

# Switching Diodes

## 225mW SOT-23

BAS21x series

MERITEK

### FEATURE

- High switching speed:  $t_{rr} \leq 50$  ns
- Fast Switching Speed at High Voltage: 250V
- Average Rectified Current: 200mA
- Application: High-Speed Switching, Voltage Clamping, Reverse Polarity Protection



### MECHANICAL DATA

- Case: SOT-23, Molded Epoxy Meets UL94V-0
- Terminals: Solderable per MIL-STD, Method 2026



### MAXIMUM RATING

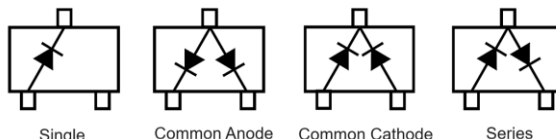
Parameter	Symbol	Value	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	250	V
Working Peak Reverse Voltage	$V_{RWM}$	250	V
DC Reverse Voltage	$V_R$	250	V
Average Forward Continuous Current	$I_{F(AV)}$	400	mA
Average Rectified Output Current	$I_O$	200	mA
Non-Repetitive Peak Forward Surge Current at $t=8.3ms$	$I_{FSM}$	2.5	A
Repetitive Peak Forward Surge Current	$I_{FRM}$	625	mA
Power Dissipation Derate above 25°C	$P_{TOT}$	225	mW
Typical Thermal Resistance	$R_{\theta JA}$	555	°C/W
Operating Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55~+150	°C

### ELECTRICAL CHARACTERISTICS

Parameter, $T_A = 25^\circ C$	Conditions	Symbol	Min	Typ.	Max	Unit
Reverse Breakdown Voltage	$I_R = 100\mu A$	$V_{(BR)R}$	250	--	--	V
Instantaneous Forward Voltage	$I_F = 100mA$	$V_F$	--	--	1.0	V
	$I_F = 200mA$		--	--	1.25	
Reverse Leakage Current	$V_R = 200V$	$I_R$	--	--	100	nA
Capacitance	$V_R = 0V, f = 1MHz$	$C_d$	--	--	5	pF
Reverse Recovery Time	$I_F = I_R = 30mA, I_{tr} = 0.1 * I_R, R_L = 100\Omega$	$t_{rr}$	--	--	50	ns

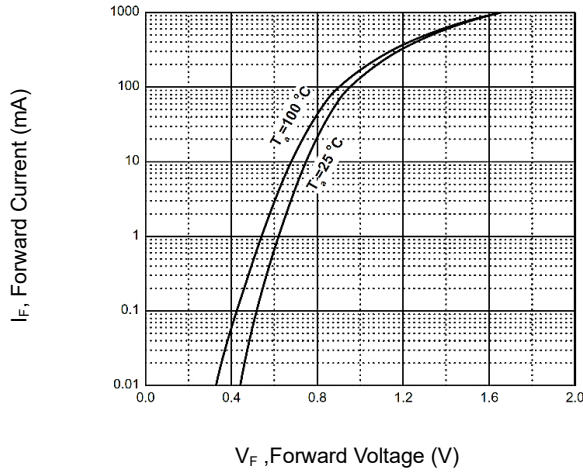
### ORDERING INFORMATION

Part Number	Circuit Configuration
BAS21	Single
BAS21A	Common Anode
BAS21C	Common Cathode
BAS21S	Series

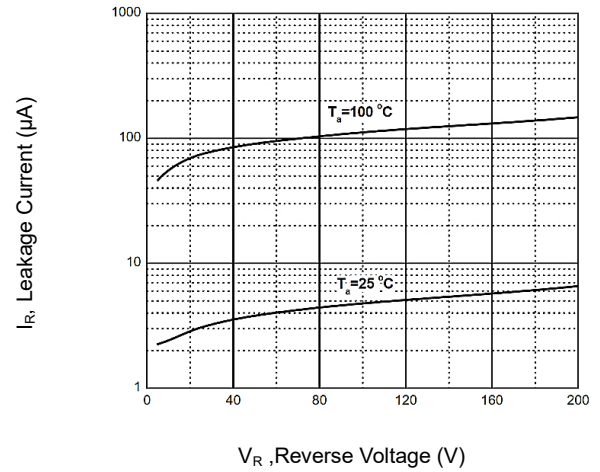


## CHARACTERISTIC CURVES

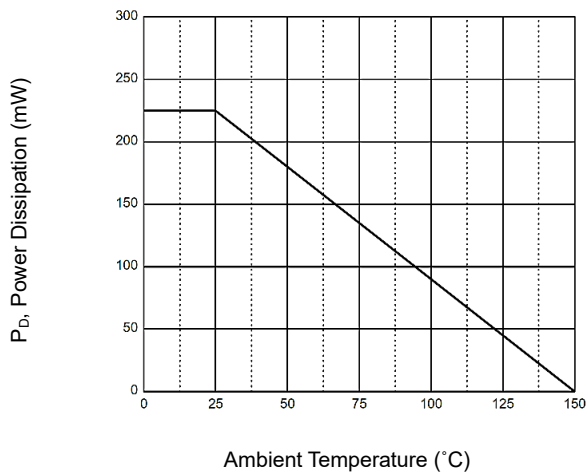
### Typical Forward Characteristics



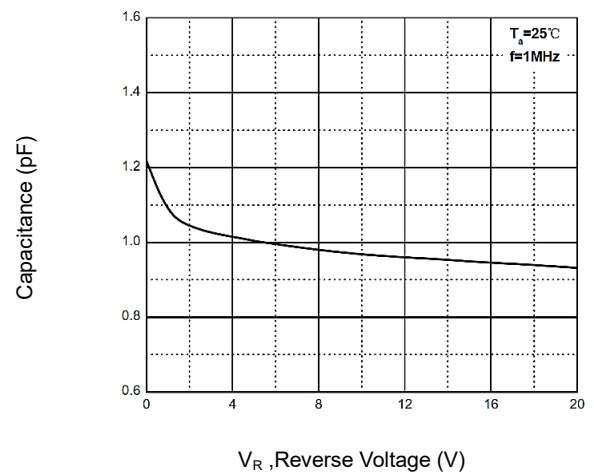
### Typical Reverse Characteristics



### Power Derating Curve

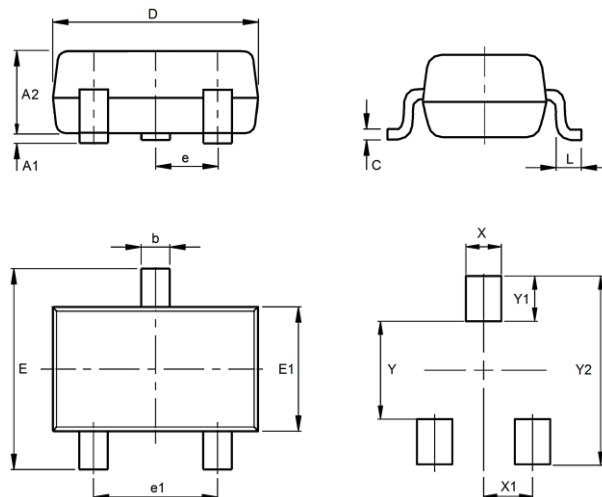


### Capacitance Characteristics



## DIMENSIONS

Item	Min (mm)	Max (mm)
A	0.89	1.30
b	0.30	0.50
c	0.09	0.18
D	2.80	3.04
e	0.85	1.05
e1	1.70	2.10
E	2.10	2.75
E1	1.20	1.60
L	0.32	0.67
X	0.80	
X1	0.95	
Y	1.10	
Y1	0.90	
Y2	2.90	



\*Specifications subject to change without notice.