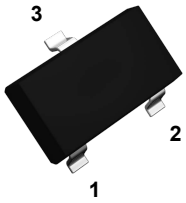
GOOD-ARK
SEMICONDUCTOR

BAS299
Switching Diode

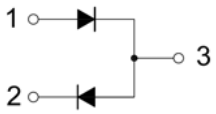
Features

- Fast switching speed
- For general purpose switching applications
- High conductance
- Low reverse leakage

RoHS
COMPLIANT



SOT-23



Schematic Diagram

Maximum Ratings (T_A=25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive Reverse Voltage	V_{RRM}	100	V
Reverse Voltage	V_R	100	V
Forward Current (Single Diode)	I_F	420	mA
Forward Current (Double Diode)		300	
Non-Repetitive Peak Forward Surge Current, @T_P=1.0us	I_{FSM}	9.0	A
Non-Repetitive Peak Forward Surge Current, @T_P=1.0ms		3.0	
Non-Repetitive Peak Forward Surge Current, @T_P=1.0s		1.0	
Repetitive Peak Forward Current	I_{FRM}	900	mA
Power Dissipation	P_D	300	mW
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	430	°C/W
Operating Junction Temperature Range	T_J	-55 To +150	°C
Storage Temperature Range	T_{STG}	-55 To +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Max.	Unit
Reverse Breakdown Voltage	V_R	I_R=100μA	100	-	V
Forward Voltage	V_F	I_F=1mA	-	0.72	V
		I_F=10mA	-	0.86	
		I_F=50mA	-	1	
		I_F=150mA	-	1.2	
		I_F=300mA	-	1.25	
Reverse Current	I_R	V_R=25V	-	30	nA
		V_R=100V	-	1	μA
		V_R=25V, T_J=150°C	-	30	
		V_R=100V, T_J=150°C	-	60	
Capacitance Between Terminals	C_T	V_R=0, f=1MHz	-	3	pF
Reverse Recovery Time	t_{rr}	I_F=I_R=10mA, R_L=100Ω, I_{RR}=0.1×I_R	-	6	ns
Forward Recovery Voltage	V_{FR}	I_F=10mA, t_r=20ns	-	1.75	V

Ratings and Characteristic Curves (T_A=25°C unless otherwise specified)

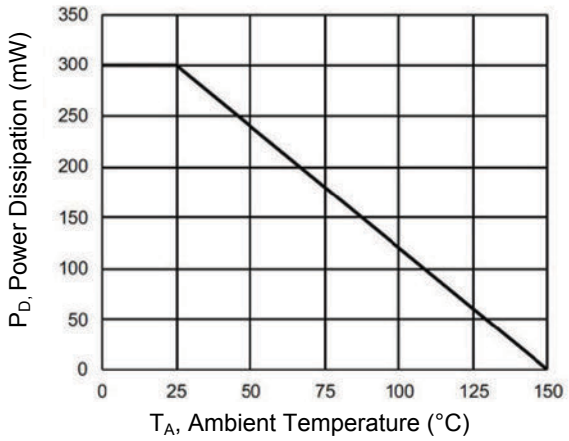


Figure 1. Power Derating Curve

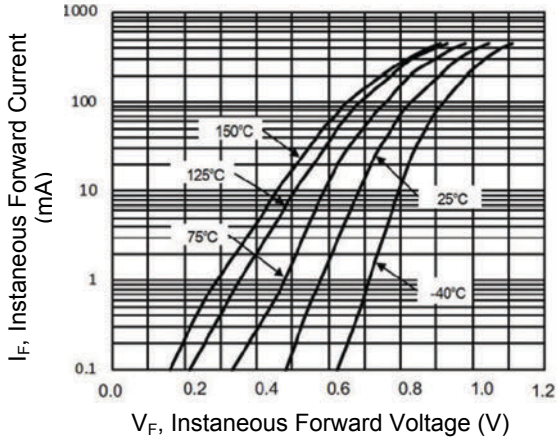


Figure 2. Forward Characteristics

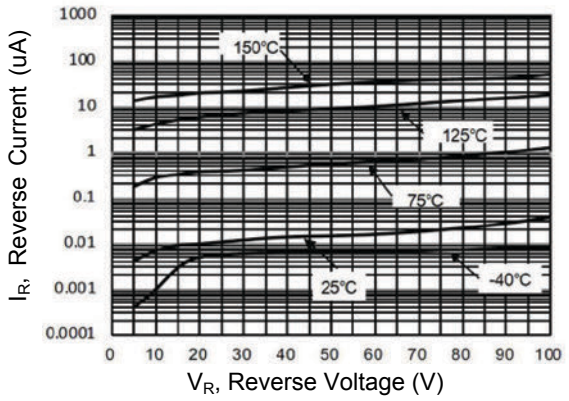


Figure 3. Reverse Characteristics

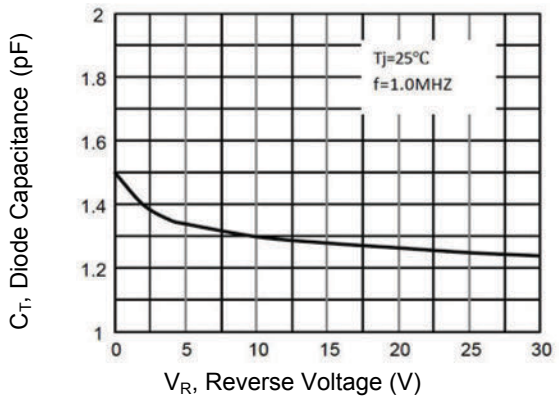
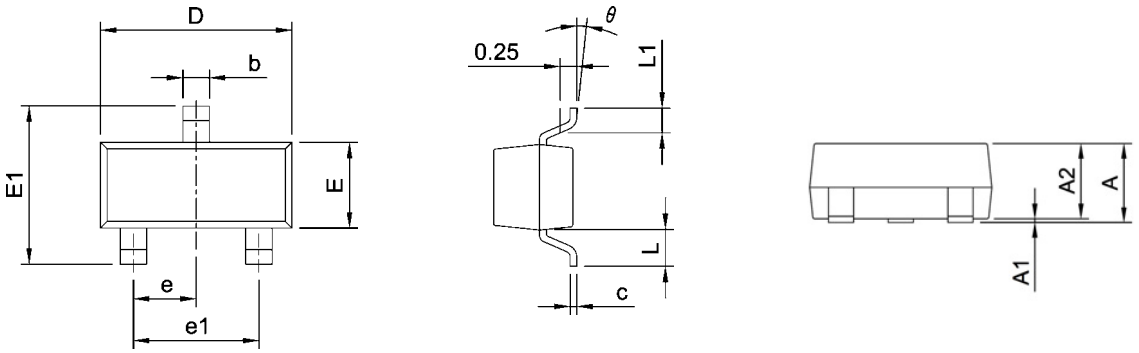


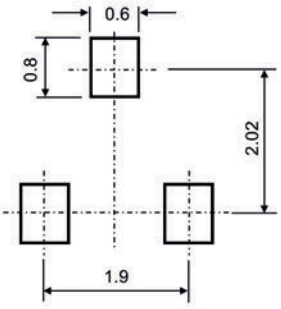
Figure 4. Capacitance Characteristics

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only

Order Information

Device	Package	Marking	Packaging	SPQ
BAS299	SOT-23	BA9	Tape & Reel	3,000 pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com