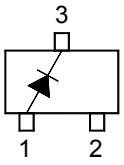
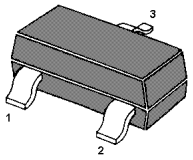
BAS19, BAS20, BAS21

Silicon Epitaxial Planar Diodes

High Voltage Switching Diodes





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

Absolute Maximum Ratings (T_a = 25 °C)

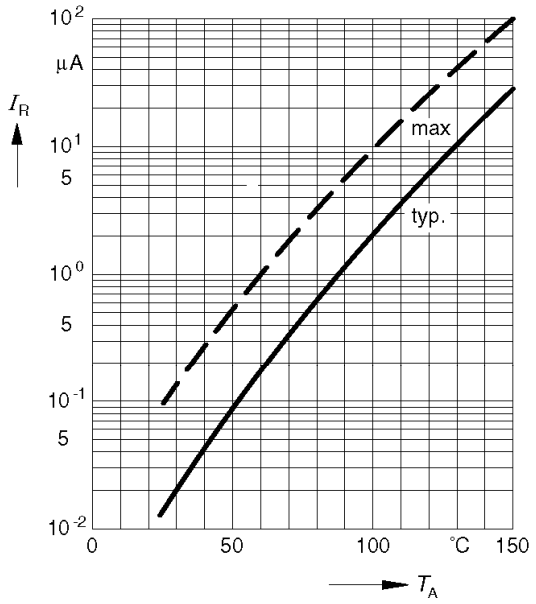
Parameter		Symbol	Value	Unit
Reverse Voltage	BAS19 BAS20 BAS21	V_R	120 200 250	V
Continuous Forward Current		I_F	200	mA
Repetitive Peak Forward Current		I_{FRM}	625	mA
Non-repetitive Peak Forward Surge Current	at t = 1 s at t = 1 µs	I_{FSM}	2.5 0.5	A
Total Device Dissipation		P_{tot}	350	mW
Thermal Resistance Junction to Ambient		$R_{\theta JA}$	357	°C/W
Junction and Storage Temperature Range		T_j, T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Max.	Unit
Forward Voltage					
at I_F = 100 mA		V_F	-	1	V
at I_F = 200 mA		V_F	-	1.25	V
Reverse Breakdown Voltage					
at I_{BR} = 100 µA	BAS19	$V_{(BR)}$	120	-	V
at I_{BR} = 100 µA	BAS20	$V_{(BR)}$	200	-	V
at I_{BR} = 100 µA	BAS21	$V_{(BR)}$	250	-	V
Reverse Voltage Leakage Current					
at V_R = 100 V	BAS19	I_R	-	0.1	µA
at V_R = 150 V	BAS20	I_R	-	0.1	µA
at V_R = 200 V	BAS21	I_R	-	0.1	µA
at V_R = 100 V, T_J = 150 °C	BAS19	I_R	-	100	µA
at V_R = 150 V, T_J = 150 °C	BAS20	I_R	-	100	µA
at V_R = 200 V, T_J = 150 °C	BAS21	I_R	-	100	µA
Diode Capacitance at V_R = 0, f = 1 MHz		C_d	-	5	pF
Reverse Recovery Time at I_F = I_R= 30 mA, $I_{R(REC)}$ = 3 mA, R_L = 100 Ω		t_{rr}	-	50	ns

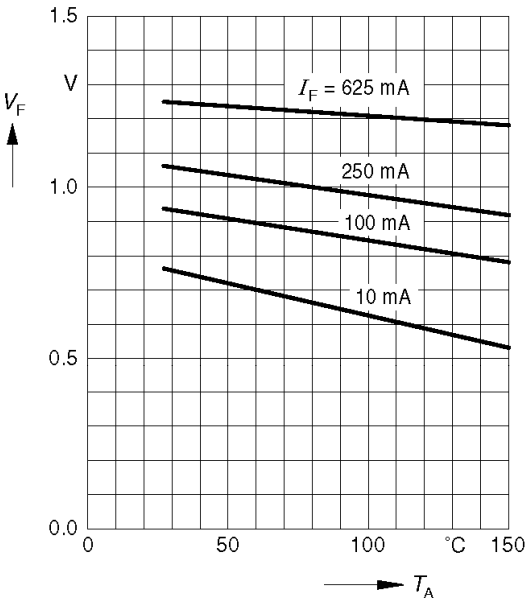
Reverse current $I_R = f(T_A)$

V_R = 200V



Forward Voltage $V_F = f(T_A)$

I_F = Parameter



Forward current $I_F = f(V_F)$