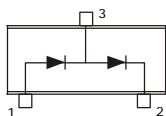
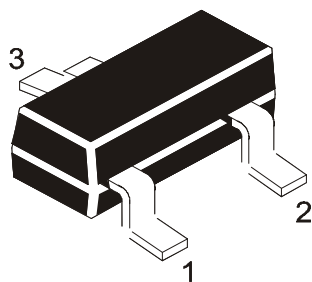


## SILICON PLANAR HIGH SPEED SWITCHING DIODES

**BAV99**

**SOT-23**  
**Formed SMD Package**



**Pin Configuration**  
 1 = ANODE  
 2 = CATHODE  
 3 = ANODE/  
 CATHODE

### Marking

BAV99 = A7

### High-Speed Switching Series Diode Pair

#### ABSOLUTE MAXIMUM RATINGS (Rating Per Diode)

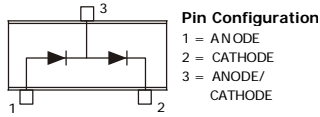
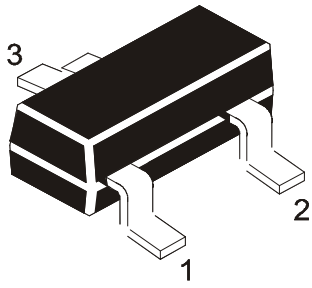
DESCRIPTION	SYMBOL	VALUE	UNIT
Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Reverse Voltage	$V_R$	100	V
Forward Current (DC)	$I_F$	215	mA
Repetitive Peak Forward Current	$I_{FRM}$	500	mA
Non Repetitive Peak Forward Current (per crystal)	$I_{FSM}$ t=1 ms	4.0	A
	$I_{FSM}$ t=1 ms	1.0	A
	$I_{FSM}$ t=1 s	0.5	A
Power Dissipation up to $T_a=25^\circ\text{C}$	$P_D$	250	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Ambient Temperature	$T_{amb}$	- 65 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to +150	$^\circ\text{C}$

#### THERMAL RESISTANCE

Junction to Ambient in free air	$R_{th(j-a)}$	500	K/W
Junction to Solder Point	$R_{th(j-sp)}$	360	K/W

#### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless specified otherwise) per diode

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Forward Voltage	$V_F$	$I_F = 1\text{mA}$		0.715	V
		$I_F = 10\text{mA}$		0.855	V
		$I_F = 50\text{mA}$		1.0	V
		$I_F = 150\text{mA}$		1.25	V
Reverse Current	$I_R$	$V_R=25\text{V}$		30	nA
		$V_R=25\text{V}, T_J=150^\circ\text{C}$		30	$\mu\text{A}$
		$V_R=80\text{V}$		0.5	$\mu\text{A}$
		$V_R=80\text{V}, T_J=150^\circ\text{C}$		50	$\mu\text{A}$

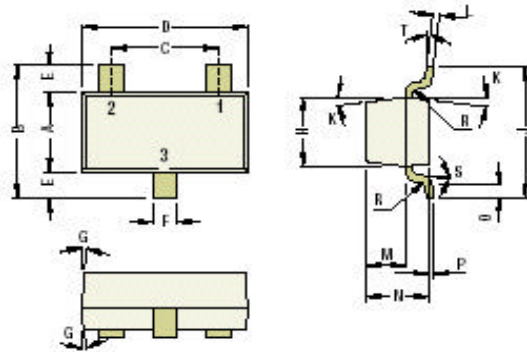


**SOT-23**  
**Formed SMD Package**

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25° C unless specified otherwise) per diode**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Diode Capacitance	C <sub>d</sub>	V <sub>R</sub> =0V, f=1MHz		1.5	pF
Forward Recovery Voltage	V <sub>FR</sub>	I <sub>F</sub> =10mA, t <sub>r</sub> =20ns		1.75	V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =10mA, to I <sub>R</sub> =10mA, measured at I <sub>R</sub> =1.0mA, R <sub>L</sub> =100Ω		4.0	ns
Reverse Charge When Switched Time	Q <sub>S</sub>	I <sub>F</sub> =10mA to V <sub>R</sub> =5V, R <sub>L</sub> =100Ω		45	pC

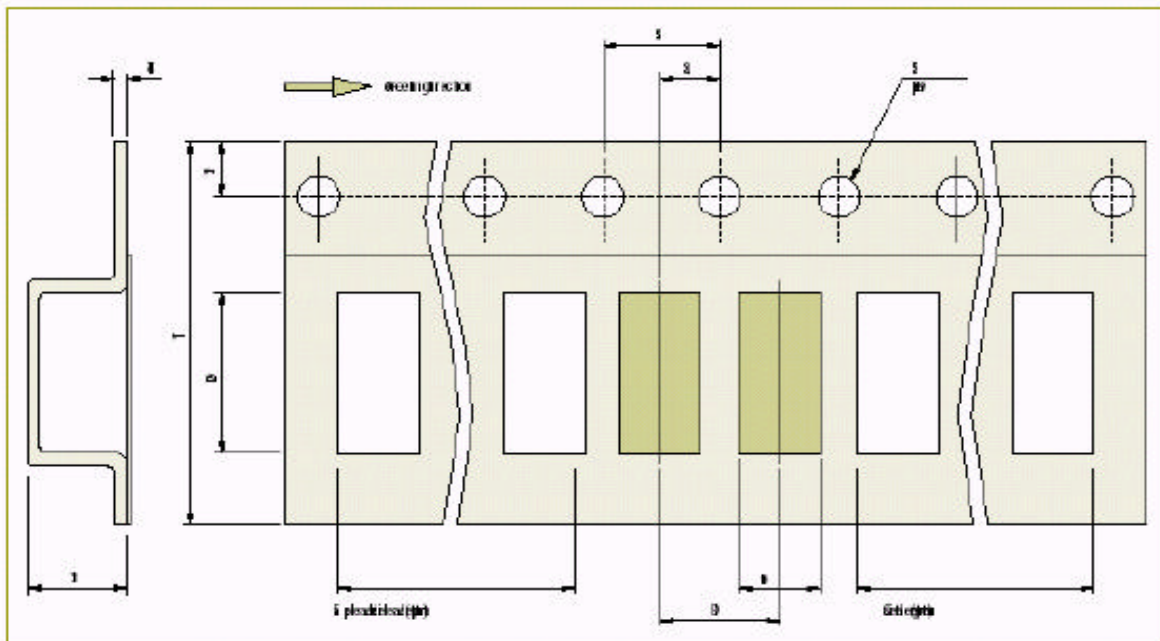
SOT-23  
SMD Plastic Package



DIM	Min	Max
A	1.20	1.40
B	2.10	2.64
C	1.85	1.95
D	2.80	3.04
E	0.54	0.67
F	0.30	0.50
G	3°	
H	—	1.30
J	2.10	2.64

DIM	Min	Max
K	7°	
L	0.08	0.20
M	0.58	0.62
N	0.70	1.02
O	0.21	—
P	0.02	0.15
R	—	0.08
S	2°	8°
T	2°	10°

Packaging Tape Specifications for SMD Packages



SMD Tape Specifications (8-12 mm)

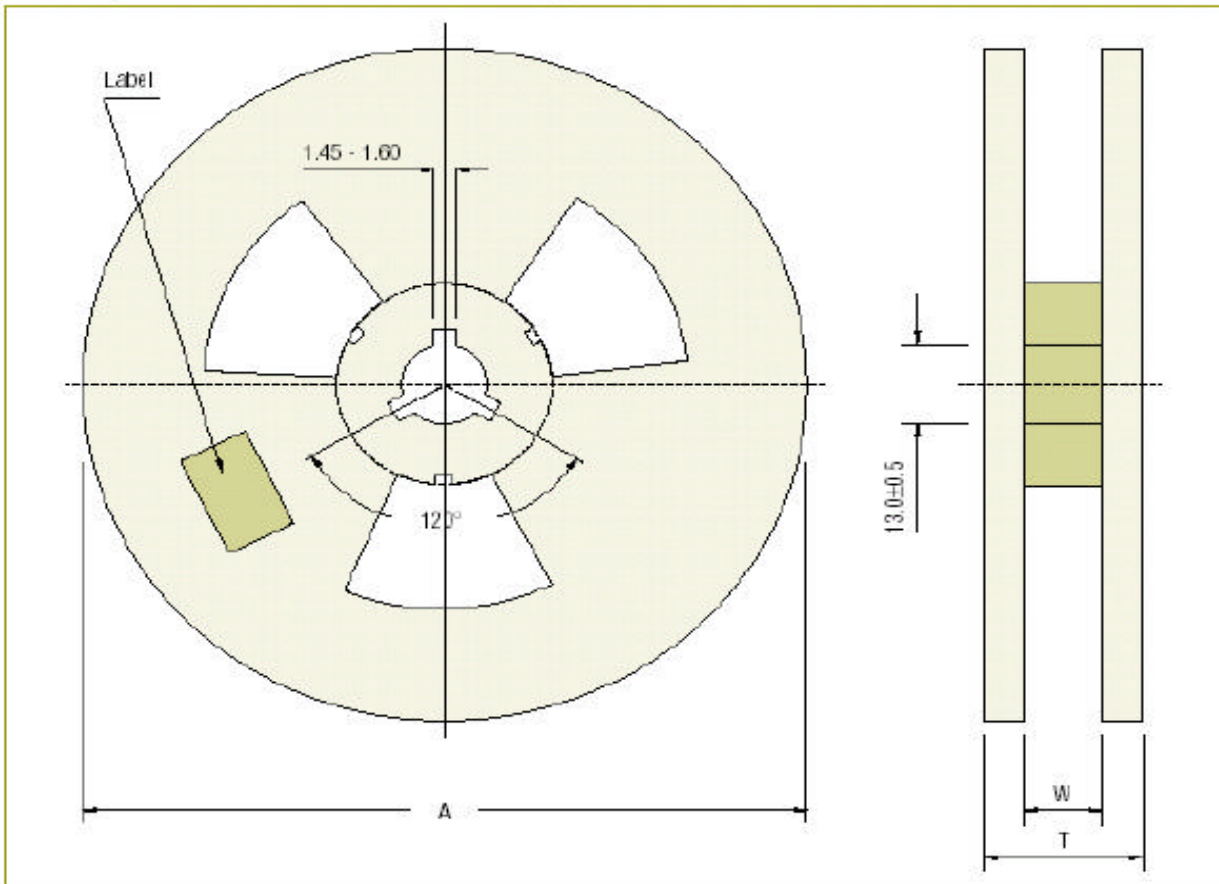
Device	D1	D2	D3	T1	T2	T3	T4	S1	S2	S3
						Max	Max			Dia
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SOT-23	3.2±0.1	2.8±0.1	4.6±0.1	1.0±0.2	1.75±0.1	1.90	0.35	4.0±0.1	2.0±0.1	1.5±0.1

Packaging Specifications ...

T & A: Tape and Ammo Pack; T & R: Tape and Reel; Bulk: Loose in Poly Bags; Tube: Tube and Carton; K: 1,000

Package / Case Type	Packaging Type	Std. Packing		Inner Carton		Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
SOT-23	T & R	3,000	15K	19 x 19 x 8	0.6	51K	23 x 13 x 23	2.2
	T & R	3,000	15K	19 x 19 x 8	0.6	408K	48 x 48 x 51	20.2
	T & R	10,000	50K	35.5 x 35.5 x 8.9	2.4	350K	48 x 48 x 51	19.2

**Reel Specifications for SMD Packages**



**Reel Specifications**

Package	Type	Reel Dia.	Devices	Inside	Reel
	Width	Δ - Max	per Reel stdM60	Thickness W	Thickness T - Max
SOT-23	t	180	3,000	8.4±2	14.4
	t	330	10,000	8.4±2	14.4

**Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

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