

Small Signal Schottky Diode



SOT-23

Features

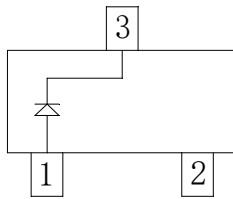
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Low Forward Voltage Schottky Rectifier
- V_{RRM} 40V
- I_{FAV} 0.12A
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

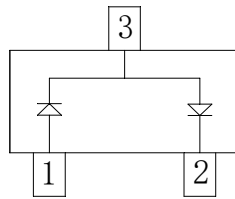
- Ultra high speed switching
- Voltage clamping

Mechanical Data

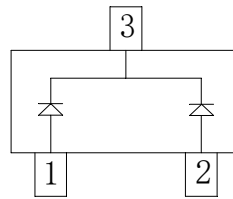
- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



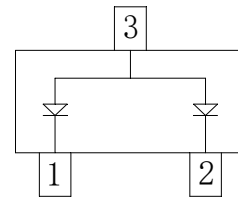
BAS40Q
Marking:43



BAS40-04Q
Marking:44



BAS40-05Q
Marking:45



BAS40-06Q
Marking:46

■ 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 $t_p < 10\text{ms}$	0.6
Power Dissipation	P_D	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



BAS40Q/BAS40-04Q/BAS40-05Q/BAS40-06Q

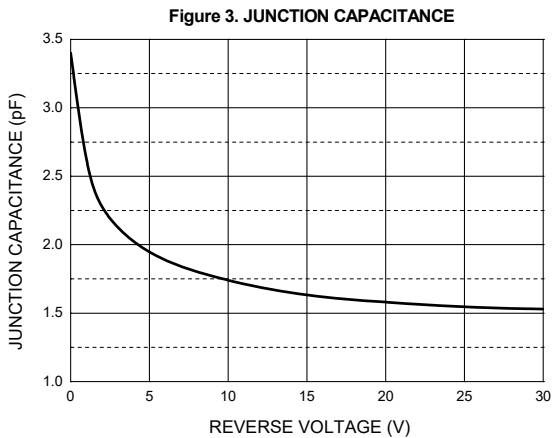
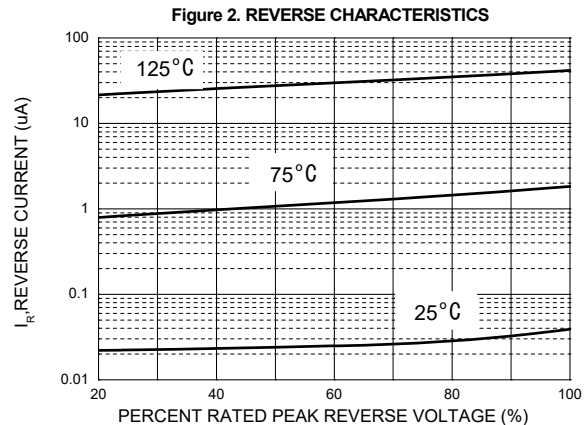
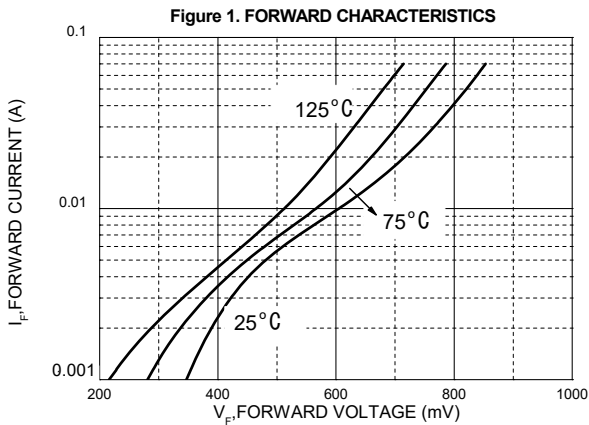
■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Reverse Breakdown Voltage	V _{(BR)R}	V	I _R =10uA	40	
Forward Voltage	V _F	V	I _F =1.0mA	-	0.38
			I _F =40mA	-	1.0
Reverse Current	I _R	μA	V _R =30V	-	0.2
Junction Capacitance	C _J	pF	V _R =0 V, f =1MHz	-	5
Reverse Recovery Time	t _{rr}	ns	I _F =I _R =5mA, I _{tr} =0.5mA, R _L =100Ω	-	5

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAS40Q/BAS40-04Q/BAS40-05Q/BAS40-06Q	F2	Approximate 0.01	3000	30000	120000	7" reel

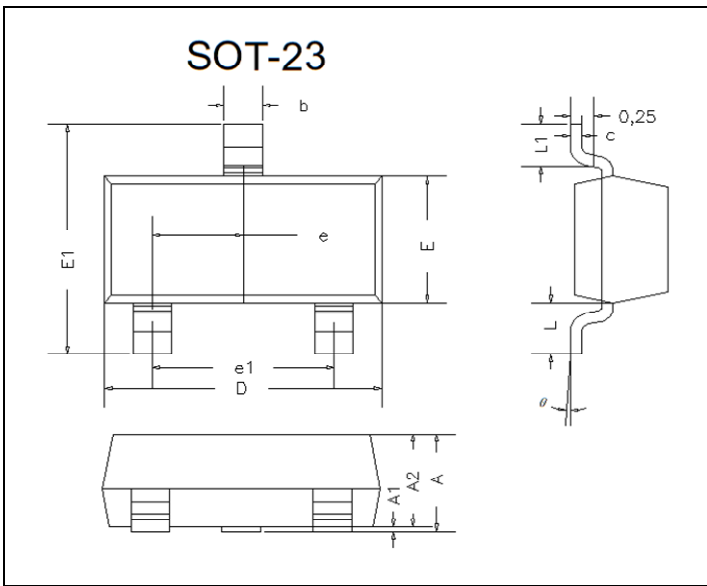
■ Characteristics(Typical)





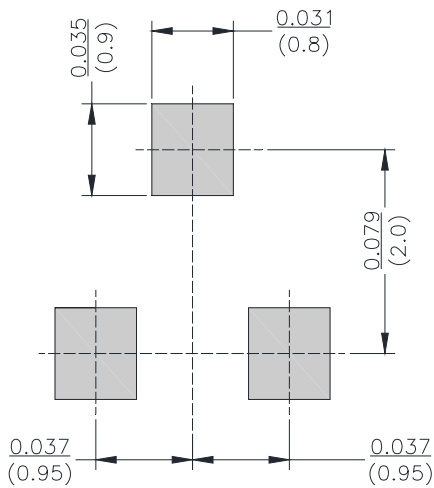
BAS40Q/BAS40-04Q/BAS40-05Q/BAS40-06Q

■ SOT-23 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.045	0.90	1.15	
A1	0.000	0.004	0.00	0.10	
A2	0.035	0.041	0.90	1.05	
b	0.012	0.020	0.30	0.50	
c	0.004	0.008	0.10	0.20	
D	0.110	0.118	2.80	3.00	
E	0.047	0.055	1.20	1.40	
E1	0.089	0.100	2.25	2.55	
e	0.370TYP		0.95TYP		
e1	0.071	0.079	1.80	2.00	
L	0.220REF		0.55REF		
L1	0.012	0.020	0.30	0.50	
θ	0°	8°	0°	8°	

■ SOT-23 Suggested Pad Layout



Unit: $\frac{\text{inch}}{\text{mm}}$



Disclaimer

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