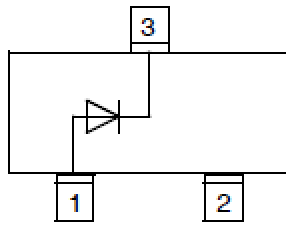


## High Speed Switching Diode



**SOT-23**

### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- $V_R$  75V
- $I_{FAV}$  150mA
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- Extreme fast switches
- Automotive

### Mechanical Data

- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** A6

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

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Reverse Voltage	$V_R$	V		75
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		100
Average Forward Current	$I_{FAV}$	mA		150
Repetitive Peak Forward Current	$I_{FRM}$	mA		300
Peak Forward Surge Current	$I_{FSM}$	A	Pulse width=1 us Pulse width=1 s	2 1
Power Dissipation	$P_{tot}$	mW		350
Thermal Resistance Junction to Ambient	$R_{thJA}$	K/W		357
Maximum Junction Temperature	$T_j$	$^\circ\text{C}$		-55 to +150
Storage Temperature Range	$T_{stg}$	$^\circ\text{C}$		-55 to +150



## BAS16Q

### ■ 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		0.715
			I <sub>F</sub> =10mA		0.855
			I <sub>F</sub> =50mA		1.0
			I <sub>F</sub> =150mA		1.25
Reverse Current	I <sub>R</sub>	μA	V <sub>R</sub> =75V		1.0
Breakdown Voltage	V <sub>R</sub>	V	I <sub>R</sub> =10μA	75	
Diode Capacitance	C <sub>D</sub>	pF	V <sub>R</sub> =V <sub>F</sub> =0V, f =1MHz		4
Reverse Recovery Time	t <sub>rr</sub>	ns	I <sub>F</sub> =10mA, I <sub>rr</sub> =0.1I <sub>R</sub> , R <sub>L</sub> =100Ω		4

### ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAS16Q	F2	Approximate 0.010	3000	30000	120000	7" reel



## ■ Characteristics (Typical)

Fig.1:  $P_D-T_A$

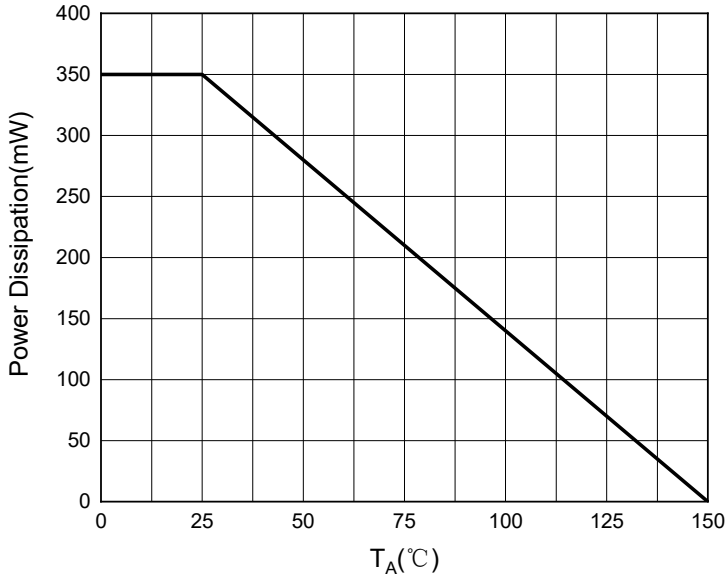


Fig.2: Capacitance Characteristics

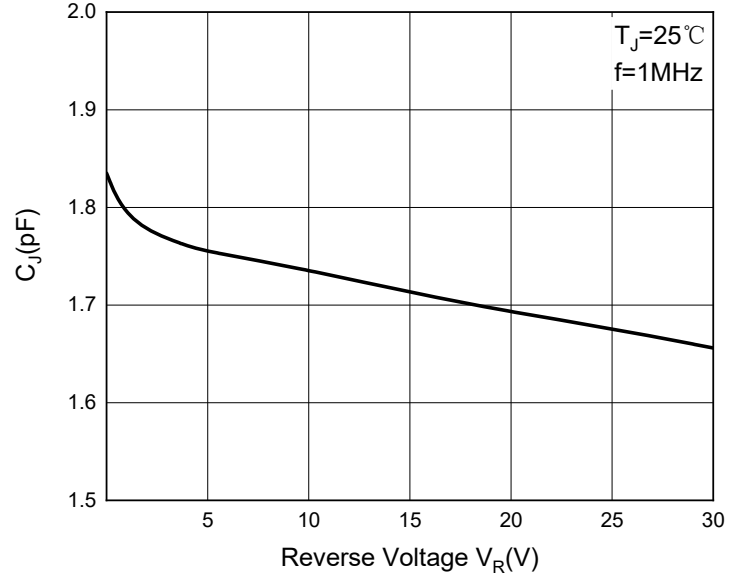


Fig.3: Forward Characteristics

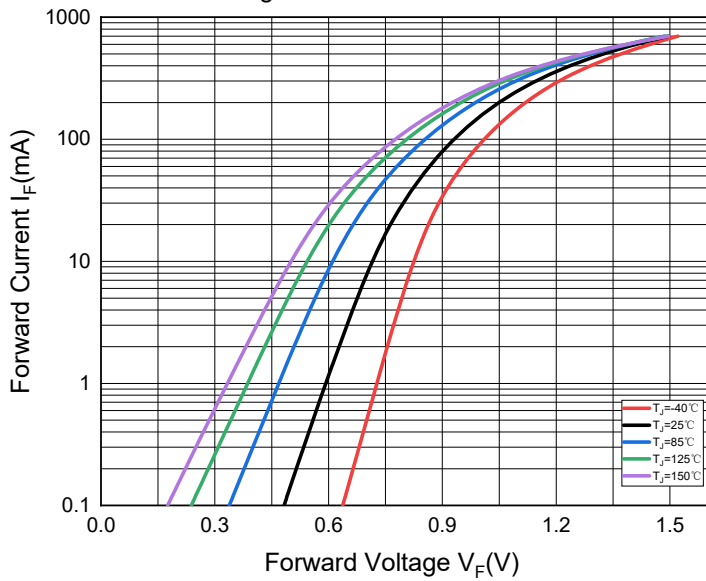
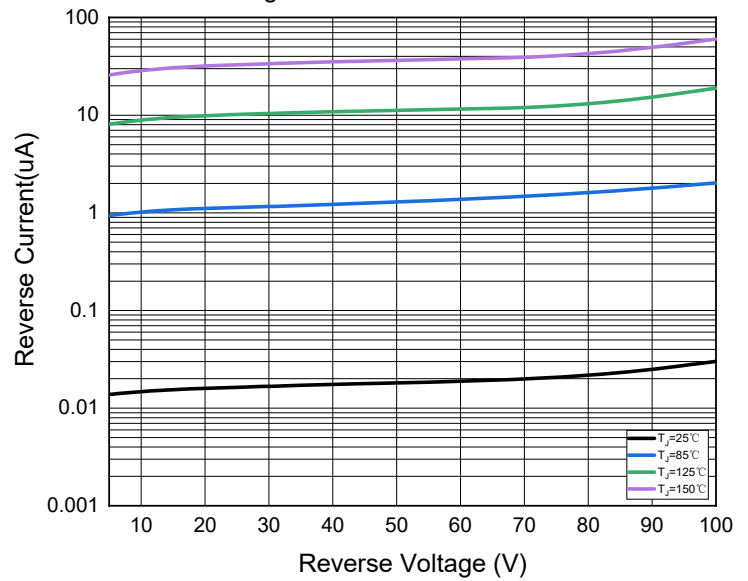


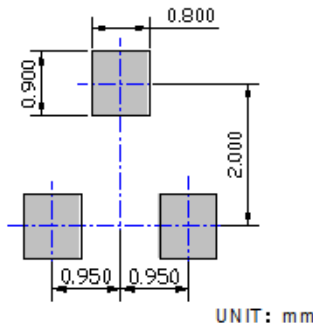
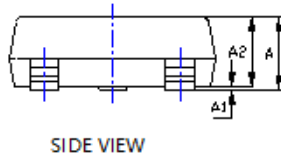
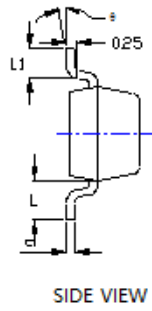
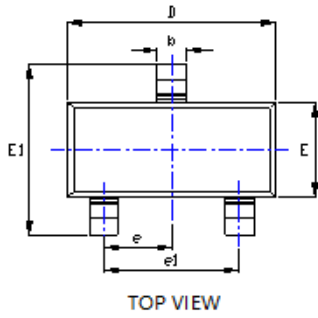
Fig.4: Reverse Characteristics





# BAS16Q

## ■ Outline Dimensions

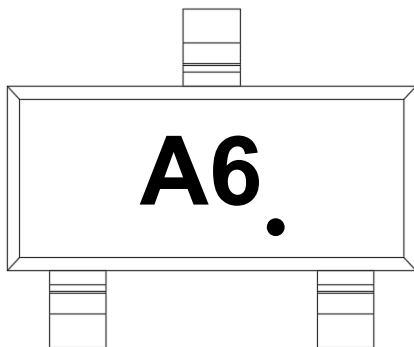


UNIT: mm

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



Note:

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



## BAS16Q

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