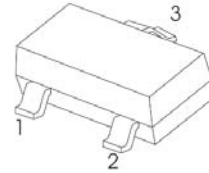


Switching Diodes

FEATURES

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- P/N suffix V means AEC-Q101qualified, eg: BAS21V
- P/N suffix V means Halogen-free

SOT-23



BAS21	BAS21A	BAS21C	BAS21S
MARKING: JS	MARKING: JS2	MARKING: JS3	MARKING: JS4

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

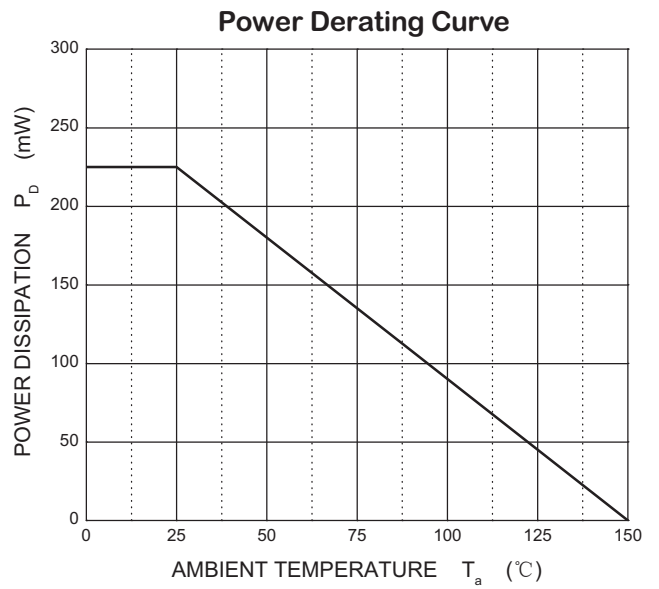
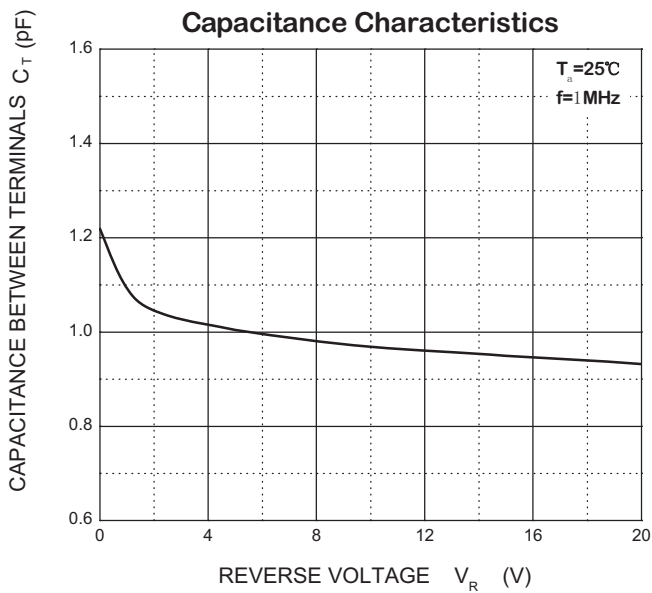
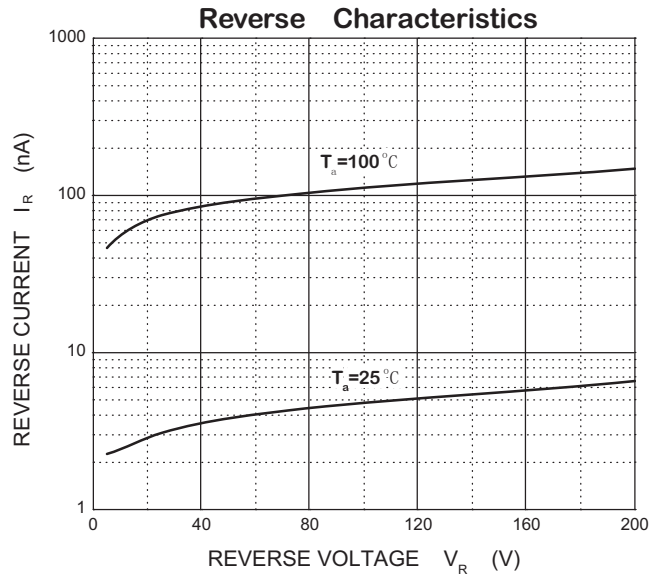
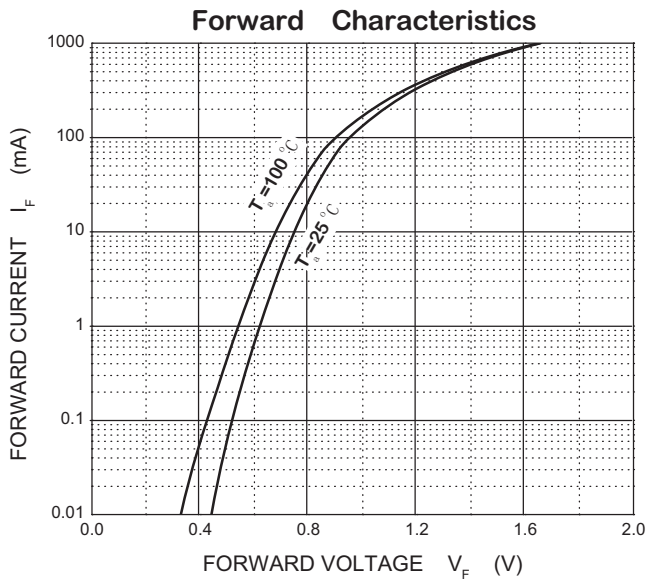
Maximum Ratings @Ta=25 °C

Parameter	Symbol	Limit	Unit
Repetitive peak reverse voltage	V_{RRM}	250	V
Working peak reverse voltage	V_{RWM}		
DC blocking voltage	V_R		
Forward continuous current	I_{FM}	400	mA
Average rectified output current	I_O	200	mA
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	2.5	A
Typical Current Squared Time	I^2T	0.02	A ² S
Repetitive peak forward surge current	I_{FRM}	625	mA
Power dissipation	P_D	225	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	555	°C/W
Junction temperature	T_J	150	°C
Storage temperature range	T_{STG}	-55~+150	°C

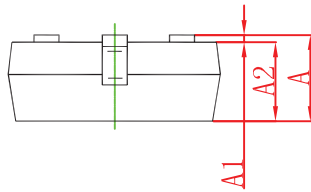
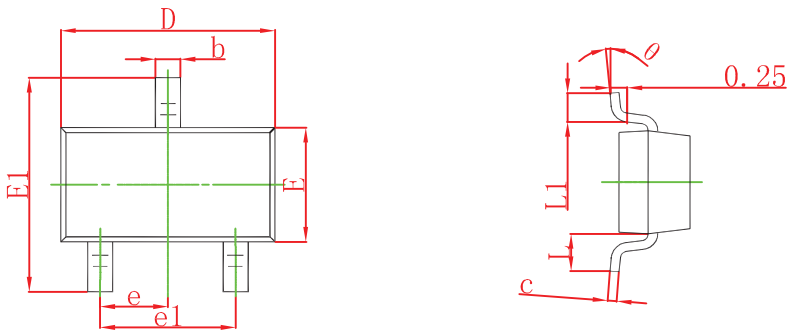
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu A$	250		V
Reverse voltage leakage current	I_R	$V_R=200V$		0.1	μA
Forward voltage	V_F	$I_F=100mA$ $I_F=200mA$		1000 1250	mV
Diode capacitance	C_D	$V_R=0V, f=1MHz$		5	pF
Reverse recovery time	t_{rr}	$I_F=I_R=30mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$		50	ns

RATING AND CHARACTERISTIC CURVES (BAS21/A/C/SV)

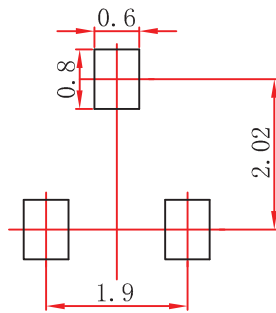


SOT-23 Package Outline Dimensions



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
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout

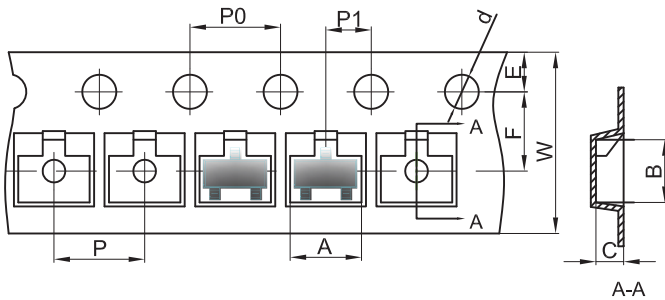


Note:

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

SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape



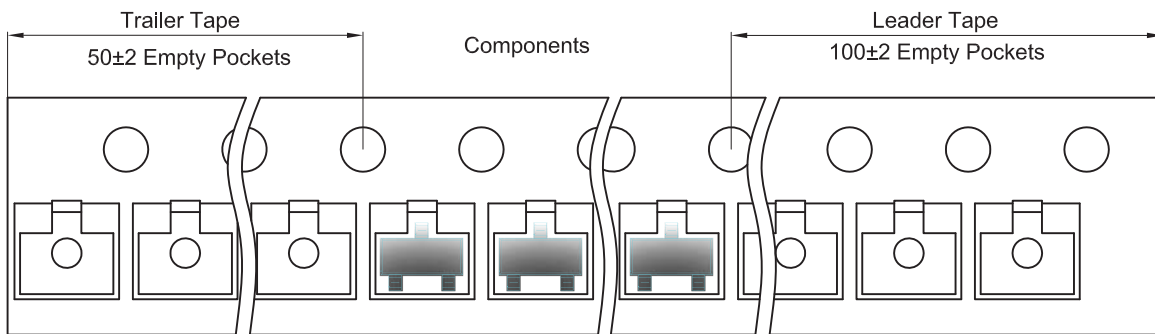
Packaging Description:

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).

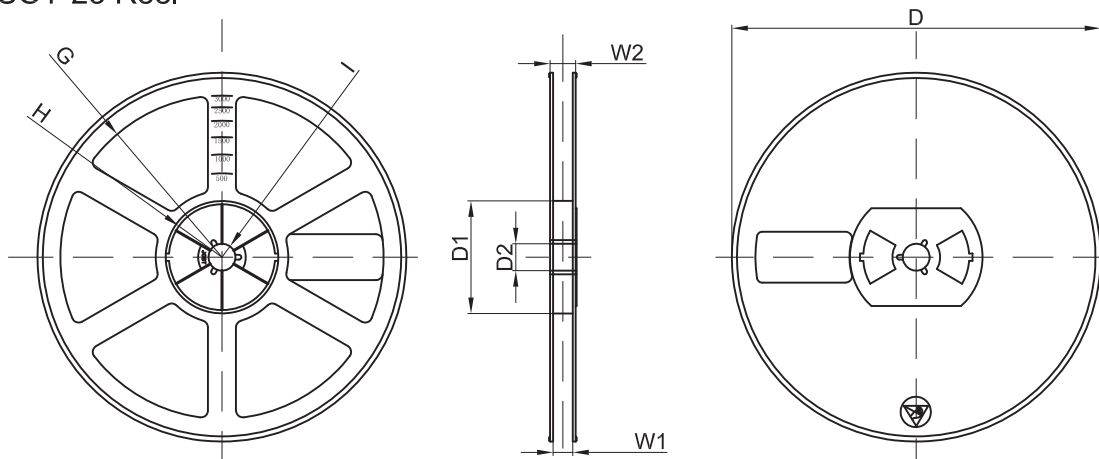
Dimensions are in millimeter

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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