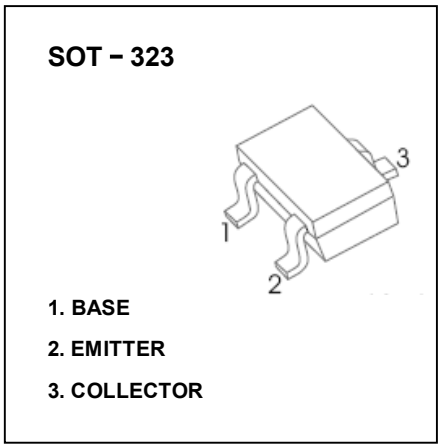
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

SOT-323 Plastic-Encapsulate Transistors

MMST3904 TRANSISTOR (NPN)



FEATURES

- Complementary to MMST3906

MARKING:K2N

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

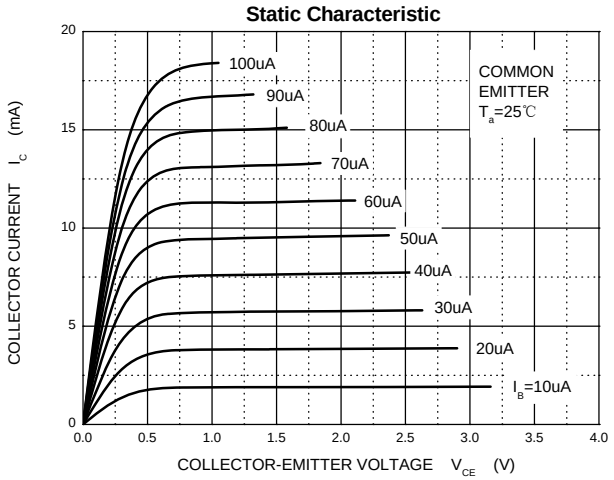
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	200	mA
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

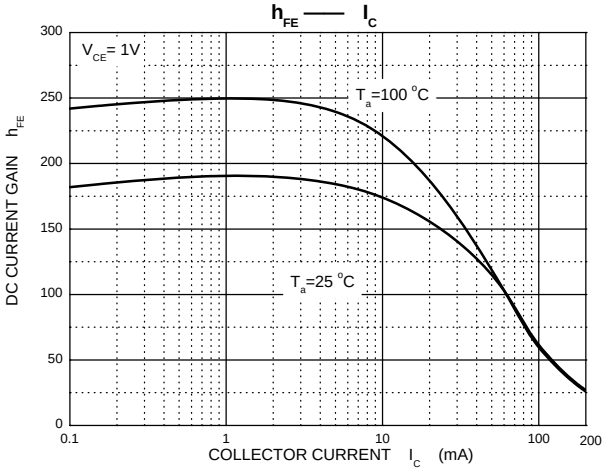
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

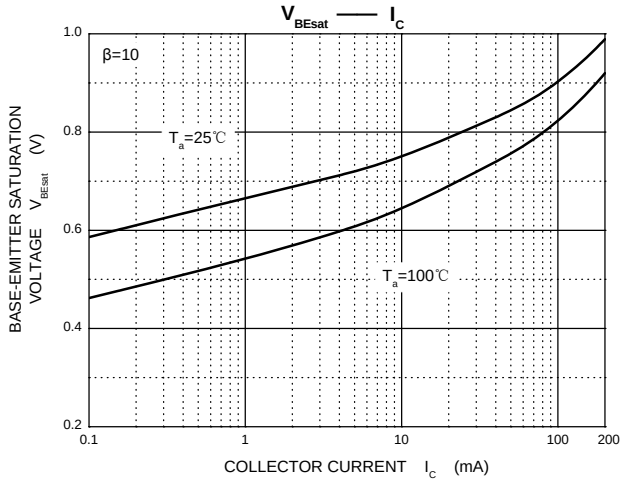
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$*	I_C=10μA, I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$*	I_C=1mA, I_B=0	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$*	I_E=10μA, I_C=0	5			V
Collector cut-off current	I_{CBO}*	V_{CB}=60V, I_E=0			60	nA
Collector cut-off current	I_{CEX}	V_{CE}=30V, $V_{BE(off)}$=3V			50	nA
DC current gain	h_{FE}*	V_{CE}=1V, I_C=100μA	40			
		V_{CE}=1V, I_C=1mA	70			
		V_{CE}=1V, I_C=10mA	100		300	
		V_{CE}=1V, I_C=50mA	60			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=10mA, I_B=1mA			0.25	V
		I_C=50mA, I_B=5mA			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$*	I_C=10mA, I_B=1mA			0.85	V
		I_C=50mA, I_B=5mA			0.95	V
Transition frequency	f_T	V_{CE}=20V,I_C=10mA , f=100MHz	300			MHz
Collector output capacitance	C_{ob}	V_{CB}=5V, I_E=0, f=1MHz			4	pF
Collector output capacitance	C_{ib}	V_{EB}=0.5V, I_E=0, f=1MHz			8	pF
Delay time	t_d	V_{CC}=3V, $V_{BE(off)}$=0.5V I_C=10mA, I_{B1}=1mA			35	ns
Rise time	t_r				35	ns
Storage time	t_s	V_{CC}=3V, I_C=10mA, I_{B1}= I_{B2}=1mA			225	ns
Fall time	t_f				75	ns

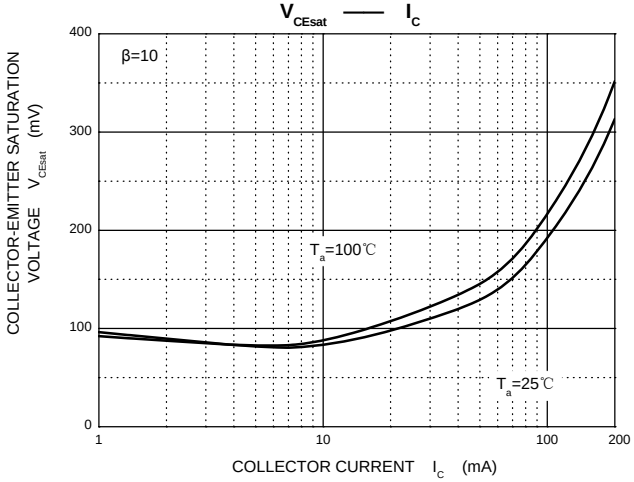
*Pulse test: pulse width ≤300μs,duty cycle≤ 2.0%.

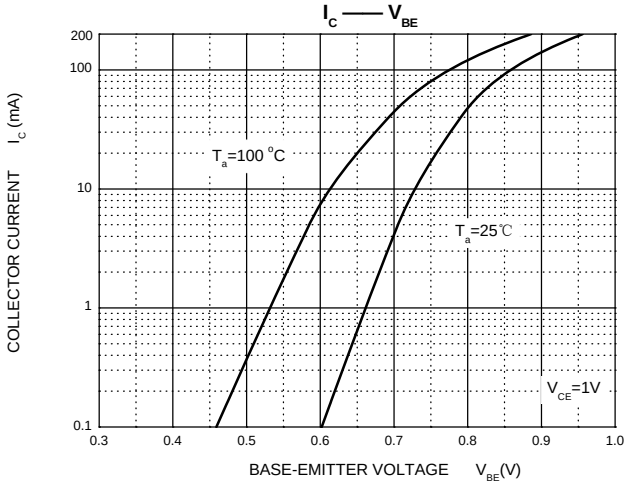
Typical Characteristics

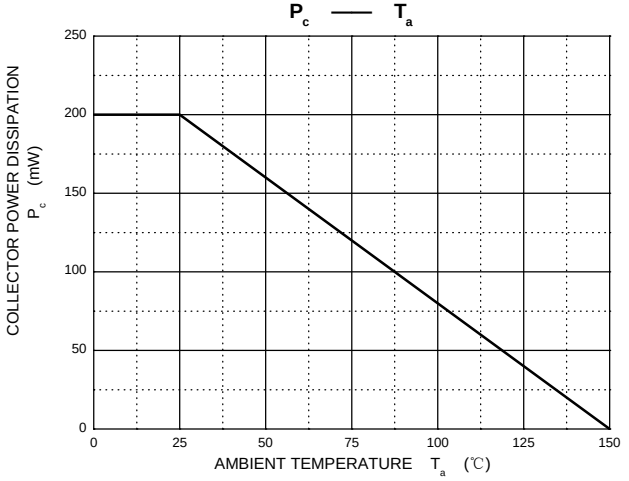




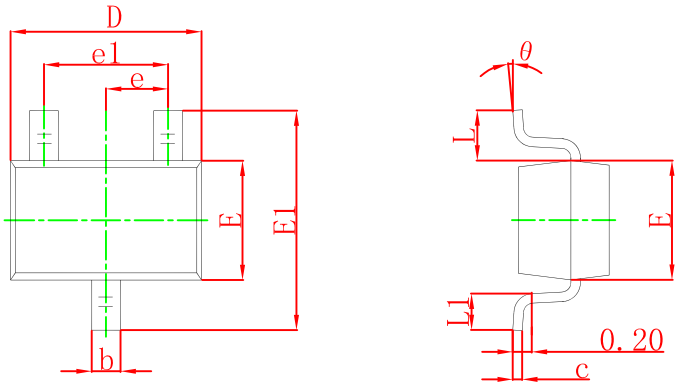


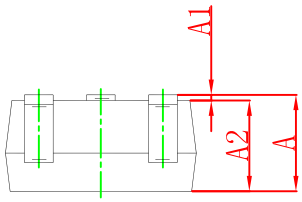






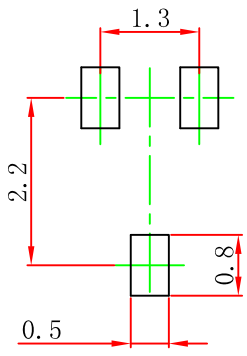
SOT-323 Package Outline Dimensions





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-323 Suggested Pad Layout

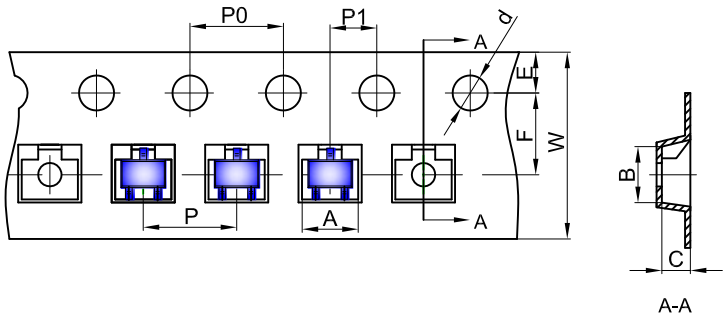


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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

SOT-323 Tape and Reel

SOT-323 Embossed Carrier Tape

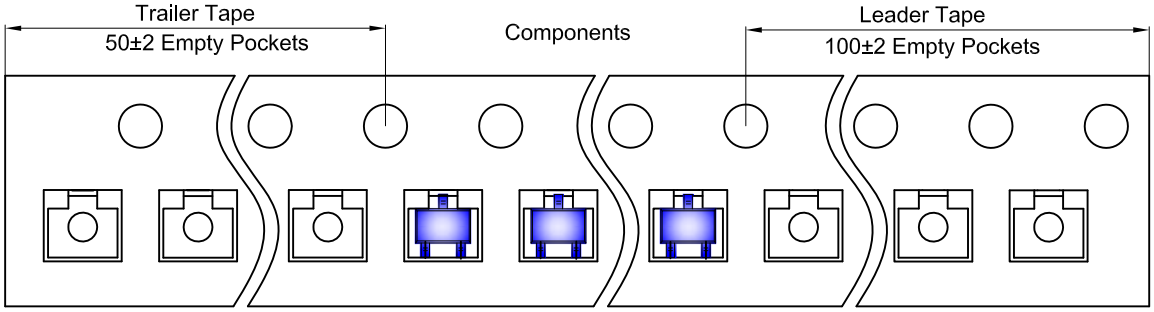


Packaging Description:

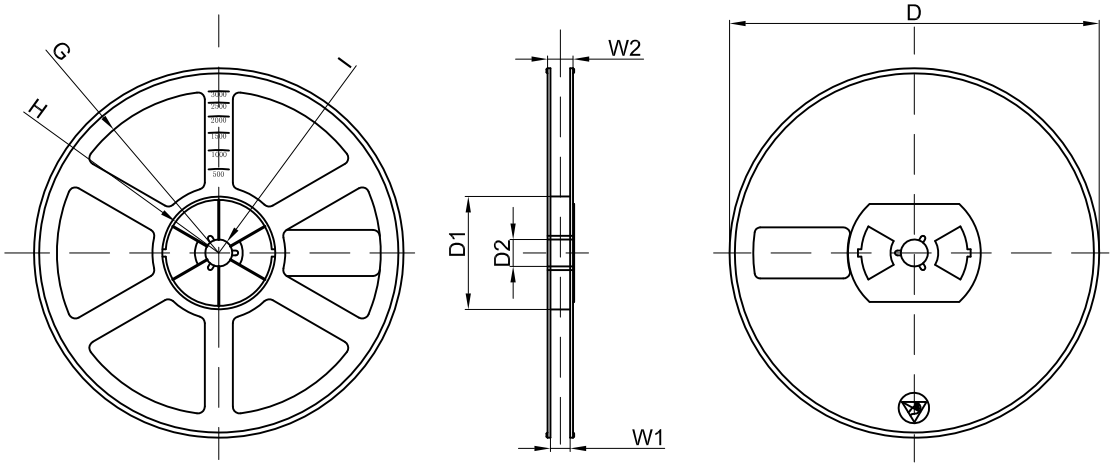
SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOT-323 Tape Leader and Trailer



SOT-323 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	