

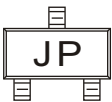

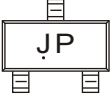
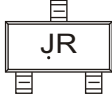
# SOT-23 Plastic-Encapsulate Diodes

## BAS19/BAS20 SWITCHING DIODE

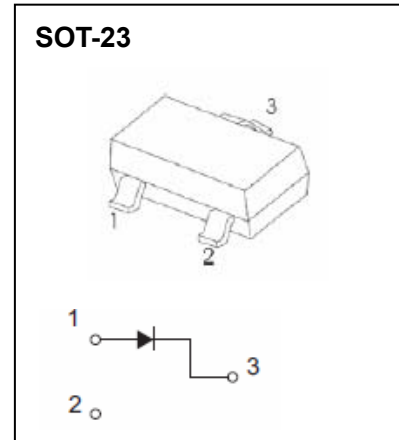
### FEATURE

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

### MARKING:

BAS19:JP	BAS20:JR
	
	

Solid dot = Green molding compound device,  
if none, the normal device.



### MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

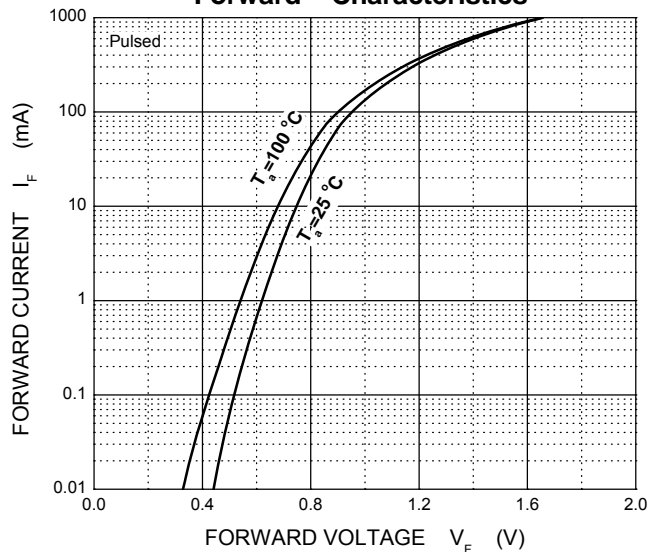
Symbol	Parameter	BAS19	BAS20	Unit
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	120	200	V
V <sub>RWM</sub>	Working Peak Reverse Voltage	100	150	V
I <sub>O</sub>	Average Rectified Output Current	200		mA
I <sub>FSM</sub>	Non-Repetitive Peak Forward Surge Current @t=8.3ms	2.5		A
P <sub>d</sub>	Power Dissipation	250		mW
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	500		°C/W
T <sub>J</sub>	Junction temperature	150		°C
T <sub>stg</sub>	Storage Temperature	-55 ~ +150		°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)

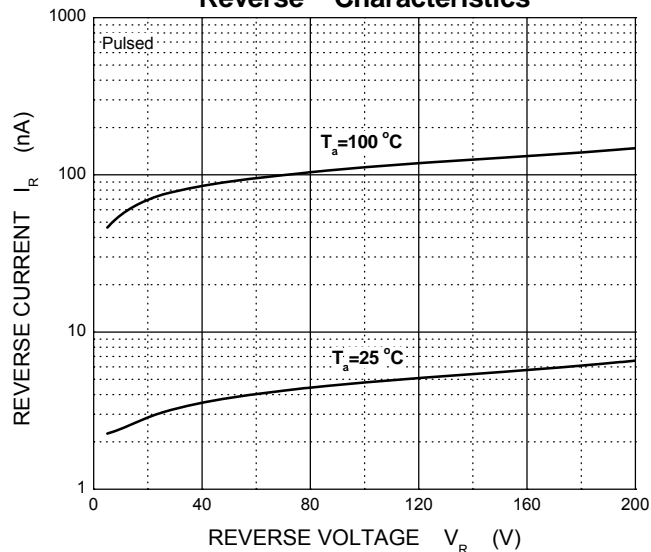
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse breakdown voltage	BAS19 BAS20	V <sub>(BR)</sub>	I <sub>R</sub> =100μA	120 200		V
Reverse current	BAS19 BAS20	I <sub>R</sub>	V <sub>R</sub> =100V V <sub>R</sub> =150V		0.1	μA
Forward voltage	V <sub>F</sub>		I <sub>F</sub> =100mA		1	V
			I <sub>F</sub> =200mA		1.25	V
Diodes capacitance	C <sub>D</sub>	V <sub>R</sub> =0V, f=1MHz			5	pF
Reveres recovery time	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =30mA, I <sub>rr</sub> =0.1*I <sub>R</sub>			50	ns

# Typical Characteristics

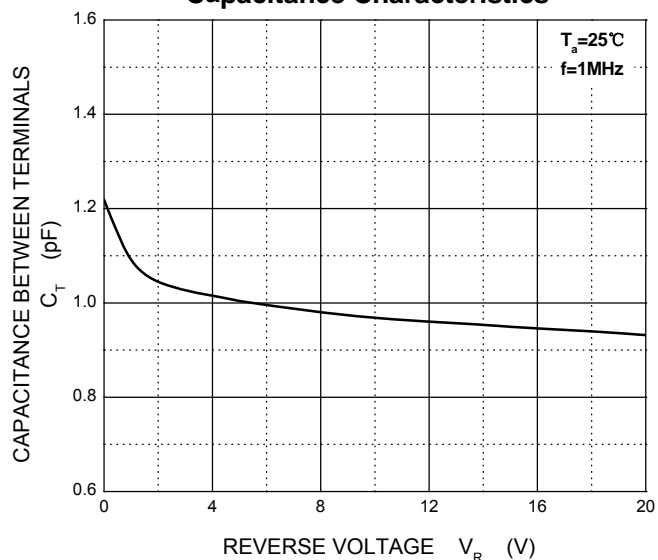
### Forward Characteristics



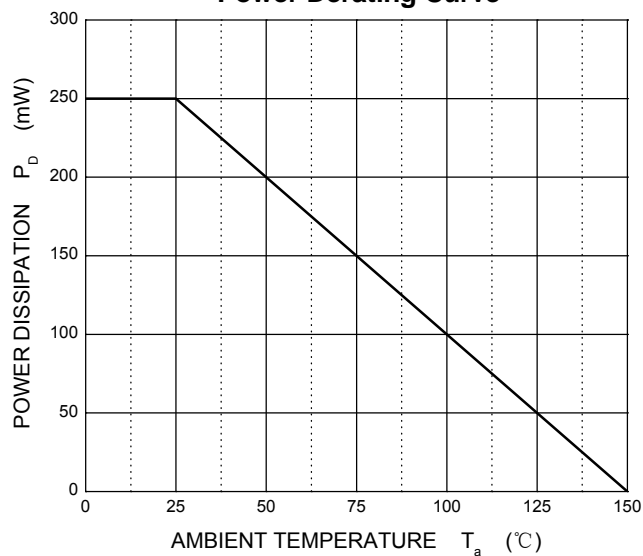
### Reverse Characteristics



### Capacitance Characteristics



### Power Derating Curve



## SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°

## SOT-23 Suggested Pad Layout



**Note:**

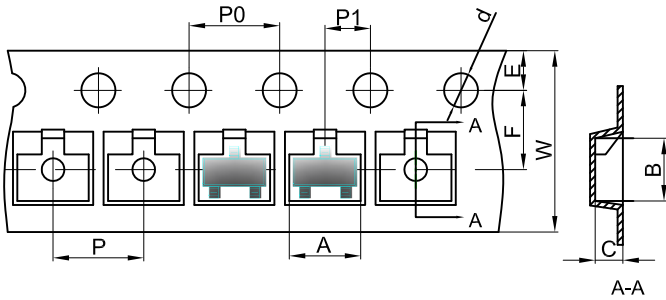
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### NOTICE

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# SOT-23 Tape and Reel

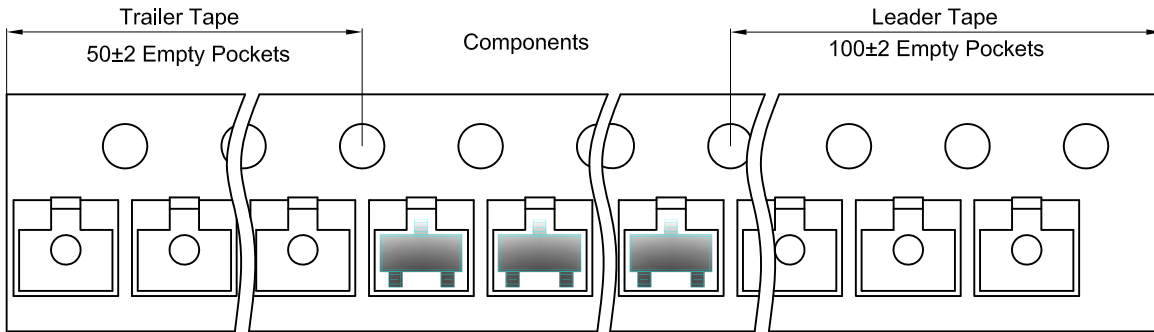
## SOT-23 Embossed Carrier Tape



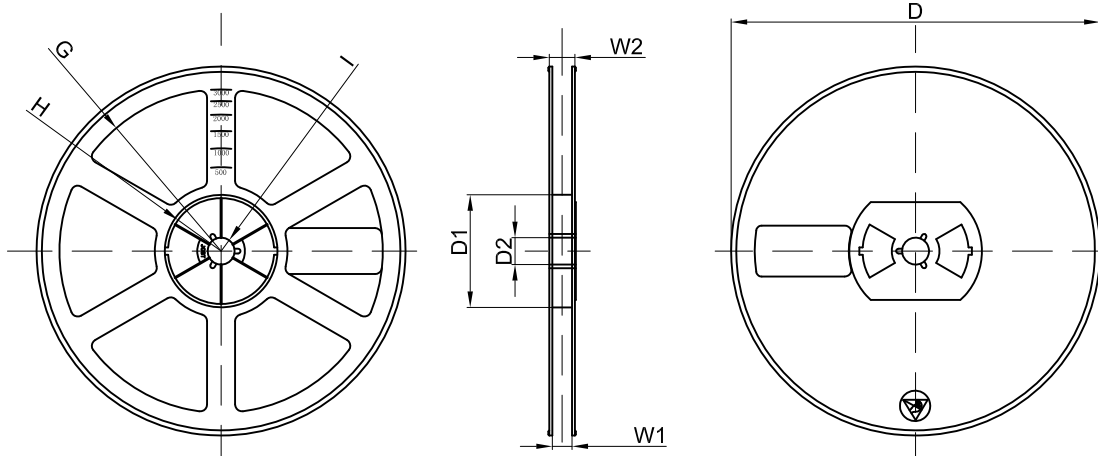
**Packaging Description:**  
 SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

## SOT-23 Tape Leader and Trailer



## SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

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