

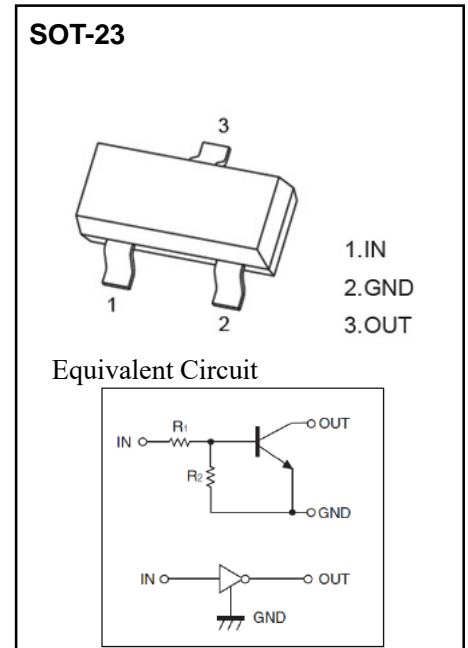
SOT- 23 Plastic-Encapsulate Transistors

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: 23



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

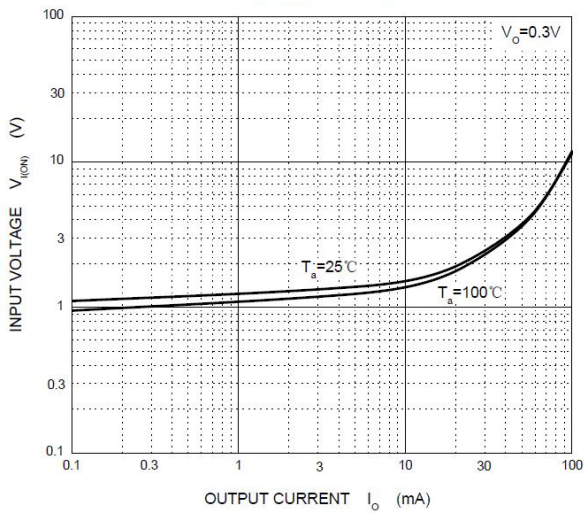
Parameters	Symbols	Limits	Units
Supply Voltage	VCC	50	V
Input Voltage	VIN	-10~+30	V
Output Current	IO	100	mA
Power Dissipation	PC	200	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

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

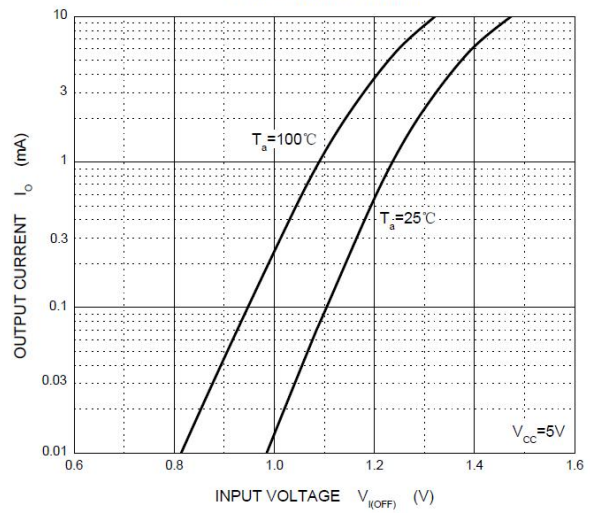
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Input on voltage	VI(ON)	VO=0.3V, IO=20mA			3	V
Input off voltage	VI(OFF)	VCC=5V, IO=0.1mA	0.5			V
Output voltage	VO(on)	IO/II=10mA/0.5mA			0.3	V
Input current	II	VI=5V			1.8	mA
Output current	IO(off)	VCC=50V, VI=0			0.5	uA
DC current gain	GI	VO=5V, IO=10mA	20			
Input resistor	R1	-	3.29	4.7	6.11	kΩ
Resistor ratio	R2/R1	-	0.8	1.0	1.2	
Transition frequency	fT	VO=10V, IO=5mA, f=100MHz		250		MHz

Typical Characteristics

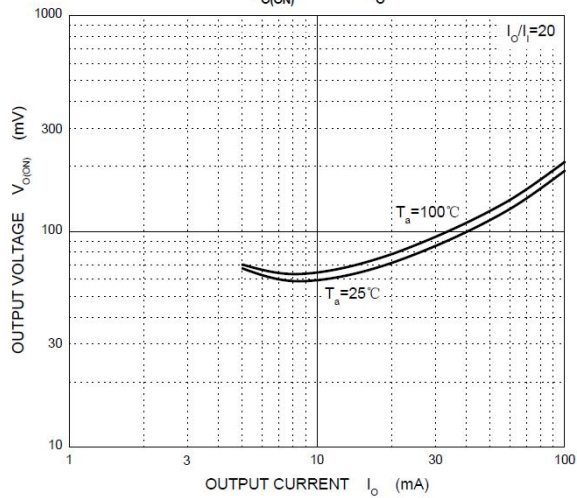
ON Characteristics



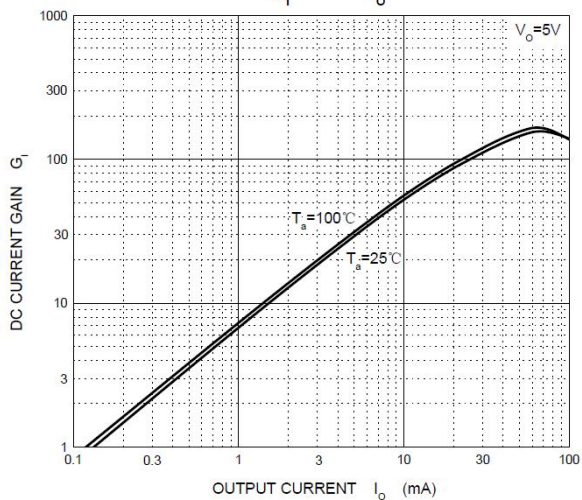
OFF Characteristics



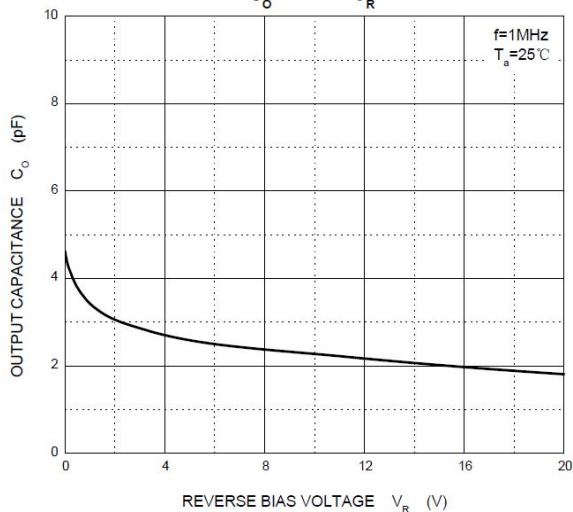
$V_{O(ON)} - I_O$



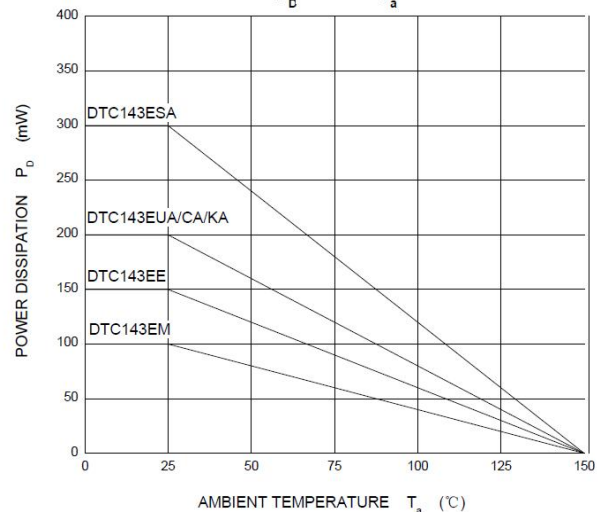
$G_I - I_O$



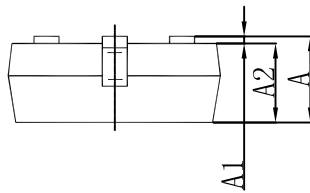
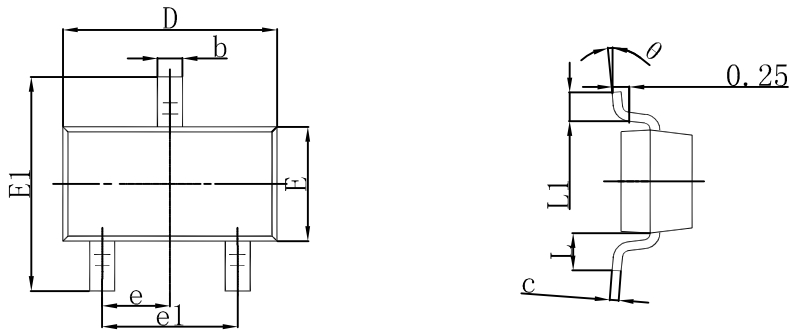
$C_o - V_R$



$P_D - T_a$

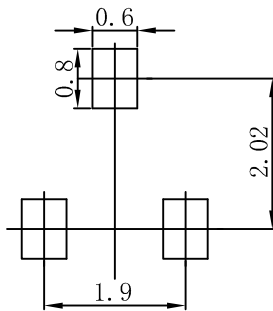


SOT-23 Package Outline Dimensions



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:

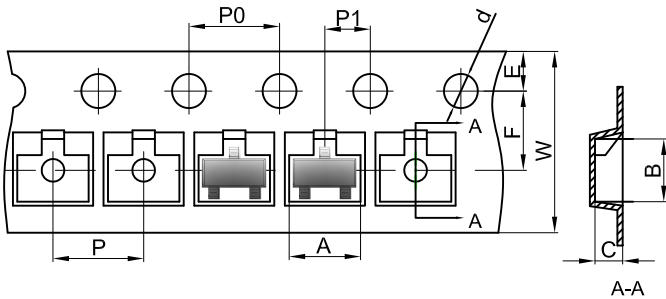
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

JSKD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSKD 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



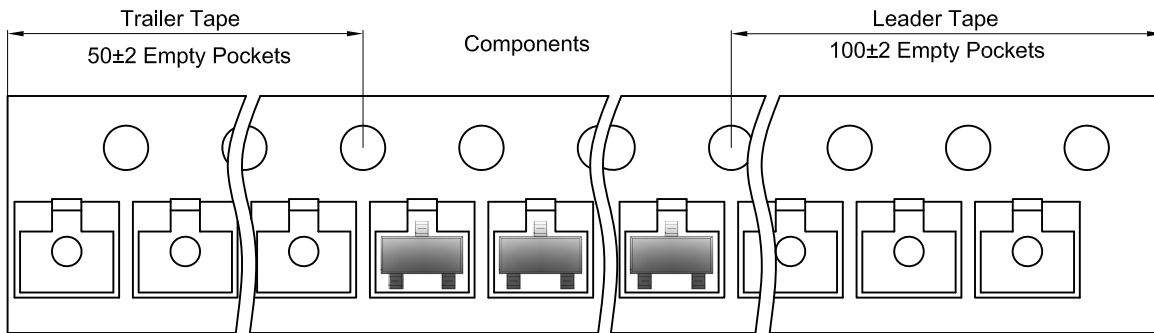
Packaging Description:

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).

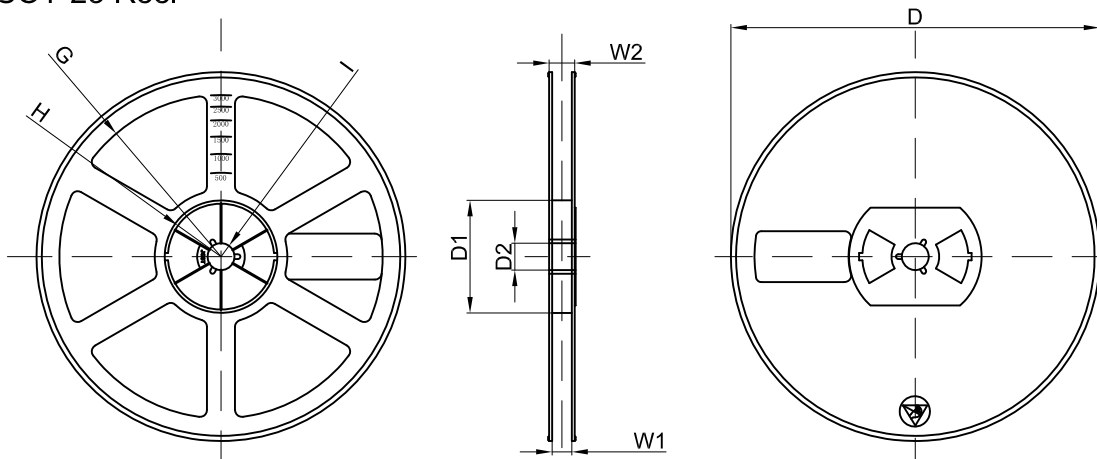
Dimensions are in millimeter

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	