150mA, 85V Switching Diode Array

FEATURES

- Fast switching device (t_{rr} < 4ns)
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

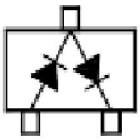
- For switching power supply

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	150	mA
V_{RRM}	85	V
I_{FSM} at t=1μs	4	A
V_F at I_F=150mA	1.25	V
$T_{J\ MAX}$	150	°C
Package	SOT-323	

MECHANICAL DATA

- Case: SOT-323
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 5mg (approximately)

Pb-Free RoHS COMPLIANT



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER		**SYMBOL**	**VALUE**	**UNIT**
Marking code on the device			A7	
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
Forward current	Single diode load	I_F	150	mA
	Double diodes load		130	
Non-Repetitive peak forward surge current	t=1μs	I_{FSM}	4	A
	t=1ms		1	
	t=1s		0.5	
Junction temperature range		T_J	-55 to +150	°C
Storage temperature range		T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	**SYMBOL**	**TYP**	**UNIT**
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	625	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**MIN**	**MAX**	**UNIT**
Forward voltage per diode (1)	I_F = 1mA, T_J = 25°C	V_F	-	0.715	V
	I_F = 10mA, T_J = 25°C			0.855	
	I_F = 50mA, T_J = 25°C			1.000	
	I_F = 150mA, T_J = 25°C			1.250	
Reverse current per diode (2)	V_R = 25 V, T_J = 25°C	I_R	-	30	nA
	V_R = 75 V, T_J = 25°C		-	1	µA
	V_R = 25 V, T_J = 150°C		-	30	µA
	V_R = 75 V, T_J = 150°C		-	50	µA
Junction capacitance	1 MHz, V_R=0V	C_J	-	1.5	pF
Reverse recovery time	I_F=I_R= 10mA , R_L= 100Ω , I_{RR}= 1mA	t_{rr}	-	4	ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION		
ORDERING CODE (Note 1)	**PACKAGE**	**PACKING**
BAV99W RF	SOT-323	3K / 7" Reel
BAV99W RFG	SOT-323	3K / 7" Reel

Note:

1. "G" means green compound (halogen free)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

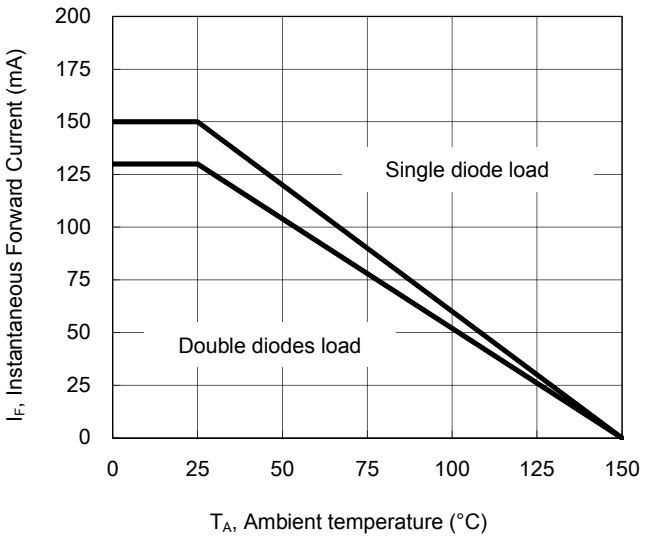


Fig. 2 Typical Forward Characteristics

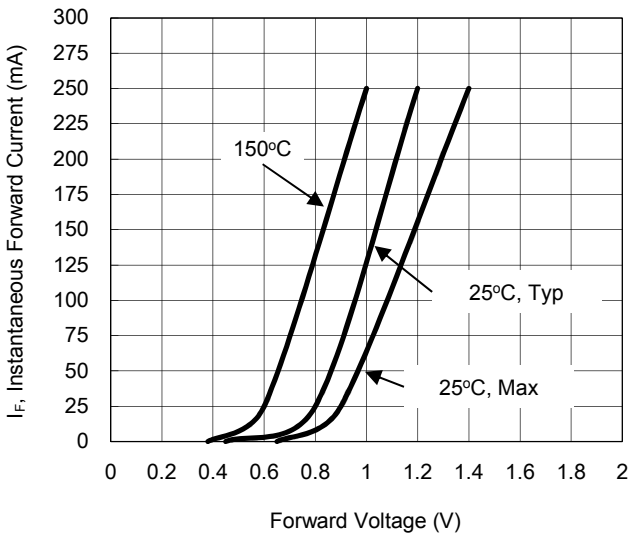
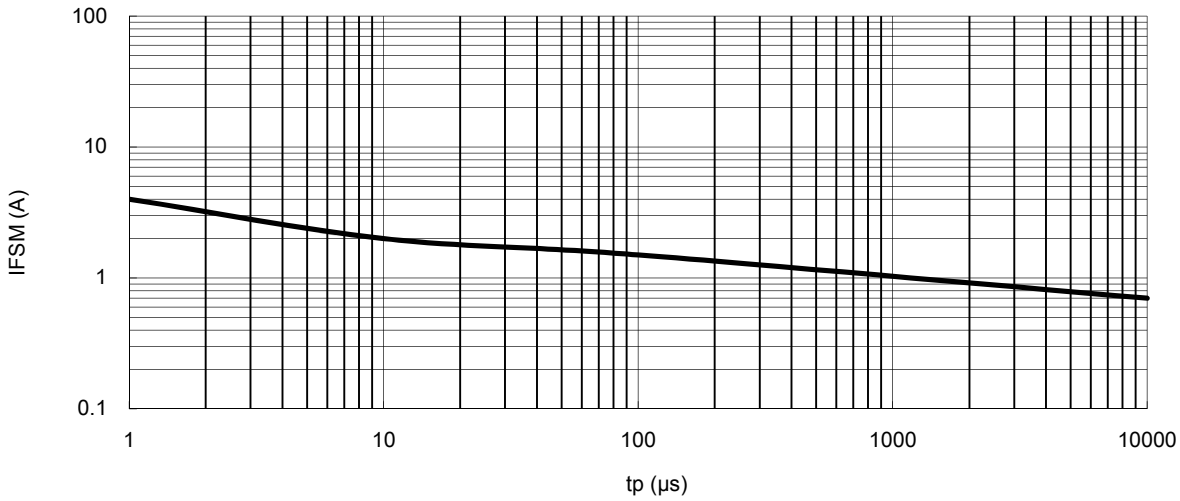


Fig.3 Maximum Non-repetitive Peak Forward Surge Current



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.4 Typical Reverse Characteristics

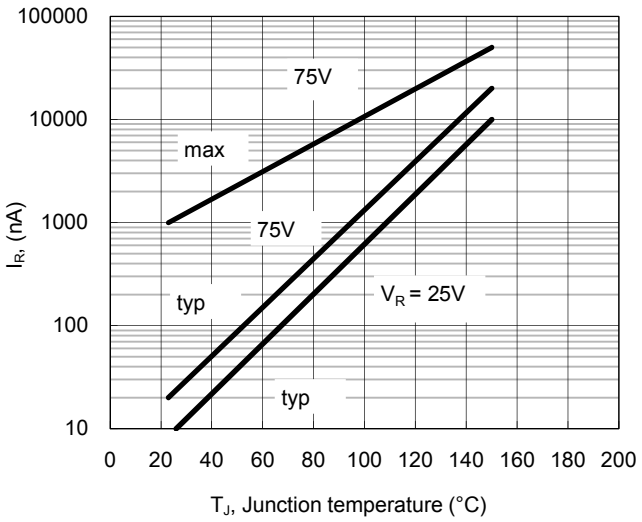
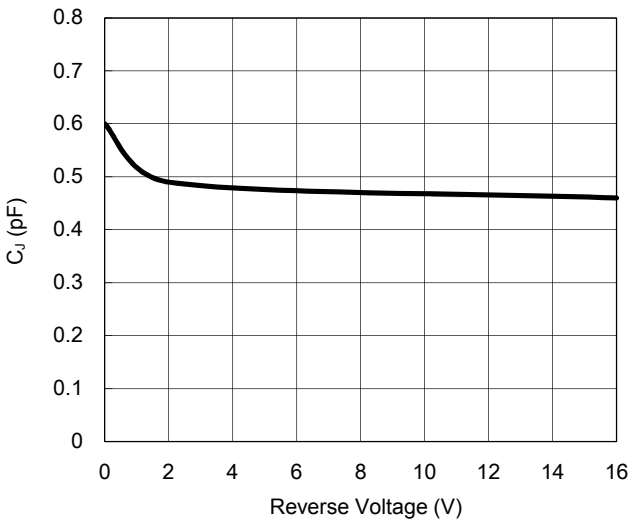
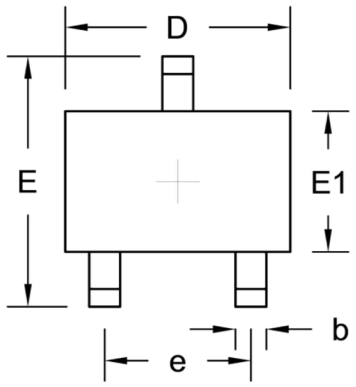


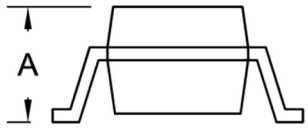
Fig. 5 Typical Capacitance



PACKAGE OUTLINE DIMENSION

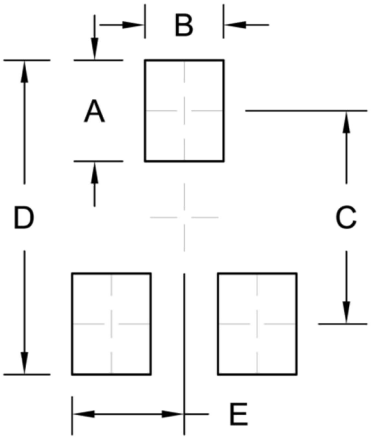
SOT-323





DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.031	0.043
b	0.15	0.40	0.006	0.016
D	1.80	2.20	0.071	0.087
E	2.00	2.45	0.079	0.096
E1	1.15	1.35	0.045	0.053
e	1.20	1.40	0.047	0.055

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	0.90	0.035
B	0.70	0.028
C	1.90	0.075
D	2.80	0.110
E	1.00	0.039

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