

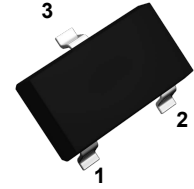


# THE DATASHEET OF BAT54S-HF



## Features

- Low turn-on voltage
- Fast switching
- PN junction guard ring for transient and ESD protection

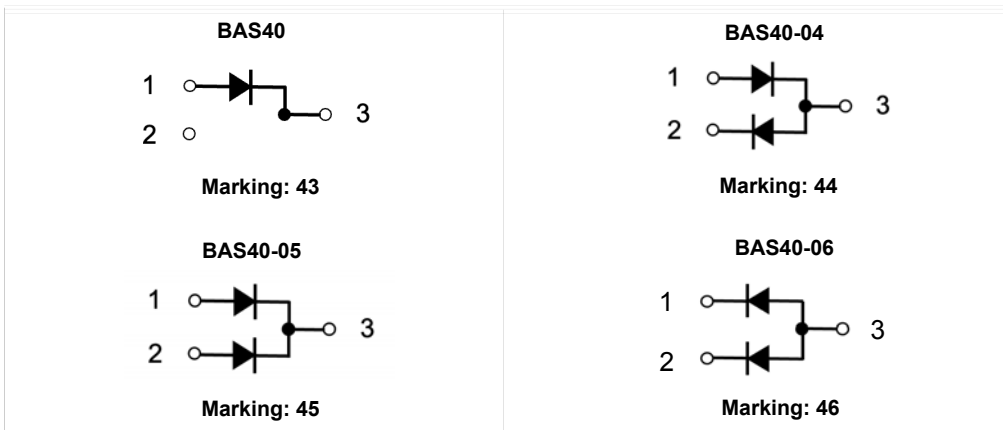


SOT-23

## Applications

- High speed switching applications
- Circuit protecting
- Voltage clamping

## Schematic Diagram



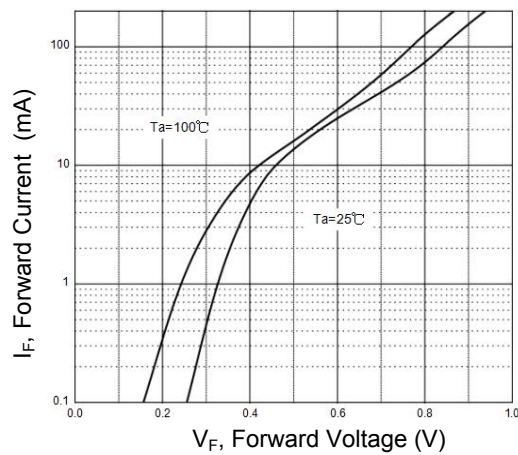
## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		V
DC Reverse Voltage	V <sub>R</sub>		V
Forward Continuous Current	I <sub>FM</sub>	200	mA
Power Dissipation	P <sub>D</sub>	200	mW
Forward Surge Current (8.3 ms single half sine-wave)	I <sub>FSM</sub>	600	mA
Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	357	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55 To +125	°C
Storage Temperature Range	T <sub>STG</sub>	-65 To +150	°C

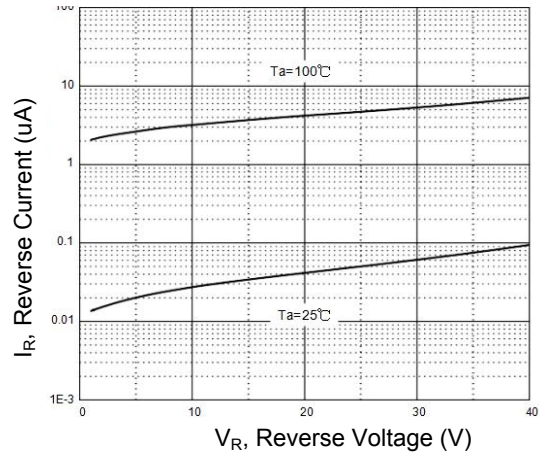
**Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_{RS}=10\mu\text{A}$	40	-	V
Forward Voltage	$V_F$	$t_P<300\mu\text{s}, I_F=1\text{mA}$	-	380	mV
		$t_P<300\mu\text{s}, I_F=40\text{mA}$	-	1000	mV
Reverse Leakage Current	$I_R$	$t_P<300\mu\text{s}, V_R=30\text{V}$	-	200	nA
Junction Capacitance	$C_J$	$V_R=0\text{V}, f=1\text{MHz}$	-	5	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10\text{mA}, R_L = 100\Omega$ $I_R=1.0\text{mA}$	-	5	ns

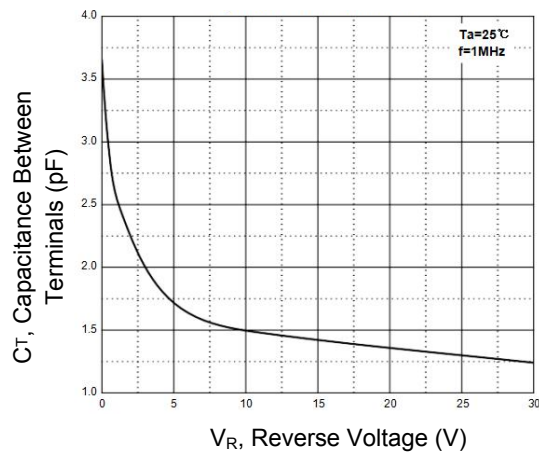
**Typical Characteristic Curves** ( $T_A=25^\circ\text{C}$  unless otherwise noted)



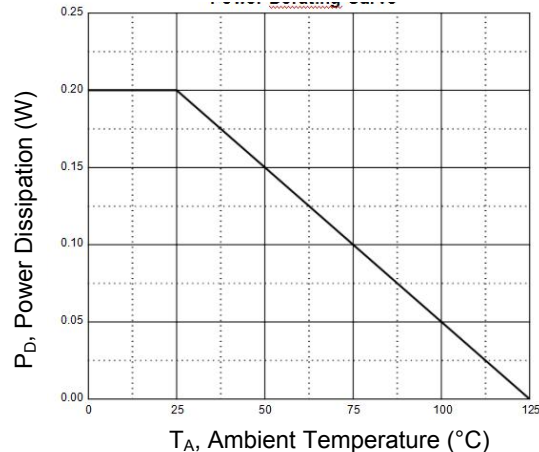
**Figure 1. Forward Characteristics**



**Figure 2. Reverse Characteristics**

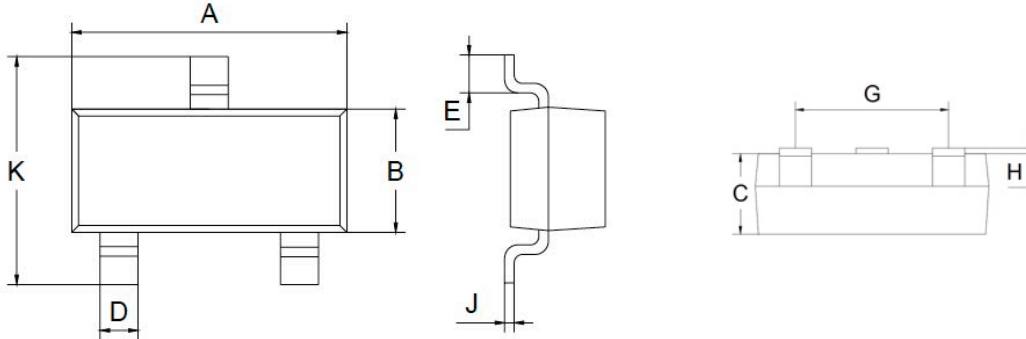


**Figure 3. Capacitance Characteristics**



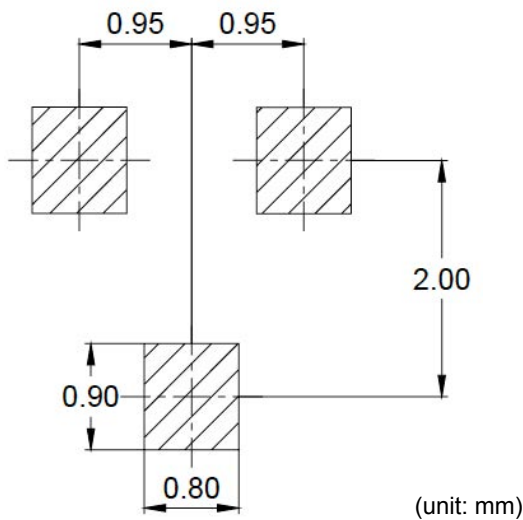
**Figure 4. Power Derating Curve**

**Package Outline Dimensions (SOT-23)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.700	3.100	0.106	0.122
B	1.100	1.500	0.043	0.059
C	1.000 TYP		0.039 TYP	
D	0.400 TYP		0.016 TYP	
E	0.350	0.480	0.014	0.019
G	1.800	2.000	0.071	0.079
H	0.020	0.100	0.001	0.004
J	0.100 TYP		0.004 TYP	
K	2.200	2.600	0.087	0.102

**Recommended Pad Layout**



## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View BAT54S-HF on WIN SOURCE](#)
- [Comchip Technology Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management