

Small Signal Schottky Rectifier



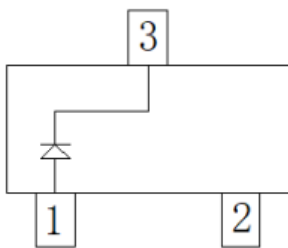
SOT-23

Features

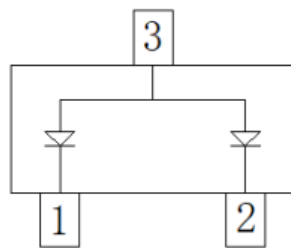
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Low Forward Voltage Schottky Rectifier
- V_{RRM} 30V
- I_{FAV} 200mA
- Part no. with suffix "Q" means AEC-Q101 qualified

Mechanical Data

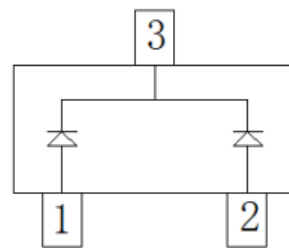
- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



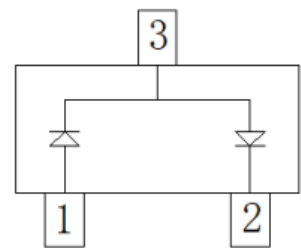
BAT54Q



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_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Forward Voltage	V _F	V	I _F =0.1mA		0.24
			I _F =1mA		0.32
			I _F =10mA		0.4
			I _F =30mA		0.5
			I _F =100mA		1
Reverse Current	I _R	μA	V _R =25V		2
Breakdown Voltage	V _{BR}	V	I _R =10μA	35	
Junction Capacitance	C _J	pF	V _R =1V, f=1MHZ		10
Reverse Recovery Time	t _{rr}	ns	I _F =I _R =10mA, I _{rr} =1mA, R _L =100Ω		5

■ Ordering Information (Example)

PREFERED 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

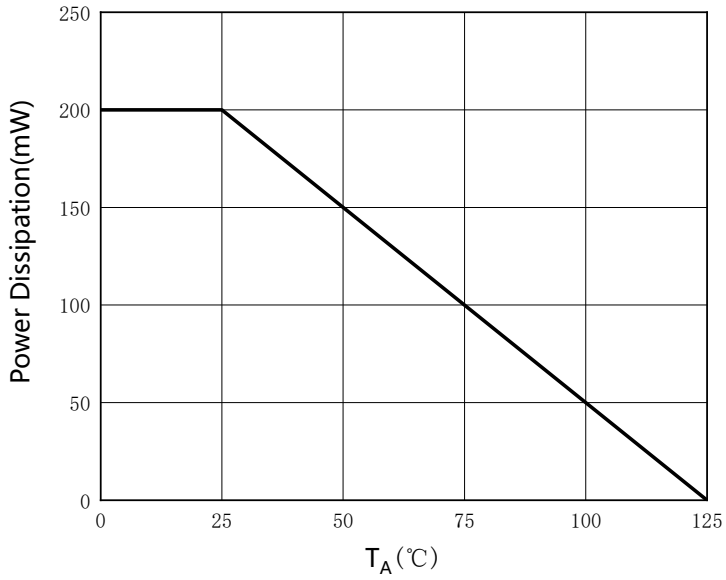


Fig.2: Capacitance Characteristics

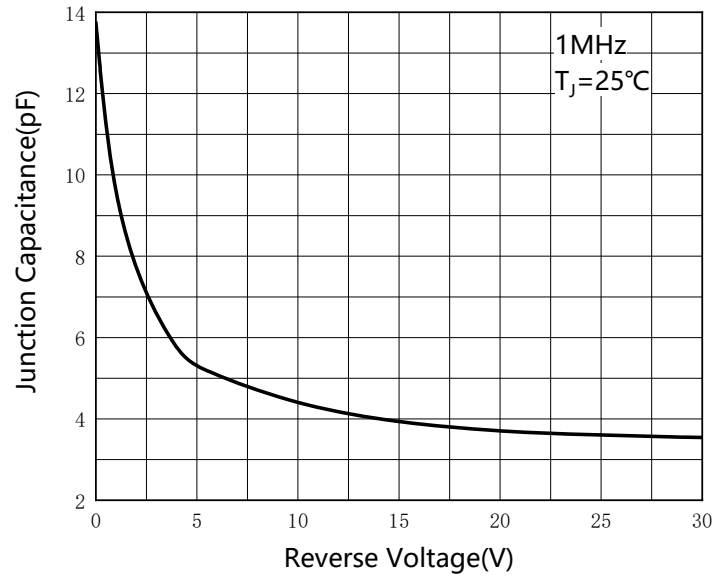


Fig.3: Forward Characteristics

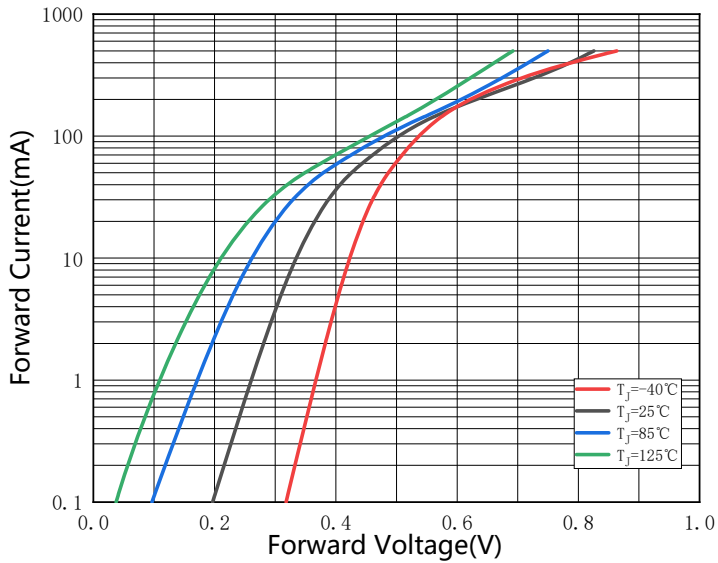
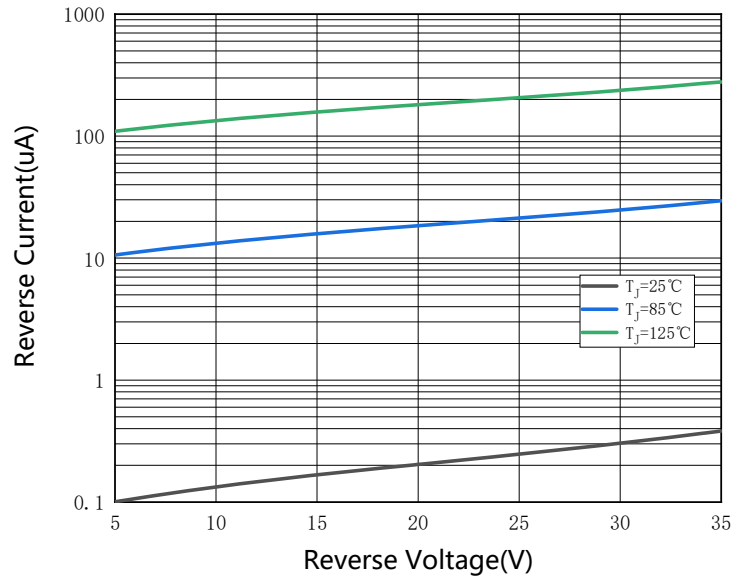


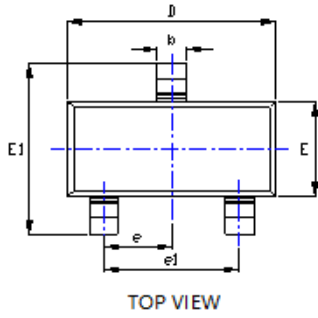
Fig.4: Reverse Characteristics



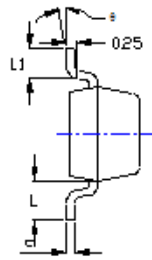


BAT54Q&BAT54AQ&BAT54CQ&BAT54SQ

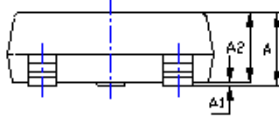
■ Outline Dimensions



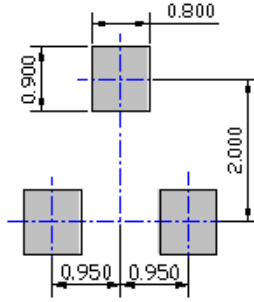
TOP VIEW



SIDE VIEW



SIDE VIEW



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
θ	0°	8°	0°	8°

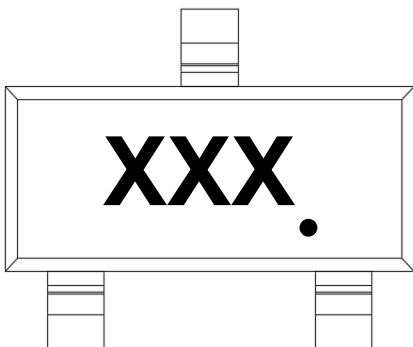
NOTE:

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

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, life-saving, life-sustaining, or military, Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.