

Switching Diode

Features

- Fast Switching Device (TRR <50nS)
- Power Dissipation of 200mW
- Low reverse leakage
- High Stability and High Reliability
- RoHS Compliant

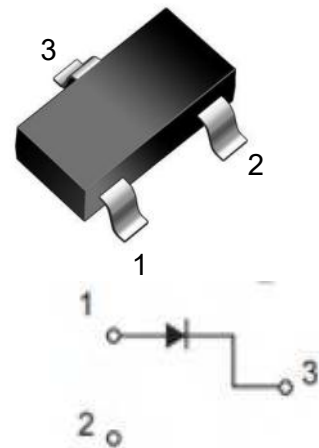
Mechanical Characteristics

- Package: SOT-323
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

Applications

- Surge protection
- Voltage stabilization
- Polarity Protection

Appearance&Symbol



Marking Information

BAS19W	BAS20W	BAS21W
<p>MARKING:KA8</p>	<p>MARKING:KT2</p>	<p>MARKING:KT3</p>

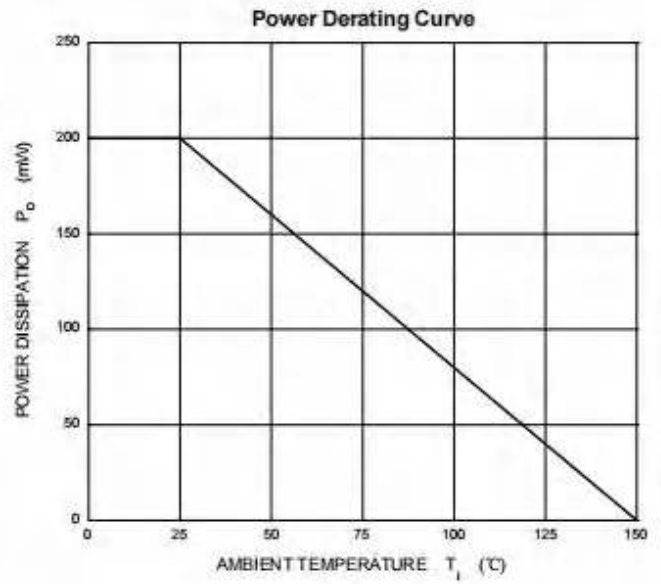
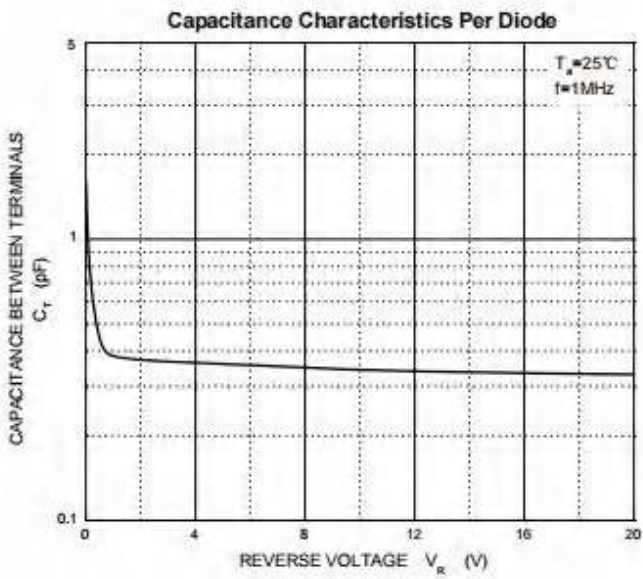
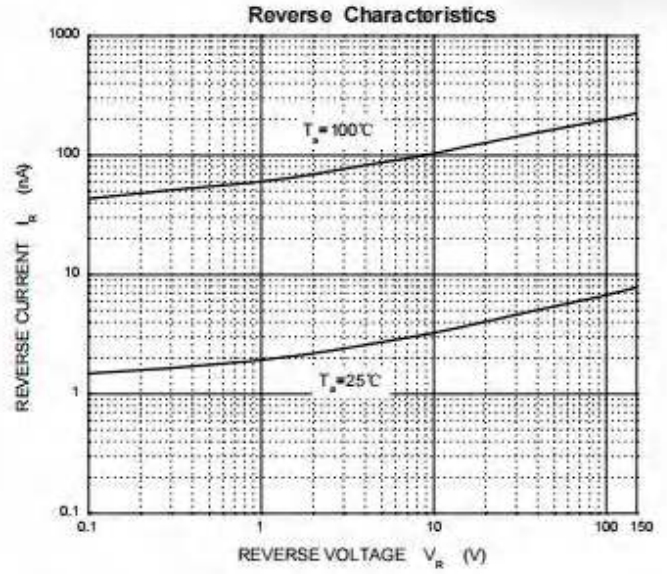
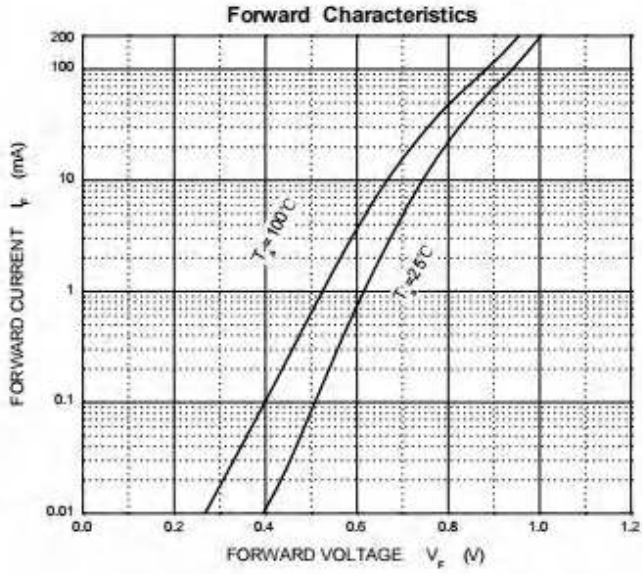
Absolute Maximum Ratings(T=25°C, RH=45%-75%, unless otherwise noted)

Parameters	Symbol	BAS19W	BAS20W	BAS21W	Unit
Peak Repetitive Reverse Voltage DC Blocking Voltage	V_{RRM} V_R	100	150	250	V
Power Dissipation	P_D	200			mW
Non-Repetitive Peak Forward Surge Current@t=8.3s	I_{FSM}	2.5			A
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	625			°C/W
Average Rectified Current	I_O	200			mA
Operating Junction temperature Range	T_J	-55 to +150			°C
Storage Temperature Range	T_{STG}	-55 to +150			°C

Electrical Characteristics(T=25°C, RH=45%-75%, unless otherwise noted)

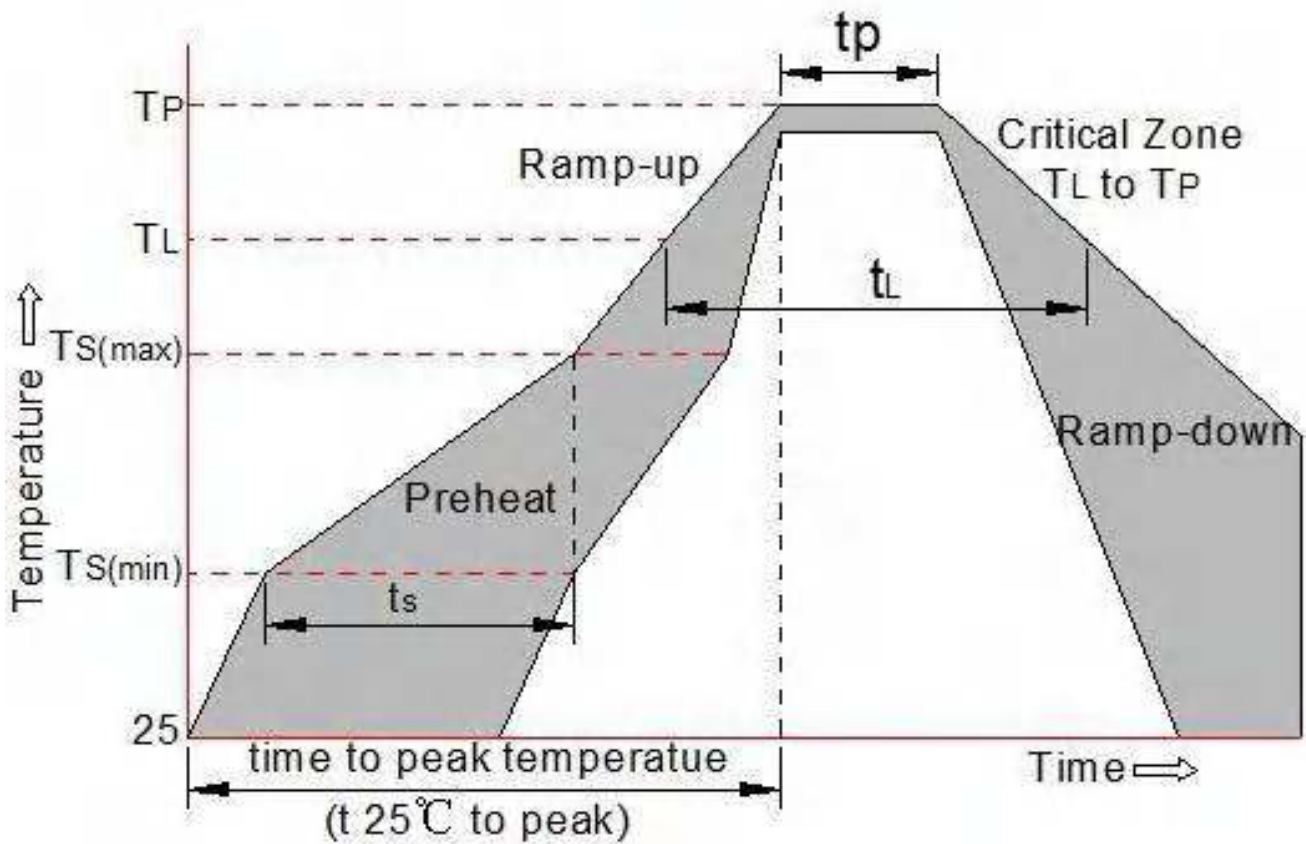
Parameters	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse breakdown voltage	BAS19W	$I_R=100\mu A$	100			V
	BAS20W		150			
	BAS21W		250			
Reverse Leakage Current	BAS19W	$V_R = 100V$			0.1	uA
	BAS20W	$V_R = 150V$			0.1	
	BAS21W	$V_R = 200V$			0.1	
Forward Voltage	V_F	$I_F=100mA$			1.000	V
		$I_F=200mA$			1.250	V
Reverse Recovery Time	T_{RR}	$I_F=I_R=30mA, I_{rr}=0.1 \times I_R$			50	nS
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$			5	pF

RATING AND CHARACTERISTICS CURVES (BAS19W THRU BAS21W)

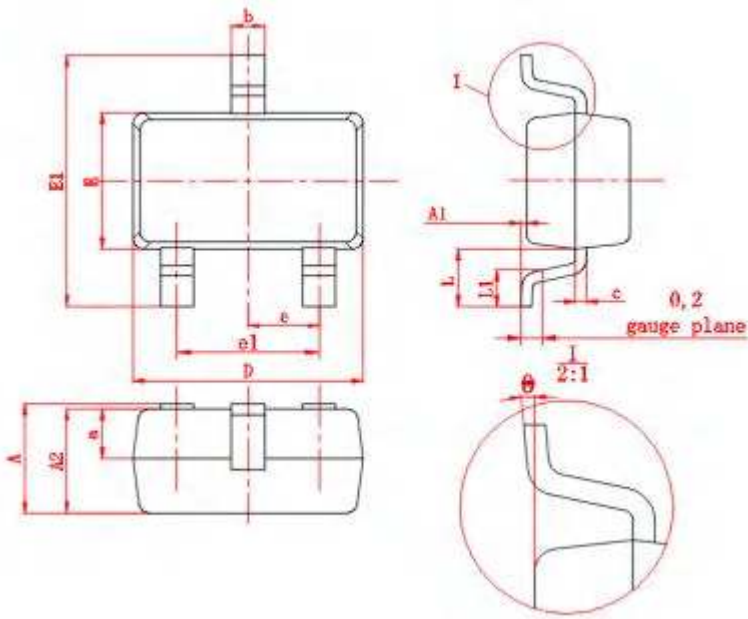


Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

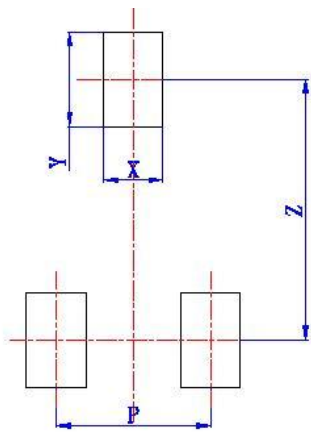


Package mechanical data



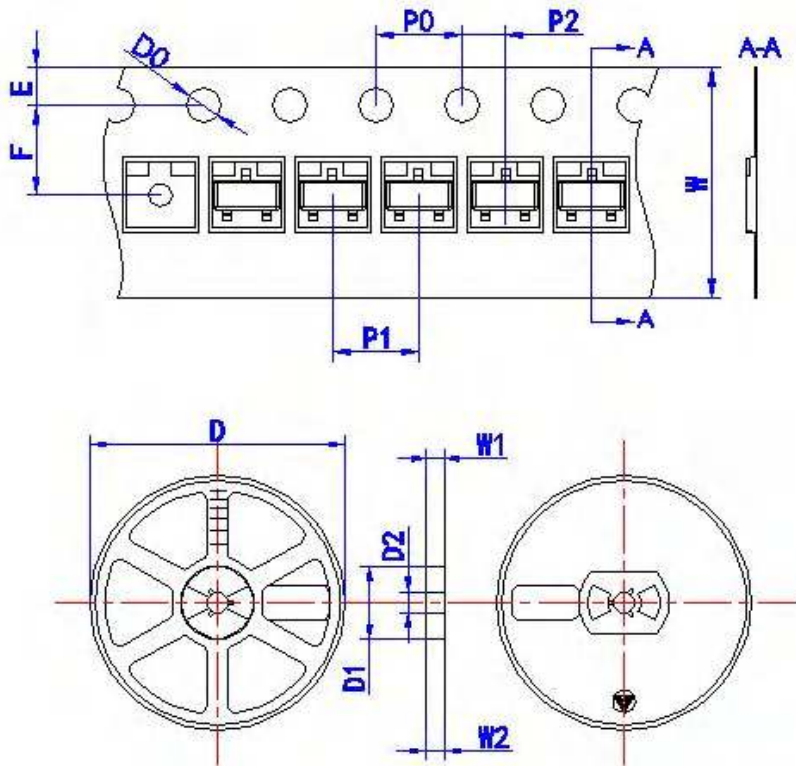
Symbol	Millimeters	
	Min	Max
A	0.9	1.1
A1	0	0.1
A2	0.9	1.0
a	(0.45)	
D	2.0	2.2
E	1.15	1.35
E1	2.15	2.45
e	(0.65)	
e1	1.2	1.4
b	0.25	0.35
c	0.08	0.15
L	(0.525)	
L1	0.26	0.46
θ	0°	8°

Suggested Land Pattern



Symbol	Dimension in Millimeters
	Typ
X	(0.5)
Y	(0.8)
Z	(1.8)
P	(1.3)

Tape & reel specification



Symbol	Dimension in Millimeters
Tape	
D0	1.50+0.10/-0.00
E	1.75±0.10
F	3.50±0.10
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
W	8.00+0.3/-0.1
Reel	
D	178.0±2.00
D1	54.40±1.00
D2	13.00±1.00
W1	9.50±1.00
W2	12.30±1.00

REEL PACK

PACKAGE	PACKING CODE	REEL (EA)	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOT-323	-T	3,000	---	---	178	390*205*310	120,000	5.29

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