



Small Signal Schottky Diode



Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Low Forward Voltage Schottky Rectifier
- V_{RRM} 40V
- I_{FAV} 120mA
- Part no. with suffix "Q" means AEC-Q101 qualified

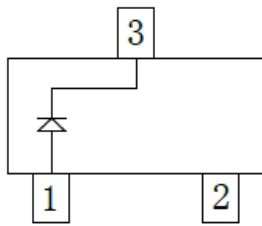
Applications

- Ultra high speed switching
- Voltage clamping
- Automotive

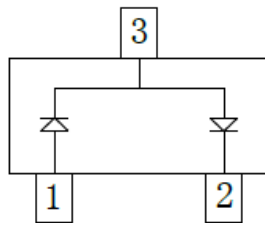
SOT-23

Mechanical Data

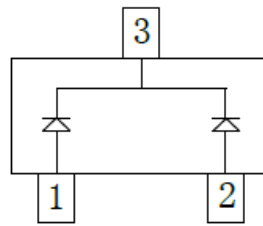
- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



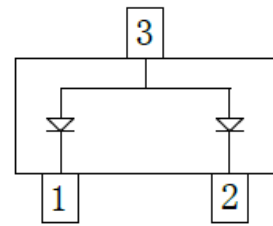
BAS40HQ
Marking:43%



BAS40-04HQ
Marking:44%



BAS40-05HQ
Marking:45%



BAS40-06HQ
Marking:46%

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

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Repetitive Peak Reverse Voltage	V_{RRM}	V		40
Average Forward Current	I_{FAV}	mA		120
Peak Forward Surge Current	I_{FSM}	A	square wave $t_p < 10\text{ms}$	2
Power Dissipation	P_{tot}	mW		250
Thermal Resistance Junction to Ambient	R_{thJA}	$^\circ\text{C}/\text{W}$		500
Junction Temperature	T_j	$^\circ\text{C}$		-55 to +150
Storage Temperature Range	T_{stg}	$^\circ\text{C}$		-55 to +150



BAS40HQ&BAS40-04HQ&BAS40-05HQ&BAS40-06HQ

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Forward Voltage	V _F	V	I _F =1mA		0.38
			I _F =40mA		1
Reverse Current	I _R	μA	V _R =30V		0.2
Breakdown Voltage	V _R	V	I _R =10μA	40	
Junction Capacitance	C _J	pF	V _R =0 V, f =1MHZ		5
Reverse Recovery Time	t _{rr}	ns	I _F =I _R =10mA, I _{rr} =1mA, R _L =100Ω		7

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAS40HQ BAS40- 04HQ BAS40-05HQ BAS40- 06HQ	F2	Approximate 0.01	3000	30000	120000	7" reel



■ Characteristics (Typical)

Fig. 1: P_D-T_A

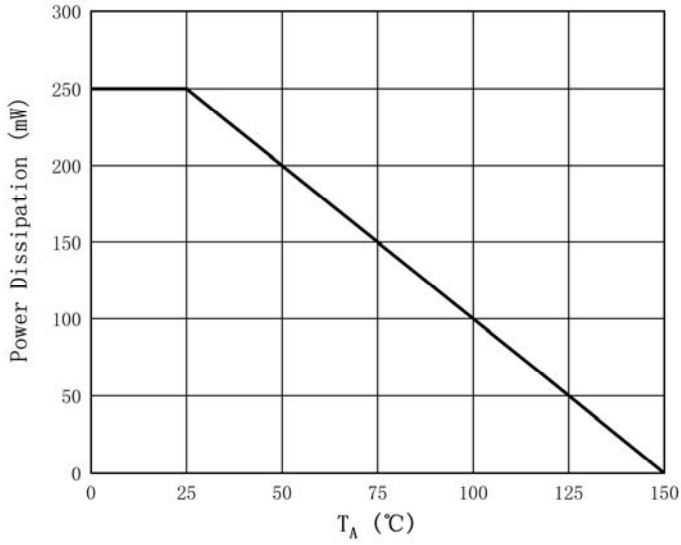


Fig. 2: Capacitance Characteristics

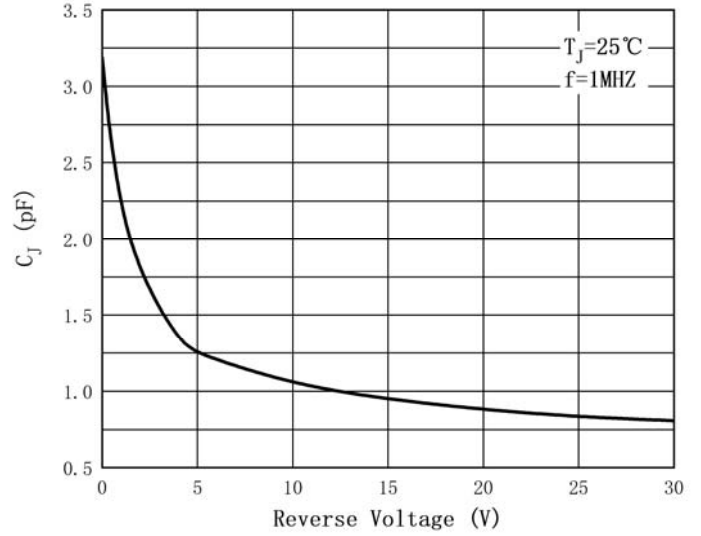


Fig. 3: Forward Characteristics

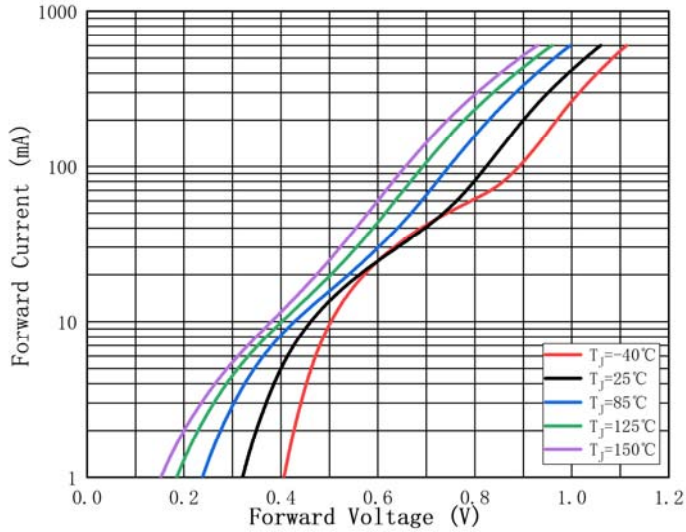
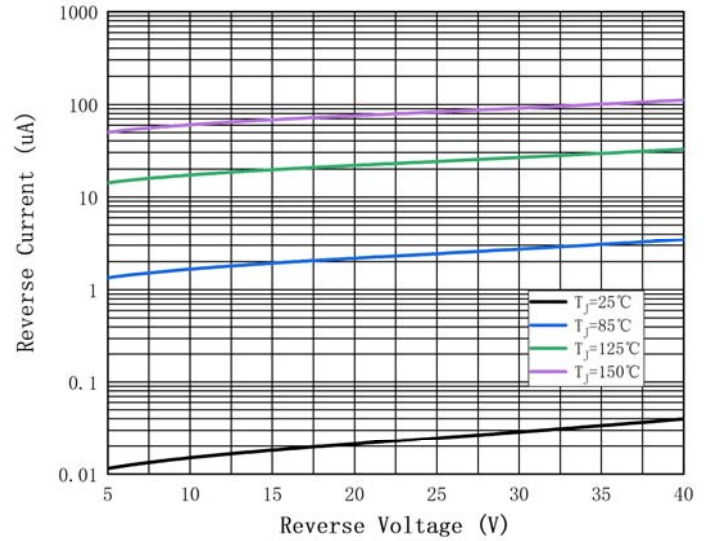
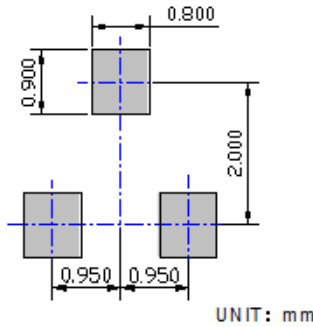
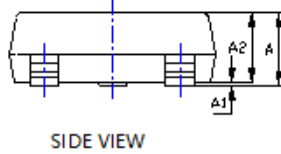
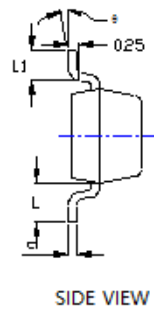
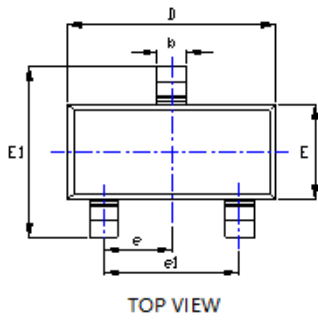


Fig. 4: Reverse Characteristics





■ Outline Dimensions



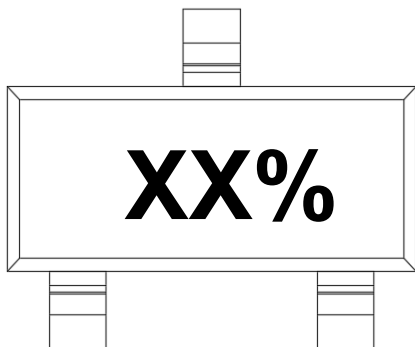
UNIT: mm

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
BAS40Q	43%
BAS40- 04Q	44%
BAS40-05Q	45%
BAS40- 06Q	46%

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



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