

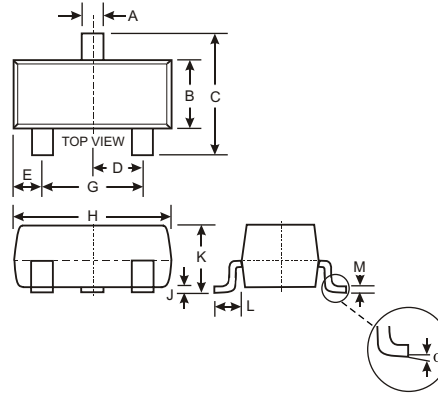


### Features

- Silicon planar epitaxial high speed diode
- For switching and general purpose applications

### Mechanical Data

- Case: SOT-23
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
$\alpha$	0°	8°
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Test Conditions	Type	Symbol	Value	Unit
Working peak reverse voltage =DC Blocking voltage		BAS19	$V_{RWM}$ = $V_R$	100	V
		BAS20		150	V
		BAS21		200	V
Repetitive peak reverse voltage		BAS19	$V_{RRM}$	120	V
		BAS20	$V_{RRM}$	200	V
		BAS21	$V_{RRM}$	250	V
Peak forward surge current	t=1 $\mu$ s		$I_{FSM}$	2.5	A
	t=1s		$I_{FSM}$	0.5	A
Repetitive peak forward current			$I_{FRM}$	625	mA
Average forward current	t <sub>p</sub> <0.3ms		$I_{FAV}$	200	mA
Forward current	T <sub>Case</sub> =T <sub>L</sub> (8mm from Case) =T <sub>amb</sub>		$I_F$	400	mA
Power dissipation	T <sub>Case</sub> =T <sub>L</sub> (8mm from Case) =T <sub>amb</sub>		P <sub>tot</sub>	250	mW
Junction and storage temperature range	T <sub>j</sub> = 25°C		T <sub>j</sub> =T <sub>stg</sub>	-55...+150	°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I <sub>F</sub> =100mA		V <sub>F</sub>			1.0	V
	I <sub>F</sub> =200mA		V <sub>F</sub>			1.25	V
Reverse current	V <sub>R</sub> =V <sub>Rmax</sub>		I <sub>R</sub>			100	nA
	V <sub>R</sub> =V <sub>Rmax</sub> , T <sub>j</sub> = 150°C		I <sub>R</sub>			100	$\mu$ A
Reverse breakdown voltage	I <sub>R</sub> =100 $\mu$ A, t <sub>p</sub> <0.3ms	BAS19	V <sub>(BR)R</sub>	120			V
	I <sub>R</sub> =100 $\mu$ A	BAS20	V <sub>(BR)R</sub>	200			V
	I <sub>R</sub> =100 $\mu$ A, V <sub>R</sub> <275V	BAS21	V <sub>(BR)R</sub>	250			V
Reverse recovery time	I <sub>F</sub> =I <sub>R</sub> =10mA, R <sub>L</sub> =100 $\Omega$ , V <sub>R</sub> =6V to I <sub>R</sub> =1mA. R <sub>L</sub> =100 $\Omega$		t <sub>rr</sub>			50	ns
Diode capacitance	V <sub>R</sub> =0, f= 1MHz		C <sub>D</sub>			5	pF
Dynamic forward resistance	I <sub>F</sub> =10mA		r <sub>f</sub>		5		$\Omega$