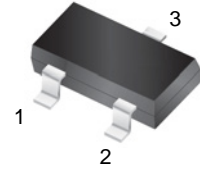



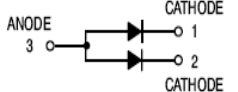
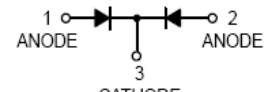
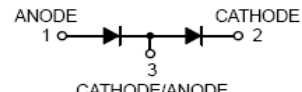
Features

- Low forward voltage drop.
- Fast switching.
- Ultra-small surface mount package.
- PN junction guard ring for transient and ESD protection.



SOT-523

Schematic Diagram and Marking

<p>GSBAT54T</p>  <p>Marking: L1</p>	<p>GSBAT54AT</p>  <p>Marking: L2</p>
<p>GSBAT54CT</p>  <p>Marking: L3</p>	<p>GSBAT54ST</p>  <p>Marking: L4</p>

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}	30	V
DC Reverse Voltage	V_R	30	V
Forward Continuous Voltage	I_F	200	mA
Repetitive Peak Forward Voltage	I_{FRM}	300	mA
Non-repetitive Peak Forward Surge Current @ $t<1.0\text{s}$	I_{FSM}	600	mA
Power Dissipation ¹	P_D	150	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	667	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Note:

1. Part mounted on FR-4 board with recommended pad layout.

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

Parameter	Symbol	Conditions	Min	Max	Unit
Reverse Breakdown Voltage	V_{BR}	$I_R=100\mu\text{A}$	30	-	V
Forward Voltage ²	V_F	$I_F=0.1\text{mA}$	-	0.24	V
		$I_F=1\text{mA}$	-	0.32	V
		$I_F=10\text{mA}$	-	0.40	V
		$I_F=30\text{mA}$	-	0.50	V
		$I_F=100\text{mA}$	-	1.00	V
Reverse Current ³	I_R	$V_R=25\text{V}$	-	2	μA
Capacitance Between Terminals	C_T	$V_R=1\text{V}, F=1\text{MHz}$	-	10	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10\text{mA}, I_{rr}=0.1 \times I_R, R_L=100\Omega$	-	5	ns

Notes:

2. Pulse test: $T_p \leq 300\mu\text{s}$.
3. Pulse test: $T_p \leq 5\text{ms}$.

Typical Electrical Characteristic Curves

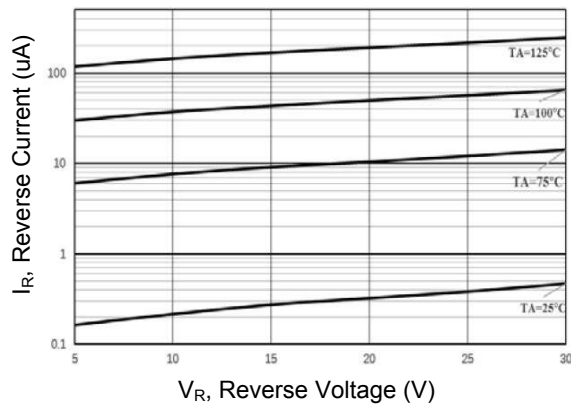


Figure 1. Typical Reverse Characteristics

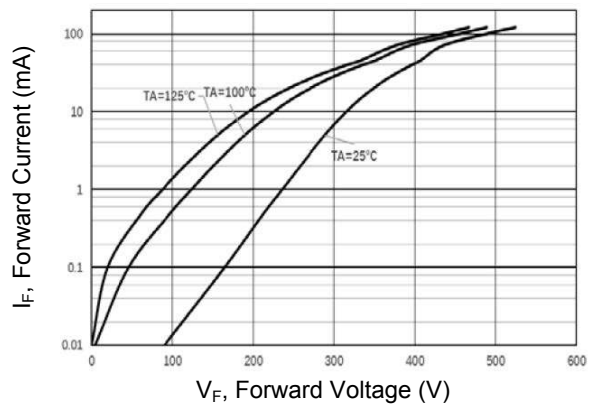


Figure 2. Typical Forward Characteristics

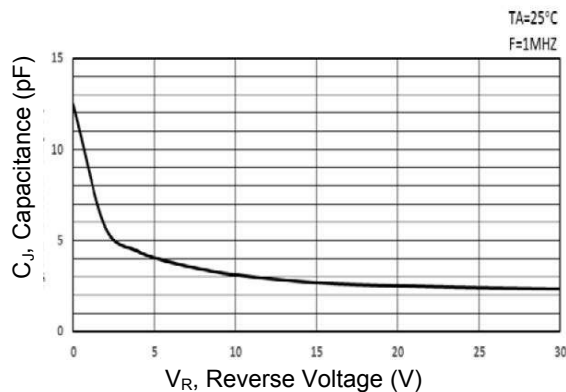


Figure 3. Capacitance vs. Reverse Voltage

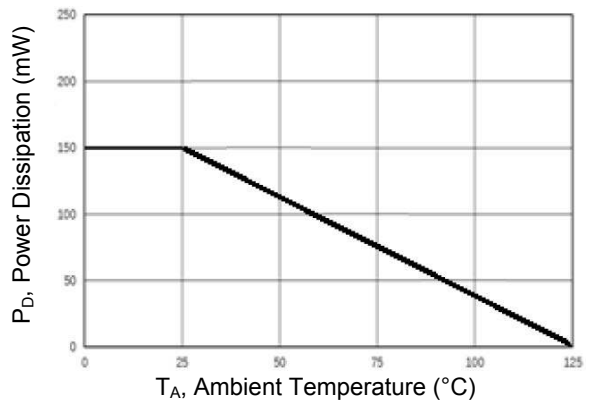
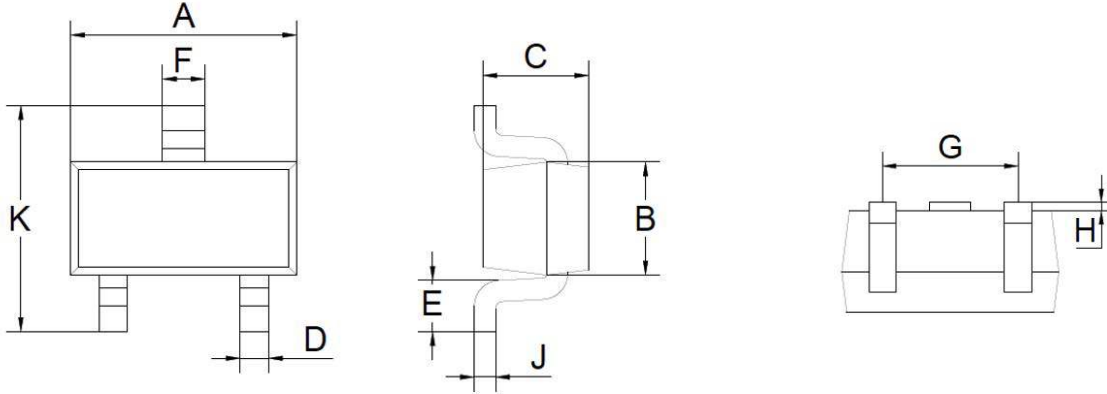


Figure 4. Derating Curve

Package Outline Dimensions (SOT-523)



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	1.500	1.700	0.059	0.067
B	0.750	0.850	0.030	0.033
C	0.600	0.800	0.024	0.031
D	0.150	0.300	0.006	0.012
E	0.300	0.400	0.012	0.016
F	0.250	0.400	0.010	0.016
G	0.900	1.100	0.035	0.043
H	0.020	0.100	0.001	0.004
J	0.080	0.180	0.003	0.007
K	1.450	1.750	0.057	0.069

Recommended Pad Layout

