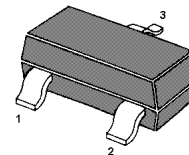
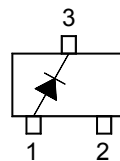


# BAS19, BAS20, BAS21

## Silicon Epitaxial Planar Diodes

High Voltage Switching Diodes



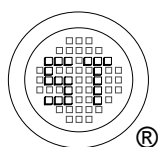
Marking Code: **HC**  
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Reverse Voltage	BAS19 BAS20 BAS21	120 200 250	V
Continuous Forward Current	$I_F$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	625	mA
Non-repetitive Peak Forward Surge Current	$I_{FSM}$	2.5 0.5	A
Total Device Dissipation	$P_{tot}$	350	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	$^\circ\text{C}$

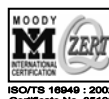
### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage	$V_F$	-	1	V
at $I_F = 100\text{ mA}$	$V_F$	-	1.25	V
Reverse Breakdown Voltage	$V_{(BR)}$	120	-	V
at $I_{BR} = 100\text{ }\mu\text{A}$	BAS19	200	-	V
at $I_{BR} = 100\text{ }\mu\text{A}$	BAS20	250	-	V
at $I_{BR} = 100\text{ }\mu\text{A}$	BAS21	-	-	V
Reverse Voltage Leakage Current	$I_R$	-	0.1	$\mu\text{A}$
at $V_R = 100\text{ V}$	BAS19	-	0.1	$\mu\text{A}$
at $V_R = 150\text{ V}$	BAS20	-	0.1	$\mu\text{A}$
at $V_R = 200\text{ V}$	BAS21	-	0.1	$\mu\text{A}$
at $V_R = 100\text{ V}, T_J = 150\text{ }^\circ\text{C}$	BAS19	-	100	$\mu\text{A}$
at $V_R = 150\text{ V}, T_J = 150\text{ }^\circ\text{C}$	BAS20	-	100	$\mu\text{A}$
at $V_R = 200\text{ V}, T_J = 150\text{ }^\circ\text{C}$	BAS21	-	100	$\mu\text{A}$
Diode Capacitance	$C_d$	-	5	pF
Reverse Recovery Time	$t_{rr}$	-	50	ns
at $I_F = I_R = 30\text{ mA}, I_{R(REC)} = 3\text{ mA}, R_L = 100\text{ }\Omega$				



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)

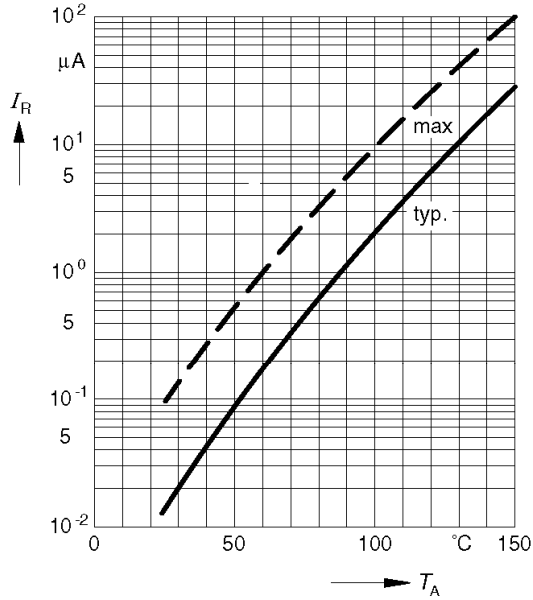


Dated : 15/06/2009

# BAS19, BAS20, BAS21

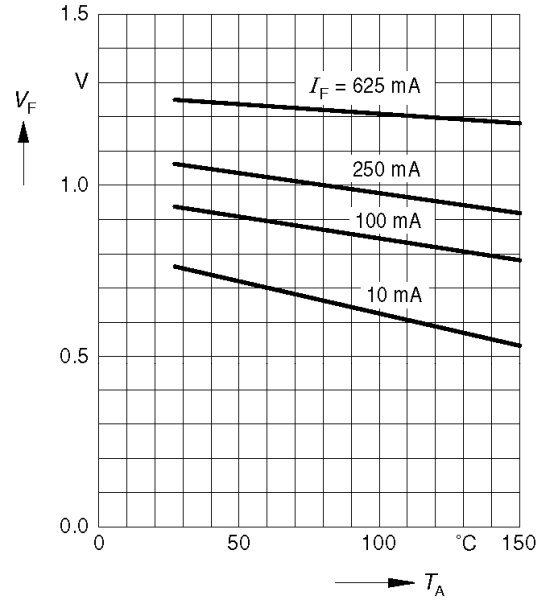
Reverse current  $I_R = f(T_A)$

$V_R = 200V$

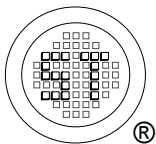
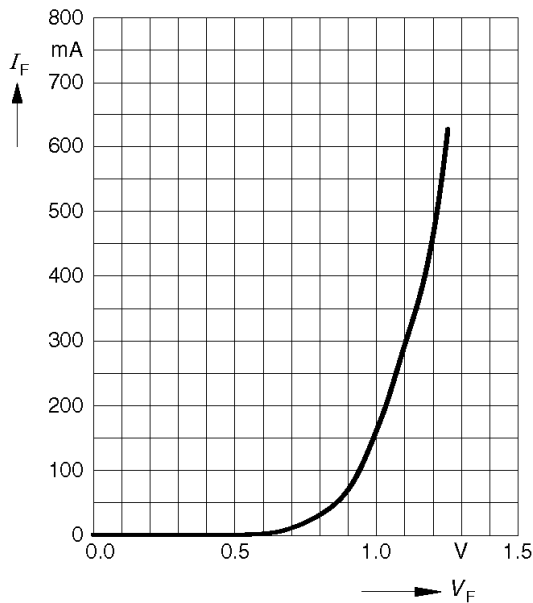


Forward Voltage  $V_F = f(T_A)$

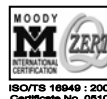
$I_F = \text{Parameter}$



Forward current  $I_F = f(V_F)$



**SEMTECH ELECTRONICS LTD.**  
 (Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949:2002 Certificate No. 08103 | ISO 14001:2004 Certificate No. 7116 | ISO 9001:2000 Certificate No. 0800598 | BS-OHSAS 18001:2007 Certificate No. 7116 | IECQ QC 080000 Certificate No. 7116

Dated : 15/06/2009