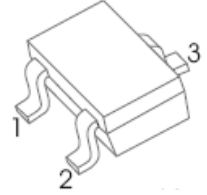


**TRANSISTOR (NPN)****FEATURES**

- Complementary to MMST3906

MARKING :K2N**MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ 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	$^\circ\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^\circ\text{C}$

SOT - 323

1. BASE
2. EMITTER
3. COLLECTOR

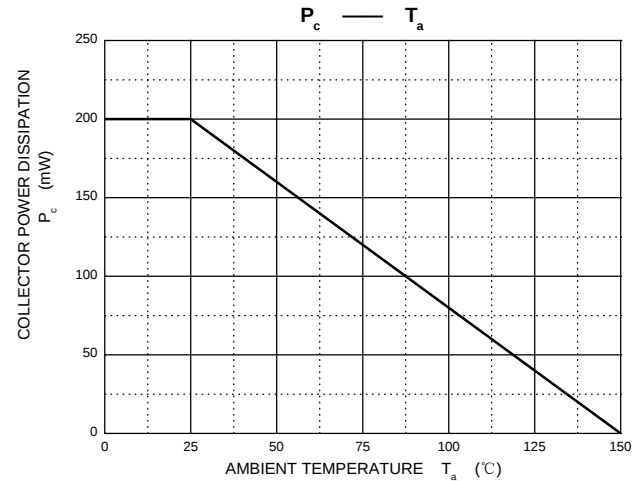
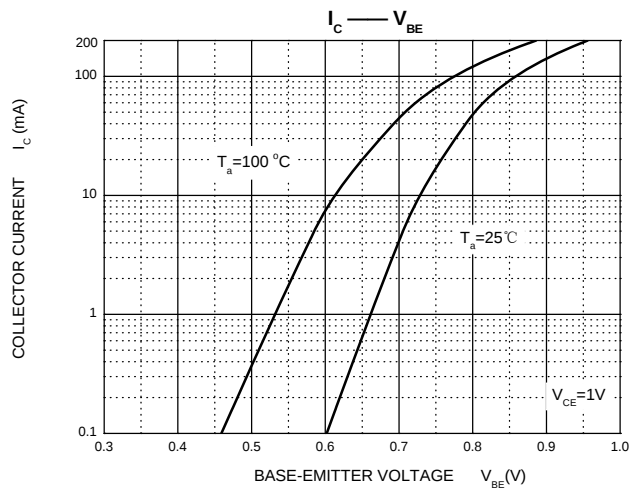
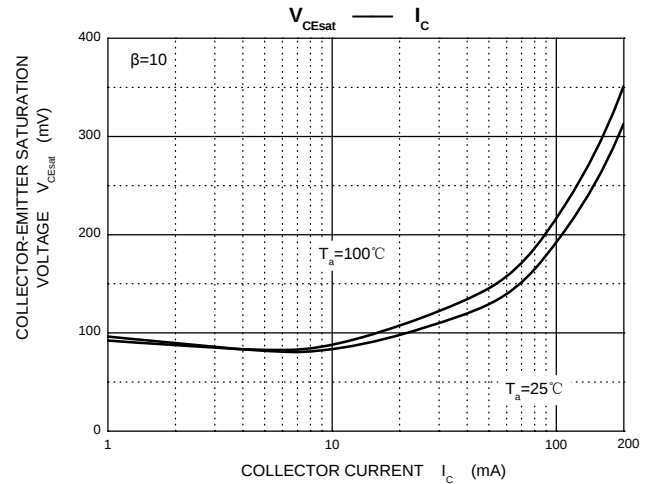
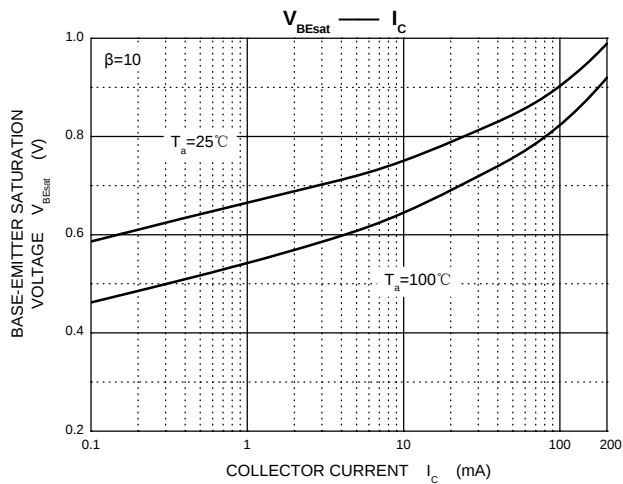
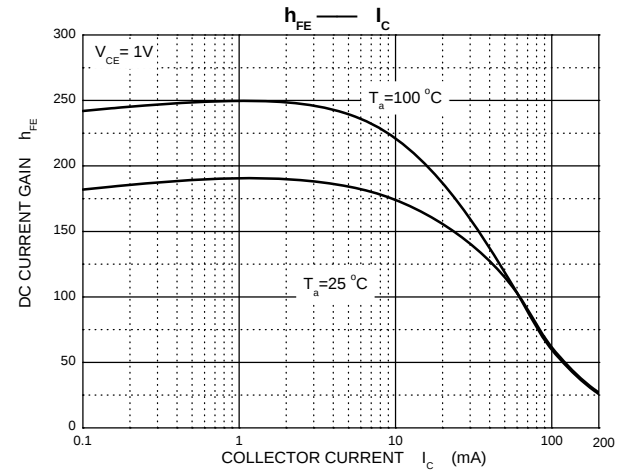
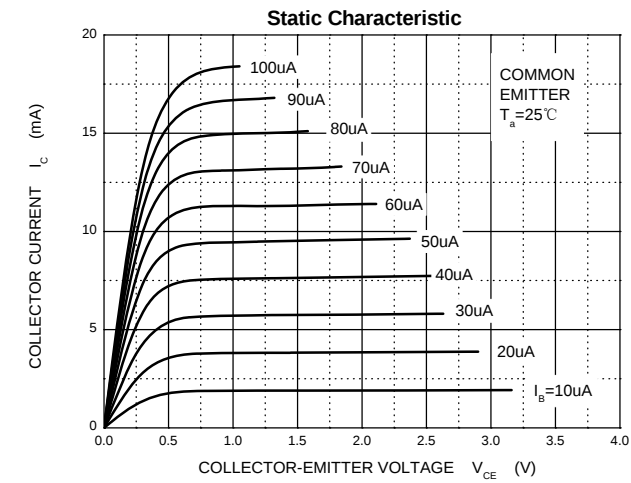
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

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

*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycles $\leq 2.0\%$.

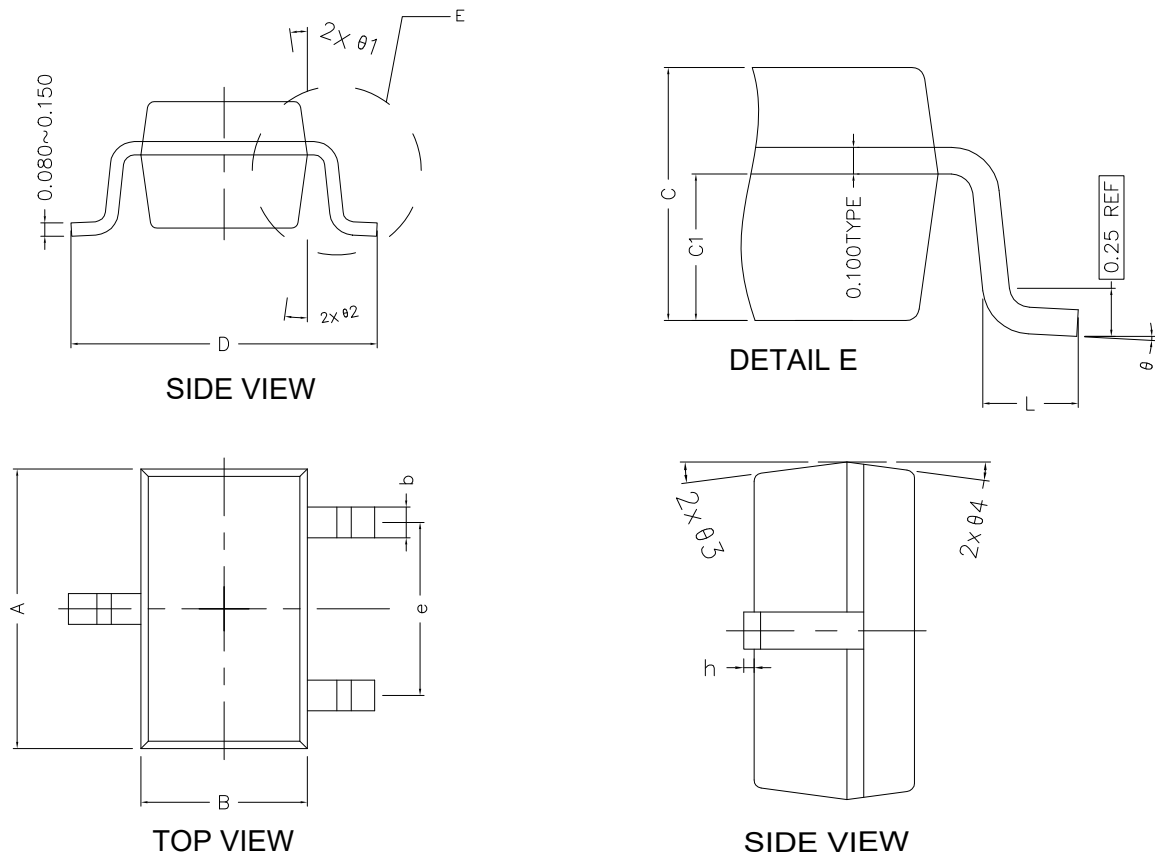


Typical Characteristics



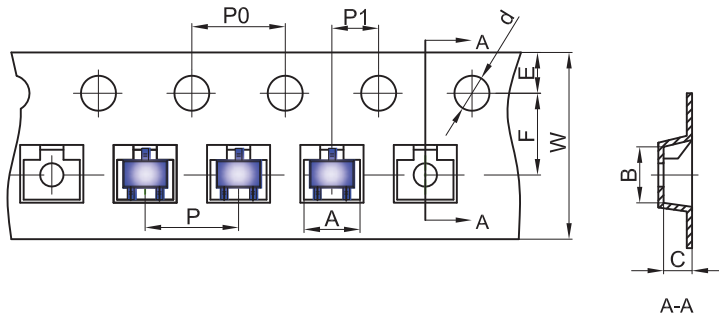


SOT-323 Package Outline Dimensions



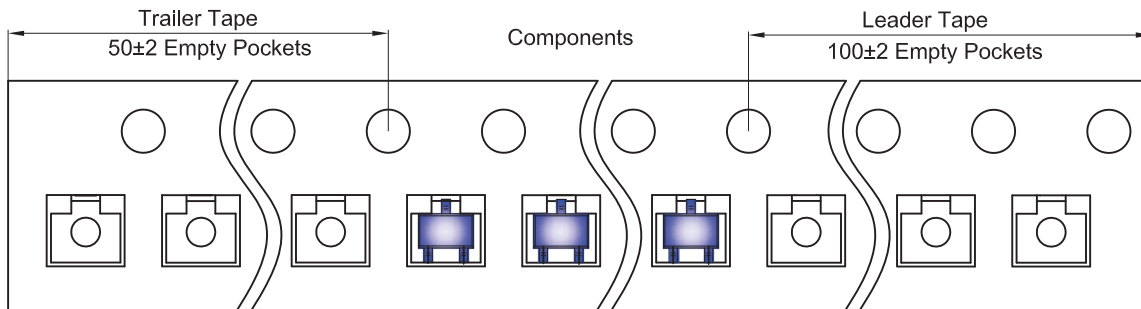
COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	2.000	2.100	2.200
B	1.150	1.250	1.350
C	0.900	0.950	1.000
C1	0.500	0.550	0.600
D	2.100	2.300	2.500
L	0.220	0.360	0.500
b	0.200	0.250	0.400
h	0.020	0.050	0.100
e	1.300 TYPE		
θ_1	8° TYPE		
θ_2	8° TYPE		
θ_3	8° TYPE		
θ_4	8° TYPE		
θ	0~8° TYPE		

SOT-323 Embossed Carrier Tape

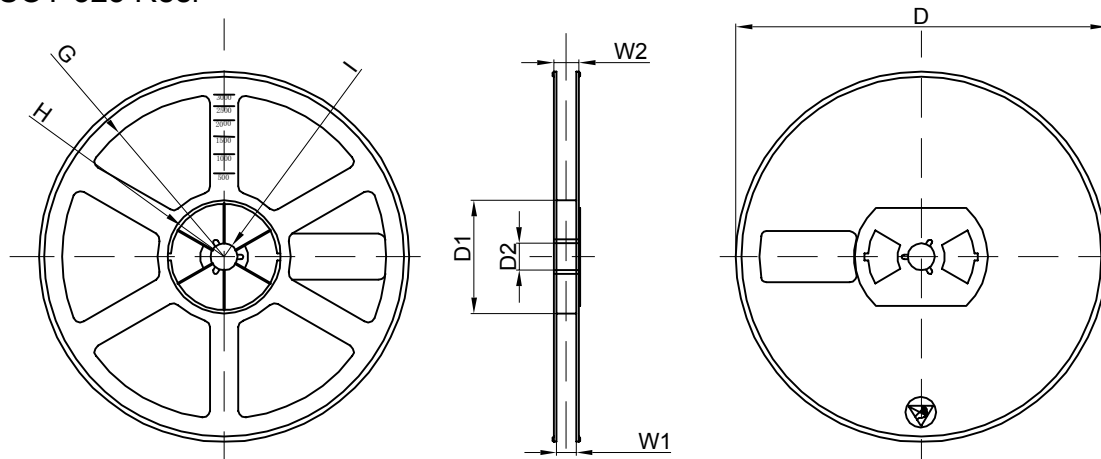


Dimensions are in millimeter											
Pkg type	A	B	C	d	E	F	P0	P	P1	W	
SOT-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00	

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	192x182x182	180,000 pcs	400x385x205	