

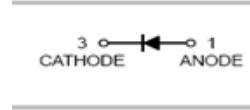
Features

- Forward current: $I_F \leq 0.5A$
- Reverse voltage: $V_R \geq 40V$
- Very low forward voltage
- RoHS compliant with Halogen-free

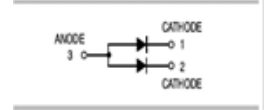
HF

Mechanical Data

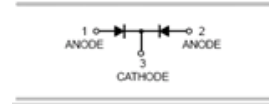
- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



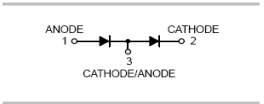
SBT0540



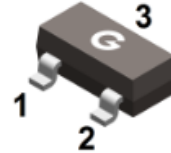
SBT0540A



SBT0540C



SBT0540S



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
SBT0540	SOT-23	3000 pcs / Tape & Reel	SF1
SBT0540A	SOT-23	3000 pcs / Tape & Reel	SF2
SBT0540C	SOT-23	3000 pcs / Tape & Reel	SF3
SBT0540S	SOT-23	3000 pcs / Tape & Reel	SF

Maximum Ratings (@ $T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
DC Reverse Voltage	V_R	40	V
RMS Reverse Voltage	V_{RMS}	28	V
Maximum Average Forward Output Current	$I_{F(AV)}$	0.5	A
Peak Forward Surge Current (8.3ms single half sine-wave)	I_{FSM}	2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ C$)	P_D	250	mW
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta JA}$	250	$^\circ C/W$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta JC}$	150	$^\circ C/W$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta JL}$	190	$^\circ C/W$
Operating junction Temperature	T_J	-55 ~ +125	$^\circ C$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ C$

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$	40	-	-	V
Forward Voltage	V_F	$I_F = 0.01\text{A}$	-	0.25	-	V
		$I_F = 0.1\text{A}$	-	0.35	-	V
		$I_F = 0.5\text{A}$	-	-	0.5	V
Maximum Peak Reverse Current	I_R	$V_R = 40\text{V}$	-	-	50	μA

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

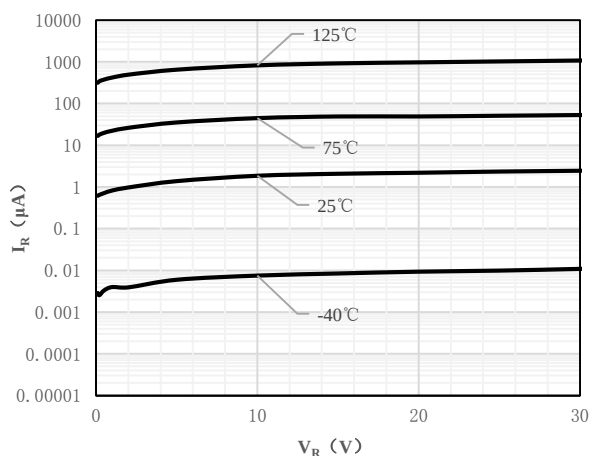


Fig 1 Typical Reverse Characteristic

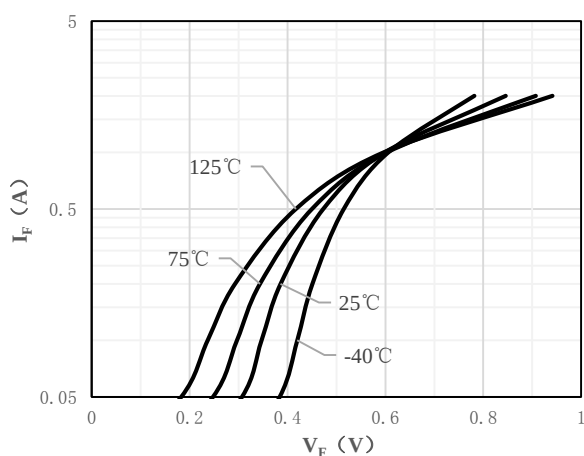


Fig 2 Typical Forward Characteristics

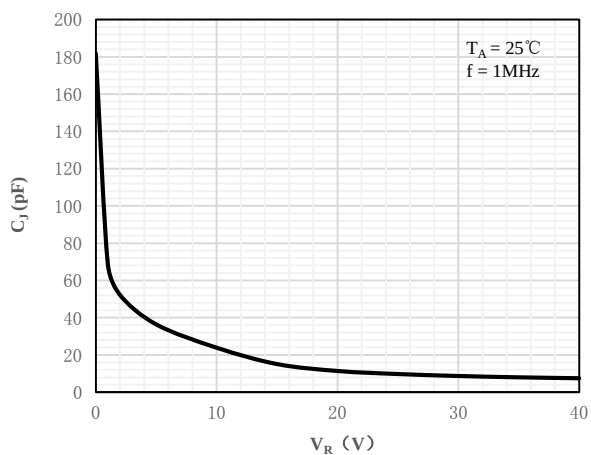


Fig 3 Capacitance vs. Reverse Voltage

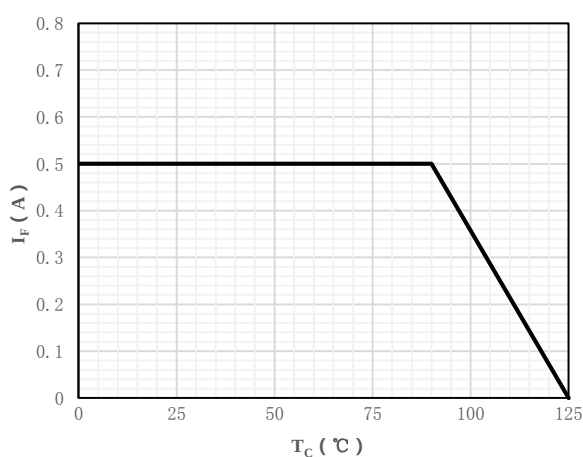


Fig 4 Forward Current Derating Curve

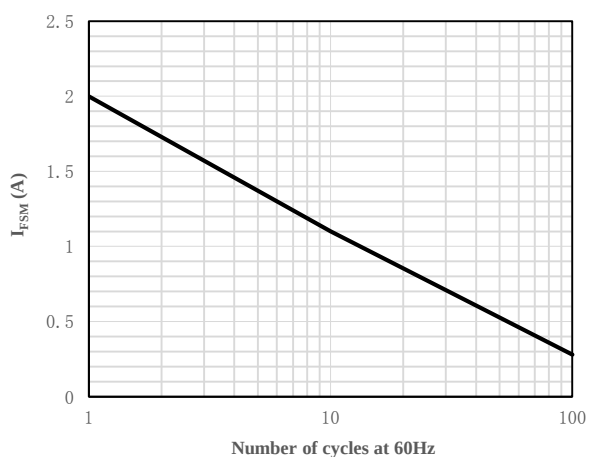
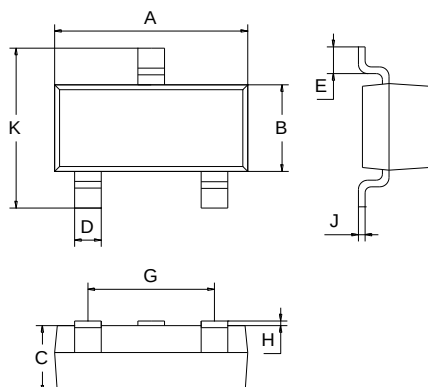


Fig 5 Surge Current Derating Curve

Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23

