

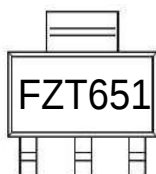
SOT-223 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

Features:

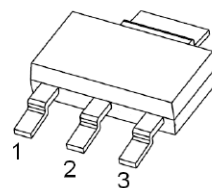
- 60 Volt V_{CE0} .
- 3 Amp continuous current.
- Low saturation voltage.

MARKING:



SOT-223

1. BASE
2. COLLECTOR
3. EMITTER



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

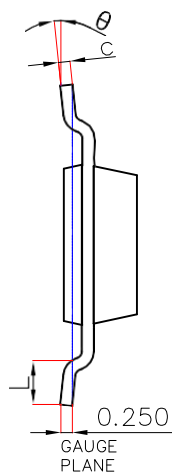
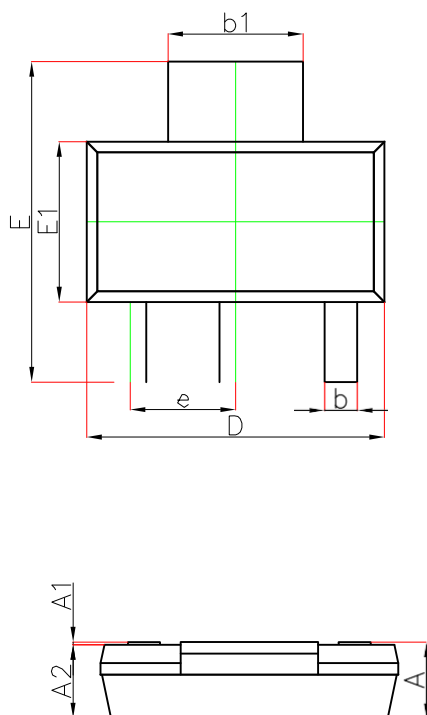
Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	7	V
Peak pulse current	I_c	3	A
Continuous collector current	I_{CM}	6	A
Power dissipation	P_{tot}	2	W
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=100μA	80			V
Collector-emitter breakdown voltage *	V(BR)CEO	IC=10mA	60			V
Emitter-base breakdown voltage	V(BR)EBO	IE=100μA	5			V
Collector Cut-Off Current	ICBO	VCB=60V VCB=60V, Ta = 100°C			0.1 10	μA
Emitter Cut-Off Current	IEBO	VEB=4V			0.1	μA
Collector-emitter saturation voltage *	VCE(sat)	IC=1A, IB=100mA IC=3A, IB=300mA		0.12 0.43	0.3 0.6	V
Base-emitter saturation voltage *	VBE(sat)	IC=1A, IB=100mA		0.9	1.25	V
Base-Emitter Turn-On Voltage *	VBE(on)	IC=1A, VCE=2V		0.8	1	V
Static Forward Current Transfer Ratio	hFE	IC=50mA, VCE =2V*	70	200		
		IC=500mA, VCE =2V*	100	200	300	
		IC=1A, VCE =2V*	80	170		
		IC=2A, VCE =2V*	40	80		
Transitional frequency	fT	IC=100mA, VCE=5V f=100MHz	140	175		MHz
Output capacitance	Cobo	VCB=10V, f=1MHz			30	pF
Switching times	ton	IC=500mA, VCC=10V, IB1=IB2=50mA		45		ns
	toff			800		ns

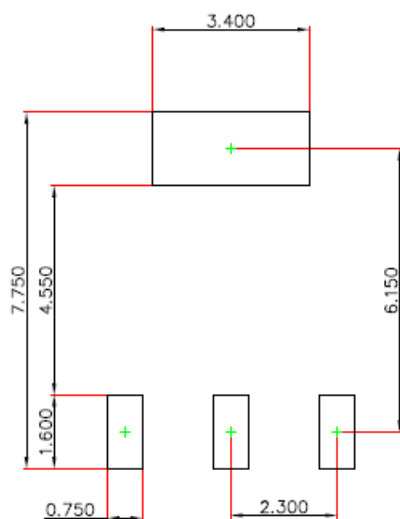
* Pulse test: tp = 300 μs; d ≤ 0.02.

SOT-223 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	—	1.800	—	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b_1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	—	0.030	—
θ	0°	10°	0°	10°

SOT-223 Suggested Pad Layout

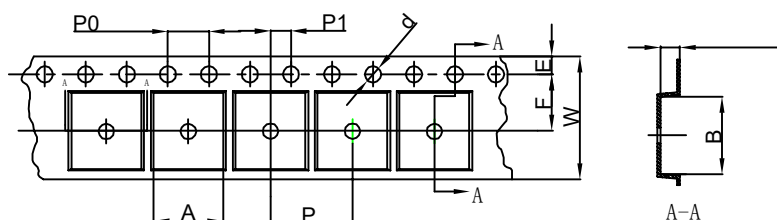


Note:

1. Controlling dimension: In millimeters.
2. General tolerance: ± 0.050 mm.
3. The pad layout is for reference purposes only.

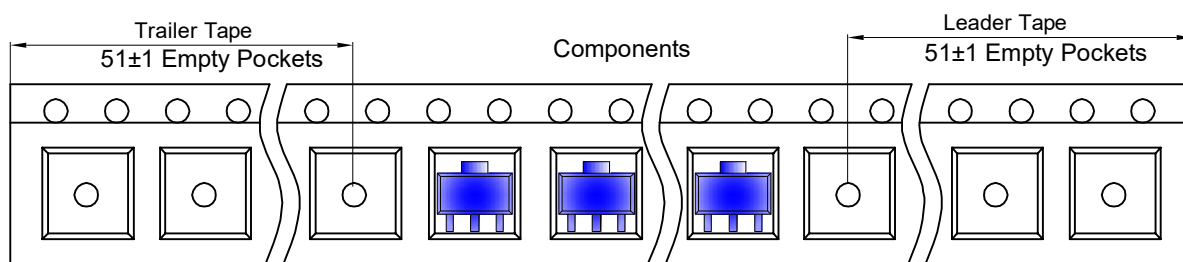
SOT-223 Tape and Reel

SOT-223 Embossed Carrier Tape

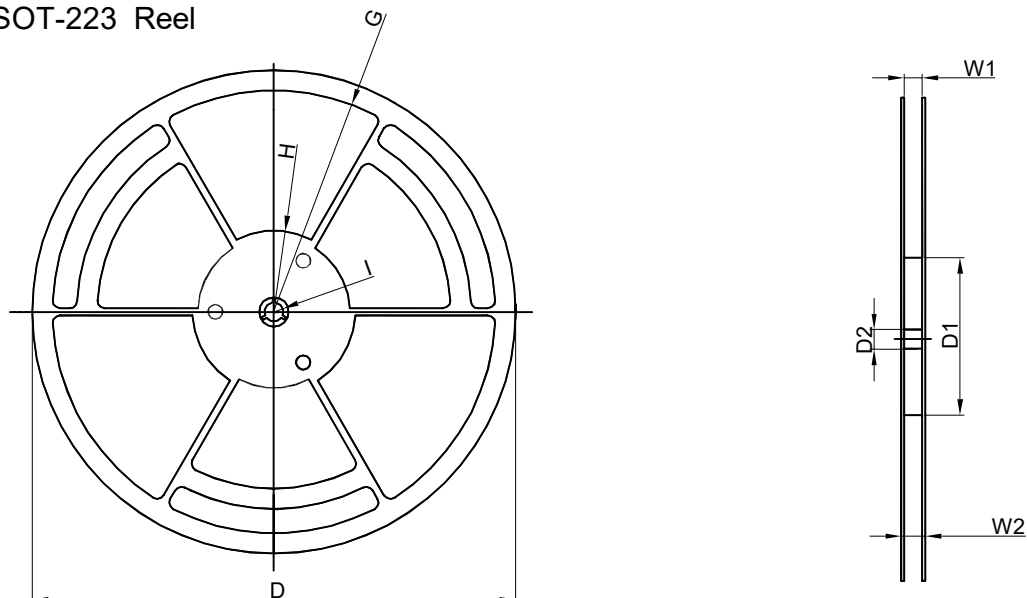


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-223 Tape Leader and Trailer



SOT-223 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
13"Dia	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13 inch	2,500 pcs	336×336×48	20,000 pcs	445×355×365	