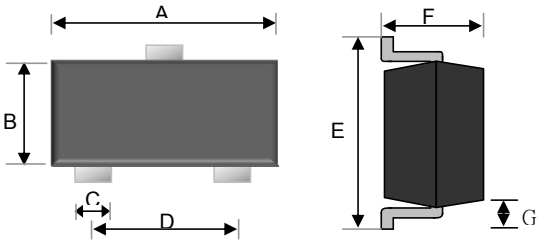
TAIWAN SEMICONDUCTOR

BAV99W
Switching Diode Array
Preliminary

Small Signal Diode

SOT-323



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.90	2.10	0.075	0.083
B	1.15	1.35	0.045	0.053
C	0.25	0.35	0.010	0.014
D	1.20	1.40	0.047	0.055
E	2.00	2.20	0.079	0.087
F	0.80	1.00	0.031	0.039

Features

- ✧Surface device type mounting
- ✧Moisture sensitivity level 1
- ✧Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧Pb free version and RoHS compliant
- ✧Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

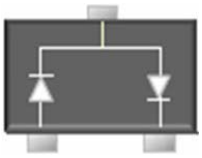
Mechanical Data

- ✧Case : SOT-323 small outline plastic package
- ✧Terminal: Matte tin plated, lead free,solderable per MIL-STD-202, Method 208 guaranteed
- ✧High temperature soldering guaranteed: 260°C/10s
- ✧Weight : 5±0.5mg

Ordering Information

Part No.	Package	Packing Code	Packing
SOT-323	BAV99W	3K / 7" Reel	RF
SOT-323	BAV99W	3K / 7" Reel	RFG

Pin Configutation



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number		Symbol	Value	Units
Power Dissipation		P_D	200	mW
Repetitive Peak Reverse Voltage		V_{RRM}	85	V
Reverse Voltage		V_R	75	V
Repetitive Peak Forward Current		I_{FRM}	500	mA
Continuous Forward Current	Single Diode Load Double Diode Load	I_F	150 130	mA
Non-Repetitive Peak Forward Surge Current(Note1)	at t=1 us at t=1 ms at t=1 s	I_{FSM}	4 1 0.5	A
Thermal Resistance from Junction to Ambient		$R_{\Theta JA}$	625	°C/W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to + 150	°C

Notes:1. Pulse Width=1μ sec &1 sec

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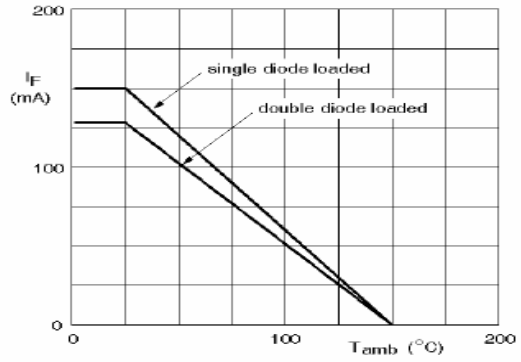
Electrical Characteristics

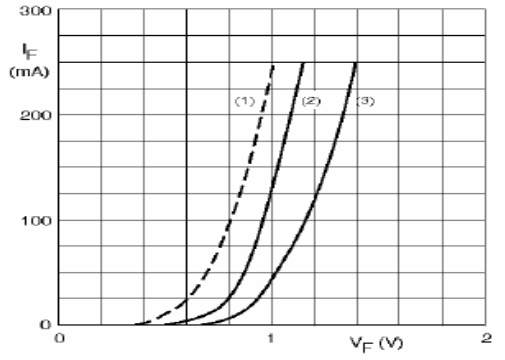
Type Number		Symbol	Min	Max	Units
Forward Voltage	I_F= 1.0mA	V_F	-	0.715	V
	I_F= 10mA		-	0.855	
	I_F= 50mA		-	1.000	
	I_F= 150mA		-	1.250	
Reverse Leakage Current	V_R= 25V	I_R	-	30	nA
	V_R= 75V			1	uA
	V_R= 25V,T_j =150°C			30	uA
	V_R= 75V,T_j =150°C			50	uA
Diode Capacitance	V_R= f=1.0MHz	C_d	-	1.5	pF
Reverse Recovery Time (Note 2)		Trr	-	4	ns

Notes:2. Reverse Recovery Test Conditions: I =I =10mA,Irr=0.1×I_R, R_L =100Ω



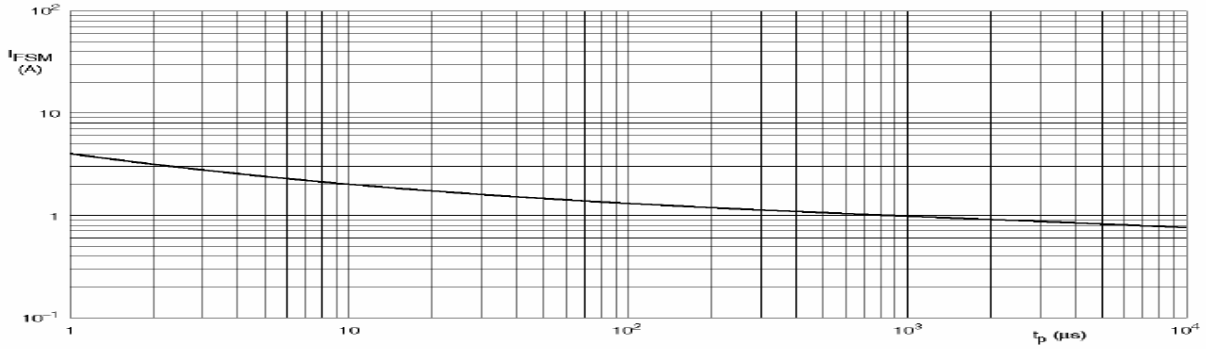
Device mounted on an FR4 printed-circuit board.

Maximum permissible continuous forward current as a function of ambient temperature.



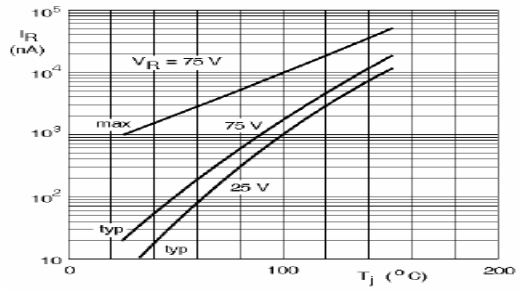
(1) T_j = 150 °C; typical values.
(2) T_j = 25 °C; typical values.
(3) T_j = 25 °C; maximum values.

Forward current as a function of forward voltage.

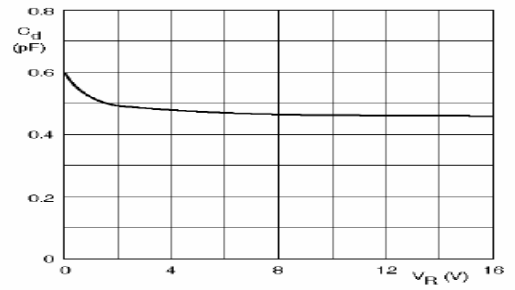


Based on square wave currents.
T_j = 25 °C prior to surge.

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



Reverse current as a function of junction temperature.

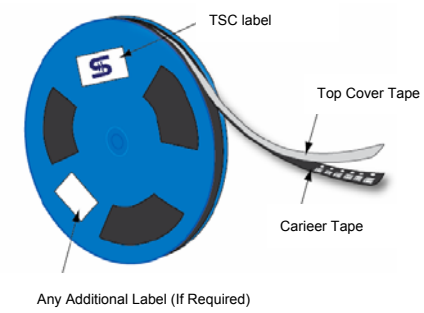


f = 1 MHz; T_j = 25 °C.

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

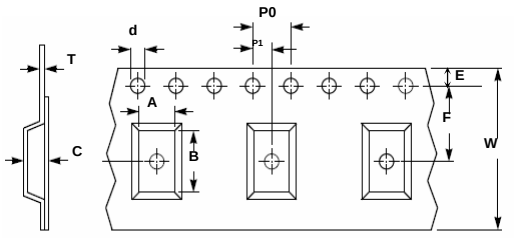
Small Signal Diode

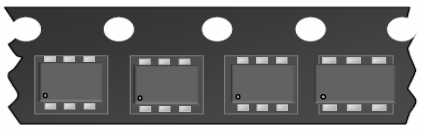
Tape & Reel specification

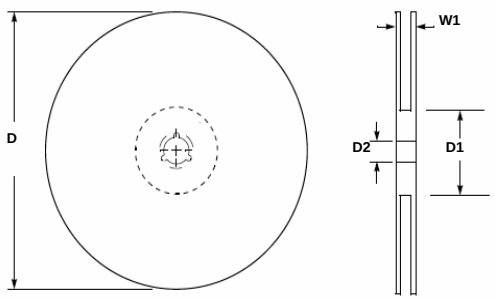


Any Additional Label (If Required)

Item	Symbol	Dimension (mm)
Carrier width	A	3.15 ±0.10
Carrier length	B	2.77 ±0.10
Carrier depth	C	1.22 ±0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178 ± 1
Reel inner diameter	D1	55 Min
Feed hole width	D2	13.0 ± 0.20
Sprocke hole position	E	1.75 ±0.10
Punch hole position	F	3.50 ±0.05
Sprocke hole pitch	P0	4.00 ±0.10
Embossment center	P1	2.00 ±0.05
Overall tape thickness	T	0.229 ±0.013
Tape width	W	8.10 ±0.20
Reel width	W1	12.30 ±0.20







Direction of Feed