

## Small Signal Schottky Rectifier



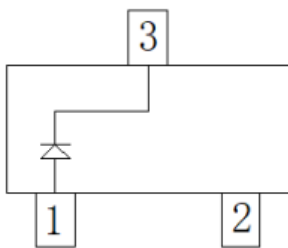
**SOT-23**

### Features

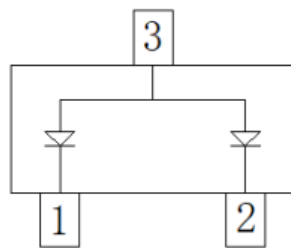
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Low Forward Voltage Schottky Rectifier
- $V_{RRM}$  30V
- $I_{FAV}$  200mA
- Part no. with suffix "Q" means AEC-Q101 qualified

### Mechanical Data

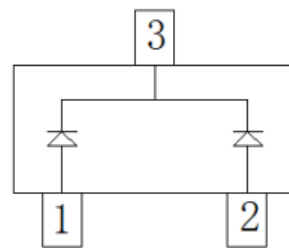
- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



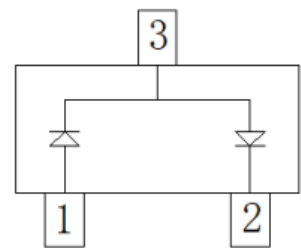
BAT54Q



BAT54AQ



BAT54CQ



BAT54SQ

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		30
Average Forward Current	$I_{FAV}$	mA		200
Peak Forward Surge Current	$I_{FSM}$	A	square wave $t_p < 10\text{ms}$	3
Power Dissipation	$P_{tot}$	mW		200
Thermal Resistance Junction to Ambient	$R_{thJA}$	$^\circ\text{C}/\text{W}$		500
Junction Temperature	$T_j$	$^\circ\text{C}$		-55 to +125
Storage Temperature Range	$T_{stg}$	$^\circ\text{C}$		-55 to +150



## BAT54Q&BAT54AQ&BAT54CQ&BAT54SQ

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Forward Voltage	V <sub>F</sub>	V	I <sub>F</sub> =0.1mA		0.24
			I <sub>F</sub> =1mA		0.32
			I <sub>F</sub> =10mA		0.4
			I <sub>F</sub> =30mA		0.5
			I <sub>F</sub> =100mA		1
Reverse Current	I <sub>R</sub>	μA	V <sub>R</sub> =25V		2
Breakdown Voltage	V <sub>BR</sub>	V	I <sub>R</sub> =10μA	35	
Junction Capacitance	C <sub>J</sub>	pF	V <sub>R</sub> =1V, f=1MHZ		10
Reverse Recovery Time	t <sub>rr</sub>	ns	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =1mA, R <sub>L</sub> =100Ω		5

### ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAT54Q&BAT54AQ&BAT54CQ&BAT54SQ	F2	Approximate 0.01	3000	30000	120000	7" reel



# BAT54Q&BAT54AQ&BAT54CQ&BAT54SQ

## ■ Characteristics (Typical)

Fig.1:  $P_D - T_A$

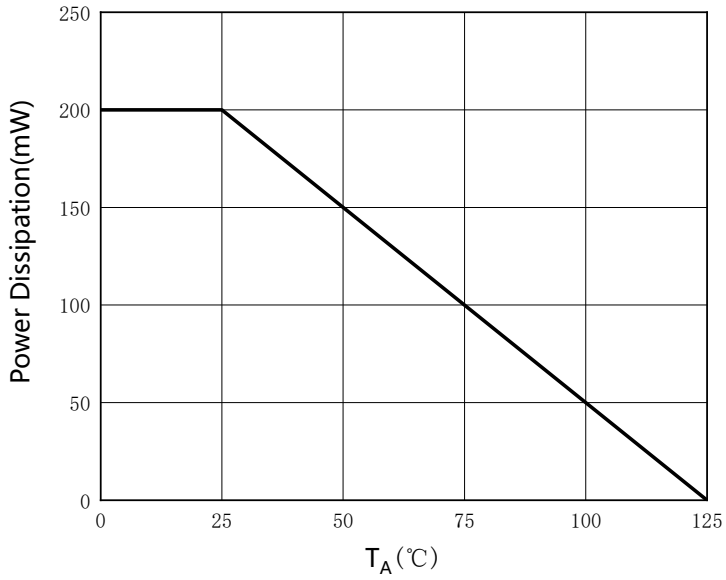


Fig.2: Capacitance Characteristics

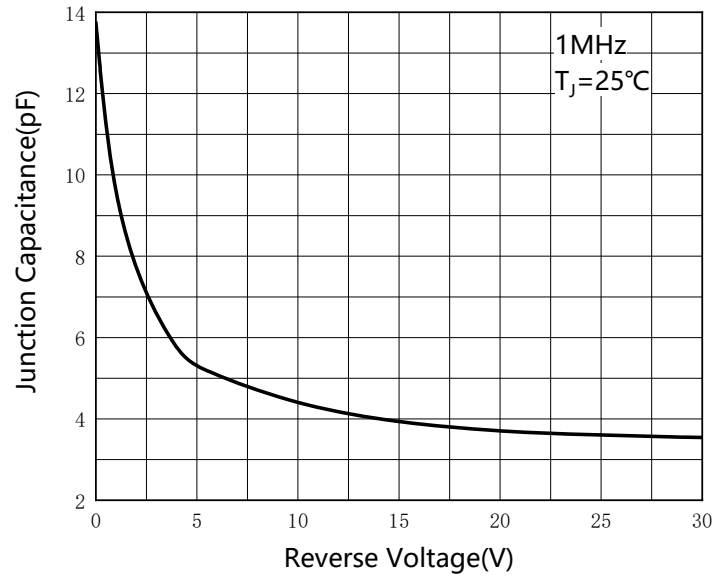


Fig.3: Forward Characteristics

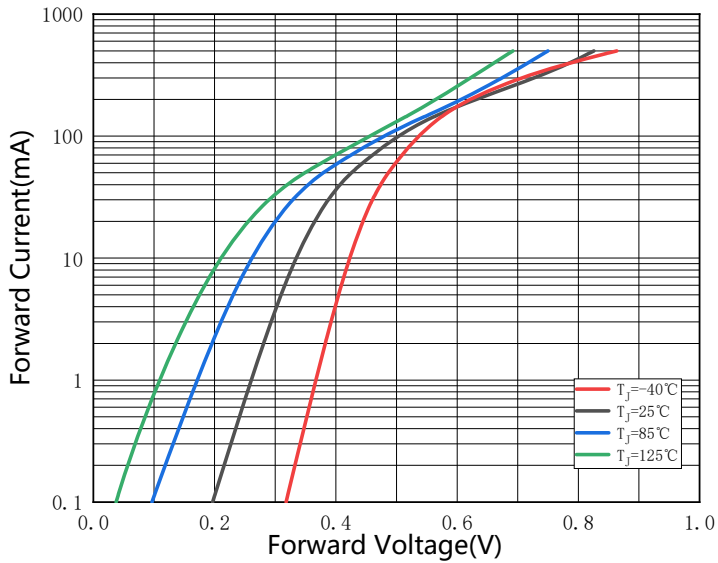
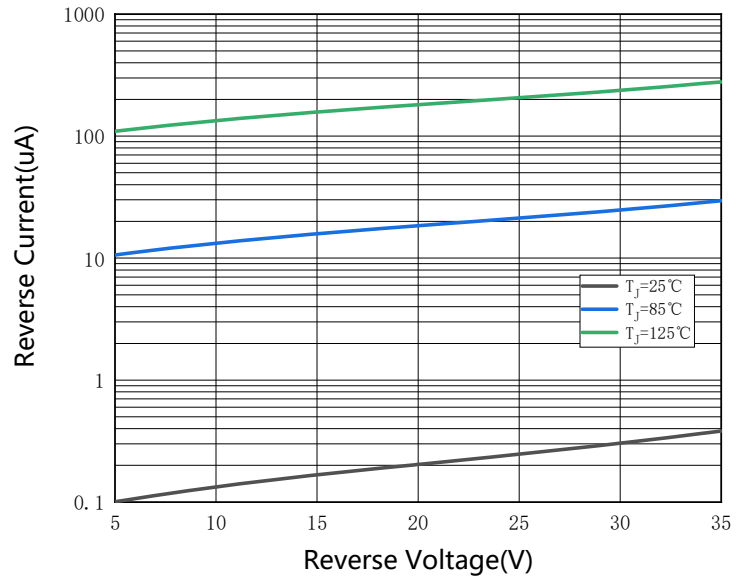


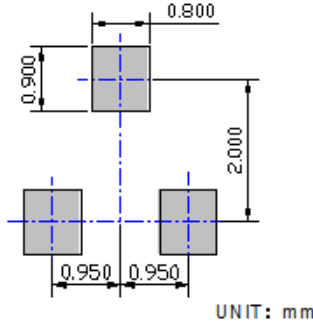
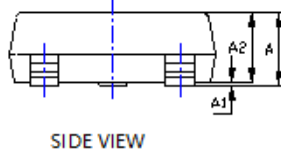
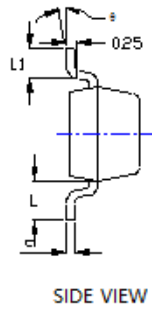
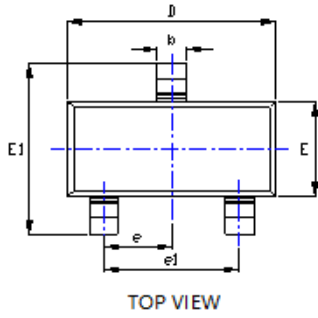
Fig.4: Reverse Characteristics





# BAT54Q&BAT54AQ&BAT54CQ&BAT54SQ

## ■ Outline Dimensions



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
φ	0°	8°	0°	8°

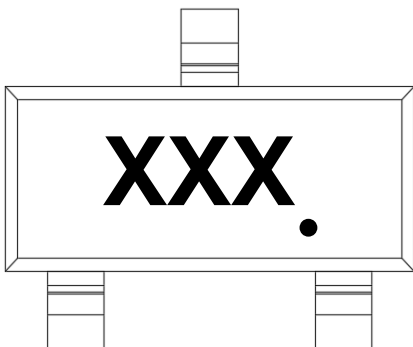
**NOTE:**

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.

2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.

3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

## ■ Marking Information



PN	Marking Code
BAT54Q	KL1.
BAT54AQ	KL2.
BAT54CQ	KL3.
BAT54SQ	KL4.

**Note:**

1. All marking is at middle of the product body
2. All marking is in laser marking
3. XX. is Marking Code
4. Body color: Black



## BAT54Q&BAT54AQ&BAT54CQ&BAT54SQ

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