

## 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

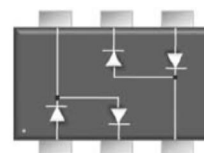
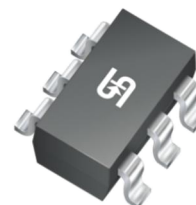
### APPLICATIONS

- For general purpose switching application

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	

### MECHANICAL DATA

- Case: SOT-363
- 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: 8 mg (approximately)



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ 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	$t = 1\ \mu\text{s}$	$I_{FSM}$	4.5	A
	$t = 1\ \text{s}$		0.5	
Junction temperature range		$T_J$	-55 to +150	°C
Storage temperature range		$T_{STG}$	-55 to +150	°C

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>MIN</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 1\text{mA}$	$V_F$	-	0.715	V
	$I_F = 10\text{mA}$			0.855	
	$I_F = 50\text{mA}$			1.000	
	$I_F = 100\text{mA}$			1.200	
	$I_F = 150\text{mA}$			1.250	
Reverse voltage	$I_R = 2.5 \mu\text{A}$	$V_R$	75	-	V
Reverse current @ rated $V_R$ per diode	$V_R = 75 \text{V}$	$I_R$	-	1	$\mu\text{A}$
Junction capacitance	1 MHz, $V_R=0\text{V}$	$C_J$	-	1.5	pF
Reverse recovery time	$I_F=I_R= 10\text{mA}$ , $R_L= 100\Omega$	$t_{rr}$	-	4	ns

**Notes:**

1. Pulse test with PW=0.3 ms

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b>	<b>PACKAGE</b>	<b>PACKING</b>
BAV99S RFG	SOT-363	3K / 7" Reel
BAV99S RF	SOT-363	3K / 7" Reel

**Note:** "G" means green compound (halogen free)

**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

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

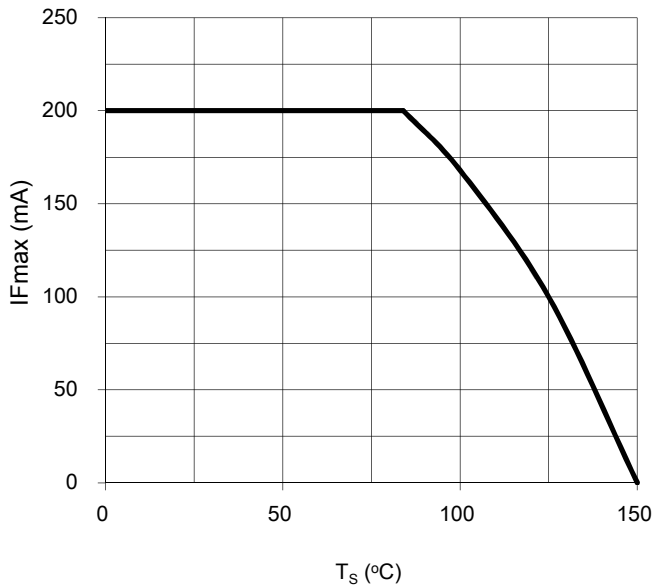


Fig. 2 Forward Current As A Function of Forward Voltage

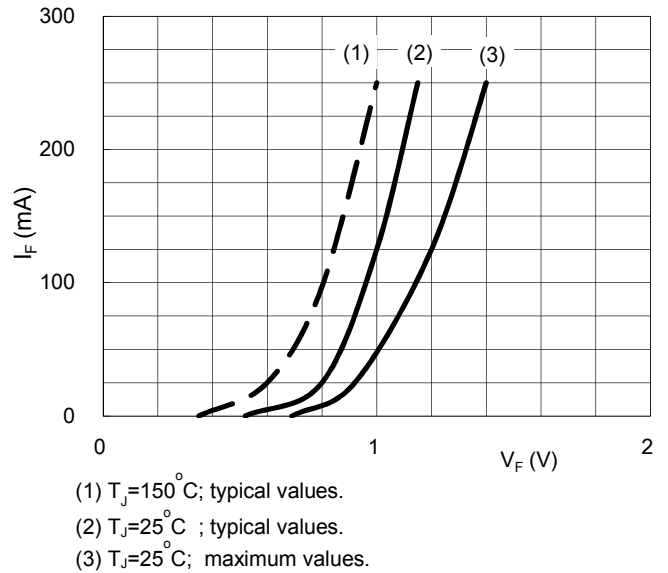
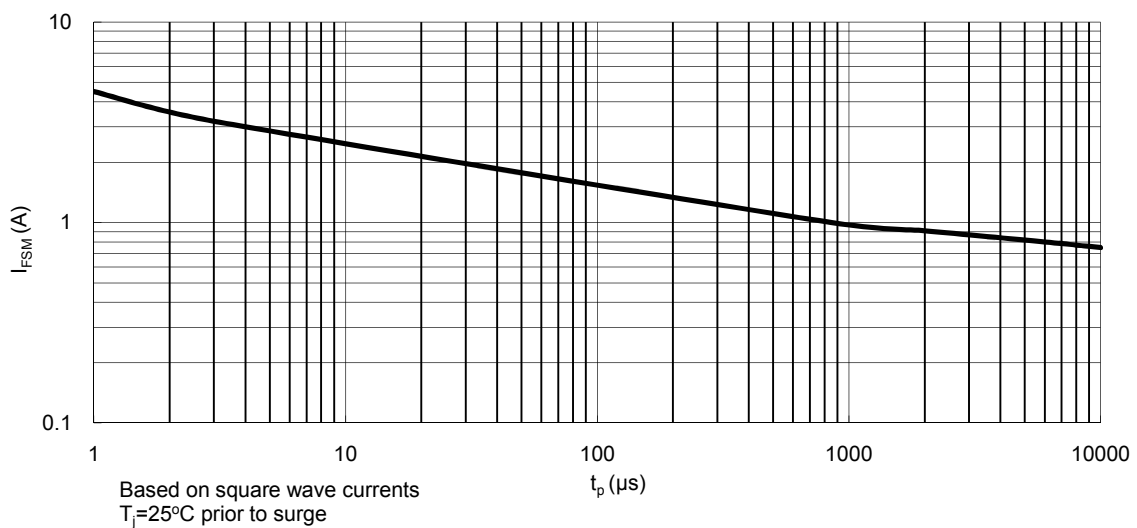
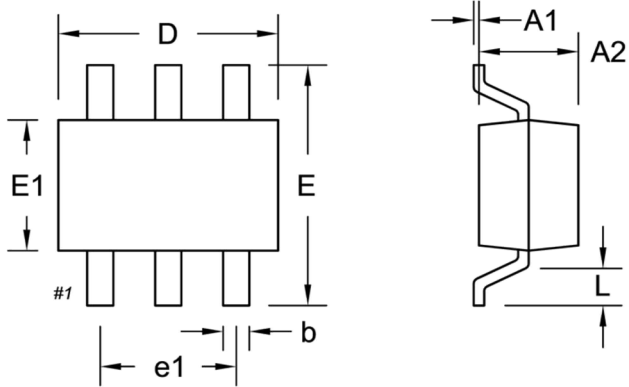


Fig. 3 Maximum Permissible Non-Repetitive Peak Forward Current As A Function of Pulse Duration



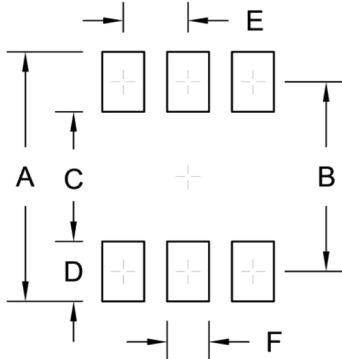
**PACKAGE OUTLINE DIMENSION**

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

**SUGGEST 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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