BAV70DW/BAV99W/BAW56W
BAV99BRW/BAV756DW/BAW567DW

List

List.......... 1

Package outline.......... 2

Features.......... 2

Mechanical data.......... 2

Maximum ratings 2

Rating and characteristic curves.......... 3

Pinning information..........4

Marking.......... 4

Suggested solder pad layout.......... 4

Packing information..........5

Reel packing.......... 5

Suggested thermal profiles for soldering processes..........6

High reliability test capabilities..........7

Datasheet.Directory

Formosa MS
http://www.formosams.com/
TEL:886-2-22696661
FAX:886-2-22696141

Document ID	Issued Date	RevisedDate	Revision	Page.
DS-221921	2008/02/10	-	A	7

BAV70DW/BAV99W/BAW56W
BAV99BRW/BAV756DW/BAW567DW

200mW Surface Mount Switching Diode Array - 75V

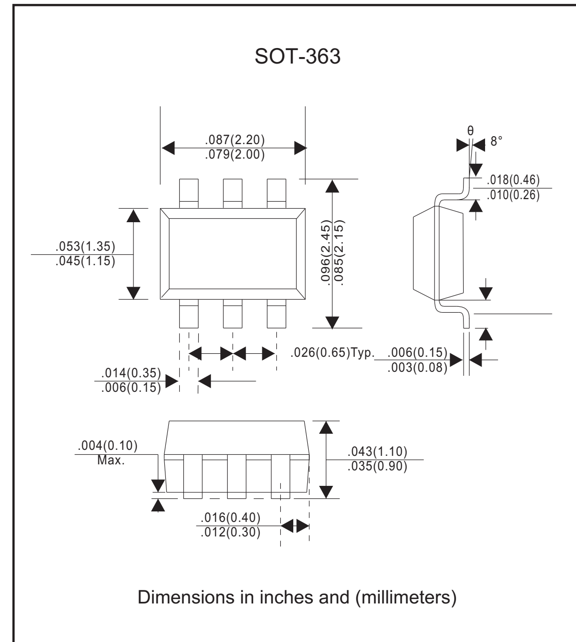
Features

- Fast speed switching.
- For general purpose switching application.
- High conductance.
- Easily connected as full wave bridge
- Silicon epitaxial planar chip.
- Lead-free parts meet RoHS requirments.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-363
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : See Diagram
- Mounting Position : Any
- Weight : Approximated 0.006 gram

Package outline



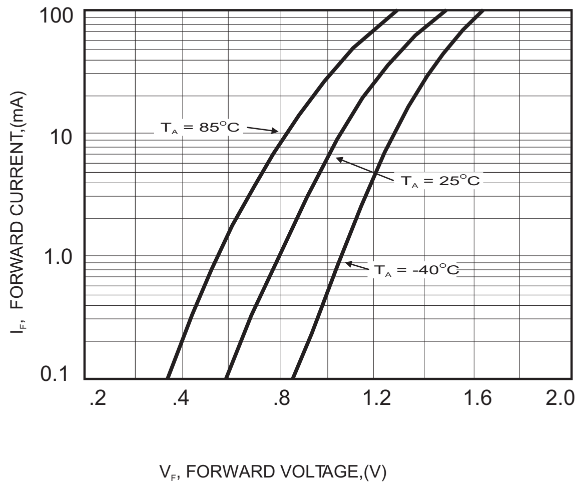
Dimensions in inches and (millimeters)

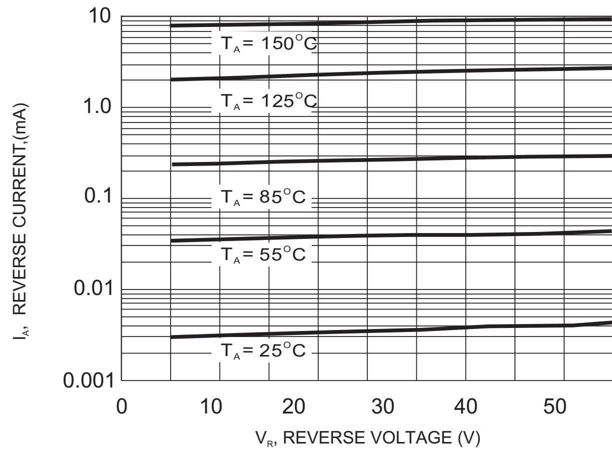
Maximum ratings (AT T_A=25°C unless otherwise noted)

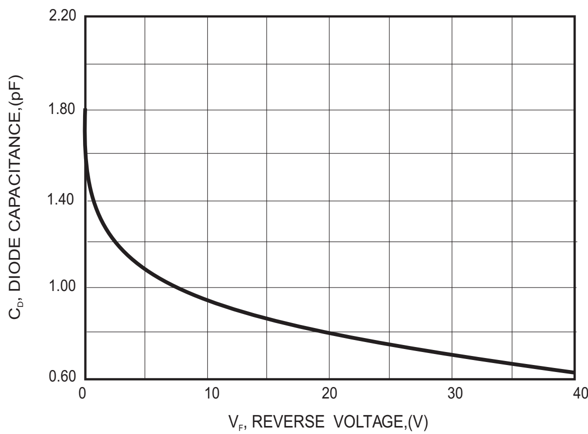
PARAMETER	Symbol	Value	UNIT
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage DC Blocking Voltage	V_{RRM} V_R	75	V
RMS Reverse Voltage	$V_{R(RSM)}$	53	V
Average Rectified Output Current (Note 1, 3)	I_O	150	mA
Thermal Resistance Junction to Ambient (Note 1, 3)	$R_{\theta JA}$	625	°C/W
Total Device Dissipation Substrate*2, T_A = 25°C	P_D	200	mW
Operating Temperature Range	T_j	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-65 ~ +175	°C
Reverse Breakdown Voltage, I_{BR} = 2.5μA (Note 2)	V_{BR}	75	V
Reverse Voltage Leakage Current (Note 2) at V_R = 75V at V_R = 20V	I_R	2.5 25	μA nA
Diode Capacitance, V_R = 0V, f = 1.0MHz	C_D	2.0	pF
Reverse Recovery Time (I_F = I_R = 10mA, V_R = 5.0Vdc, I_{RR} = 1.0mAdc, R_L = 100Ω)	T_{rr}	4.0	nS
Forward Voltage (Note 2) at I_F = 1.0mAdc at I_F = 10mAdc at I_F = 50mAdc at I_F = 150mAdc	V_F	715 855 1000 1250	mV

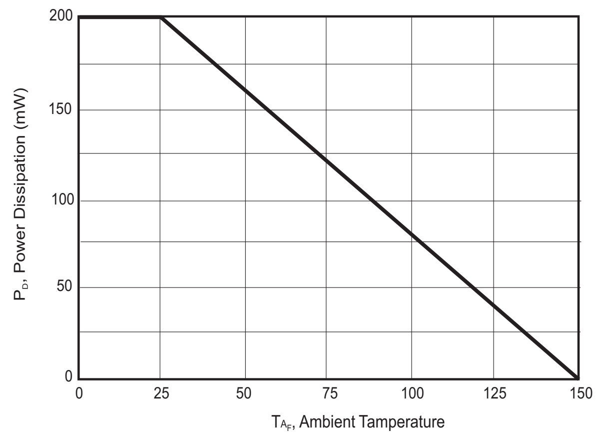
Note: 1. Device mounted on FR-4 PC board with recommended pad layout
2. Short duration test pulse used to minimize self-heating effect.
3. One or more diodes loaded.

Rating and characteristic curves for each diode (BAV70DW/BAV99DW/BAW56DW/BAV99BRW/BAV756DW/BAW567DW)









Formosa MS
http://www.formosams.com/
TEL:886-2-22696661
FAX:886-2-22696141

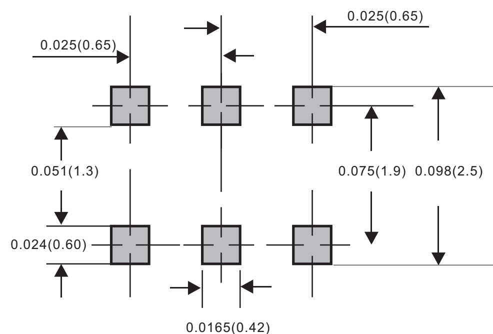
BAV70DW/BAV99W/BAW56W BAV99BRW/BAV756DW/BAW567DW

Pinning information

Type number	Marking code	Symbol	Type number	Marking code	Symbol
BAV70DW	KJA		BAV99BRW	KGJ	
BAV99DW	KJG		BAV756DW	KCA	
BAW56DW	KJC		BAW567DW	KAC	

Suggested solder pad layout

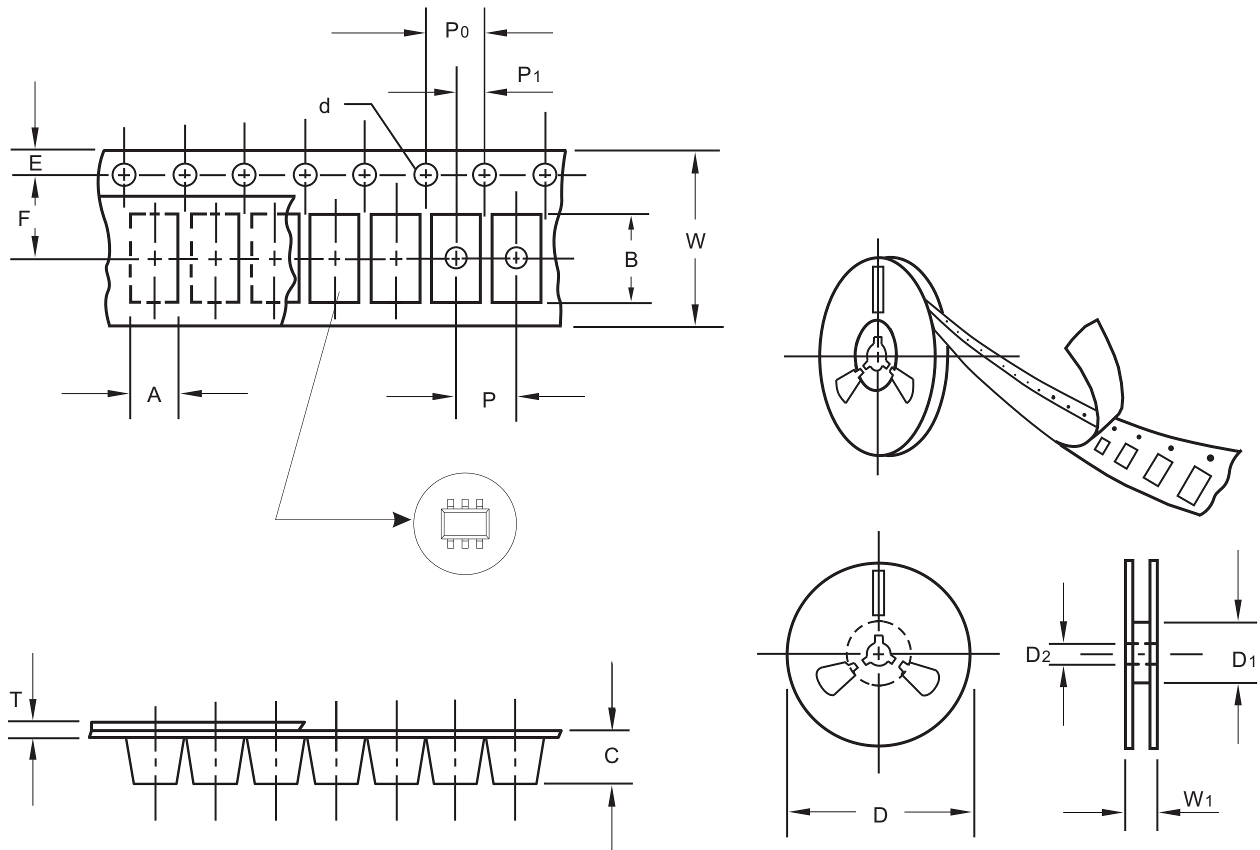
SOT-363



Dimensions in inches and (millimeters)

BAV70DW/BAV99W/BAW56W
BAV99BRW/BAV756DW/BAW567DW

Packing information



unit:mm

Item	Symbol	Tolerance	SOT-363
Carrier width	A	0.1	2.36
Carrier length	B	0.1	2.40
Carrier depth	C	0.1	1.20
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D_1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	62.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W_1	1.0	11.40

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

BAV70DW/BAV99W/BAW56W BAV99BRW/BAV756DW/BAW567DW

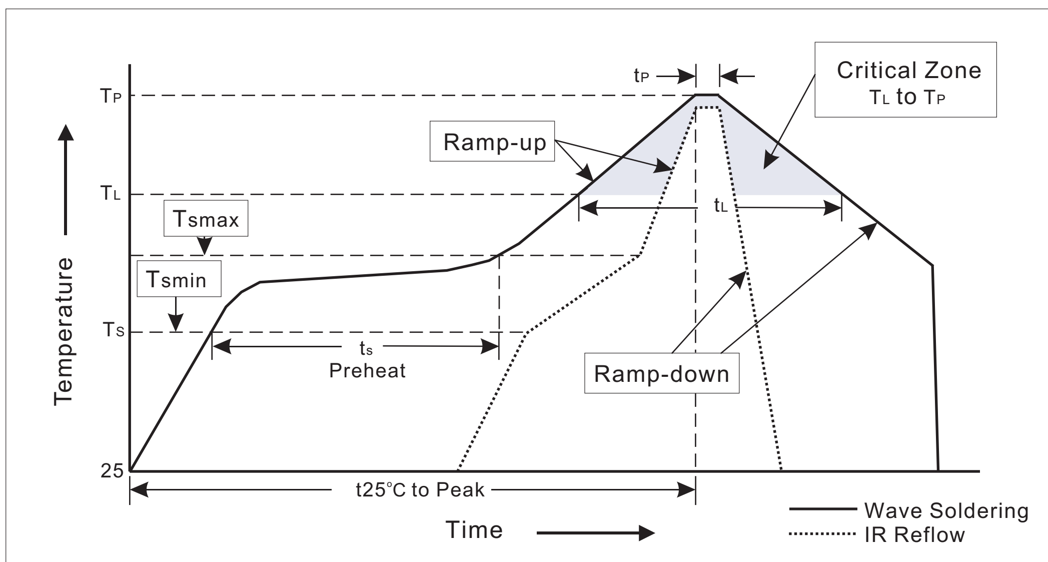
Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOT-363	7"	3000	4.0	30,000	195*195*150	178	460*400*420	360,000	15.0

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=10°C~35°C Humidity=65%±15%

2.Reflow soldering of surface-mount devices



3.Flow (wave)soldering (solder dipping)

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	100°C 150°C 60~120sec
Tsmax to T_L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	183°C 60~150sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25℃ to Peak Temperature	<6minutes

BAV70DW/BAV99W/BAW56W
BAV99BRW/BAV756DW/BAW567DW

High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°C for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	V_R=80% rate at T_A=150°C for 168 hrs.	MIL-STD-750D METHOD-1026
4. Forward Operation Life	Rated average rectifier current at T=25°C for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	T_A = 25°C, I_F = I_O On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	15P_{SIG} at T_A=121°C for 4 hrs.	
7. Temperature Cycling	-55°C to +125°C dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Thermal Shock	0°C for 5 min. rise to 100°C for 5 min. total 10 cycles.	MIL-STD-750D METHOD-1056
9. Forward Surge	8.3ms single half sine-wave superimposed on rated load, one surge.	MIL-STD-750D METHOD-4066-2
10. Humidity	at T_A=65°C, RH=98% for 1000hrs.	MIL-STD-750D METHOD-1038
11. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031
12. Solvent Resistance	Dip into Freon at 25°C for 1 min.	MIL-STD-202F METHOD-215