

BAS70BRW/BAS70DW-04

BAS70DW-05/BAS70DW-06/BAS70TW

List

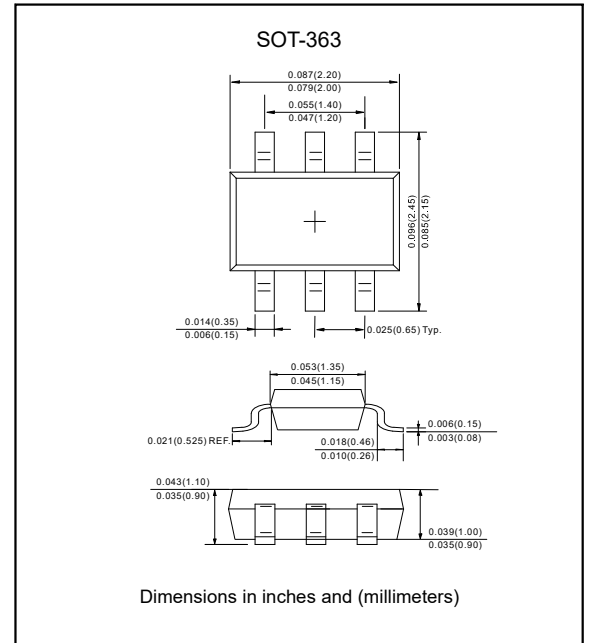
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BAS70BRW/BAS70DW-04**BAS70DW-05/BAS70DW-06/BAS70TW****Schottky Barrier Diode Arrays****Features**

- Low forward voltage drop.
- Fast switching.
- Small surface mount package.
- PN junction guard ring for transient and ESD protection.
- Available in lead free version.
- Lead-free parts meet RoHS requirements
- Suffix "-H" indicates Halogen-free parts, ex. BAS70BRW-H

Mechanical data

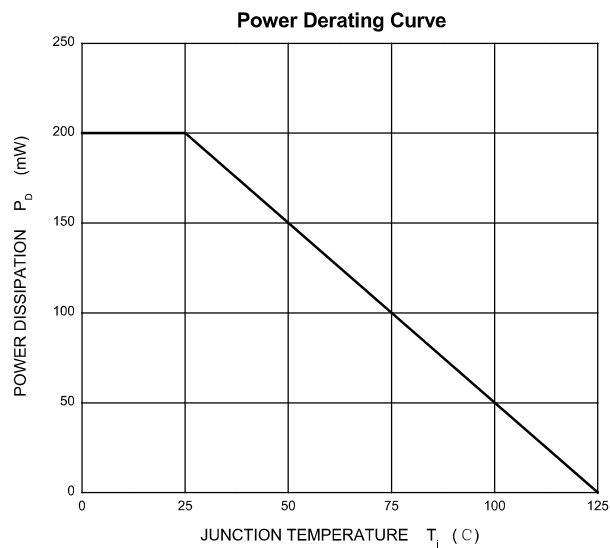
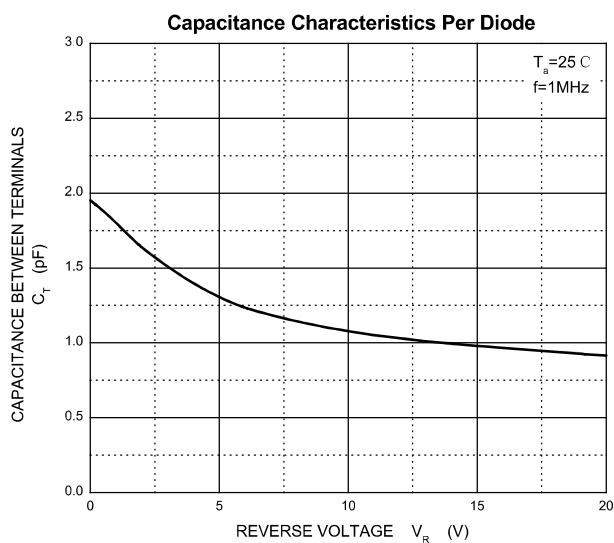
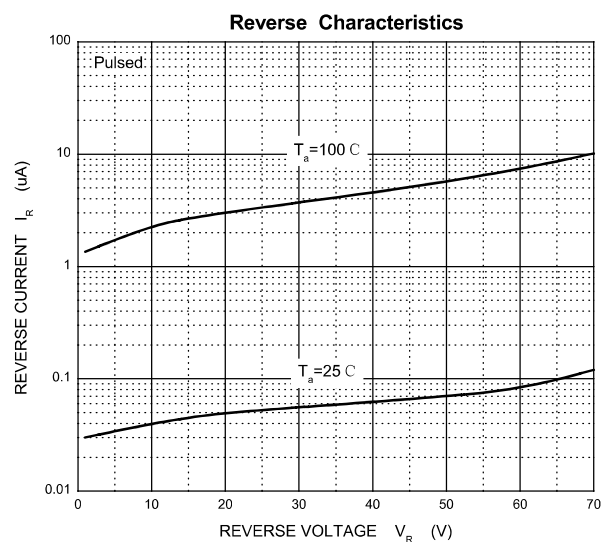
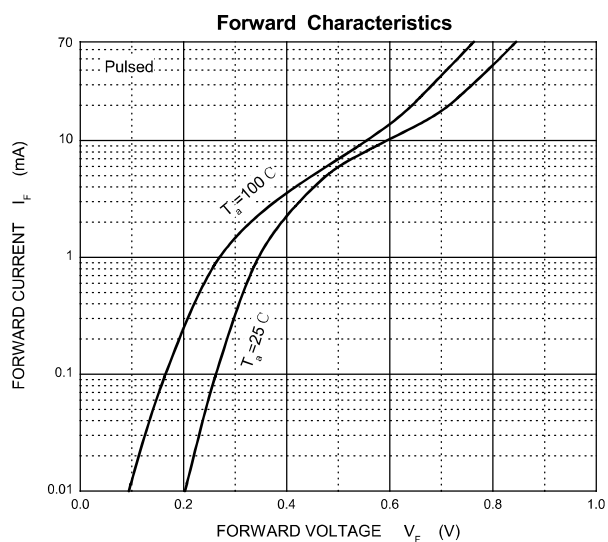
- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-363
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.006 gram

Package outline**Maximum ratings** (At $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	70	V
Peak working reverse voltage	V_{RWM}		
DC blocking voltage	V_R		
RMS Reverse voltage	$V_{R(RMS)}$	49	V
Forward continuous current	I_O	70	mA
Non-repetitive peak forward surge current (t=8.3ms)	I_{FSM}	100	mA
Power dissipation	P_D	200	mW
Thermal resistance form junction to ambient	$R_{\theta JA}$	500	$^{\circ}\text{C/W}$
Operating temperature range	T_J	+125	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_{BR}	$I_R=10\mu\text{A}$	70			V
Reverse current	I_R	$V_R=50\text{V}$			0.1	μA
Forward voltage	V_F	$I_F=1\text{mA}$			0.41	V
		$I_F=15\text{mA}$			1	
Total capacitance	C_T	$V_R=0\text{V}$, $f=1\text{MHz}$			2	pF
Reverse recovery time	t_{rr}	$I_F=I_R=10\text{mA}$ to $I_R=1\text{mA}$, $I_{rr}=0.1 \times I_R$, $R_L=100\Omega$			5	ns

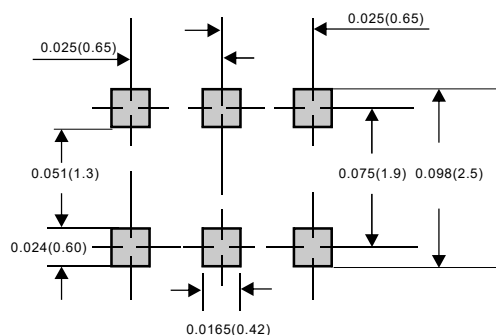
BAS70BRW/BAS70DW-04**BAS70DW-05/BAS70DW-06/BAS70TW****Rating and characteristic curves**

BAS70BRW/BAS70DW-04**BAS70DW-05/BAS70DW-06/BAS70TW****Pinning information & Marking**

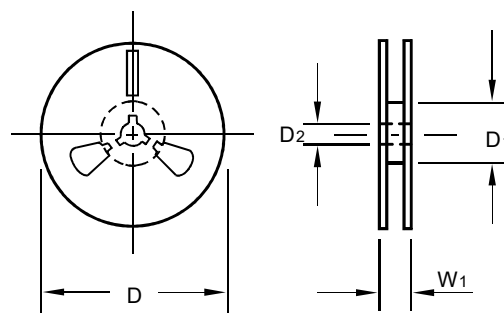
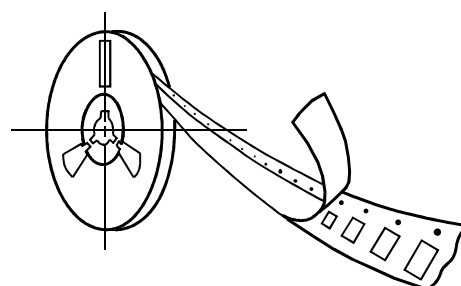
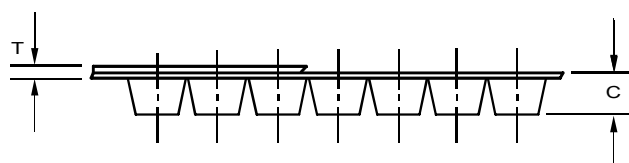
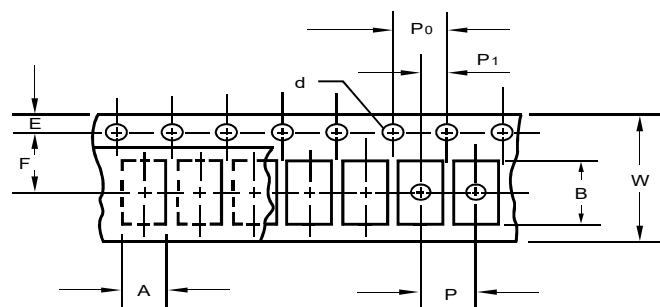
Type number	Marking code	Symbol	Type number	Marking code	Symbol
BAS70TW	K73		BAS70DW-04	K74	
BAS70DW-06	K76		BAS70BRW	K75	
BAS70DW-05	K71				

Suggested solder pad layout

SOT-363



Dimensions in inches and (millimeters)

BAS70BRW/BAS70DW-04**BAS70DW-05/BAS70DW-06/BAS70TW****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

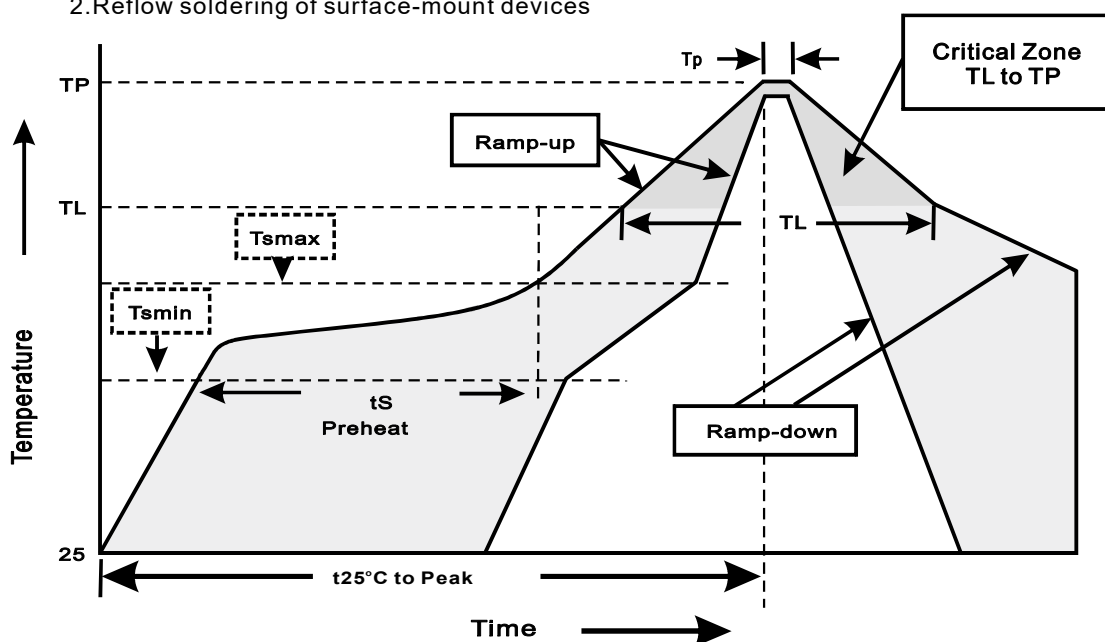
Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

BAS70BRW/BAS70DW-04**BAS70DW-05/BAS70DW-06/BAS70TW****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	183*183*123	178	382*262*387	240,000	9.50

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices

**3.Reflow soldering**

Profile Feature	Soldering Condition
Average ramp-up rate(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(T _{smmin}) -Temperature Max(T _{smmax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smmax} to T _L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T _L) -Time(t _L)	217°C 60~260sec
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°C to Peak Temperature	<6minutes

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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at $260 \pm 5^\circ\text{C}$ for $10 \pm 2\text{sec}$.	MIL-STD-750D METHOD-2031
2. Solderability	at $245 \pm 5^\circ\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	$V_R = 80\%$ rate at $T_J = 125^\circ\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at $T_A = 25^\circ\text{C}$ for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	$T_A = 25^\circ\text{C}$, $I_F = I_O$ 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 $T_A = 121^\circ\text{C}$ for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to $+125^\circ\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Forward Surge	Peak Forward Surge Current at 60Hz for 1cycle	MIL-STD-750D METHOD-4066-2
9. Humidity	at $T_A = 85^\circ\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031