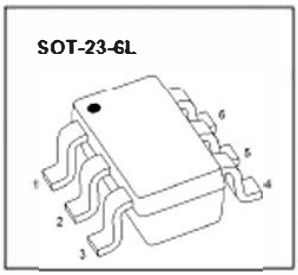
SOT-23-6L Plastic-Encapsulate Transistors

2SC1583 DUAL TRANSISTOR (NPN+NPN)



FEATURE

- Excellent Linearity of DC Gain
- Low Noise
- High h_{FE}

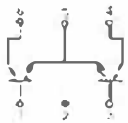
APPLICATION

- DifferentialAmplifier Circuit
- Pre-amplification Circuit
- Noise Suppression Circuit
- Voice Control Circuit

MARKING

PIN1

Equivalent Circuit



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

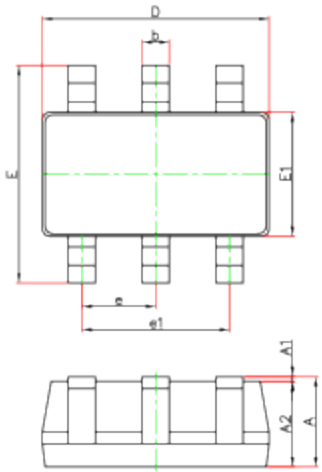
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.1	A
P_C	Collector Power Dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	357	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

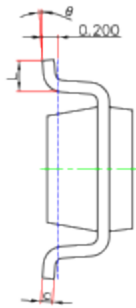
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=100μA, I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=35V, I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=35V, I_B=0			10	μA
Emitter cut-off current	I_{EBO}	V_{EB}=2V, I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=2V, I_C=1mA	250		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA			0.6	V
Base-emitter voltage differential	$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=6V, I_C=1mA			10	mV
DC current gain ratio	h_{FE1}/h_{FE2}*	V_{CE}=6V, I_C=1mA	0.8		1	
Transition frequency	f_T	V_{CE}=6V, I_C=1mA		150		MHz
Collector output capacitance	C_{ob}	V_{CB}=6V, I_E=0, f=1MHz		2.5		pF
Noise figure	NF	V_{CE}=6V, I_E=-0.1mA, f=1kHz, R_G=10 kΩ		0.5		dB

* The lower h_{FE} of two components as h_{FE1}.

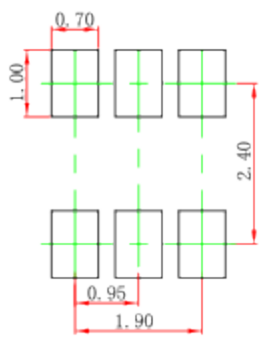
SOT-23-6L Package Outline Dimensions





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

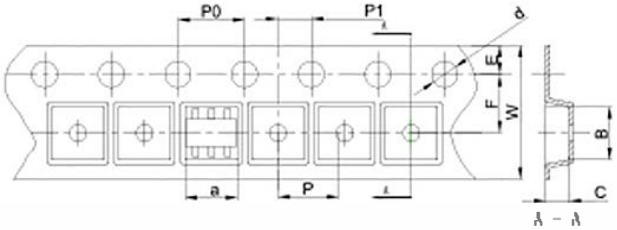
SOT-23-6L Suggested Pad Layout



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

SOT-23-6L Tape and Reel

SOT-23-6L Embossed Carrier Tape

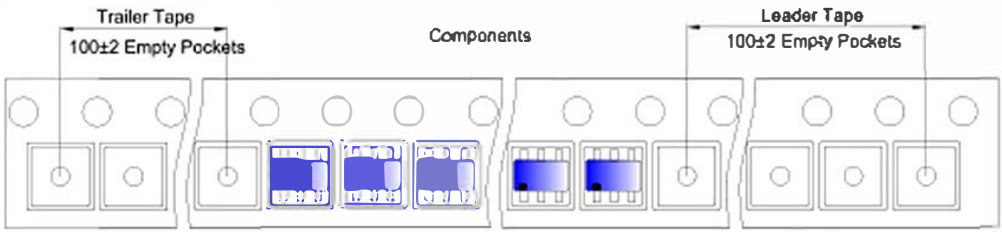


Packaging Description:

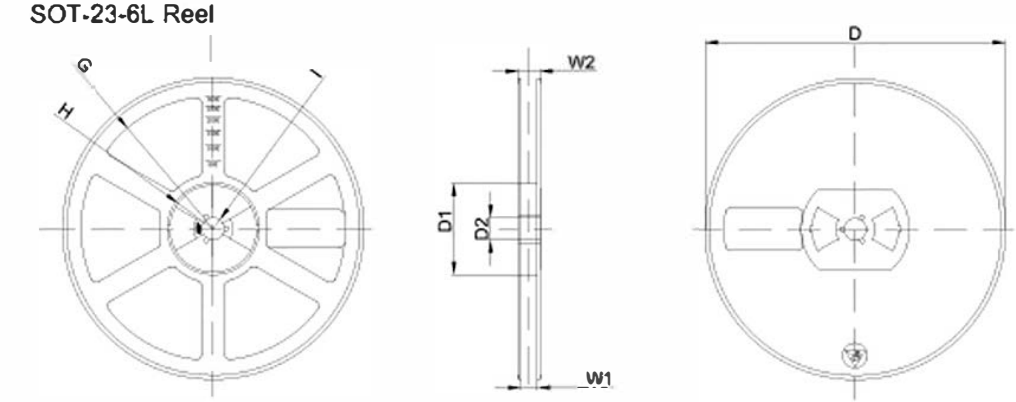
SOT-23-6L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 18.0cm 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-23-6L	3.17	3.23	1.37	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23-6L Tape Leader and Trailer



SOT-23-6L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	