

Surface Mount Schottky Diode

BAS40 Thru BAS40-06

Voltage: 40 Volts

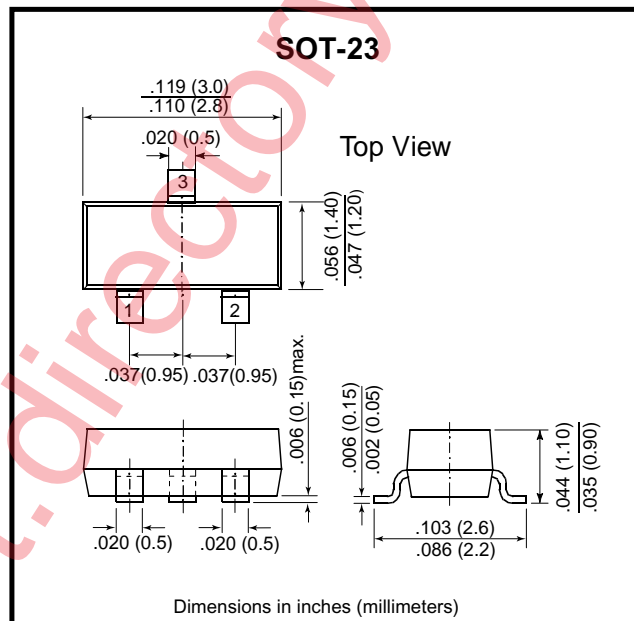
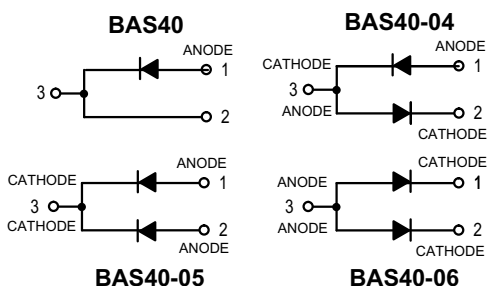
Power: 200mW

Features

- Low Turn-on Voltage
- Low Forward Voltage - 0.5V(Max) @ $I_F = 30 \text{ mA}$
- Very Low Capacitance - Less Than 5.0pF @ 1V
- For high speed switching application, circuit protection

Mechanical data

- Case: SOT-23, Molded Plastic
- Weight: 0.008 grams (approx.)
- Mounting Position: Any



Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted)

Rating	Symbol	Value	Units
Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Forward Continuous Current at $T_{amb} = 25^\circ\text{C}$	I_F	200(1)	mA
Surge Forward Current at $t_p < 1 \text{ s}$, $T_{amb} = 25^\circ\text{C}$	I_{FSM}	600(1)	mA
Power Dissipation(1) at $T_{amb} = 25^\circ\text{C}$	P_{tot}	200(1)	mW
Thermal Resistance Junction to Ambient Air	R_{thJA}	430(1)	$^\circ\text{C}/\text{W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (TA = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Reverse Breakdown Voltage	$V(BR)R$	$I_R = 10\mu\text{A}$ (pulsed)	40.0	-	-	V
Leakage Current	I_R	Pulse Test $t_p < 300\mu\text{s}$ $V_R = 30\text{V}$	-	20	100.0	nA
Forward Voltage	V_F	Pulse Test $t_p < 300\mu\text{s}$ $I_F = 1\text{mA}$	-	-	380	mV
		$I_F = 40\text{mA}$	-	-	1000	mV
Capacitance	C_{tot}	$V_R = 0\text{V}$ $f = 1\text{MHz}$	-	40	5	pF
Reverse Recovery Time	T_{rr}	$I_F = 10\text{mA}$, $I_R = 10\text{mA}$ $I_{rr} = 1\text{mA}$, $R_L = 100\Omega$	-	-	5	nS

Note: (1) Device on fiberglass substrate, see layout on next page.

RATING AND CHARACTERISTIC CURVES (BAS40 thru BAS40-06)

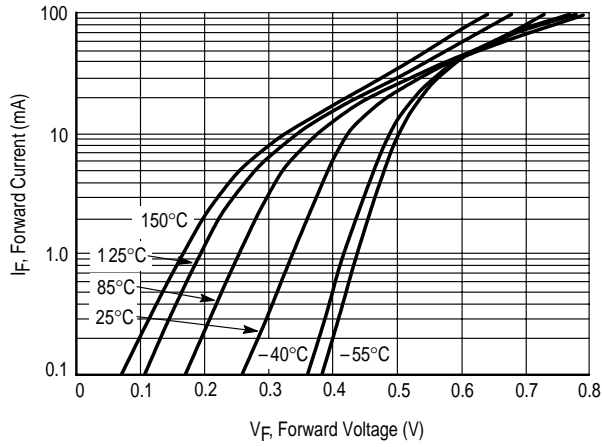


Figure 1. Typical Forward Voltage

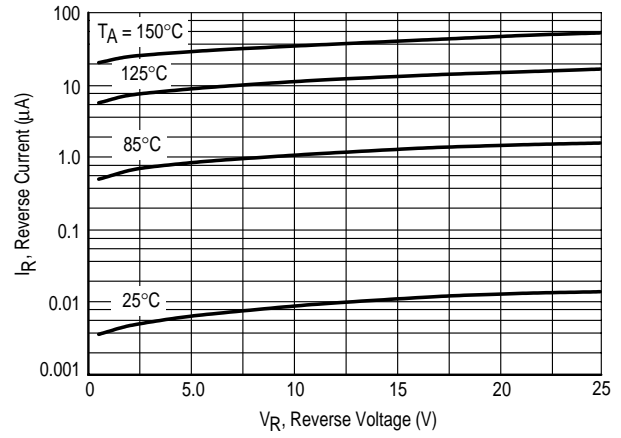


Figure 2. Reverse Current versus Reverse Voltage

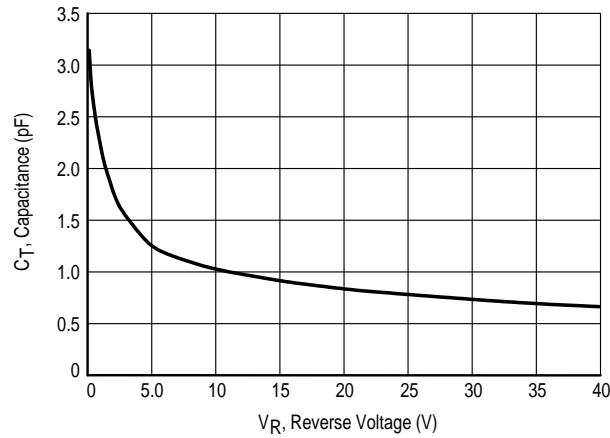


Figure 3. Typical Capacitance