BAT54 BAT54A BAT54C BAT54S

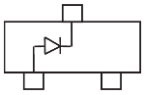
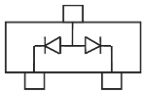
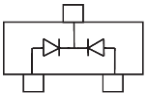
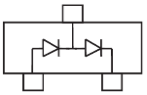
Features

- High Current Capability
- Low Forward Voltage Drop
- Extremely Fast Switching Speed

Applications

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Circuit Diagram

BAT54	BAT54A	BAT54C	BAT54S
			

Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

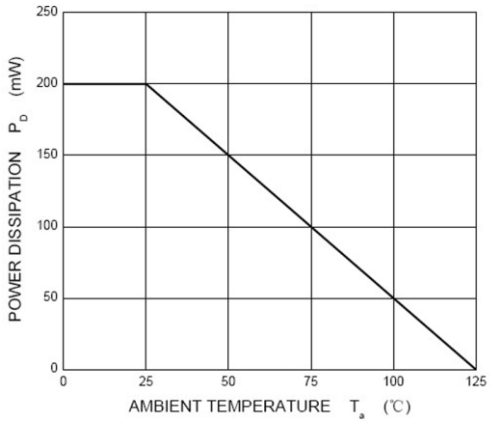
Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	30	V
Maximum RMS voltage	V_{RMS}	21	V
Maximum DC blocking voltage	V_{DC}	30	V
Maximum average forward rectified current	I_{FM}	200	mA
Peak forward surge current 8.3 ms single half sine-wave	I_{FSM}	600	mA
Typical thermal resistance	$R_{\theta JA}$	500	℃/W
Power Dissipation	P_D	200	mW
Storage Temperature Range	T_{STJ}	-50 to +150	℃
Junction Temperature Range	T_J	-50 to +125	℃

Electrical Characteristics

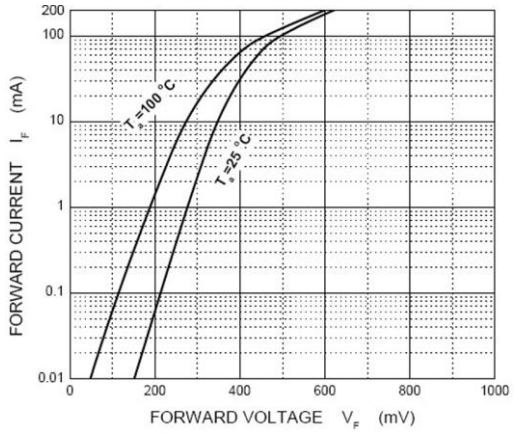
TA=25°C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{F1}	Maximum forward voltage	I_F = 0.1mA			240	mV
V_{F2}		I_F = 1.0mA			320	
V_{F3}		I_F = 10mA			400	
V_{F4}		I_F = 30mA			500	
V_{F5}		I_F = 100mA			1000	
V_R	Maximum reverse breakdown voltage	I_R=100μA	30			V
I_R	Maximum reverse current	V_R=25V			2	μA
Cj	Type junction capacitance	V_R = 1.0V, f = 1MHz			10	pF
trr	Reverse Recovery time	I_F=I_R=10mA Irr=0.1XIR, R_L=100Ω			5	ns

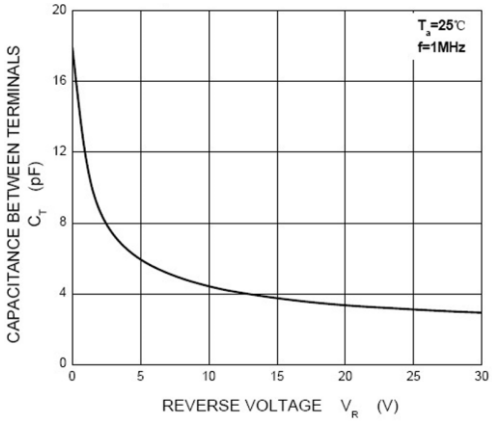
Characteristic Curves



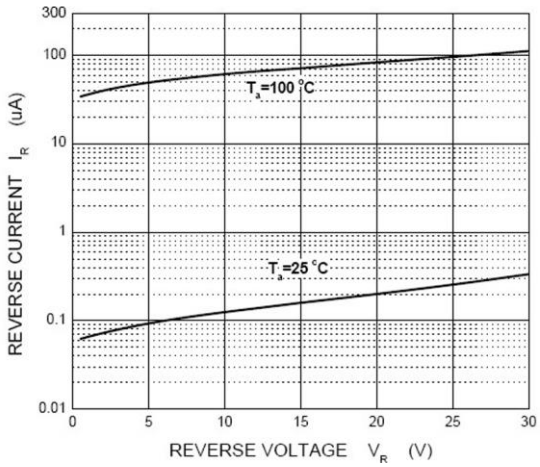
Power Derating Curve



Forward Characteristics

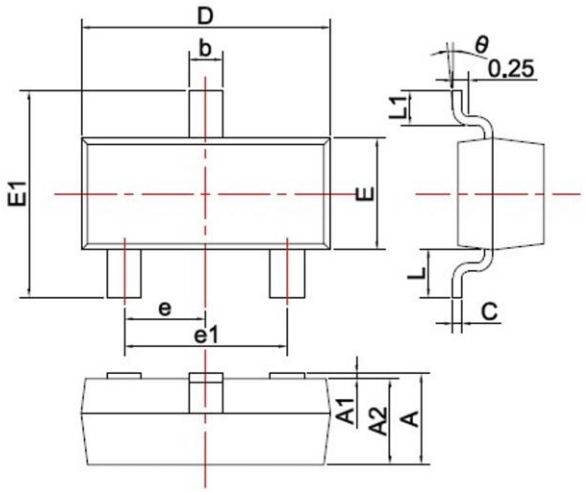


Capacitance Characteristics



Reverse Characteristics

SOT23 Package Outline & Dimensions



Symbol	Dimensions	
	Min.	Max.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
e	2.250	2.550
e1	0.950typ.	
L	1.800	2.000
L1	0.550REF	
θ	0°	8°

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.