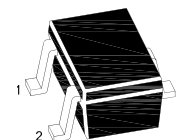
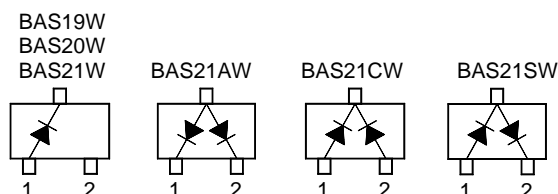


# BAS19W, BAS20W, BAS21W

## Silicon Epitaxial Planar Diodes

High Voltage Switching Diodes



SOT-323 Plastic Package

Marking Code:  
 BAS19W~BAS21W: T3  
 BAS21AW: F2  
 BAS21CW: F3  
 BAS21SW: F4

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit	
Reverse Voltage	BAS19W BAS20W BAS21W	$V_R$	120 200 250	V
Continuous Forward Current		$I_{F(AV)}$	200	mA
Repetitive Peak Forward Current		$I_{FRM}$	625	mA
Non-repetitive Peak Forward Surge Current	at $t = 1\text{ s}$ at $t = 1\text{ }\mu\text{s}$	$I_{FSM}$	0.5 2.5	A
Total Device Dissipation		$P_{tot}$	250	mW
Thermal Resistance Junction to Ambient		$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction and Storage Temperature Range		$T_j, T_{stg}$	- 55 to + 150	$^\circ\text{C}$

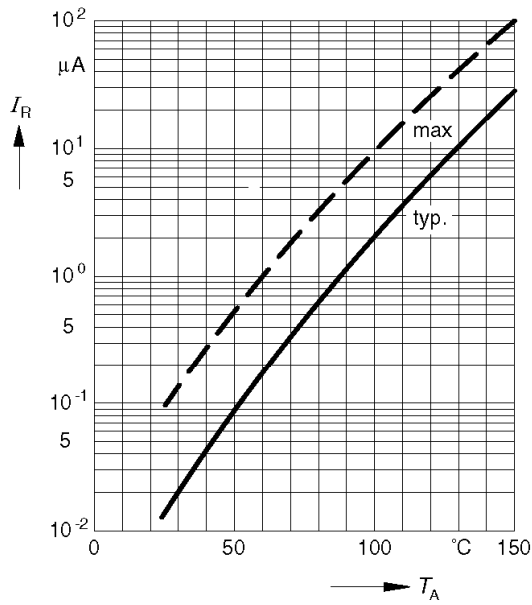
### Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit	
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$ at $I_R = 100\text{ }\mu\text{A}$ at $I_R = 100\text{ }\mu\text{A}$	BAS19W BAS20W BAS21W	$V_{(BR)R}$	120 200 250	- - -	V
Forward Voltage at $I_F = 100\text{ mA}$ at $I_F = 200\text{ mA}$		$V_F$	- -	1 1.25	V
Reverse Current at $V_R = 100\text{ V}$ at $V_R = 150\text{ V}$ at $V_R = 200\text{ V}$ at $V_R = 100\text{ V}, T_j = 150^\circ\text{C}$ at $V_R = 150\text{ V}, T_j = 150^\circ\text{C}$ at $V_R = 200\text{ V}, T_j = 150^\circ\text{C}$	BAS19W BAS20W BAS21W BAS19W BAS20W BAS21W	$I_R$	- - - - - -	0.1 0.1 0.1 100 100 100	$\mu\text{A}$
Total Capacitance at $V_R = 0, f = 1\text{ MHz}$		$C_{tot}$	-	5	pF
Reverse Recovery Time at $I_F = I_R = 30\text{ mA}, I_{R(REC)} = 3\text{ mA}, R_L = 100\text{ }\Omega$		$t_{rr}$	-	50	ns

# BAS19W, BAS20W, BAS21W

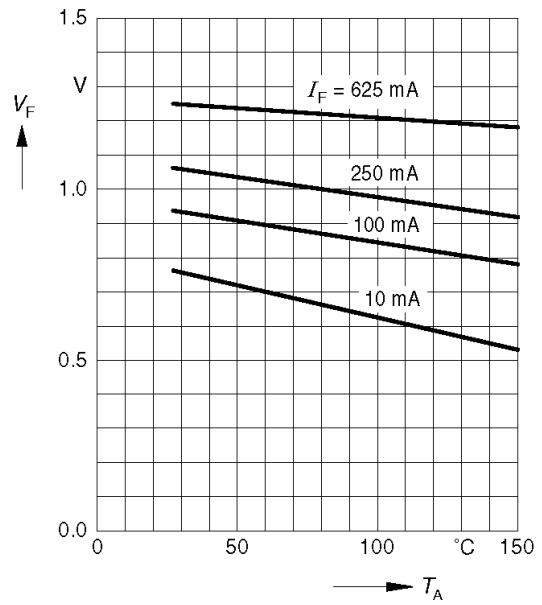
**Reverse current  $I_R = f(T_A)$**

$V_R = 200V$

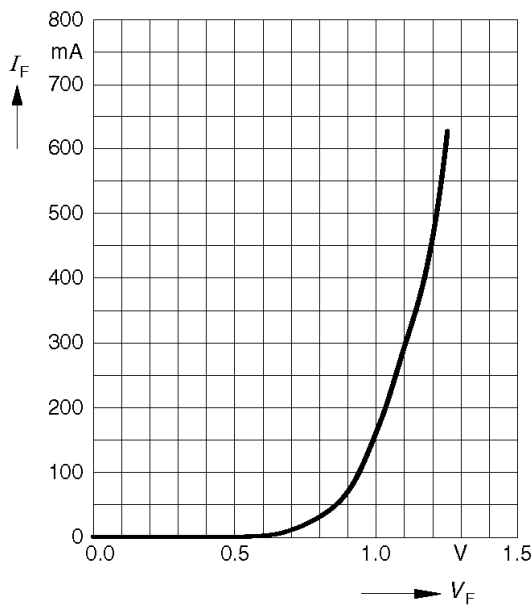


**Forward Voltage  $V_F = f(T_A)$**

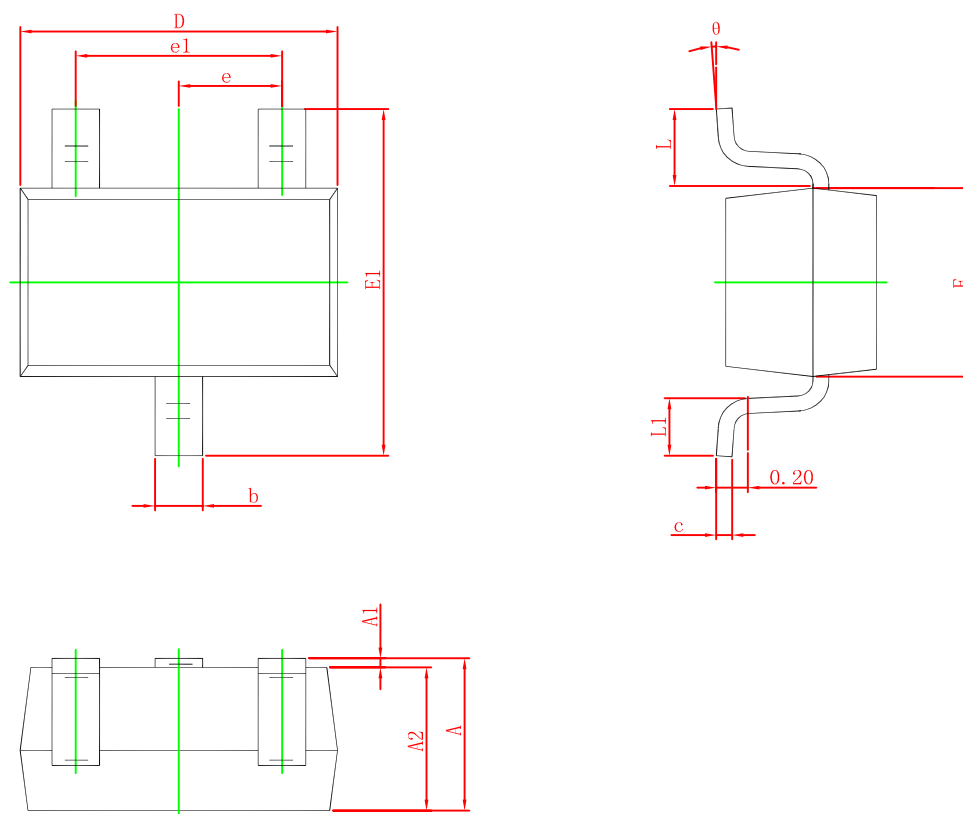
$I_F = \text{Parameter}$



**Forward current  $I_F = f(V_F)$**



## SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°