

SOT- 23 Plastic-Encapsulate Transistors

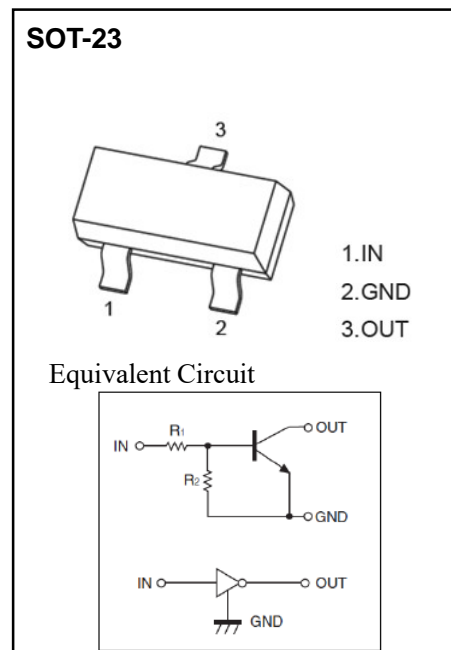
**HALOGEN
FREE**

DIGITAL TRANSISTOR(NPN)

Features

- Built-in bias resistors enable the configuration of an inverter circuit without connection external input resistors (see equivalent circuit).
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- Only the on/off conditions need to be set for operation, making device design easy.

MARKING: 03



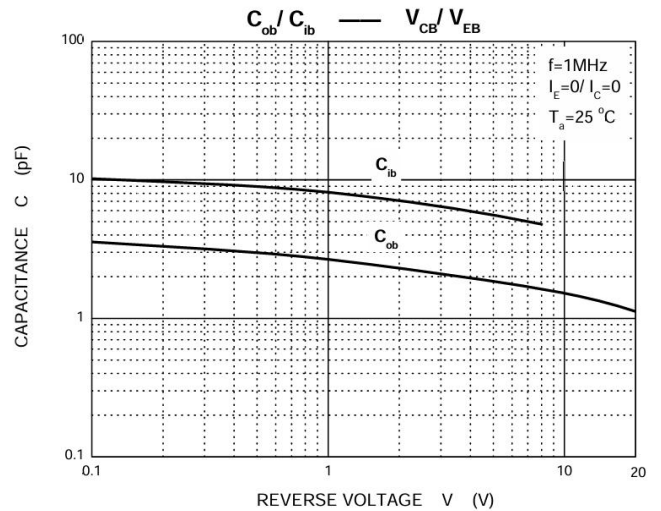
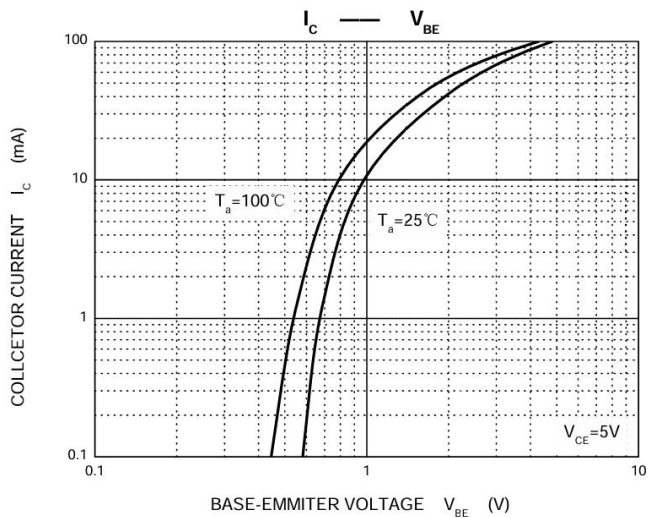
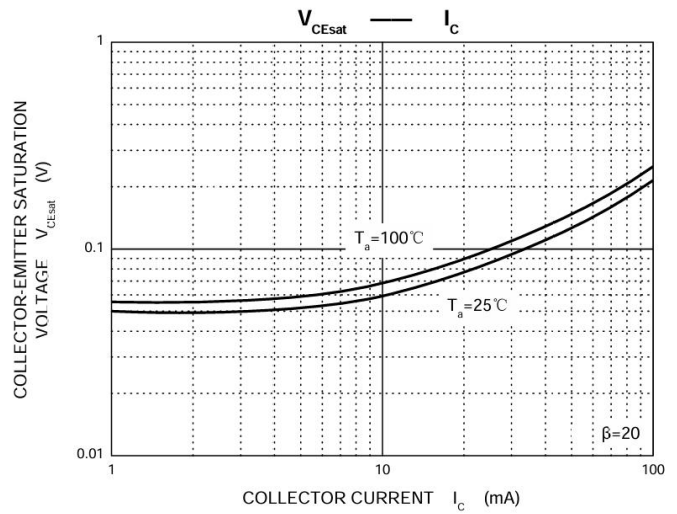
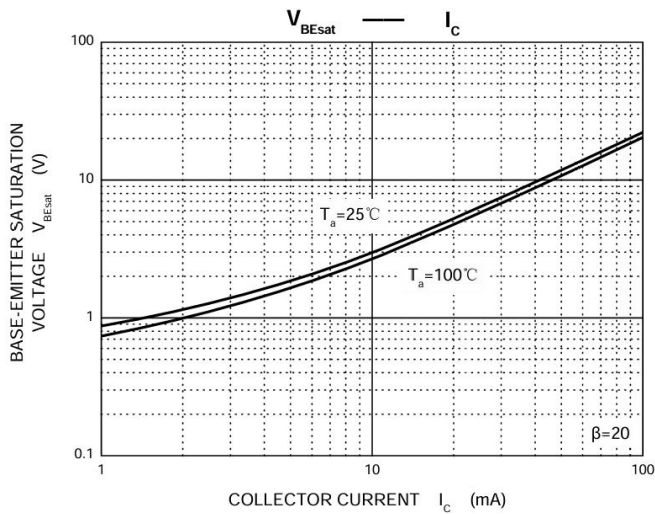
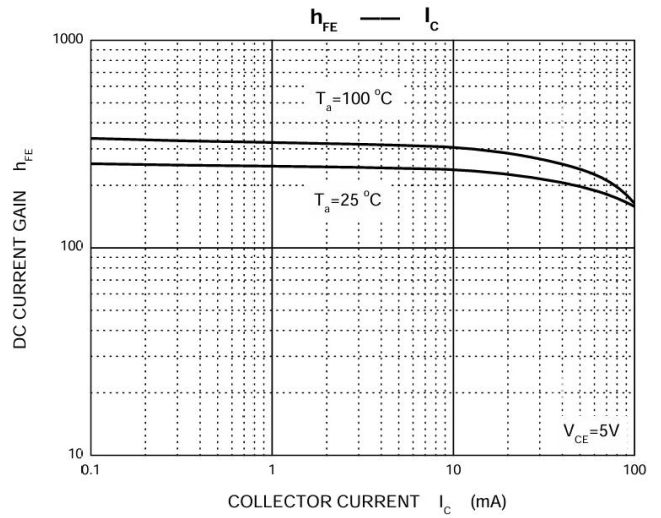
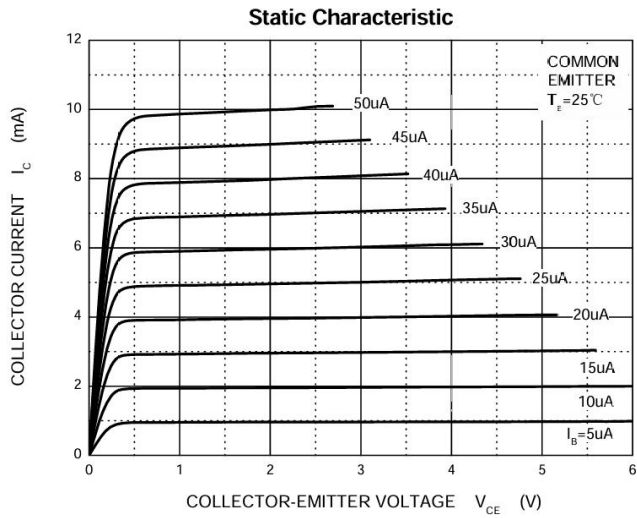
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameters	Symbols	Limits	Units
Collector-Base Voltage	VCBO	50	V
Collector-Emitter Voltage	VCEO	50	V
Emitter-Base Voltage	VEBO	5	V
Collector Current	IC	100	mA
Power Dissipation	PD	200	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55-+150	°C

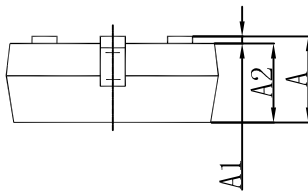
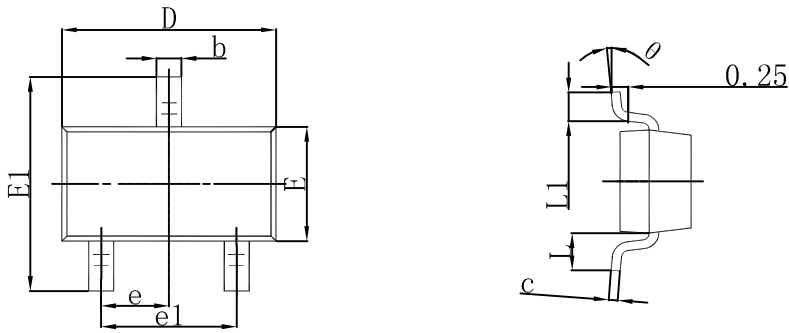
Electrical Characteristics(Ta=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=50uA, IE=0	50			V
Collector-emitter breakdown voltage	V(BR)CEO	IC=1mA, IB=0	50			V
Emitter-base breakdown voltage	V(BR)EBO	IE=50uA, IC=0	5			V
Collector cut-off current	ICBO	VCB=50V, IE=0			0.5	uA
Emitter cut-off current	IEBO	VEB=4V, IC=0			0.5	uA
Collector-emitter saturation voltage	VCE(sat)	IC=5mA, IB=0.25mA			0.3	V
DC current gain	hFE	VCE=5V, IC=1mA	100		600	
Input resistor	R1	-	3.29	4.7	6.11	kΩ
Transition frequency	fT	VCE=10V, IE=-5mA, f=100MHz		250		MHz
Collector-base breakdown voltage	V(BR)CBO	IC=50uA, IE=0	50			V

Typical Characteristics

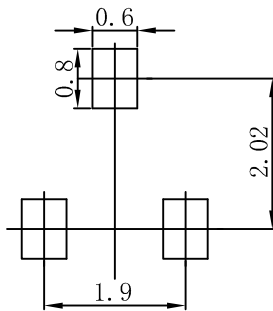


SOT-23 Package Outline Dimensions



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:

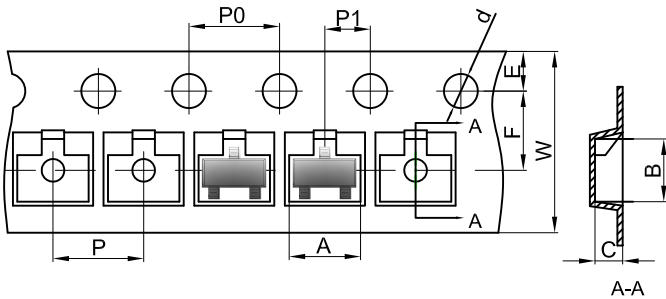
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

JSJD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSJD does not assume any liability arising out of the application or use of any product described herein.

Reel Taping Specifications For Surface Mount Devices-SOT-23

SOT-23 Embossed Carrier Tape



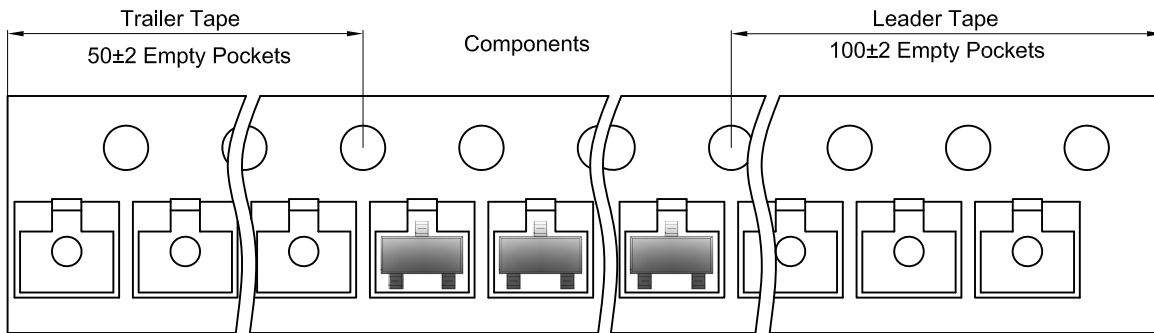
Packaging Description:

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).

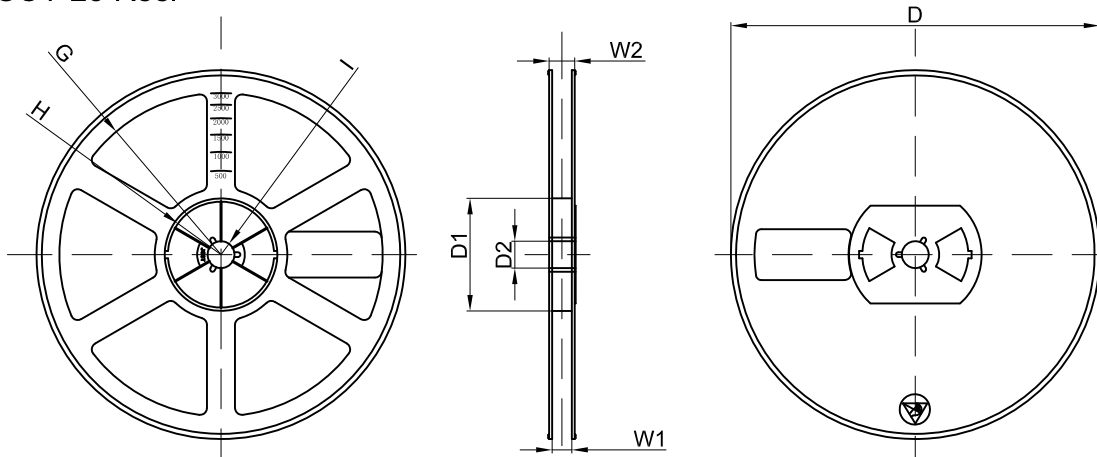
Dimensions are in millimeter

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	438×438×230	