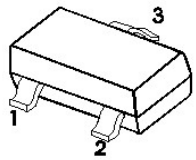
SOT-323 Plastic-Encapsulate Transistors

MMST3906 TRANSISTOR (PNP)

FEATURES

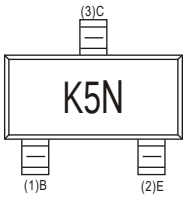
- Complementary to MMST3904
- 200mW; Power Dissipation of 200mW
- High Stability and High Reliability

SOT-323



1. BASE
2. EMITTER
3. COLLECTOR

MARKING:K5N



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

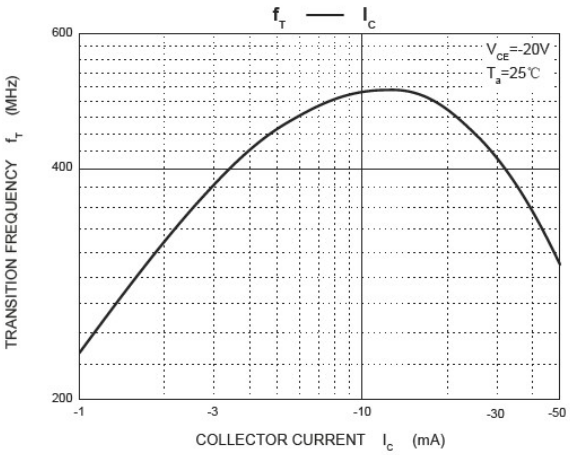
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-0.2	A
P_C	Collector Power Dissipation	0.20	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

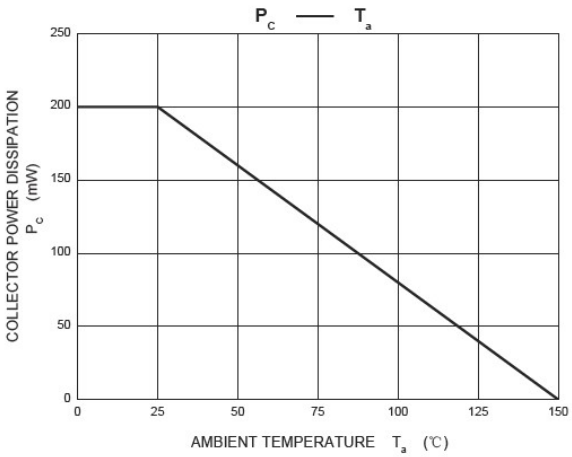
ELECTRICAL CHARACTERISTICS (T_a= 25℃ unless otherwise specified)

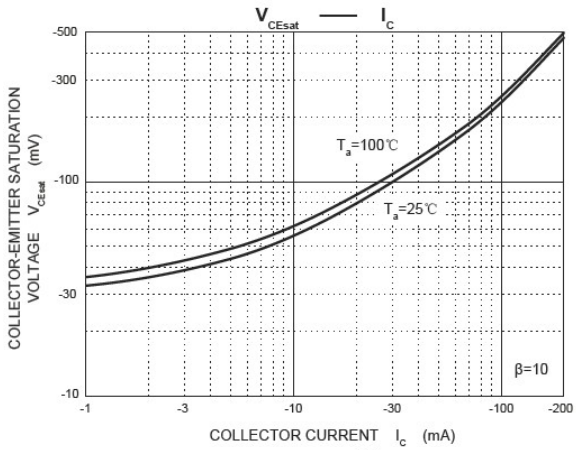
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA, I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$*	I_C=-1mA, I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-40V, I_E=0			-50	nA
Collector cut-off current	I_{CEX}	V_{CE}=-30V,$V_{EB(off)}$=-3V			-50	nA
DC current gain	$h_{FE(1)}$*	V_{CE}=-1V, I_C=-0.1mA	60			
	$h_{FE(2)}$*	V_{CE}=-1V, I_C=-1mA	80			
	$h_{FE(3)}$*	V_{CE}=-1V, I_C=-10mA	100		300	
Collector-emitter saturation voltage	$V_{CE(sat)1}$*	I_C=-10mA, I_B=-1mA			-0.20	V
	$V_{CE(sat)2}$*	I_C=-50mA, I_B=-5mA			-0.30	V
Base-emitter saturation voltage	$V_{BE(sat)1}$*	I_C=-10mA, I_B=-1mA	-0.65		-0.85	V
	$V_{BE(sat)2}$*	I_C=-50mA, I_B=-5mA			-0.95	V
Transition frequency	f_T	V_{CE}=-20V,I_C=-10mA,f=100MHz	250			MHz
Collector output capacitance	Cob	V_{CB}=-5V,I_E=0,f=1MHz			4.5	pF
Input capacitance	Cib	V_{EB}=-5V,I_E=0,f=1MHz			10	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

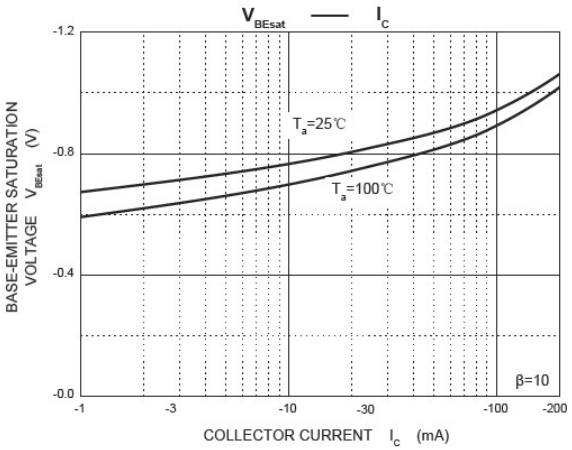
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

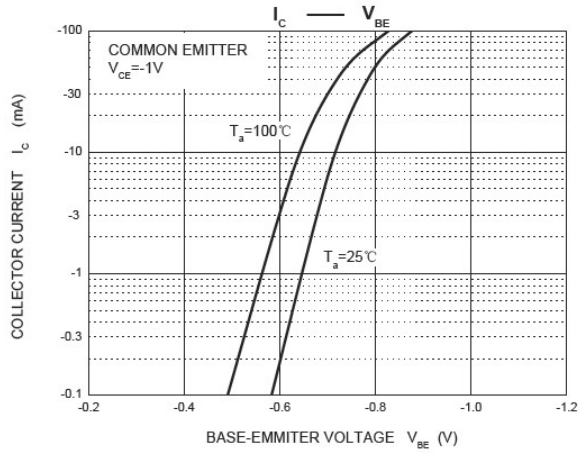
Typical Characteristics

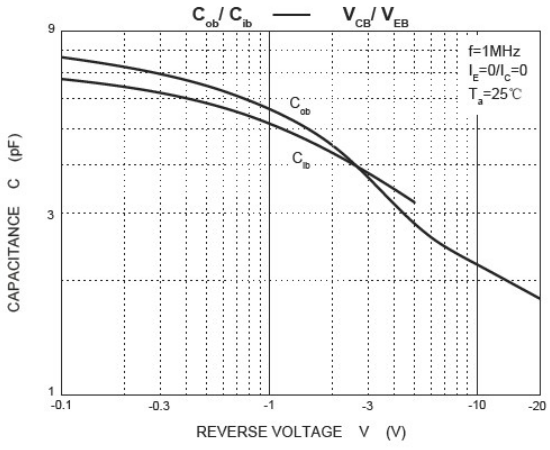


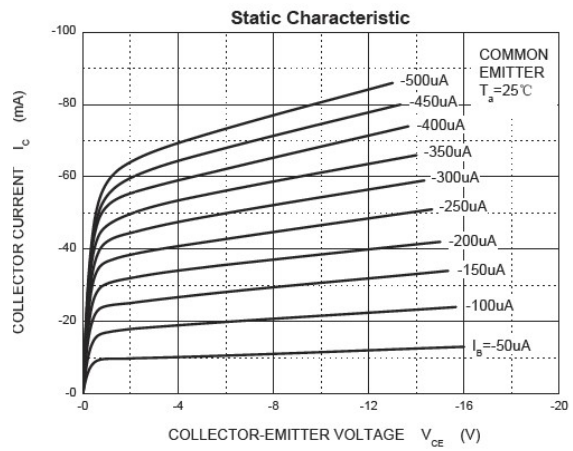


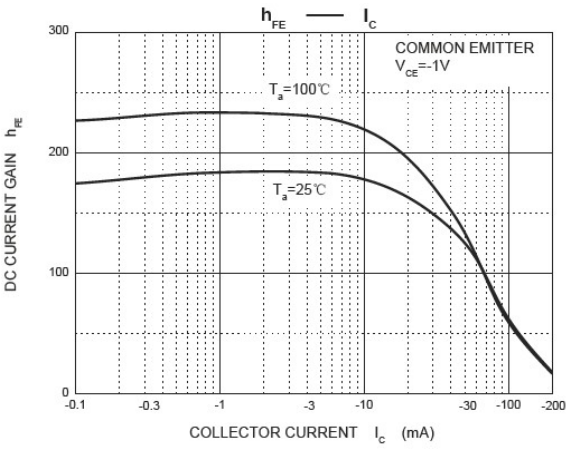






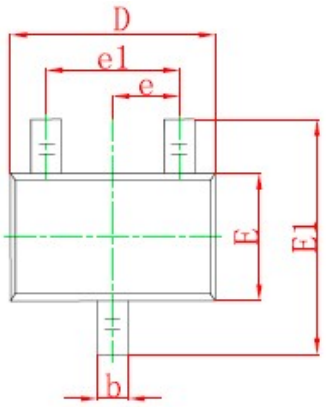


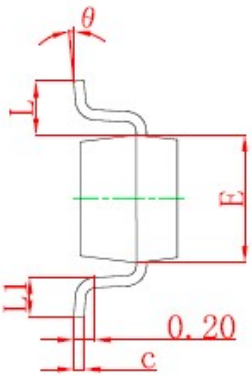


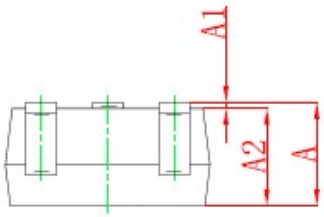


Outlitne Drawing

SOT-323 Package Outline Dimensions

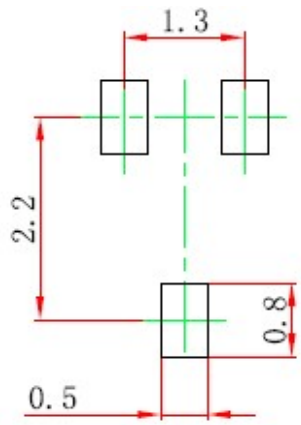






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 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°

Suggested Pad Layout



Note:
1.Control|||ng d|mens|on:|n m||||meters.
2.General tolerance:±0.05mm.
3.The pad layout |s for reference purposes only.