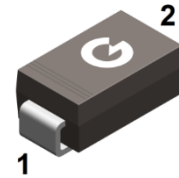


Features

- 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

HF



SMA

Mechanical Data

- Case: SMA
- Molding compound: UL flammability classification rating 94-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TS1D	SMA	5000 pcs / Tape & Reel	S1D
TS1G	SMA	5000 pcs / Tape & Reel	S1G
TS1J	SMA	5000 pcs / Tape & Reel	S1J
TS1K	SMA	5000 pcs / Tape & Reel	S1K
TS1M	SMA	5000 pcs / Tape & Reel	S1M

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

Parameter	Symbol	TS1D	TS1G	TS1J	TS1K	TS1M	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
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	TS1D	TS1G	TS1J	TS1K	TS1M	Unit
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	70					°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	25					°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	30					°C/W
Thermal Resistance Junction-to-Air ^{*2}	R _{θJA}	173					°C/W
Thermal Resistance Junction-to-Lead ^{*2}	R _{θJL}	42					°C/W
Operating Junction Temperature Range	T _J	-55 ~ +150					°C
Storage Temperature Range	T _{STG}	-55 ~ +150					°C

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 2\mu\text{A}$, TS1D	200	-	-	V
		$I_R = 2\mu\text{A}$, TS1G	400	-	-	V
		$I_R = 2\mu\text{A}$, TS1J	600	-	-	V
		$I_R = 2\mu\text{A}$, TS1K	800	-	-	V
		$I_R = 2\mu\text{A}$, TS1M	1000	-	-	V
Forward Voltage ^{*3}	V_F	$I_F = 1\text{A}$	-	-	1.1	V
Maximum Peak Reverse Current ^{*4}	I_R	Rated V_R , $T_J = 25^\circ\text{C}$	-	-	5	μA
		Rated V_R , $T_J = 125^\circ\text{C}$	-	-	50	μA

Notes:

1. The data tested by surface mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area
2. The data tested by surface mounted on a minimum recommended FR-4 board
3. The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 1\%$
4. The data tested by pulsed, pulse width $\leq 40\text{ms}$
5. Pandya, Kandarp I., and Wharton McDaniel. "A Simplified Method of Generating Thermal Models for Power MOSFETs." In Proceedings of IEEE SemiTherm XVIII, 123-130. San Jose, CA, USA, 2002.

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

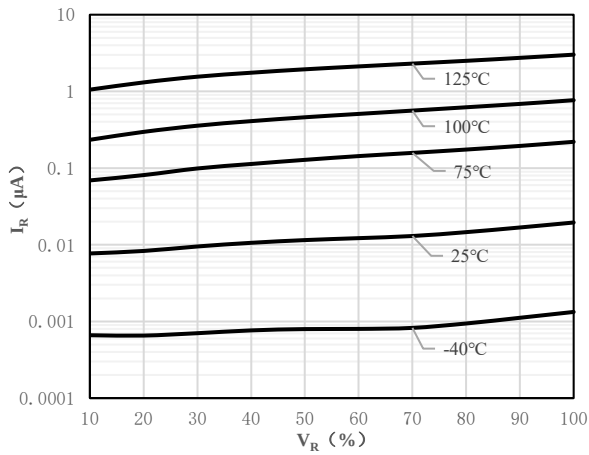


Fig 1 Typical Reverse Characteristic

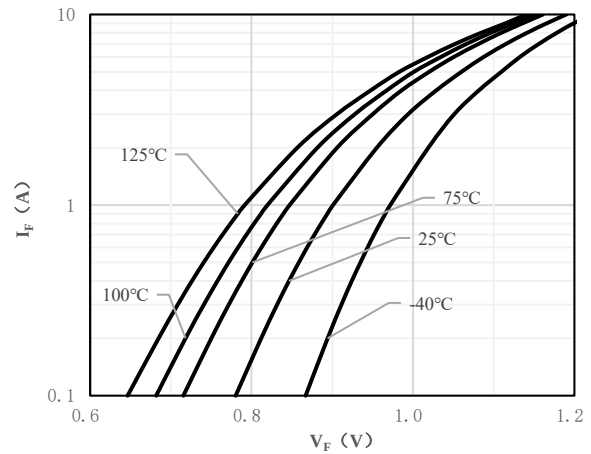


Fig 2 Typical Forward Characteristics

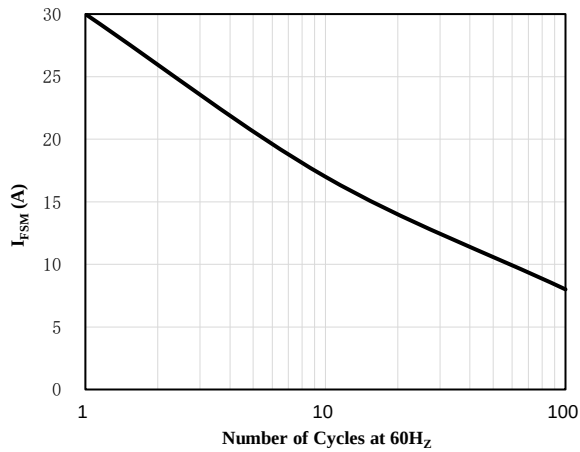


Fig 3 Surge Current Derating Curve

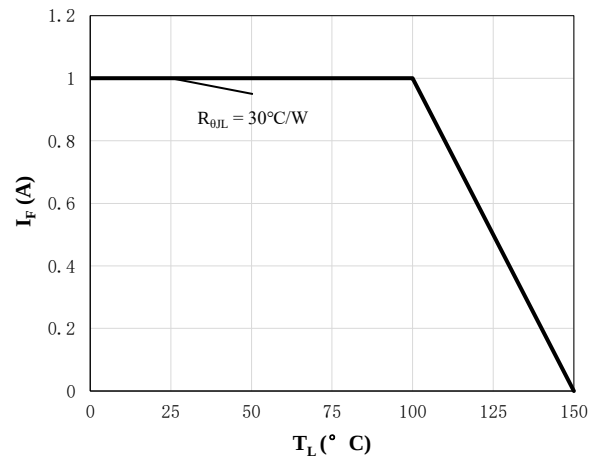
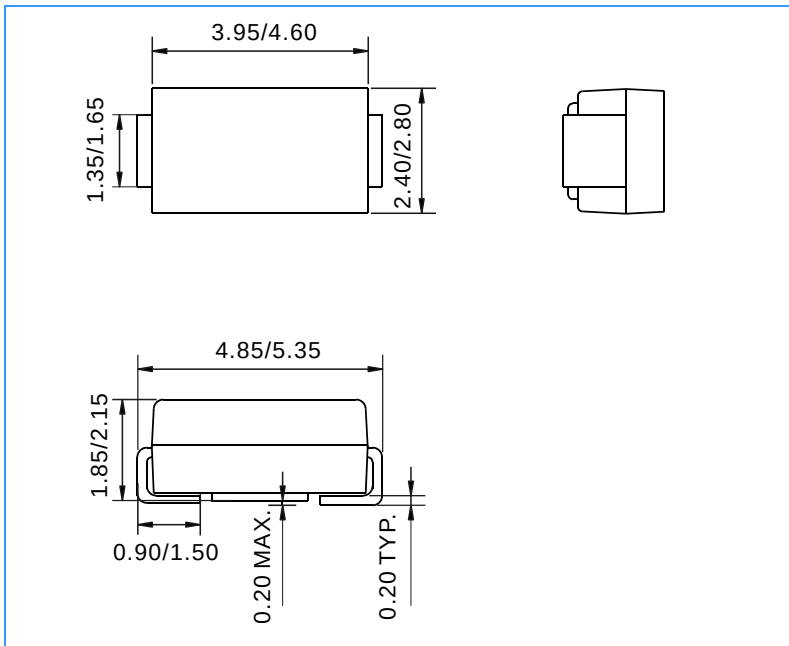


Fig 4 Forward Current Derating Curve

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)

