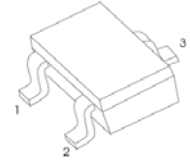


### FEATURES





- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

SOT-523



BAT54T-Q1	BAT54AT-Q1	BAT54CT-Q1	BAT54ST-Q1
			

### MARKING:

BAT54T-Q1	BAT54AT-Q1	BAT54CT-Q1	BAT54ST-Q1
			

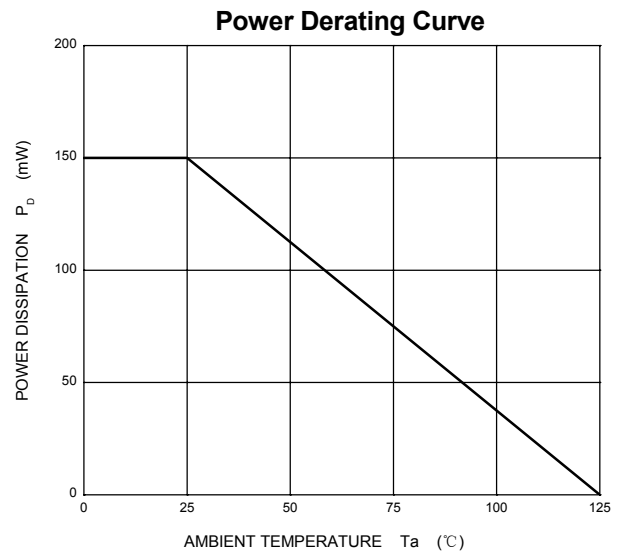
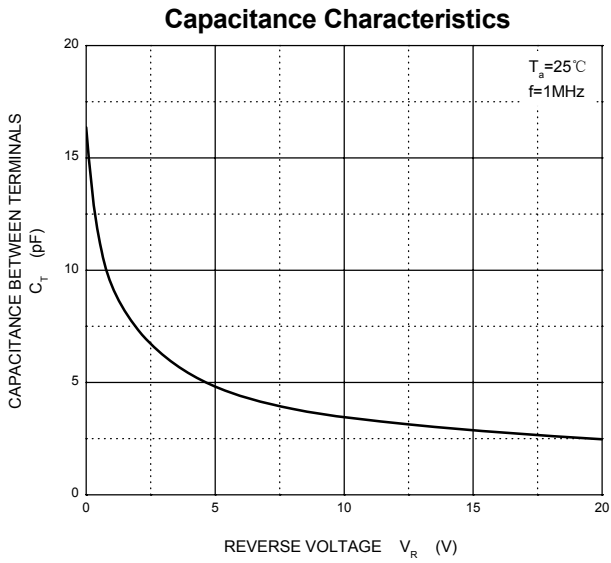
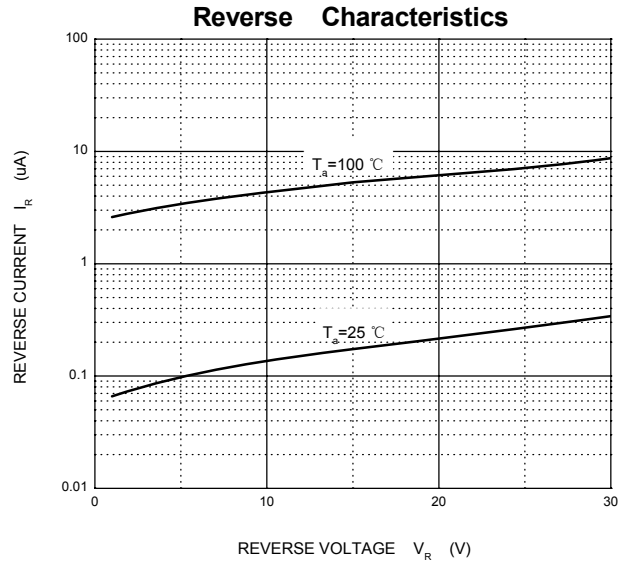
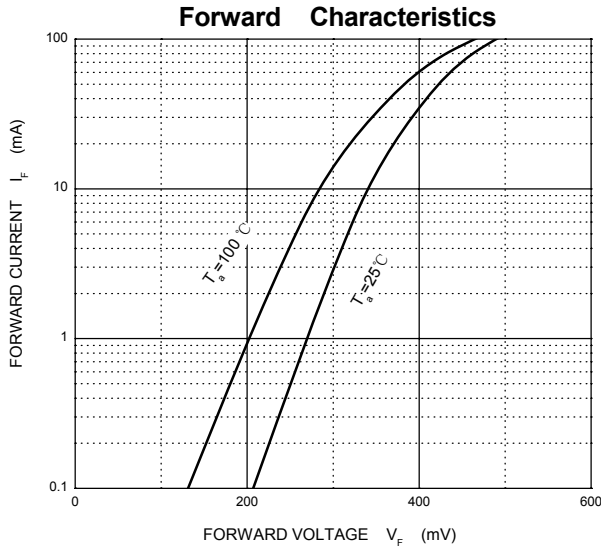
### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted )

Symbol	Parameter	Value	Unit
$V_{RRM}$	Peak Repetitive Reverse Voltage	30	V
$V_{RWM}$	Working Peak Reverse Voltage		
$V_{R(RMS)}$	RMS Reverse Voltage	21	V
$I_o$	Average Rectified Output Current	0.2	A
$I_{FSM}$	Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	600	mA
$I_{FRM}$	Repetitive Peak Forward Surge Current @ $t \leq 1\text{s}; \delta \leq 0.5$	300	mA
$P_D$	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	667	$^{\circ}\text{C}/\text{W}$
$T_j$	Junction Temperature	125	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

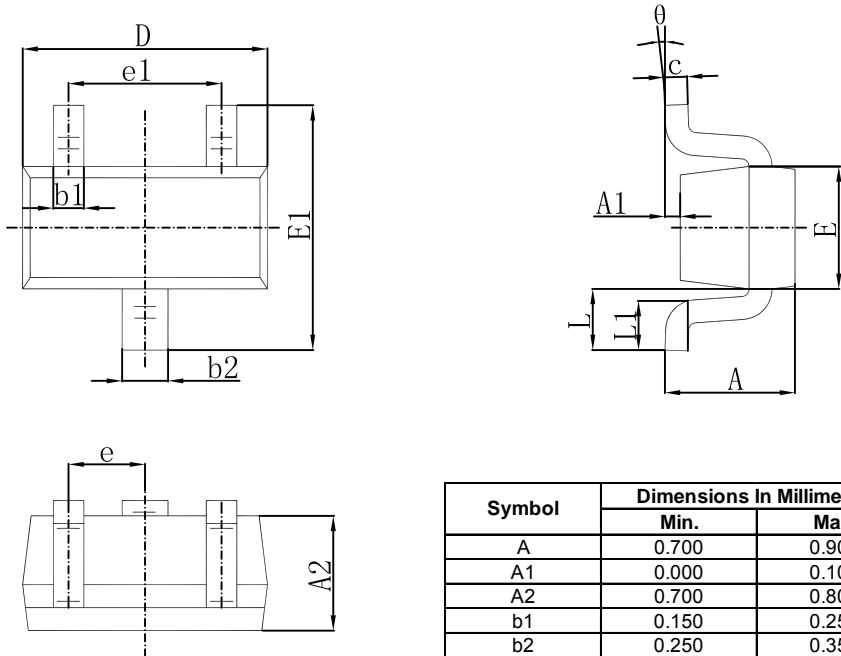
### ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	30			V
Reverse current	$I_R$	$V_R=25\text{V}$			2	$\mu\text{A}$
Forward voltage	$V_F$	$I_F=1\text{mA}$			0.32	V
		$I_F=10\text{mA}$			0.4	
		$I_F=30\text{mA}$			0.5	
		$I_F=100\text{mA}$			1	
Total capacitance	$C_{tot}$	$V_R=1\text{V}, f=1\text{MHz}$			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

## Typical Characteristics

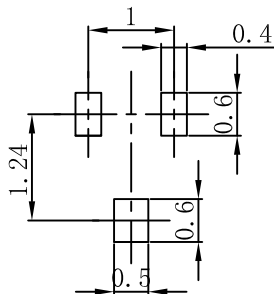


## SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

## SOT-523 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.