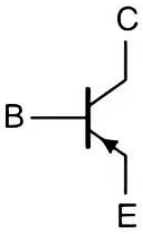
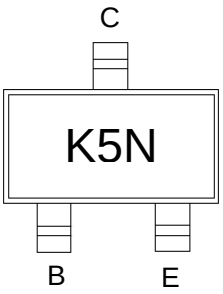
Features

• Complementary to MMST3904

SOT-323 top view



Schematic diagram



Marking and pin assignment

Pb-Free RoHS Halogen-Free

Maximum Ratings (Ta=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	-200	mA
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

Ordering Information (Example)

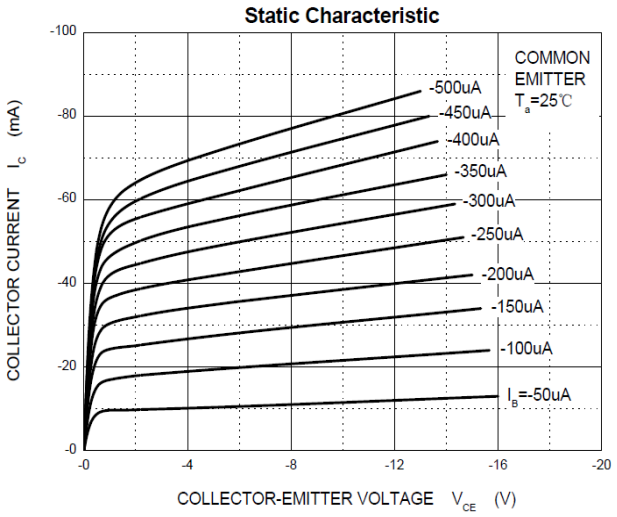
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MMST3906	SOT-323	K5N	3,000	45,000	180,000	7"reel

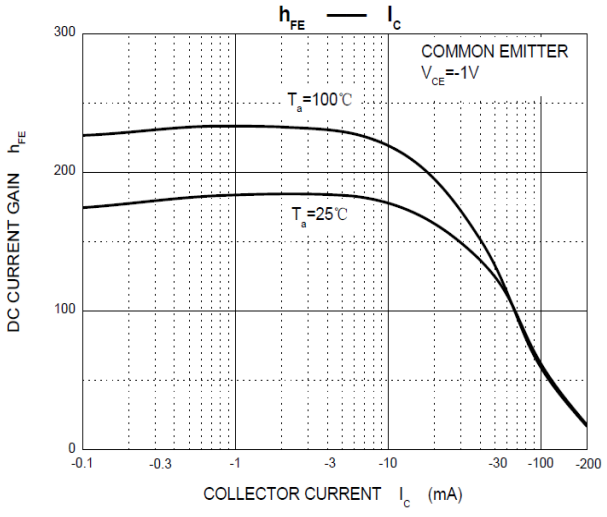
Electrical Characteristics (Ta=25℃ unless otherwise specified)

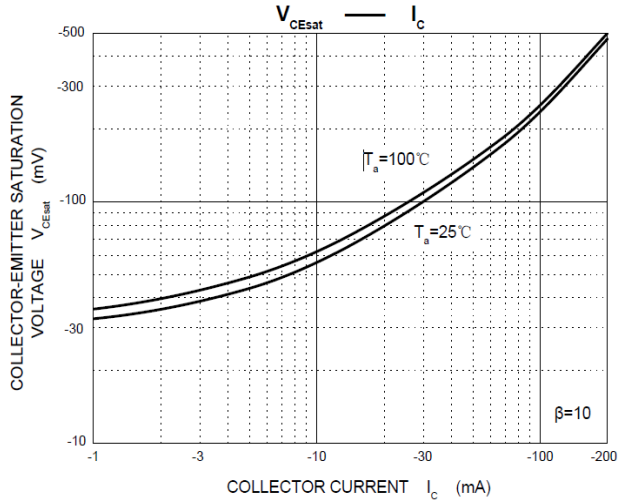
Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$*	Collector-base breakdown voltage	I_C=-10μA,I_E=0	-40	--	--	V
$V_{(BR)CEO}$*	Collector-emitter breakdown voltage	I_C=-1mA, I_B=0	-40	--	--	V
$V_{(BR)EBO}$*	Emitter-base breakdown voltage	I_E=-10μA,I_C=0	-5	--	--	V
I_{BL}*	Base cut-off current	V_{CE}=-30V, $V_{EB(Off)}$=-3V	--	--	-50	nA
I_{CEX}*	Collector cut-off current	V_{CE}=-30V, $V_{EB(Off)}$=-3V	--	--	-50	nA
H_{FE}*	DC current gain	V_{CE}=-1V, I_C=100μA	60	--	--	--
		V_{CE}=-1V, I_C= -1mA	80	--	--	
		V_{CE}=-1V, I_C=-10mA	100	--	300	
$V_{CE(sat)}$*	Collector-emitter saturation voltage	I_C=-10mA, I_B=-1mA	--	--	-0.2	V
		I_C=-50mA, I_B=-5mA	--	--	-0.3	V
$V_{BE(sat)}$*	Base-emitter saturation voltage	I_C=-10mA, I_B=-1mA	-0.65	--	-0.85	V
		I_C=-50mA, I_B=-5mA	--	--	-0.95	V
f_T	Transition frequency	V_{CE}=-20V,I_C=-10mA,f=100MHz	250	--	--	MHz
C_{ob}	Collector output capacitance	V_{CB}=-5V, I_E=0, f=1MHz	--	--	4.5	pF
C_{ib}	Input capacitance	V_{EB}=-0.5V,I_E=0,f=1MHz	--	--	10	pF
t_d	Delay time	V_{CC}=-3V, $V_{BE(off)}$=-0.5V ,I_C=-10mA ,I_{B1}=- 1mA	--	--	35	ns
t_r	Rise time		--	--	35	ns
t_s	Storage time	V_{CC}=-3V,I_C=-10mA,I_{B1}=-I_{B2}=-1mA	--	--	225	ns
t_f	Fall time		--	--	75	ns

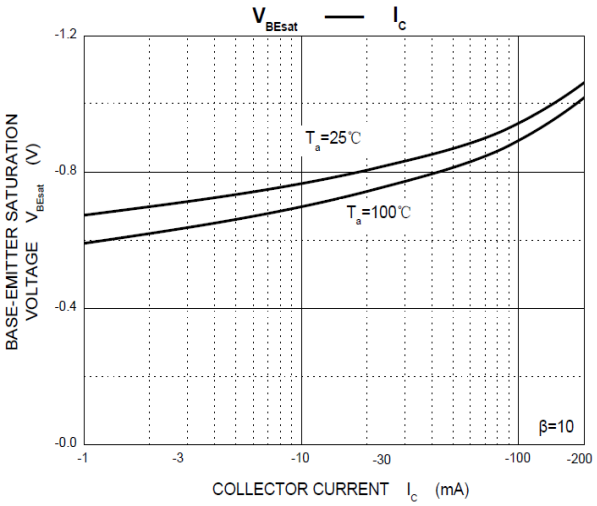
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

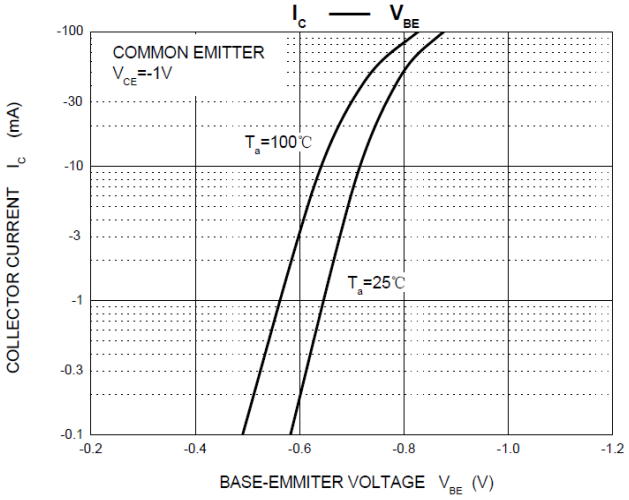
Typical Characteristics

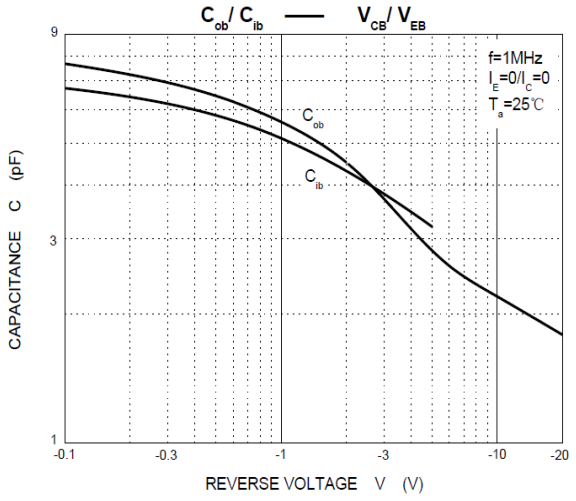


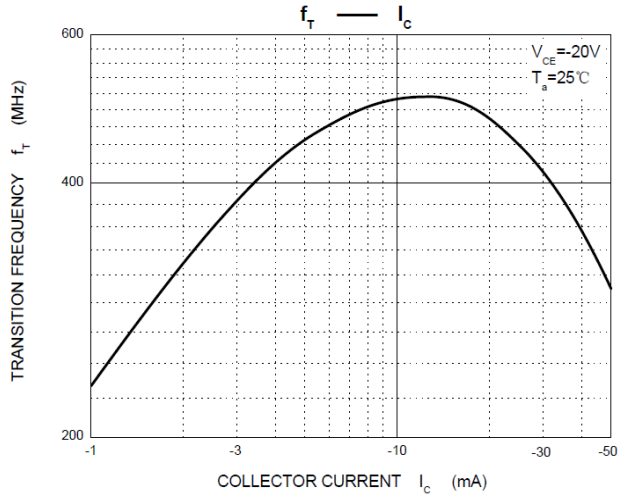


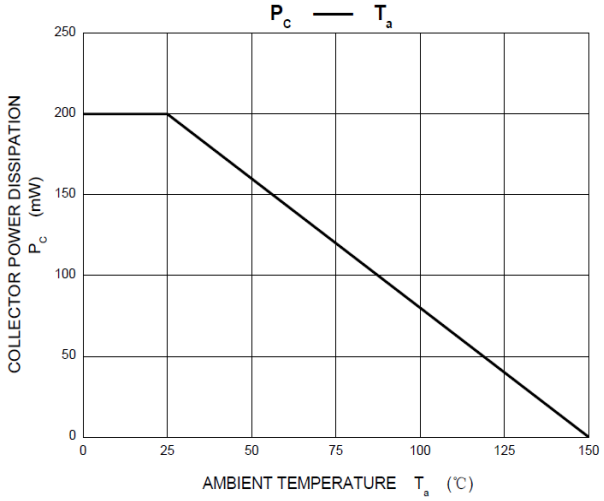




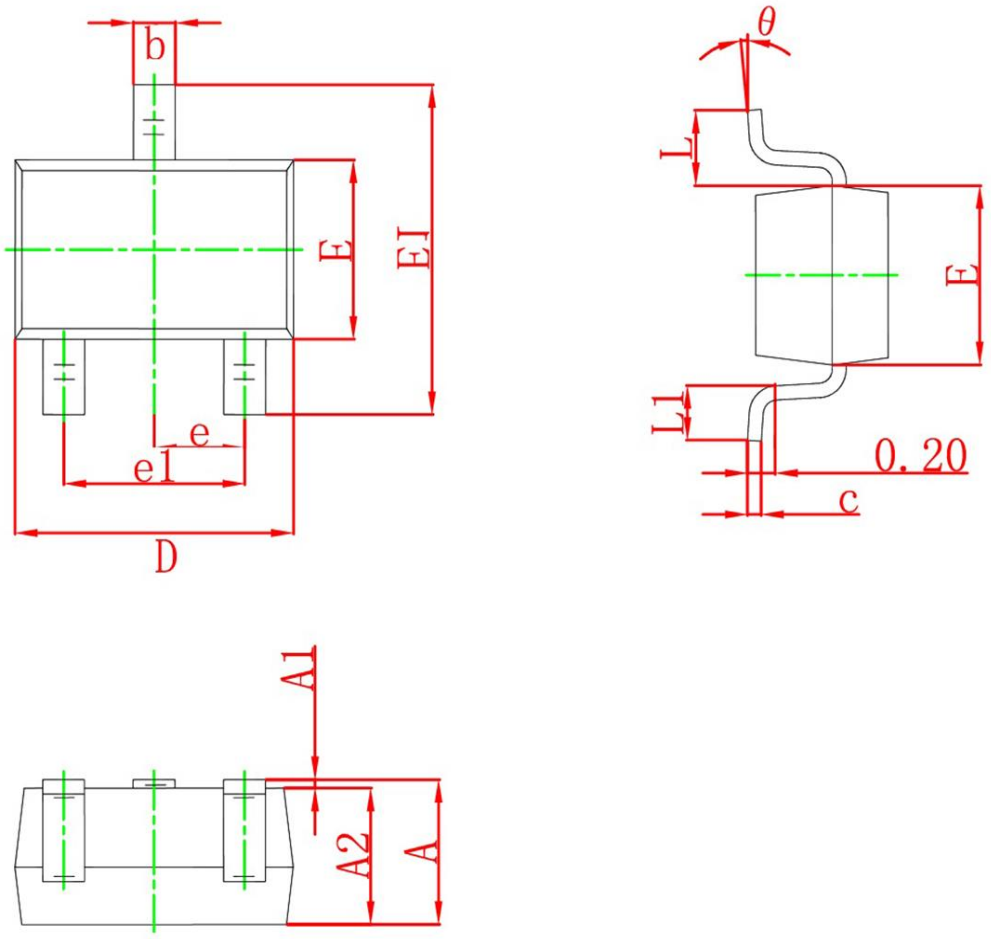








SOT-323 Package information



Symbol	Dimensions in Millimeters(mm)		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	0.650TYP		0.026TYP	
e1	1.200	1.400	0.047	0.055
L	0.525REF		0.021REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°