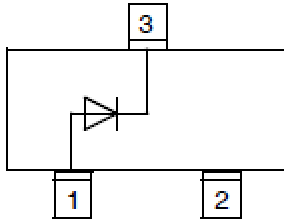


High Speed Switching Diode



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 μ s 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_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Forward Voltage	V _F	V	I _F =1mA		0.715
			I _F =10mA		0.855
			I _F =50mA		1.0
			I _F =150mA		1.25
Reverse Current	I _R	μA	V _R =75V		1.0
Breakdown Voltage	V _R	V	I _R =10μA	75	
Diode Capacitance	C _D	pF	V _R =V _F =0V, f =1MHz		4
Reverse Recovery Time	t _{rr}	ns	I _F =10mA, I _{rr} =0.1I _R , R _L =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

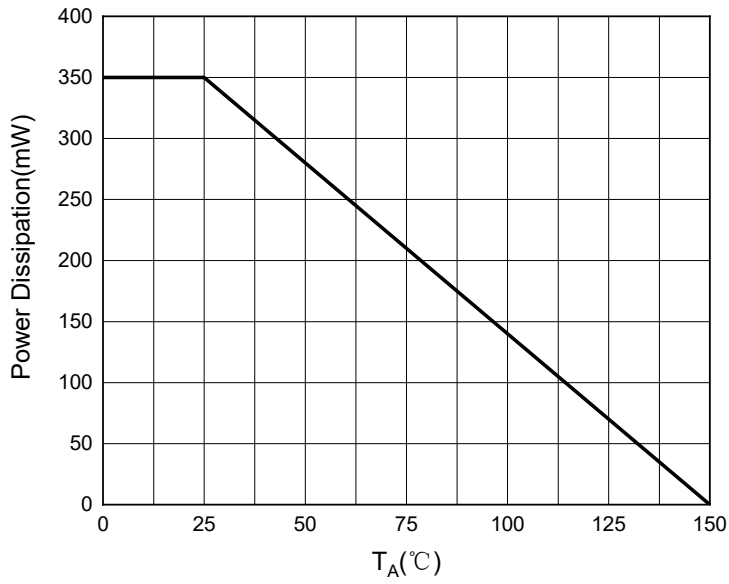


Fig.2: Capacitance Characteristics

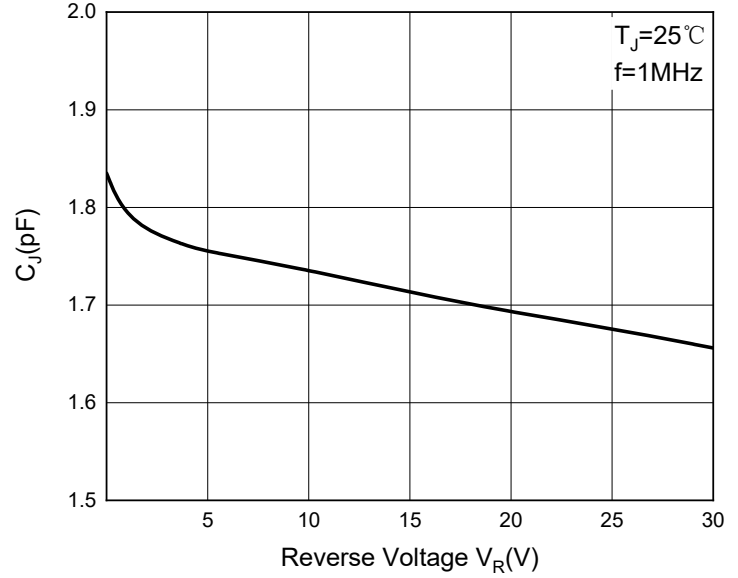


Fig.3: Forward Characteristics

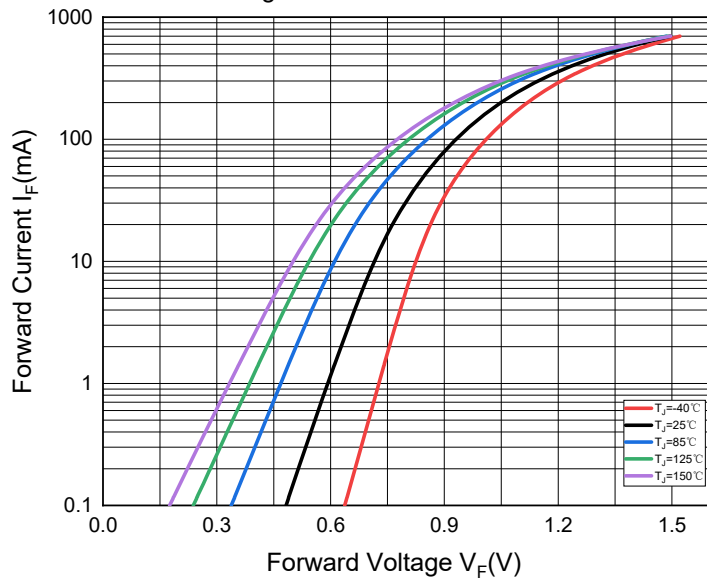
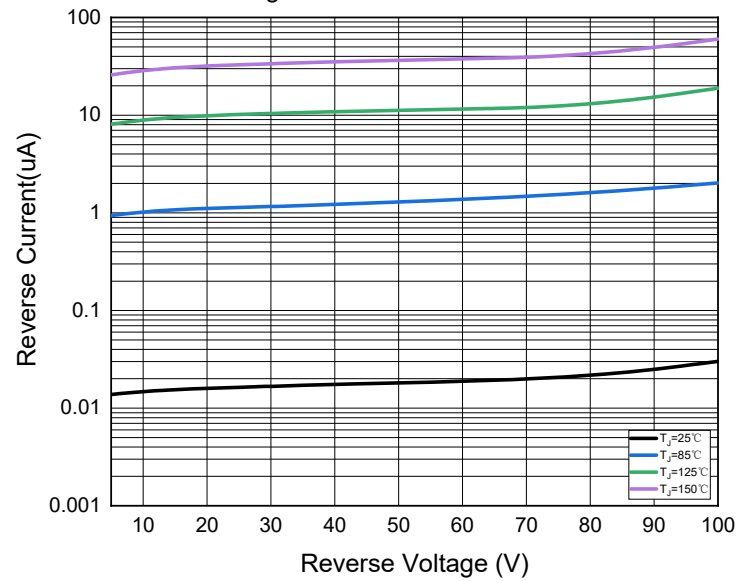
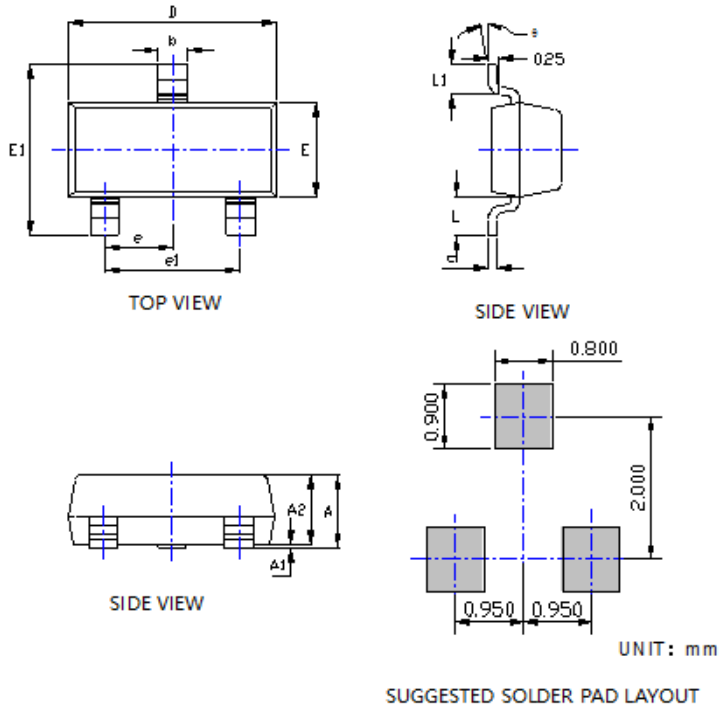


Fig.4: Reverse Characteristics



BAS16Q

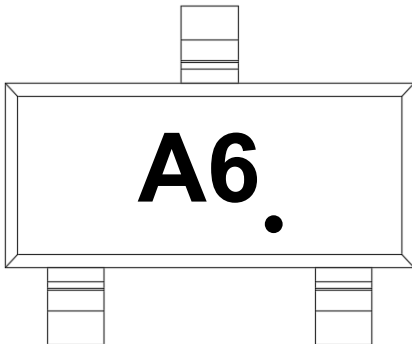
■ Outline Dimensions



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

Disclaimer

The information presented in this document is for reference only. Anhui Lingte Microsemiconductor 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.ltwsemi.cn](http://www.ltwsemi.cn) .