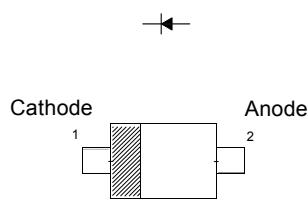


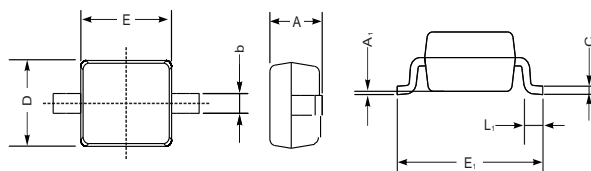
Applications

- High-speed switching



SOD-323

SOD323



UNIT		A	C	D	E	E ₁	b	L ₁	A ₁
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—
mil	max	43	5.9	55	70	108	16	16	8
	min	32	3.1	47	63	100	9.8	7.9	—

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	100	V
Reverse Voltage	V _R	100	V
Continuous Forward Current	I _F	250	mA
Repetitive Peak Forward Current	I _{FRM}	500	mA
Non-Repetitive Peak Forward Current	I _{FSM}	4	A
t = 1 μs		1	
t = 1 ms		0.5	
t = 1 s			
Total Power Dissipation	P _{tot}	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	- 65 to + 150	°C

BAS316WS

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

Parameter	Symbol	Max.	Unit
Forward Voltage at $I_F = 1\text{ mA}$ at $I_F = 10\text{ mA}$ at $I_F = 50\text{ mA}$ at $I_F = 150\text{ mA}$	V_F	0.715 0.855 1 1.25	V
Reverse Current at $V_R = 25\text{ V}$ at $V_R = 75\text{ V}$ at $V_R = 25\text{ V}$, $T_J = 150\text{ }^{\circ}\text{C}$ at $V_R = 75\text{ V}$, $T_J = 150\text{ }^{\circ}\text{C}$	I_R	30 1 30 50	nA μA μA μA
Diode Capacitance at $V_R = 0\text{ V}$, $f = 1\text{ MHz}$	C_{tot}	1.5	pF
Reverse Recovery Time at $I_F = I_R = 10\text{ mA}$, $I_{\text{rr}} = 0.1 \times I_R$, $R_L = 100\text{ }\Omega$	t_{rr}	4	ns

RATING AND CHARACTERISTIC CURVES (BAS316WS)

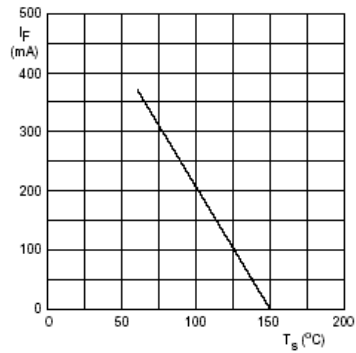
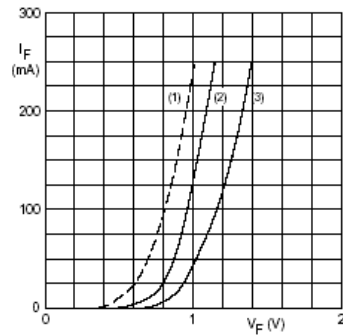
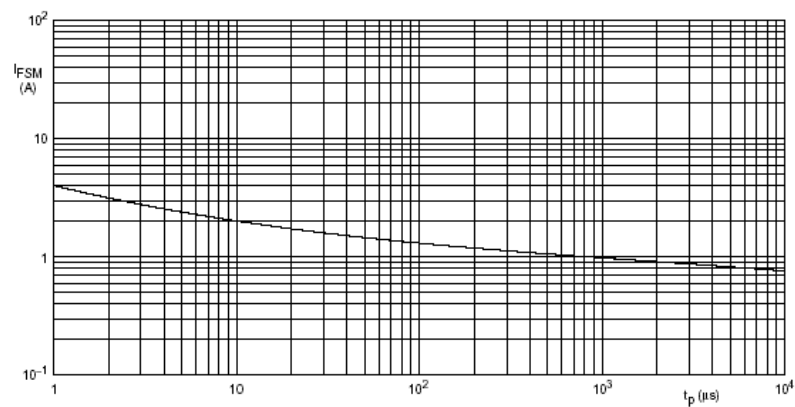


Fig. 1 Maximum permissible continuous forward current as a function of soldering point temperature.



- (1) $T_J = 150\text{ }^{\circ}\text{C}$; typical values.
- (2) $T_J = 25\text{ }^{\circ}\text{C}$; typical values.
- (3) $T_J = 25\text{ }^{\circ}\text{C}$; maximum values.

Fig. 2 Forward current as a function of forward voltage.



Based on square wave currents.
 $T_J = 25\text{ }^{\circ}\text{C}$ prior to surge.

Fig. 3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

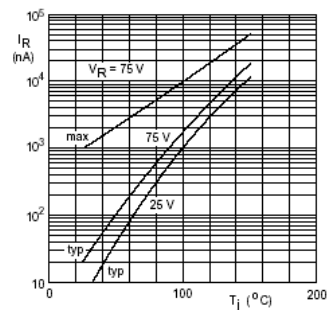
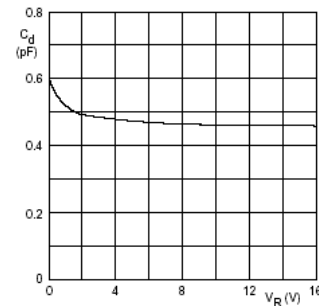


Fig. 4 Reverse current as a function of junction temperature.



$f = 1\text{ MHz}$; $T_J = 25\text{ }^{\circ}\text{C}$.

Fig. 5 Diode capacitance as a function of reverse voltage; typical values.