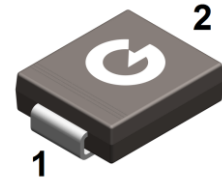


Features

- Metal silicon junction, majority carrier conduction
- High forward surge current capability
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C @ 10s
- Robust guarding for over voltage protection
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF

1 CATHODE 2 ANODE



SMC

Mechanical Data

- Case: SMC
- 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
TSS58C	SMC	3000 pcs / Tape & Reel	SS58C
TSS59C	SMC	3000 pcs / Tape & Reel	SS59C
TSS510C	SMC	3000 pcs / Tape & Reel	SS510C

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

Parameter	Symbol	TSS58C	TSS59C	TSS510C	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	80	90	100	V
RMS Reverse Voltage	V _{RMS}	56	63	70	V
DC Blocking Voltage	V _{DC}	80	90	100	V
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	TSS58C	TSS59C	TSS510C	Unit
Thermal Resistance Junction-to-Air *1	R _{θJA}	64			°C/W
Thermal Resistance Junction-to-Case *1	R _{θJC}	36			°C/W
Thermal Resistance Junction-to-Lead *1	R _{θJL}	20			°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
Forward Voltage *2	V_F	$I_F = 5\text{A}$	-	-	0.8	V
Maximum Peak Reverse Current *3	I_R	Rated V_R , $T_J = 25^\circ\text{C}$	-	-	30	μA
		Rated V_R , $T_J = 100^\circ\text{C}$	-	-	5	mA
Reverse Recovery Time	t_{rr}	$I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$	-	13	-	ns

Notes:

- The data tested by surface mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area
- The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 1\%$
- The data tested by pulsed, pulse width $\leq 40\text{ms}$

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

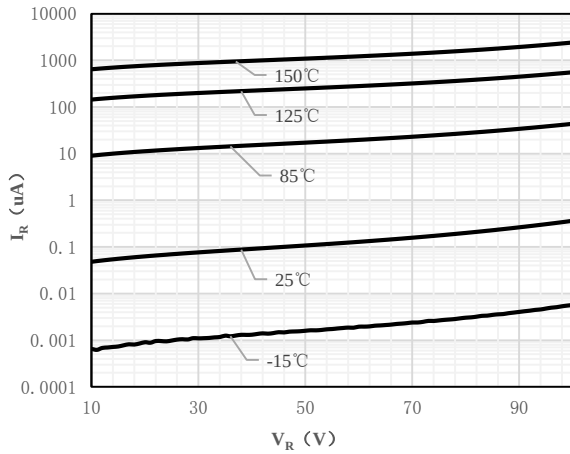


Fig 1 Typical Reverse Characteristic

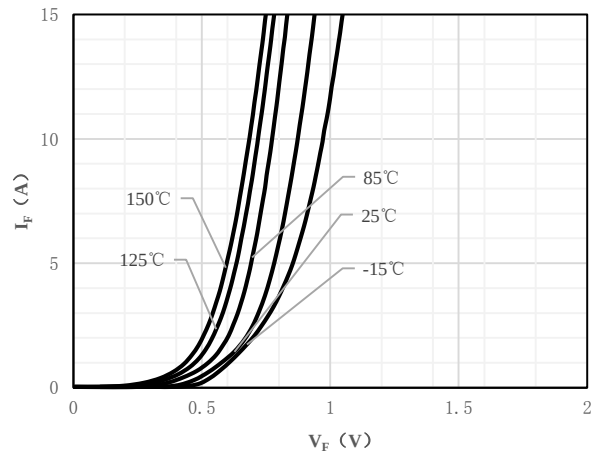


Fig 2 Typical Forward Characteristics

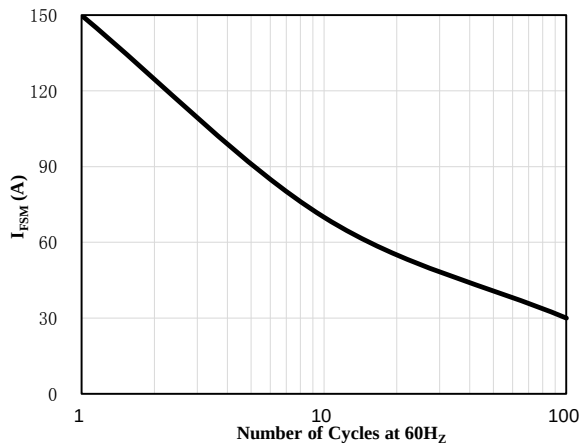


Fig 3 Surge Current Derating Curve

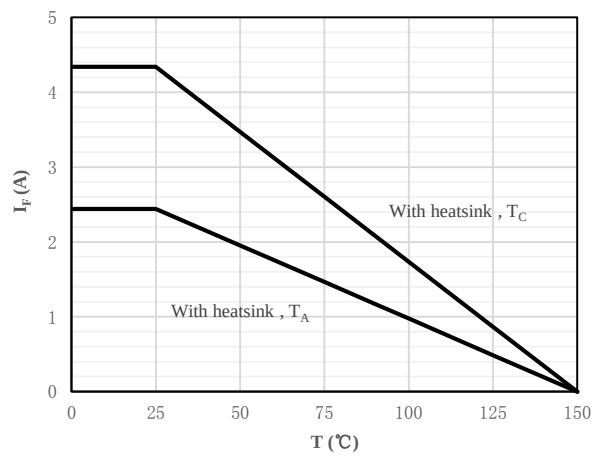


Fig 4 Forward Current Derating Curve

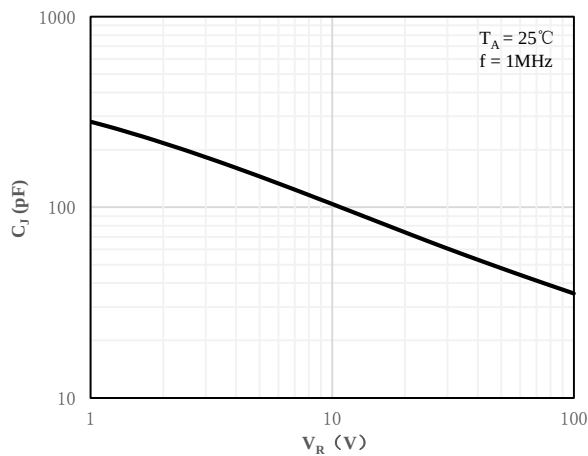
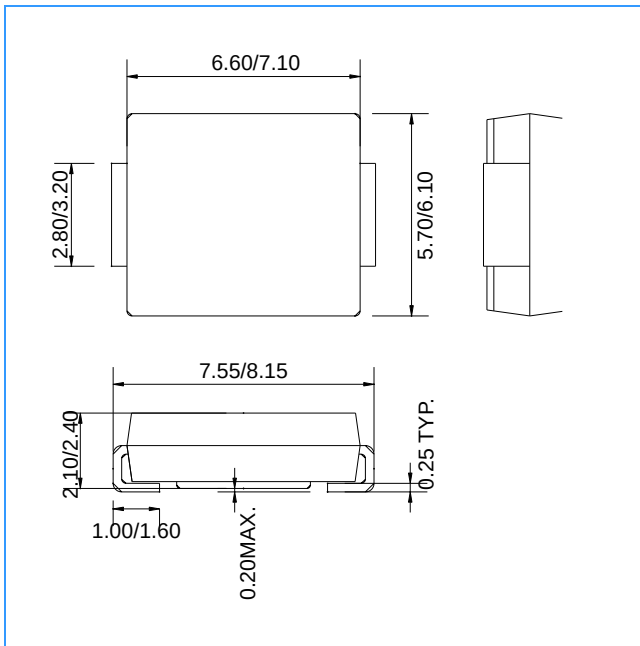


Fig 5 Capacitance vs. Reverse Voltage

Package Outline Dimensions (unit: mm)



Mounting Pad Layout (Unit: mm)

