250mW, High Speed Switching Array

FEATURES

- Fast switching speed
- High reverse breakdown voltage rating
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant

APPLICATIONS

- For general purpose switching application

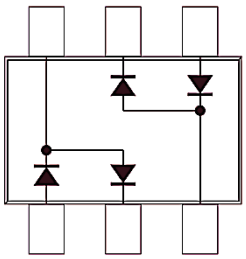
MECHANICAL DATA

- Case: SOT-363
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 8.00mg (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
P_D	250	mW
V_{RRM}	85	V
I_F	200	mA
V_F at I_F = 150mA	1.25	V
$T_{J\ MAX}$	150	°C
Package	SOT-363	
Configuration	Array	

Pb-Free RoHS COMPLIANT

SOT-363



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER		**SYMBOL**	**VALUE**	**UNIT**
Marking code on the device			K1	
Power dissipation		P_D	250	mW
Repetitive peak reverse voltage		V_{RRM}	85	V
Repetitive peak forward current		I_{FRM}	450	mA
Mean Forward current		I_F	200	mA
Non-Repetitive peak forward surge current	t = 1 µs	I_{FSM}	4.5	A
	t = 1 s		0.5	A
Junction temperature range		T_J	-55 to +150	°C
Storage temperature range		T_{STG}	-55 to +150	°C

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage per diode[1]	I_F = 1mA	V_F	-	0.715	V
	I_F = 10mA		-	0.855	V
	I_F = 50mA		-	1.000	V
	I_F = 100mA		-	1.200	V
	I_F = 150mA		-	1.250	V
Reverse voltage	I_R = 2.5μA	V_R	75	-	V
Reverse current @ rated V_R per diode	V_R = 75V	I_R	-	1	μA
Junction capacitance	1MHz, V_R = 0V	C_J	-	1.5	pF
Reverse recovery time	I_F = I_R = 10mA, R_L = 100Ω	t_{rr}	-	4	ns

Notes:

1. Pulse test with PW = 0.3ms

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
BAV99S RFG	SOT-363	3K / 7" Reel
BAV99S RF	SOT-363	3K / 7" Reel

Notes:

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

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig. 1 Maximum Permissible Continuous Forward Current As A Function of Soldering Point Temperature

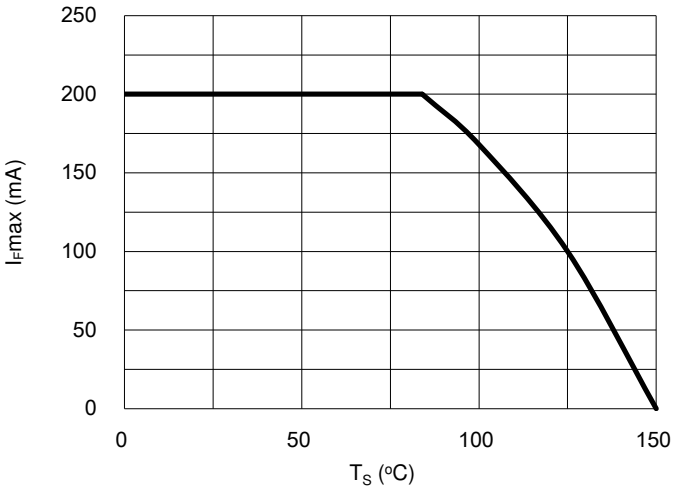


Fig. 2 Forward Current As A Function of Forward Voltage

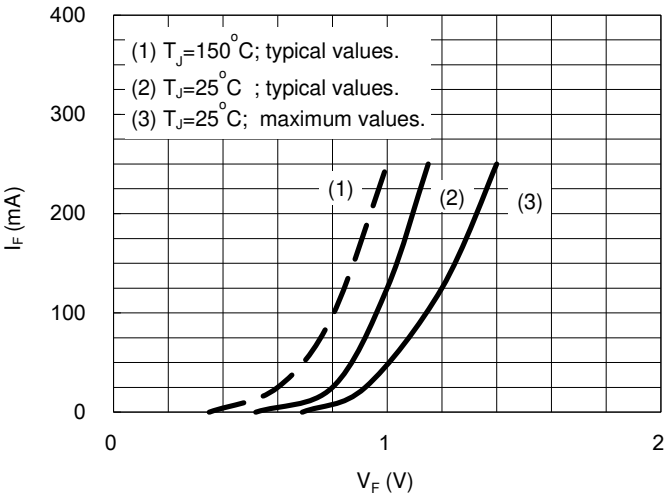
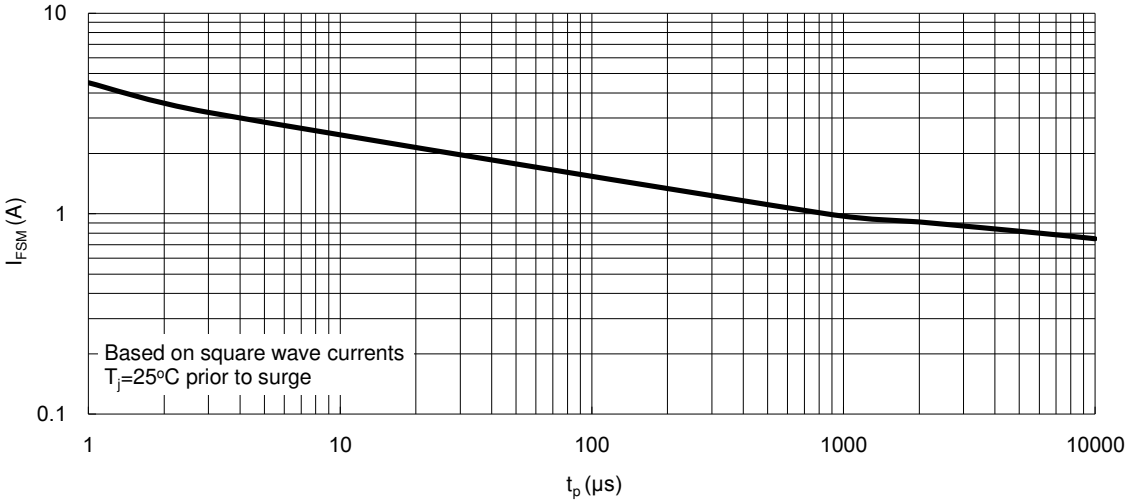
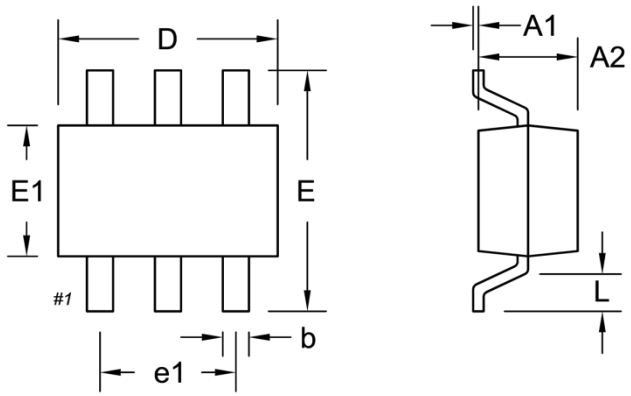


Fig. 3 Maximum Permissible Non-Repetitive Peak Forward Current As A Function of Pulse Duration



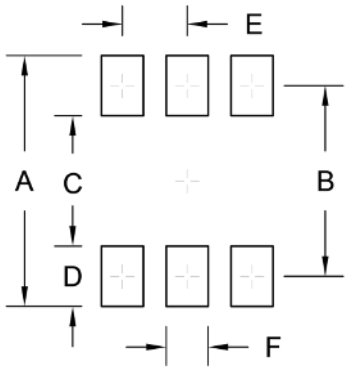
PACKAGE OUTLINE DIMENSION

SOT-363



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A1	0.00	0.10	0.000	0.004
A2	0.85	1.05	0.033	0.041
b	0.15	0.35	0.006	0.014
D	2.00	2.20	0.079	0.087
E	2.15	2.45	0.085	0.096
E1	1.15	1.35	0.045	0.053
e1	1.20	1.40	0.047	0.055
L	0.25	0.46	0.010	0.018

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	2.50	0.098
B	1.90	0.075
C	1.30	0.051
D	0.60	0.024
E	0.65	0.026
F	0.42	0.017

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