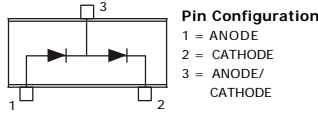
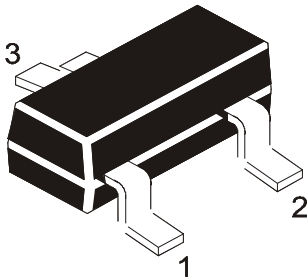


**SILICON PLANAR HIGH SPEED SWITCHING DIODES**

**BAV99**

**SOT-23  
 Formed SMD Package**



**Marking**

**BAV99 = A7**

**High-Speed Switching Series Diode Pair**

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

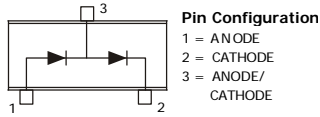
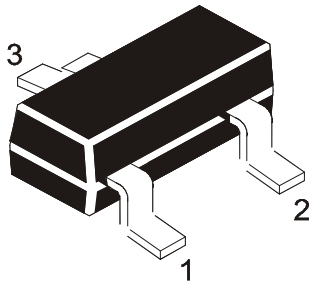
DESCRIPTION	SYMBOL	VALUE	UNIT
Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Reverse Voltage	$V_R$	100	V
Forward Current (DC)	$I_F$	215	mA
Repetitive Peak Forward Current	$I_{FRM}$	500	mA
Non Repetitive Peak Forward Current (per crystal)			
t=1 ms	$I_{FSM}$	4.0	A
t=1 ms	$I_{FSM}$	1.0	A
t=1 s	$I_{FSM}$	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	$\mu\text{A}$

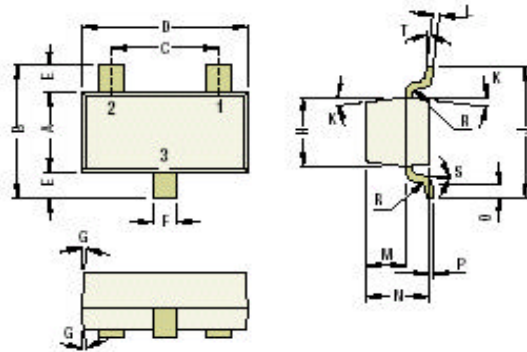


**SOT-23**  
**Formed SMD Package**

**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

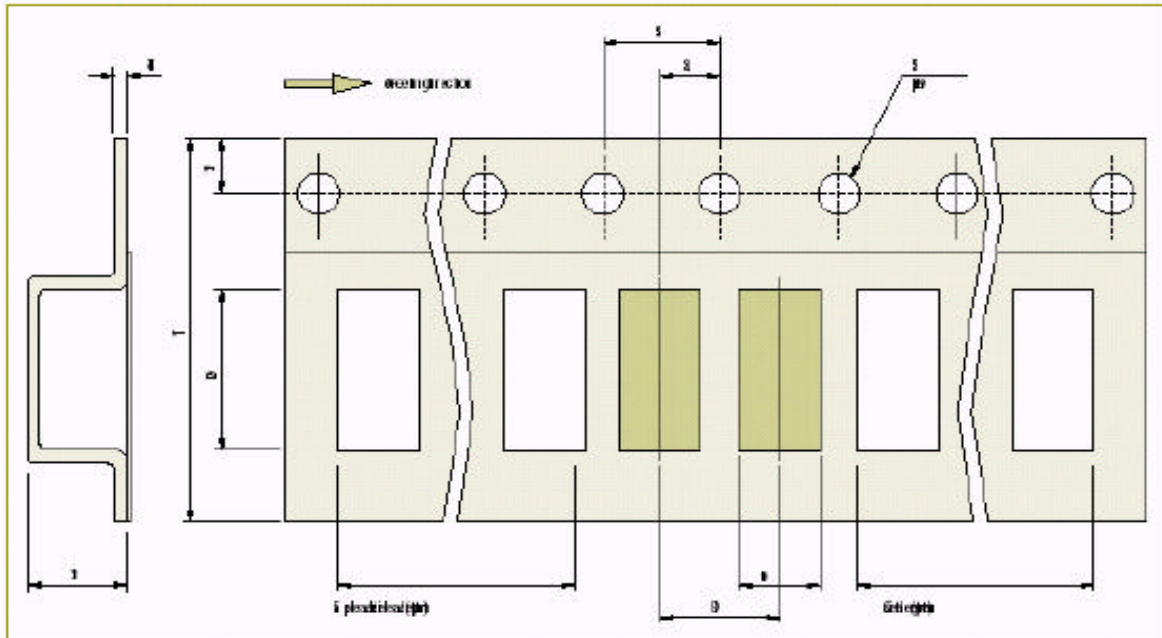
**SOT-23**  
SMD Plastic Package



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)**

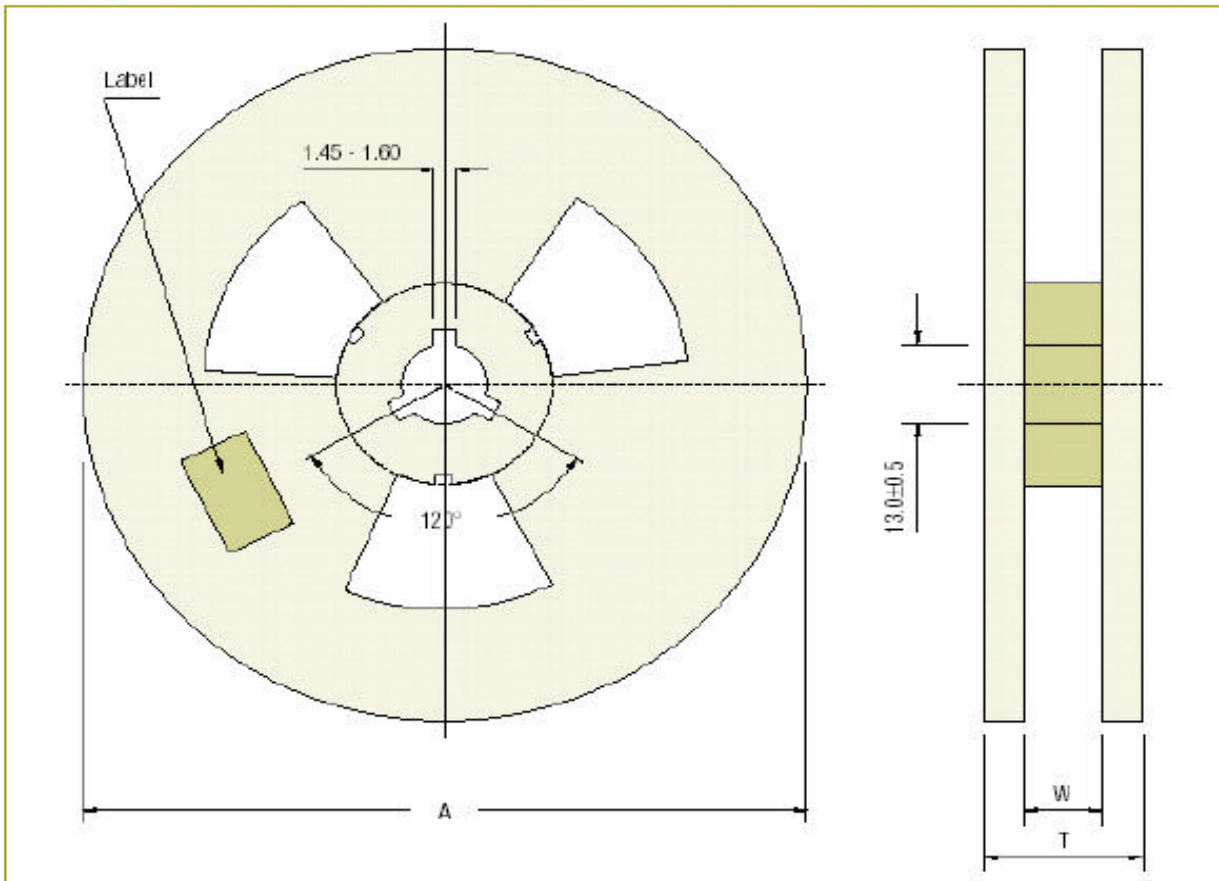
Device	D1	D2	D3	T1	T2	T3	T4	S1	S2	S3
						Max	Max			Dia
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SOT-23	3.2±0.1	2.8±0.1	4.6±0.1	1.0±0.2	1.75±0.1	1.90	0.35	4.0±0.1	2.0±0.1	1.5±0.1

**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	$\Delta$ - 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).

**Disclaimer**

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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