

## Small Signal Schottky Diode



### SOT-323

#### Features

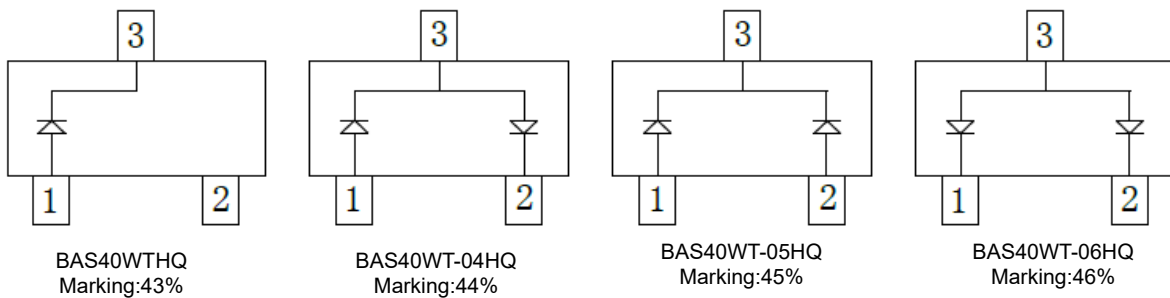
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Low Forward Voltage Schottky Rectifier
- $V_{RRM}$  40V
- $I_{FAV}$  120mA
- Part no. with suffix "Q" means AEC-Q101 qualified

#### Applications

- Ultra high speed switching
- Voltage clamping
- Automotive

#### Mechanical Data

- **Case:** SOT-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



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

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Peak Repetitive Reverse Voltage	$V_{RRM}$	V		40
Average Forward Current	$I_{FAV}$	mA		120
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	A	square wave $t_p < 10\text{ms}$	2
Power Dissipation	$P_D$	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



## BAS40WTHQ THRU BAS40WT-06HQ

### ■ 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> =1mA		0.38
			I <sub>F</sub> =40mA		1
Reverse Current	I <sub>R</sub>	μA	V <sub>R</sub> =30V		0.2
Reverse Breakdown Voltage	V <sub>BR</sub>	V	I <sub>R</sub> =10μA	40	
Junction Capacitance	C <sub>J</sub>	pF	V <sub>R</sub> =0V, f =1MHz		5
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		7

### ■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAS40WTHQ BAS40WT-04HQ BAS40WT-05HQ BAS40WT-06HQ	F2	Approximate 0.006	3000	30000	120000	7" reel



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## ■ Characteristics (Typical)

Fig. 1:  $P_D-T_A$

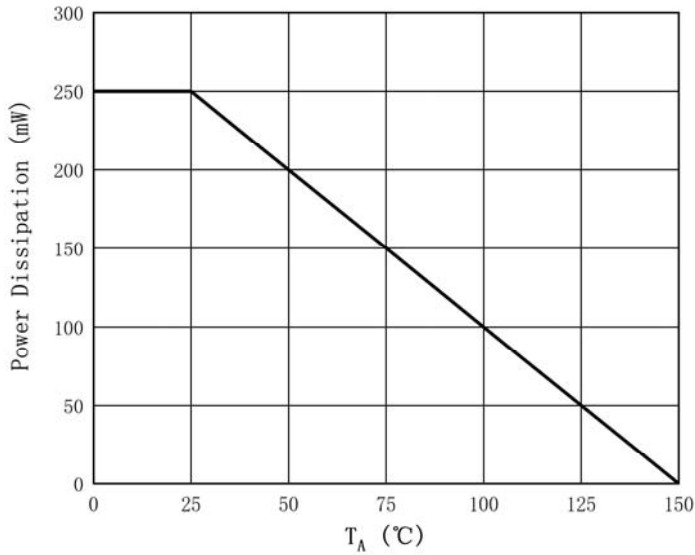


Fig. 2: Capacitance Characteristics

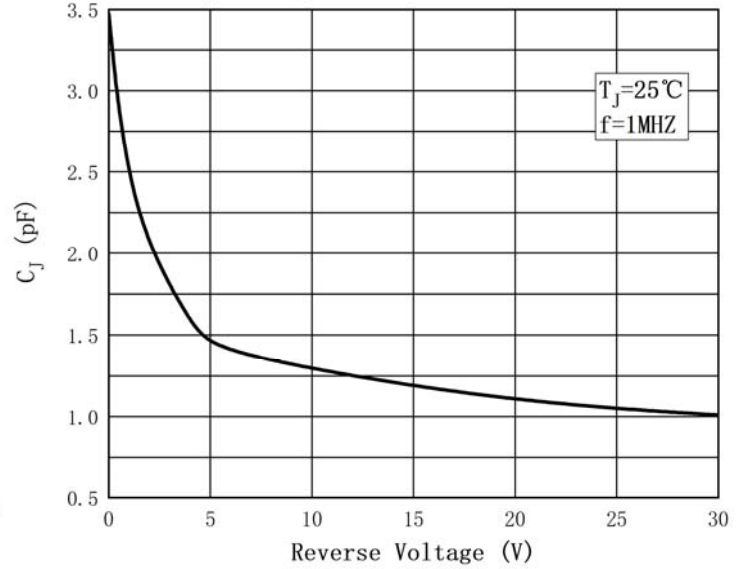


Fig. 3: Forward Characteristics

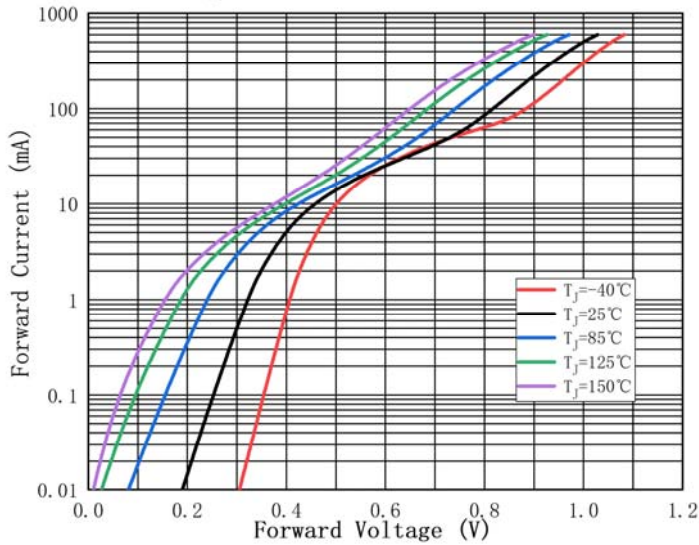
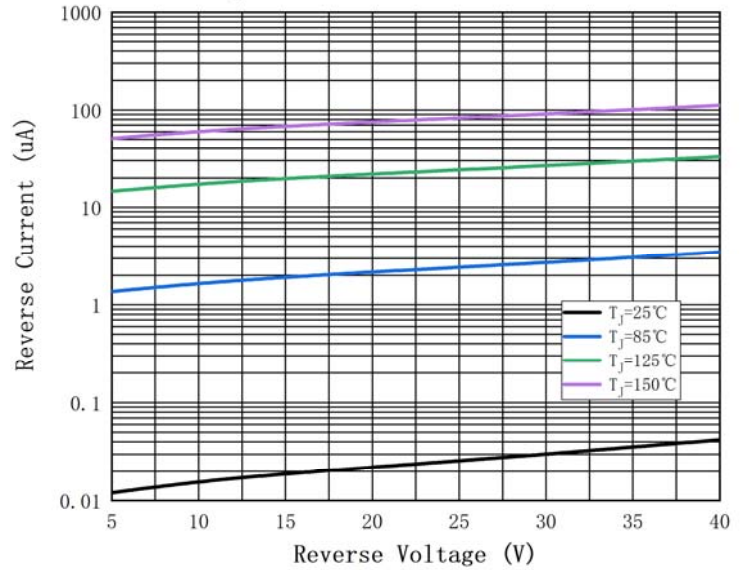


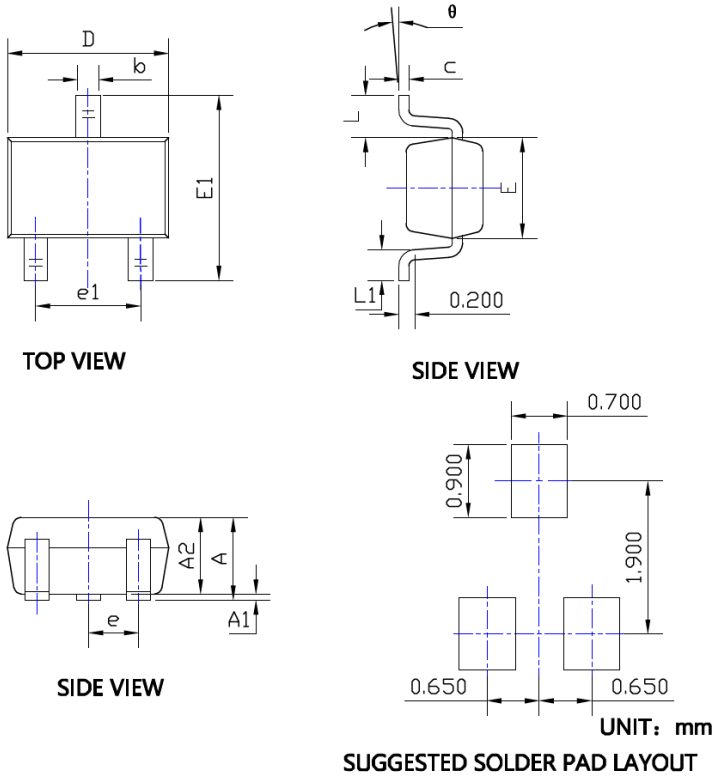
Fig. 4: Reverse Characteristics





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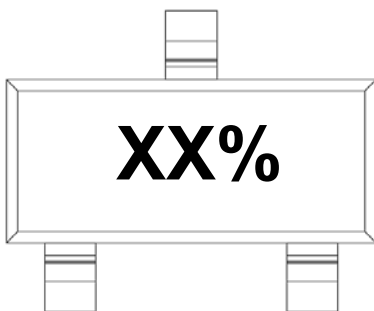
## ■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026 TYP		0.650 TYP	
e1	0.047	0.055	1.200	1.400
L	0.021 REF		0.525 REF	
L1	0.010	0.018	0.260	0.460
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
BAS40WTHQ	43%
BAS40WT-04HQ	44%
BAS40WT-05HQ	45%
BAS40WT-06HQ	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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