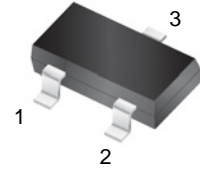


## Features

- Low forward voltage drop
- Fast switching
- Ultra-small surface mount package

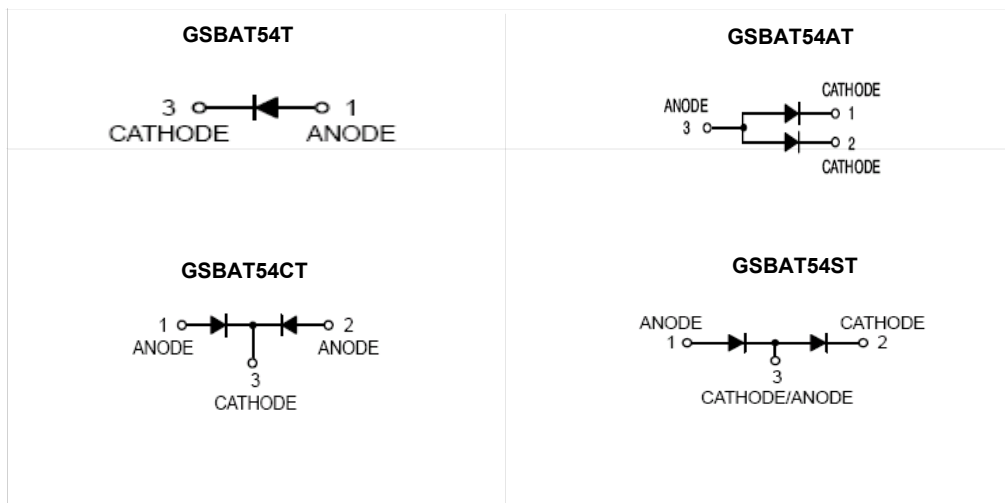
## Applications

For general purpose switching applications



**SOT-523**

## Schematic Diagram



## 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
Continuous Forward Current	$I_F$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	300	mA
Peak Forward Surge Current ( $t_p=1s$ )	$I_{FSM}$	600	mA
Power Dissipation	$P_D$	150	mW
Thermal Resistance Junction-to-Air <sup>1</sup>	$R_{\theta JA}$	160	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case <sup>1</sup>	$R_{\theta JC}$	90	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead <sup>1</sup>	$R_{\theta JL}$	80	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

Note:

1. The data tested by surface mounted on a 1 inch<sup>2</sup> FR-4 board with 2OZ copper.

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

Parameter	Symbol	Conditions	Min	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=100\mu\text{A}$	30	-	V
Forward Voltage <sup>2</sup>	$V_F$	$I_F=0.1\text{mA}$	-	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
		$I_F=100\text{mA}$	-	0.60	V
Maximum Peak Reverse Current <sup>3</sup>	$I_R$	$V_R=25\text{V}$	-	2	$\mu\text{A}$
Capacitance Between Terminals	$C_J$	$V_R=1\text{V}, F=1\text{MHz}$	-	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:  $T_p \leq 5\text{ms}$ .

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

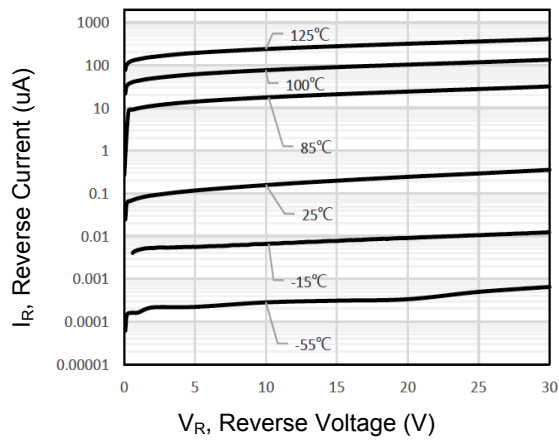


Figure 1. Typical Reverse Characteristics

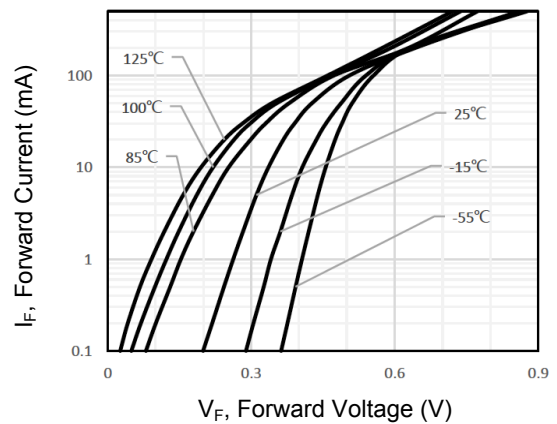


Figure 2. Typical Forward Characteristics

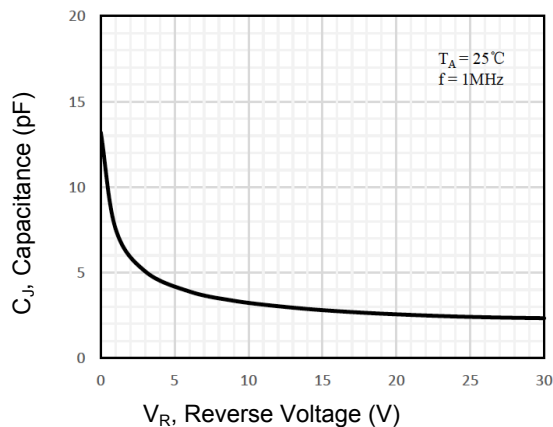


Figure 3. Capacitance Characteristics

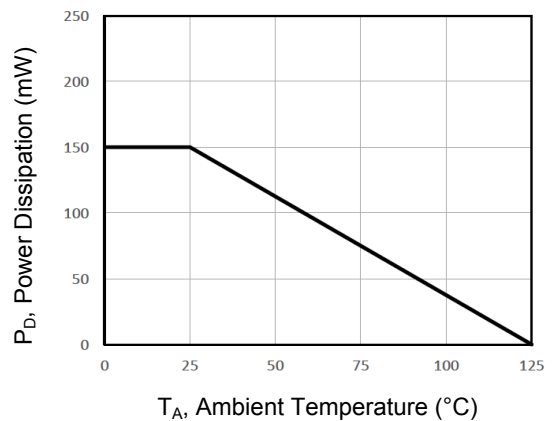
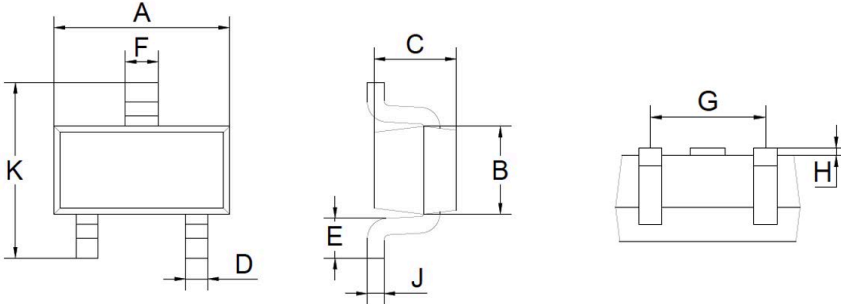


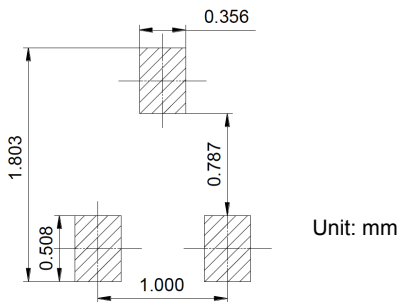
Figure 4. Power Derating Curve

**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**



**Order Information**

Device	Package	Marking	Packaging	SPQ
GSBAT54T	SOT-523	L1	Tape & Reel	3,000pcs / Reel
GSBAT54AT	SOT-523	L2	Tape & Reel	3,000pcs / Reel
GSBAT54CT	SOT-523	L3	Tape & Reel	3,000pcs / Reel
GSBAT54ST	SOT-523	L4	Tape & Reel	3,000pcs / Reel

For more information, please contact us at: [inquiry@goodarksemi.com](mailto:inquiry@goodarksemi.com)