voltage	V _{RMS}	280	V
DC Blocking Voltage	V _{DC}	400	V
Average Forward Output Current	I _{F(AV)}	3.0	A
Peak forward surge current, 8.3ms single half-sine-wave	I _{FSM}	50	A

Thermal Characteristics

Parameter	Symbol	THES3GB	Unit
Typical Thermal Resistance *1	R _{θJA}	60	°C/W
	R _{θJC}	23	
	R _{θJL}	25	
Operating Junction Temperature Range	T _J	-55 ~ +175	°C
Storage Temperature Range	T _{STG}	-55 ~ +175	°C

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

Super-Fast Rectifiers

THES3GB

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

Parameter	Symbol	Test Condition		Typ.	Max.	Unit
Instantaneous Forward Voltage	V_F	$I_F = 3.0\text{A}$		-	1.25	V
Reverse Current	I_R	Rated V_R	@ $T_A = 25^\circ\text{C}$	-	10	μA
			@ $T_A = 125^\circ\text{C}$	-	500	
Reverse Recovery Time	t_{rr}	$I_F = 0.5\text{A}$, $I_{RM} = 1\text{A}$, $I_{R(REC)} = 0.25\text{A}$		-	30	ns

Super-Fast Rectifiers

THES3GB

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

Fig.1 Forward Current Derating Curve

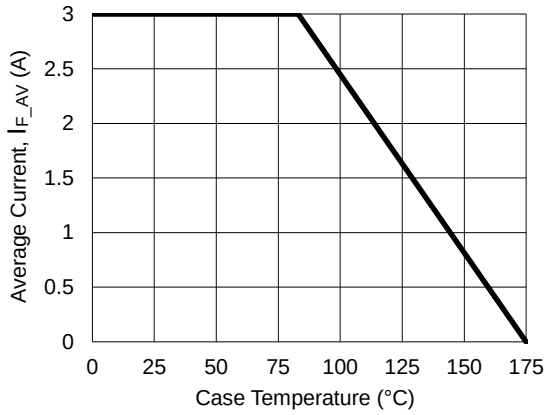


Fig.2 Surge Current Derating Curve

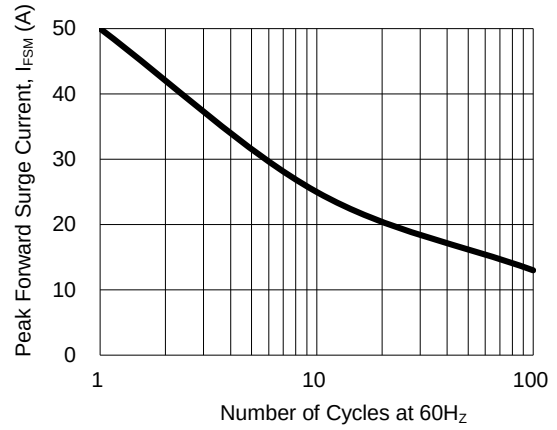


Fig.3 Typical Forward Voltage Characteristics

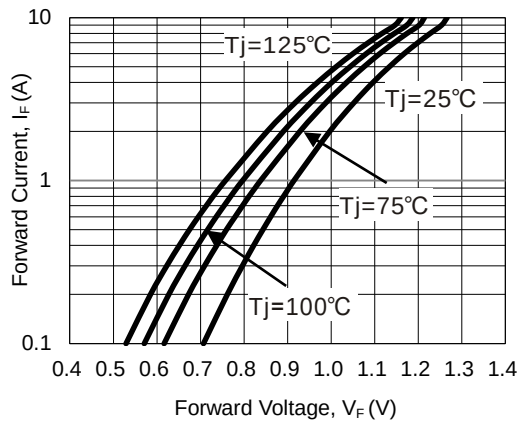
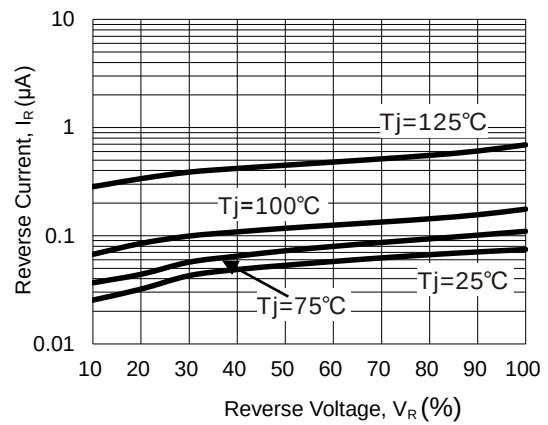


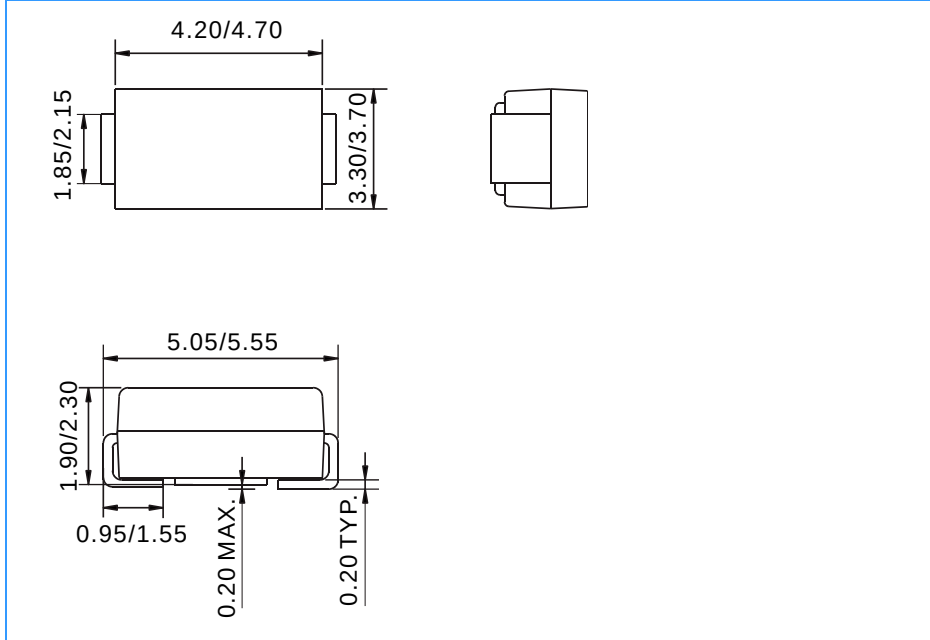
Fig.4 Typical Reverse Characteristics



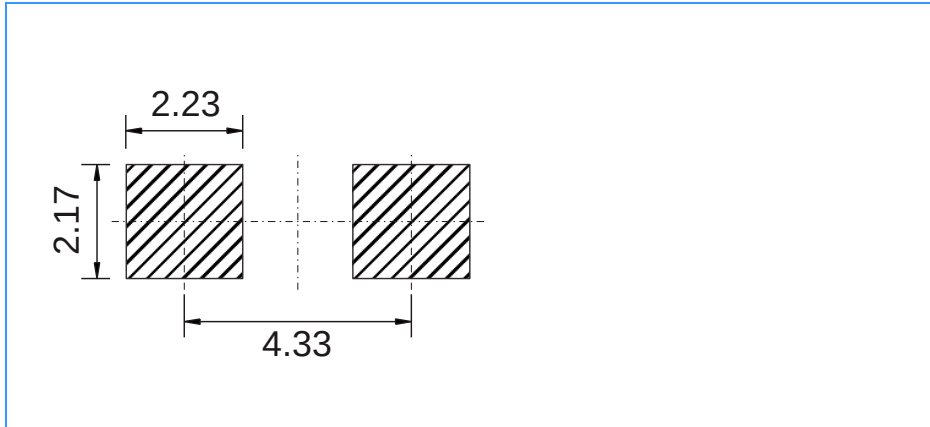
Super-Fast Rectifiers

THES3GB

Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
THES3GB	HES3GB	SMB	3000 / Tape & Reel