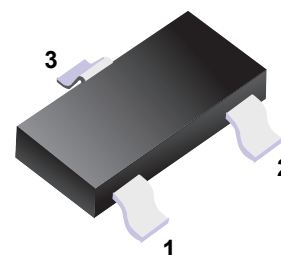




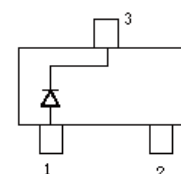
THE DATASHEET OF BAS16



Switching Diodes



■ Simplified outline(SOT-23)



■ Features

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage	V_{RRM}	75	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Average Rectified Output Current	I_O	200	mA
Forward Continuous Current	I_{FM}	300	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0 \mu\text{s}$ @ $t = 1.0\text{s}$	I_{FSM}	2.0	A
		1.0	
Power Dissipation	P_d	250	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T, T_{STG}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100 \mu\text{A}$	75			V
Forward Voltage	V_F	$I_F = 1.0\text{mA}$			0.715	V
		$I_F = 10\text{mA}$			0.855	
		$I_F = 50\text{mA}$			1.0	
		$I_F = 150\text{mA}$			1.25	
Leakage Current	I_R	$V_R = 75\text{V}$			1.0	μA
		$V_R = 20\text{V}$			25	nA
Junction Capacitance	C_j	$V_R = 0, f = 1.0\text{MHz}$			2	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10\text{mA}, I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$			4	ns

■ Typical Characteristics

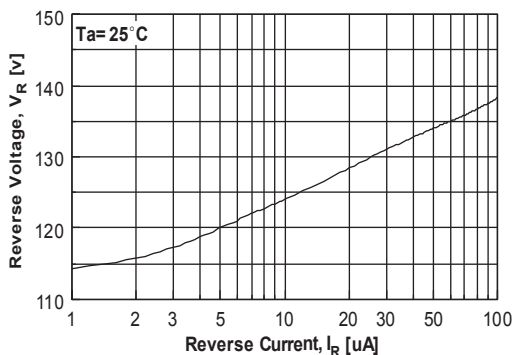


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 uA

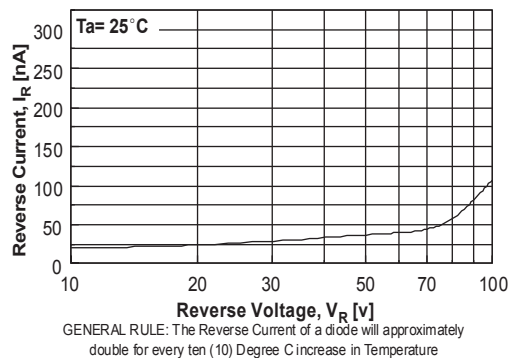


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

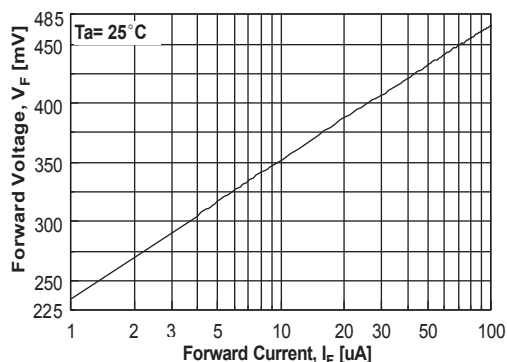


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 uA

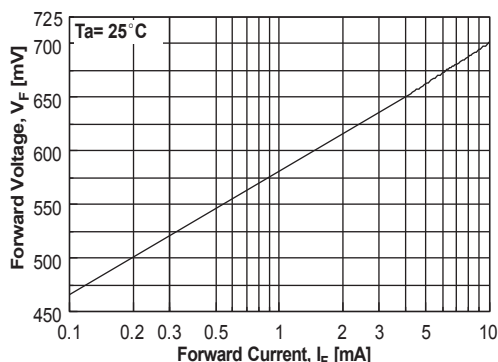


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

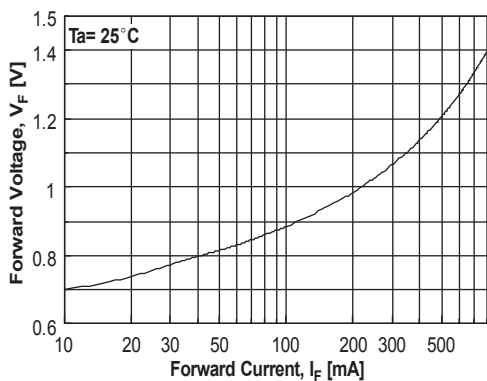


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800 mA

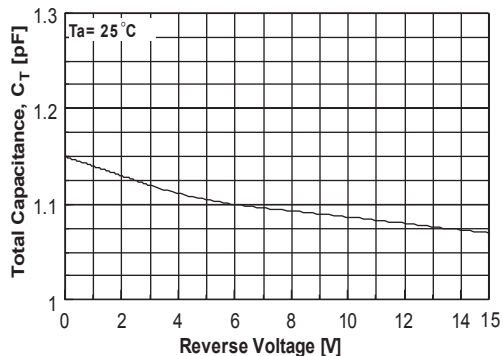


Figure 6. Total Capacitance

■ Typical Characteristics

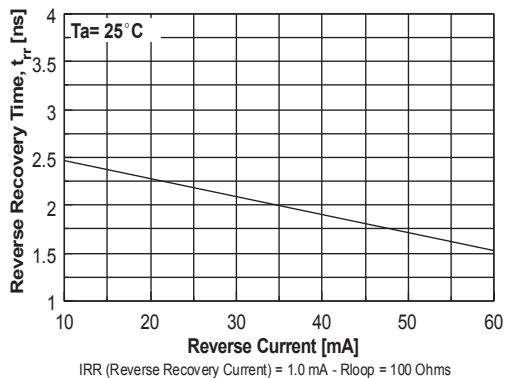


Figure 7. Reverse Recovery Time vs Reverse Current
TRR - IR 10 mA vs 60 mA

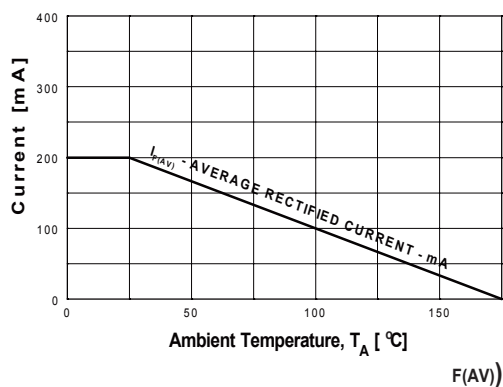


Figure 8. Average Rectified Current (I_A) versus Ambient Temperature (T)

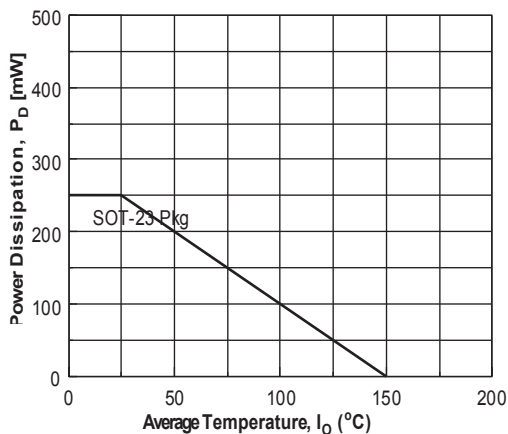
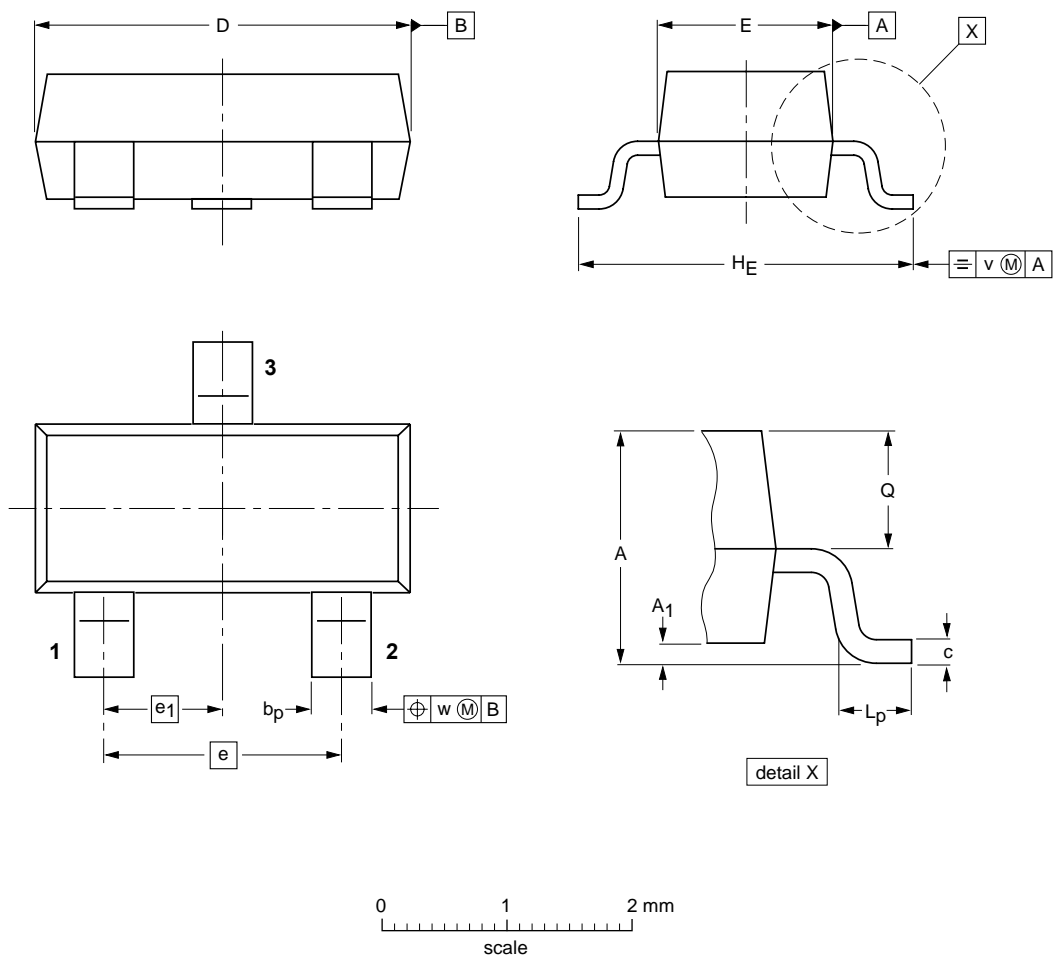


Figure 9. Power Derating Curve

■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

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