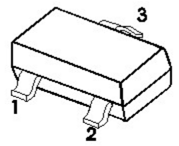
SOT-323 Plastic-Encapsulate Transistors(PNP)

Features

- Complementary to MMST3904
- Power Dissipation of 200mW
- High Stability and High Reliability
- AEC-Q 101 qualitified (Automotive grade with suffix "Q").
- Expsemi electronics.

SOT-323



1. BASE
2. EMITTER
3. COLLECTOR

Marking: K5N

Mechanical Data

- SOT-323 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Maximum Ratings & Thermal Characteristics

(Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter -Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-200	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	625	℃/W

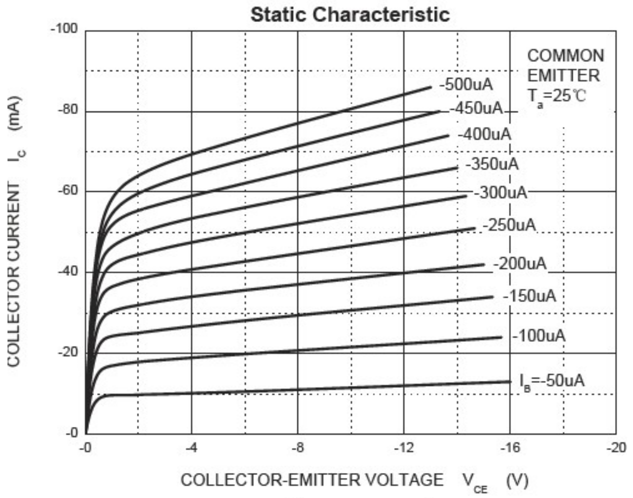
Electrical Characteristics

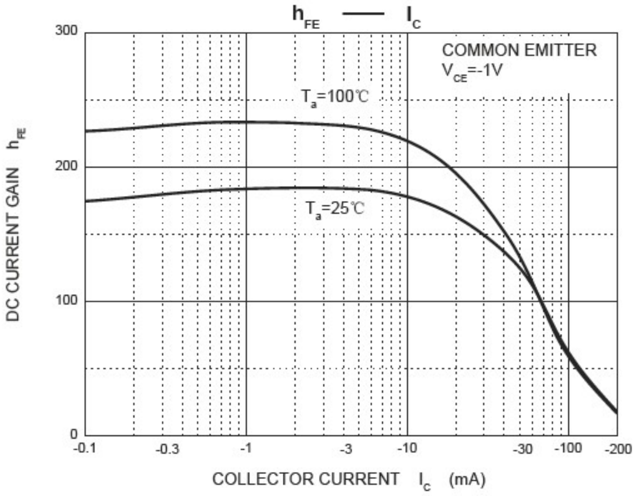
Ratings at 25℃ ambient temperature unless otherwise specified

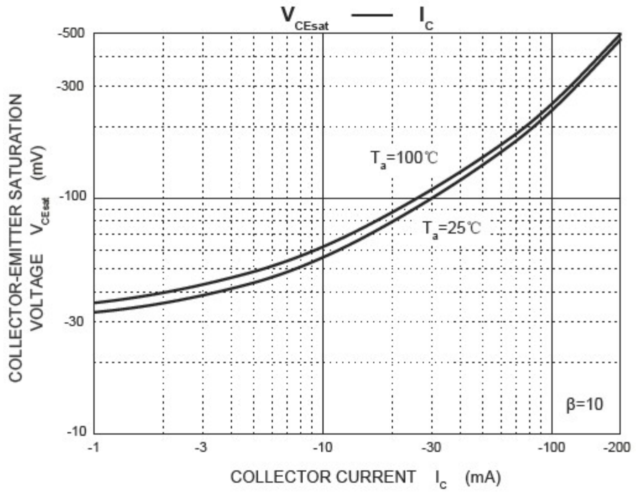
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	I_C=-10uA, I_E=0	-40		V
Collector-emitter breakdown voltage	V(BR)CEO	I_C=-1mA, I_B=0	-40		V
Emitter-base breakdown voltage	V(BR)EBO	I_E=-10uA, I_C=0	-5		V
Collector cut-off current	ICEX	V_{CE}=-30V, $V_{EB(off)}$=-3V		-50	nA
Collector cut-off current	ICBO	V_{CB}=-40V, I_E=0		-50	nA
DC current gain	hFE(1)	V_{CE}=-1V, I_C=-0.1mA	60		
	hFE(2)	V_{CE}=-1V, I_C=-1mA	80		
	hFE(3)	V_{CE}=-1V, I_C=-10mA	100	300	
Collector-emitter saturation voltage	VCE(sat)	I_C=-10mA, I_B=-1mA		-0.20	V
		I_C=-50mA, I_B=-5mA		-0.30	V
Base -emitter saturation voltage	VBE(sat)	I_C=-10mA, I_B=-1mA	-0.65	-0.85	V
		I_C=-50mA, I_B=-5mA		-0.95	V
Transition frequency	fT	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
	Cib	V_{EB}=-5V, I_E=0, f=1MHz		10	pF
Delay time	td	VCC=-3V, VBE(off)=-0.5V, IC=-10mA, IB1=-1mA		35	nS
Rise time	tr	VCC=-3V, VBE(off)=-0.5V, IC=-10mA, IB1=-1mA		35	nS
Storage time	ts	V_{CC}=-3V, I_C=-10mA, I_{B1}=I_{B2}=-1mA		225	nS
Fall time	tf	V_{CC}=-3V, I_C=-10mA, I_{B1}=I_{B2}=-1mA		75	nS

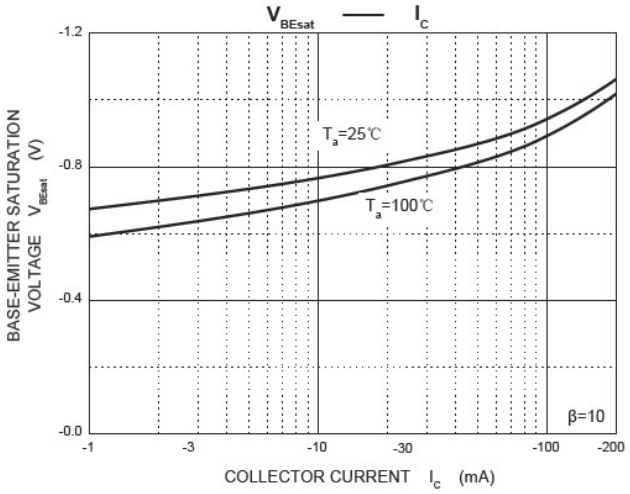
*Pulse test: pulse width≤300us,duty cycle≤2.0%

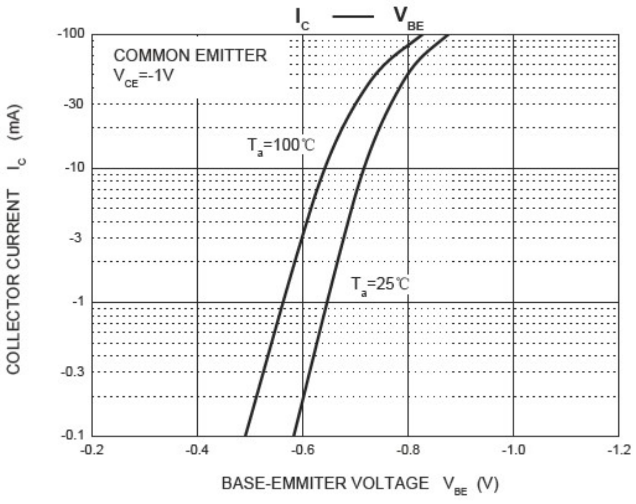
Typical characteristics

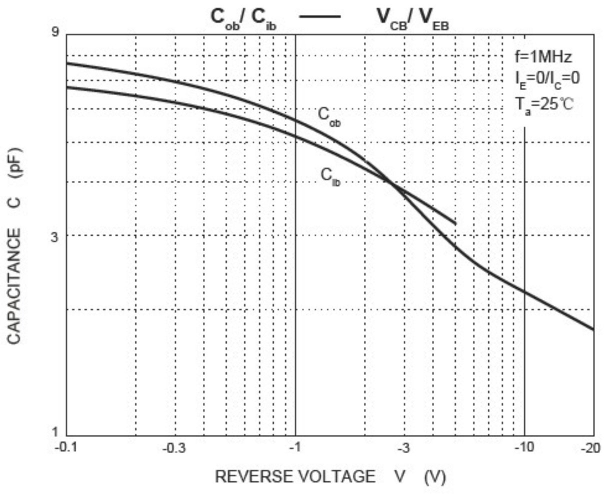


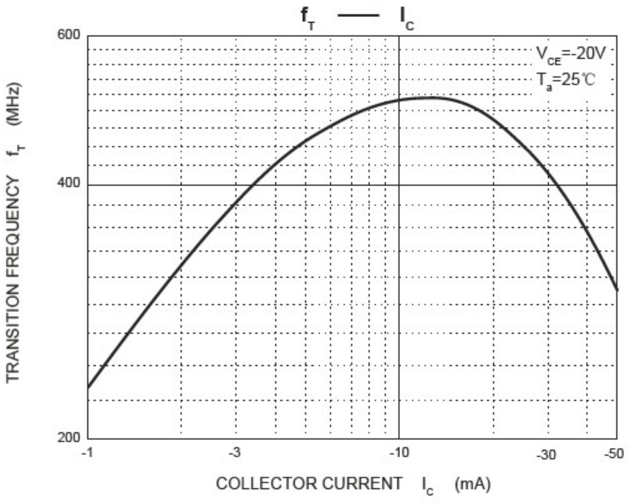


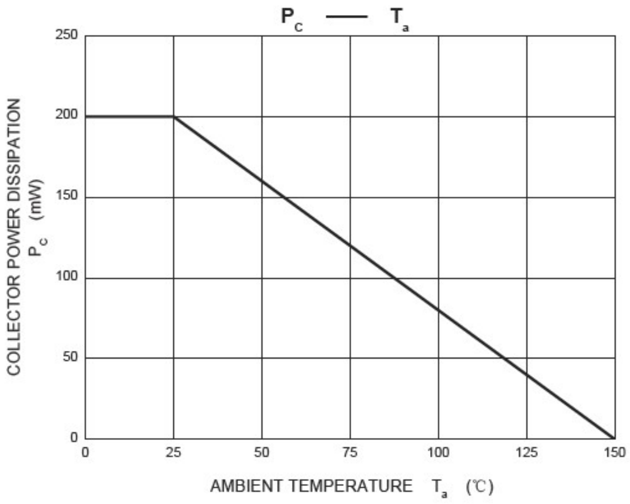




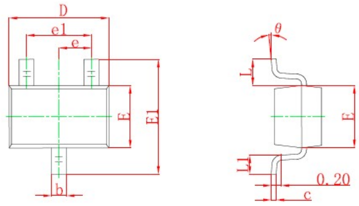


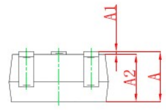




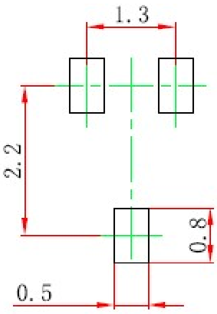


SOT-323 PACKAGE OUTLINE Plastic surface mounted package





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°



Note:
1,Controlling dimension;In millimeters.
2.General tolerance:±0.05mm.
3.The pad layout Is for reference purposes only.