



# BAT54S

DIODE

## SCHOTTKY BARRIER (DUAL) DIODES

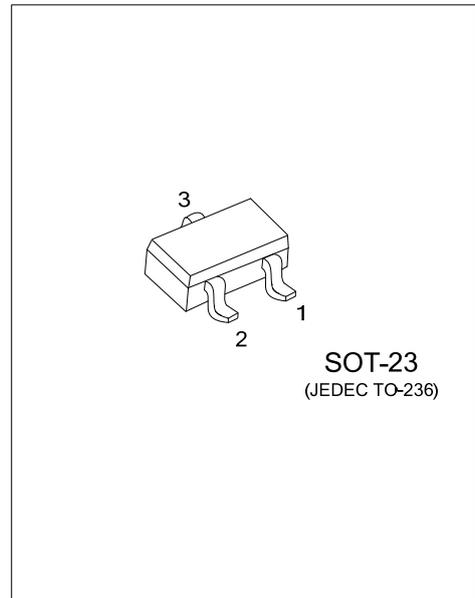
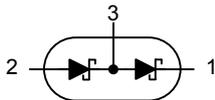
### DESCRIPTION

Planar Schottky barrier diodes are encapsulated in the SOT-23 small plastic SMD package. Single diodes and dual diodes with different pin configuration are available.

### FEATURES

- \* Low forward voltage
- \* Guard ring protected
- \* Small plastic SMD package

### SYMBOL



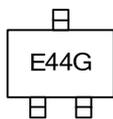
### ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
BAT54SG-AE3-R	SOT-23	K1	K2	K2A1	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>BAT54SG-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free</p>
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### MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
<b>PER DIODE</b>			
Continuous Reverse Voltage	$V_R$	30	V
Continuous Forward Current	$I_F$	200	mA
Repetitive Peak Forward Current ( $t_P < 1\text{s}$ , $\delta \leq 0.5$ )	$I_{FRM}$	300	mA
Non-repetitive Peak Forward Current ( $t_P < 10\text{ms}$ )	$I_{FSM}$	600	mA
Junction Temperature	$T_J$	+125	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-60 ~ +150	$^\circ\text{C}$
<b>PER DEVICE</b>			
Power Dissipation ( $T_A \leq 25^\circ\text{C}$ )	$P_D$	230	mW

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	$\theta_{JA}$	500	$^\circ\text{C}/\text{W}$

■ ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage (See Fig.1)	$V_F$	$I_F = 0.1\text{mA}$			240	mV
		$I_F = 1\text{mA}$			320	mV
		$I_F = 10\text{mA}$			400	mV
		$I_F = 30\text{mA}$			500	mV
		$I_F = 100\text{mA}$			800	mV
Reverse Current (See Fig.2)	$I_R$	$V_R = 25\text{V}$			2	$\mu\text{A}$
Reverse Recovery Time (see Fig.4)	$t_{rr}$	When switched from $I_F = 10\text{mA}$ to $I_R = 10\text{mA}$ , $R_L = 100\Omega$ measured at $I_R = 1\text{mA}$			5	ns
Diode Capacitance (see Fig.3)	$C_D$	$f = 1\text{MHz}$ , $V_R = 1\text{V}$			10	pF

## TYPICAL CHARACTERISTICS

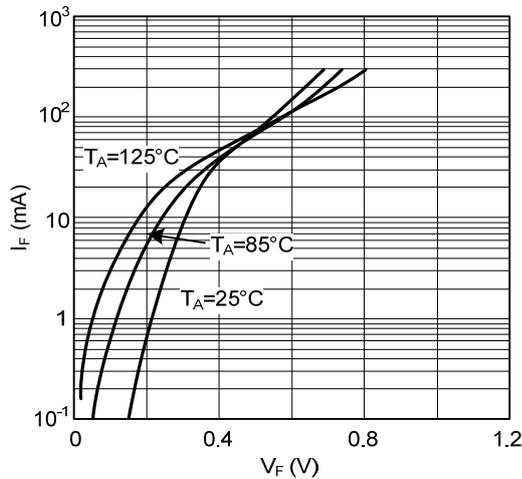


Fig.1 Forward current as a function of forward voltage; typical values.

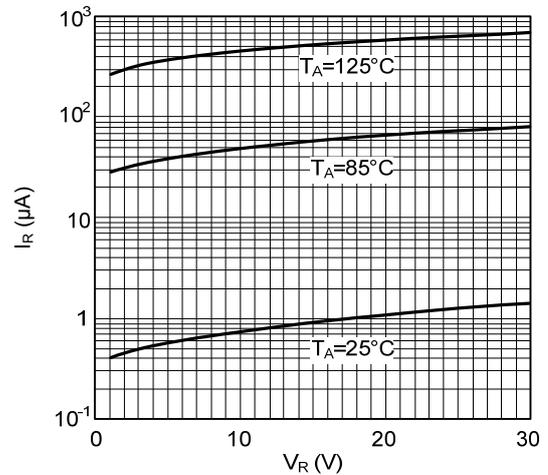


Fig.2 Reverse current as a function of reverse voltage; typical values.

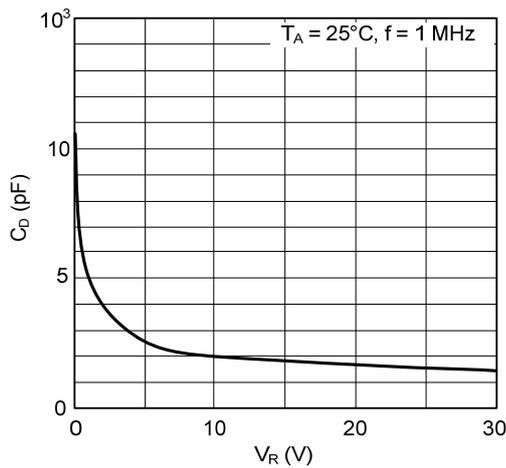


Fig.3 Diode capacitance as a function of reverse voltage; typical values.

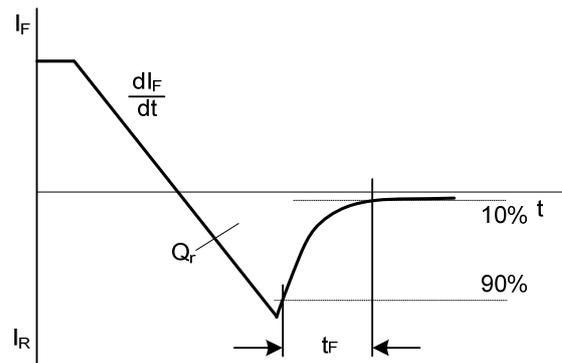


Fig.4 Reverse recovery definitions

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