

# Surface Mount Switching Diode

## BAS16W, BAS19W, BAS20W, BAS21W

Voltage: 75 - 200 Volts  
Power: 200 mWatts

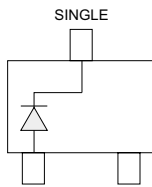


### Features

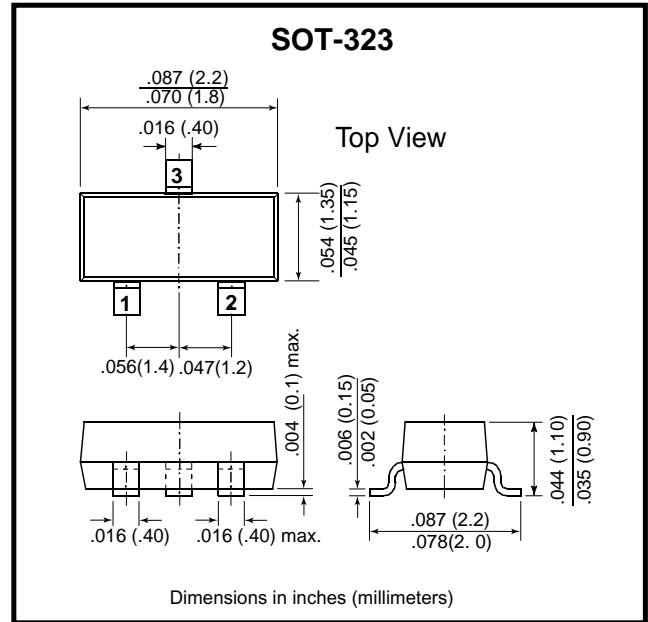
- Fast SwitchingSpeed
- Surface Mount Package Ideally Suited for Automatic Insertion
- Electrically Identical to Standard JEDEC
- High Conductance

### Mechanical data

- Case: SOT -23, Plastic
- Terminals : Solderable per NIL-STD -202, method 208
- Approx. Weight: 0.008 gram



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## Maximum Ratings and Electrical Characteristics

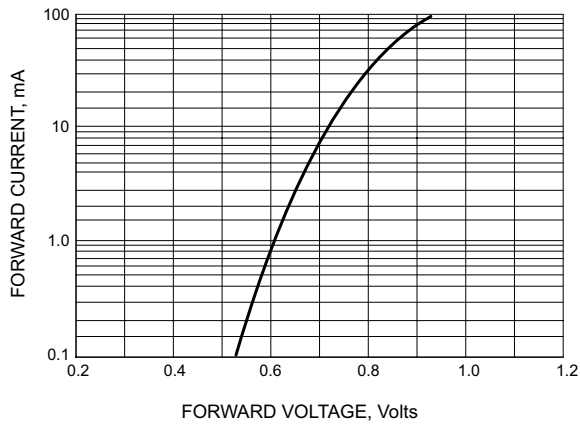
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbol	BAS16W	BAS19W	BAS20W	BAS21W	UNITS
Reverse Voltage	$V_R$	75	100	150	200	V
Peak Reverse Voltage	$V_{RM}$	100	120	200	250	V
Rectified Current (Average), Half Wave Rectification with Resistive Load and $f \geq 50$ Hz	$I_O$	250	200	200	200	mA
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	2.0	2.5	2.5	2.5	A
Power Dissipation Derate Above 25°C	$P_{TOT}$	200	200	200	200	mW
Maximum Forward Voltage @ $I_F=10mA$ @ $I_F=100mA$	$V_F$	0.855	1.0	1.0	1.0	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J= 25^\circ C$	$I_R$	1.0	0.1	0.1	0.1	$\mu A$
Typical Junction Capacitance (Notes1)	$C_J$	2.0	1.5	1.5	1.5	pF
Maximum Reverse Recovery (Notes2)	$T_{RR}$	6.0	50.0	50.0	50.0	nS
Maximum Thermal Resistance	$R_{\theta JA}$	357				$^\circ C/W$
Storage Temperature Range	$T_J$	-55 to +125				$^\circ C$

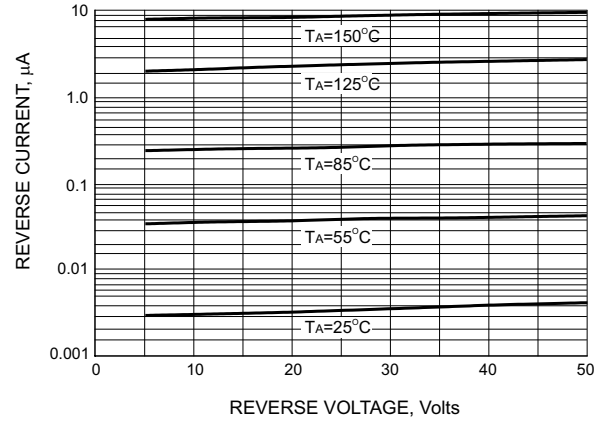
**NOTE:**

- $C_J$  at  $V_R=0$ ,  $f=1MHz$
- From  $I_F=10mA$  to  $I_R=1mA$ ,  $V_R=6Volts$ ,  $R_L=100\Omega$

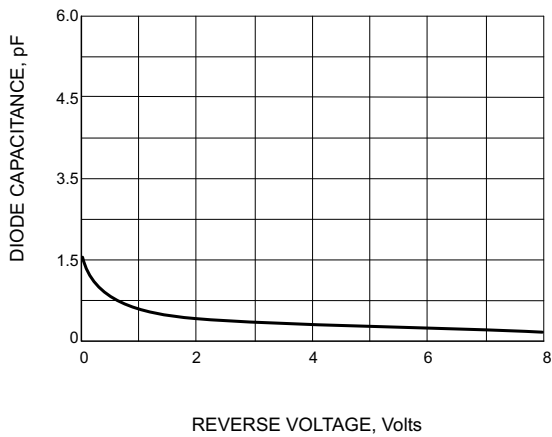
## Rating and Characteristic Curves



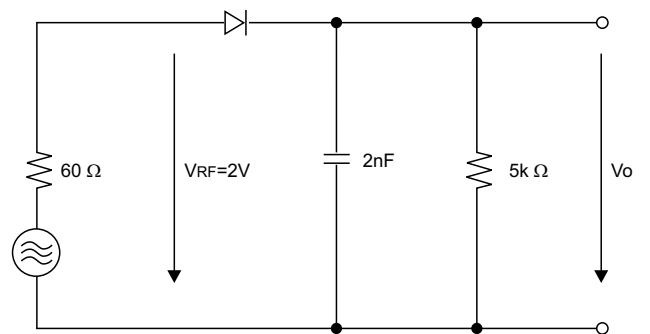
FORWARD VOLTAGE



LEAKAGE CURRENT



TYPICAL CAPATICANCE



RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT