Elektronische Bauelemente

BAS316WS

0.25A , 100V

Surface Mount Small Signal Switching Diode

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- High switching speed: max. 4 ns
- Ultra small plastic SMD package.
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 100 V

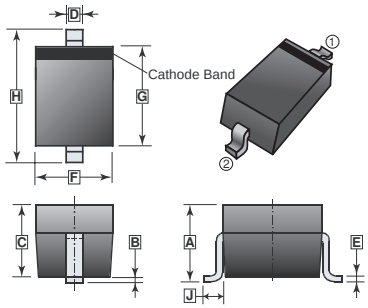
APPLICATINS

- High-speed switching in e.g. surface mounted circuits.

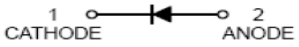
MARKING

Z9

SOD-323



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.05 REF.		E	0.080	0.180
B	0.20 REF.		F	1.15	1.45
C	0.80	1.00	G	1.60	1.80
D	0.25	0.40	H	2.30	2.70



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-323	3K	7 inch

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter		Symbol	Ratings	Unit
Repetitive peak reverse voltage		V_{RRM}	100	V
continuous reverse voltage		V_R	75	V
RMS reverse voltage		V_{RMS}	53	V
Forward Current		I_F	250	mA
Repetitive peak forward current		I_{FRM}	500	mA
Non-repetitive peak forward current	t =1μs	I_{FSM}	5	A
	t =1 ms		1	
	t =1 s		0.5	
Total power dissipation		P_{TOT}	200	mW
Thermal resistance junction to ambient air		$R_{\theta JA}$	625	℃/W
Junction, Storage Temperature		T_J, T_{STG}	150, -55~150	℃

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward Voltage	V_F	-	-	715	mV	I_F=1mA
		-	-	855		I_F=10mA
		-	-	1000		I_F=50mA
		-	-	1250		I_F=150mA
Reverse Leakage Current	I_R	-	-	0.03	μA	V_R=25V
		-	-	1		V_R=75V
		-	-	30		V_R=25V, T_J=150℃
		-	-	50		V_R=75V, T_J=150℃
Reverse Recovery Time	T_{RR}	-	-	4	nS	when switched from I_F=10mA to I_R=10 mA, R_L = 100 Ω; measured at I_R=1 mA; see Fig.6,
Forward recovery voltage	V_{FR}	-	-	1.75	V	I_F=10mA, t_r=20nS
Diode Capacitance	C_D	-	2	-	pF	V_R=0, f=1.0MHz

RATINGS AND CHARACTERISTIC CURVES

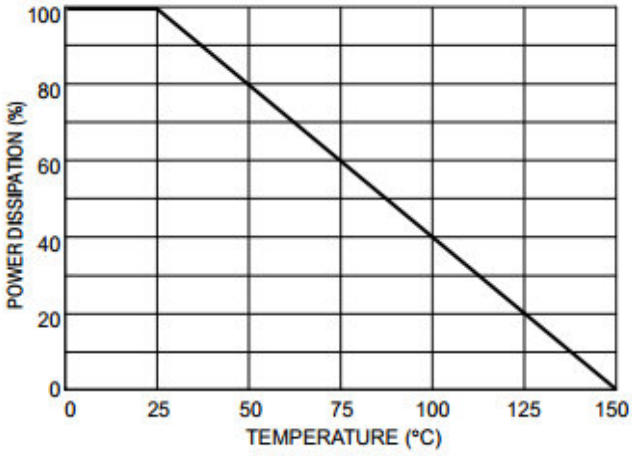


Fig.1 Steady State Power Derating

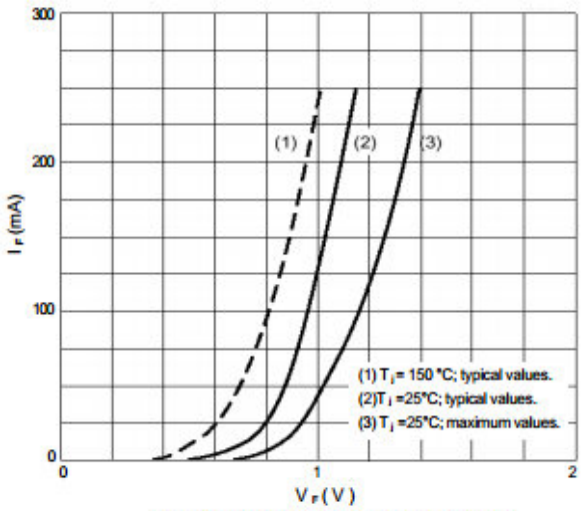


Fig.2 Forward current as a function of forward voltage.

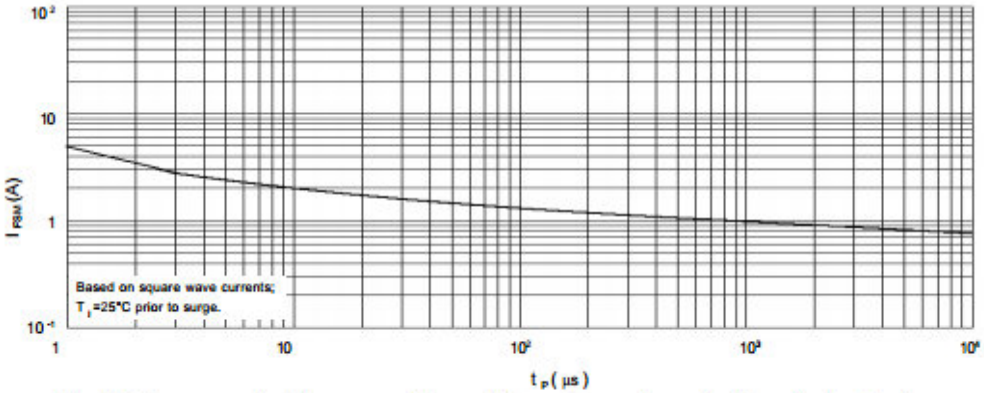


Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

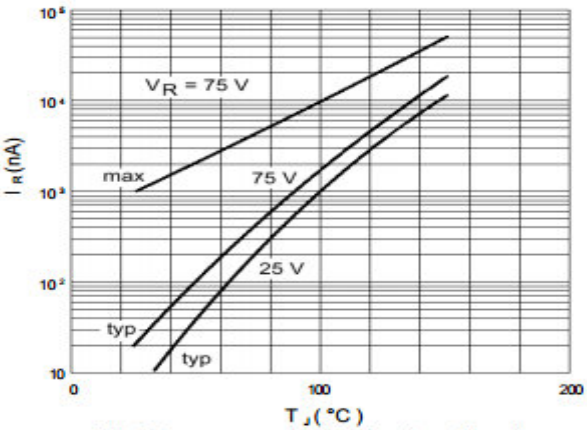


Fig.4 Reverse current as a function of junction temperature.

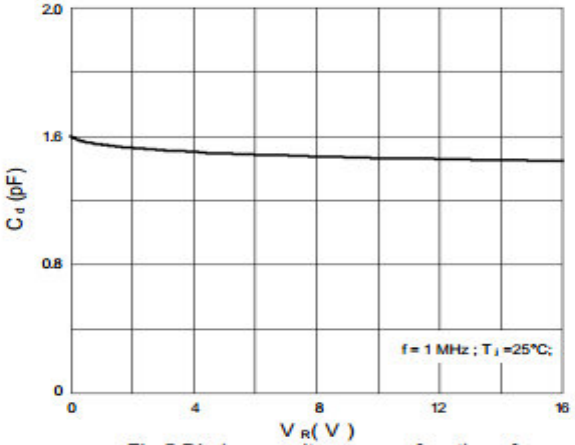
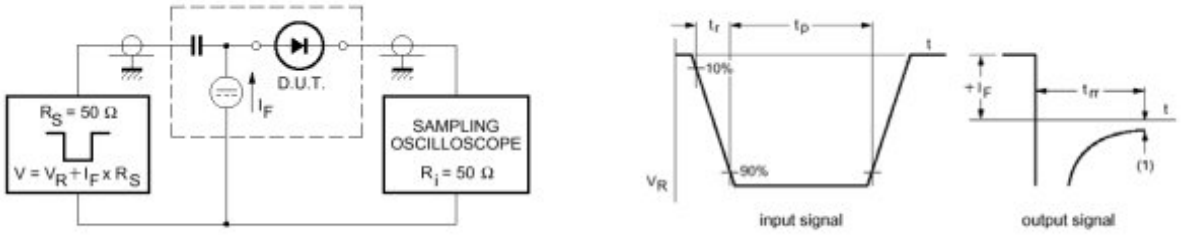


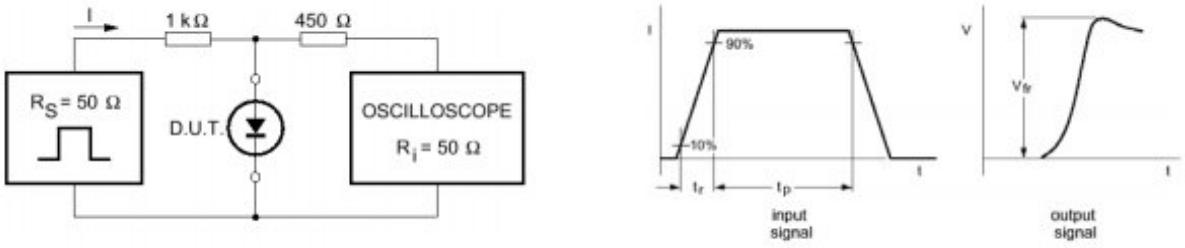
Fig.5 Diode capacitance as a function of reverse voltage; typical values.

RATINGS AND CHARACTERISTIC CURVES



(1) I_R = 1 mA.
Input signal: reverse pulse rise time t_r = 0.6 ns; reverse voltage pulse duration t_p = 100 ns; duty factor δ = 0.05;
Oscilloscope: rise time t_r = 0.35 ns.

Fig.6 Reverse recovery voltage test circuit and waveforms.



Input signal: forward pulse rise time t_r = 20 ns; forward current pulse duration $t_p \geq$ 100 ns; duty factor δ ≤ 0.005.

Fig.7 Forward recovery voltage test circuit and waveforms.