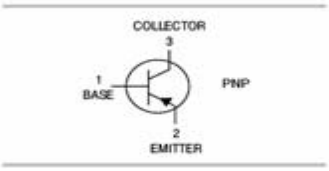
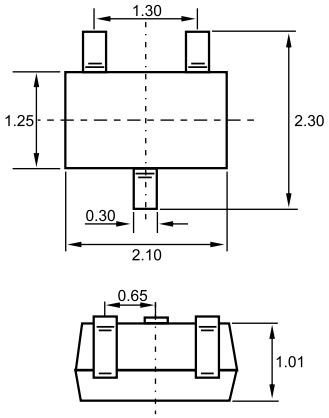
MMST3906

Silicon Epitaxial Planar Transistor(PNP)



SOT-323



Dimensions in inches and (millimeters)

Features

- Power dissipation.(P_C=200mW)
- Epitaxial planar die construction.
- Complementary to MMST3904.
- Also available in lead free version.

Applications

- General purpose application and switching application.

Ordering Information

Type No.	Marking	Package Code
MMST3906	K5N	SOT-323

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Units
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	-200	mA
P_C	Collector Dissipation	200	mW
T_j,T_{stg}	Junction and Storage Temperature	-55~150	℃

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

MMST3906

Silicon Epitaxial Planar Transistor(PNP)

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}=-30V,I_E=0			-0.05	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-0.05	μA
DC current gain	h_{FE}	V_{CE}=-1V,I_C=-0.1mA V_{CE}=-1V,I_C=-1mA V_{CE}=-1V,I_C=-10mA V_{CE}=-1V,I_C=-50mA V_{CE}=-1V,I_C=-100mA	60 80 100 60 30		300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA I_C=-50mA, I_B=-5mA			-0.25 -0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-10mA, I_B=-1mA I_C=-50mA, I_B=-5mA	-0.65		-0.85 -0.95	V
Transition frequency	f_T	V_{CE}=-20V,I_C= -10mA, f=100MHz	250			MHz
Collector output capacitance	C_{obo}	V_{CB}=-5V,I_E=0,f=1MHz			4.5	pF
Collector input capacitance	C_{ib}	V_{CB}=-5V,I_E=0,f=1MHz			10	pF
Noise figure	NF	V_{CE}=-5V,I_C=-0.1mA, f=1KHz,R_s=1KΩ			4	dB
Delay time	t_d	V_{CC}=-3V,V_{BE}=-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

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

MMST3906

Silicon Epitaxial Planar Transistor(PNP)

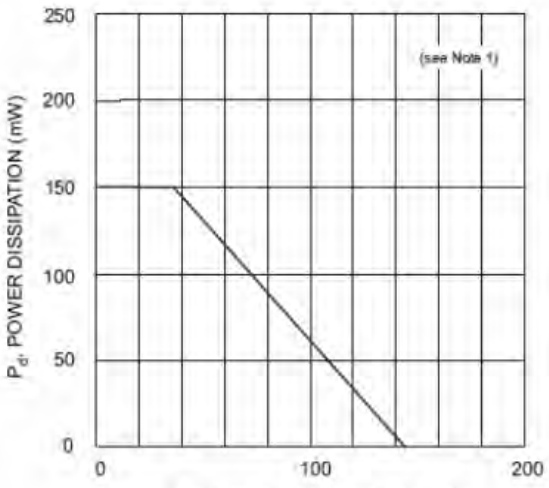


Fig. 1, Power Derating Curve

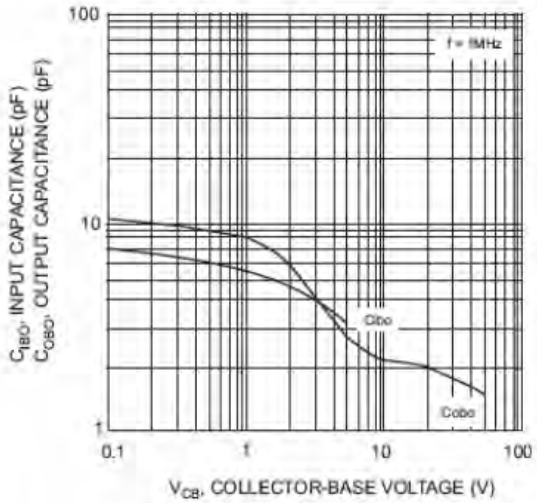


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

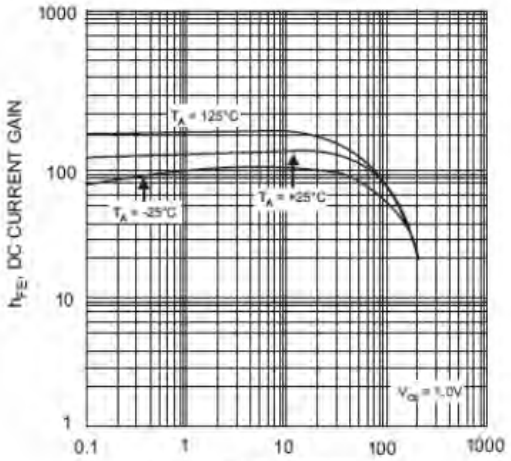


Fig. 3, Typical DC Current Gain vs Collector Current

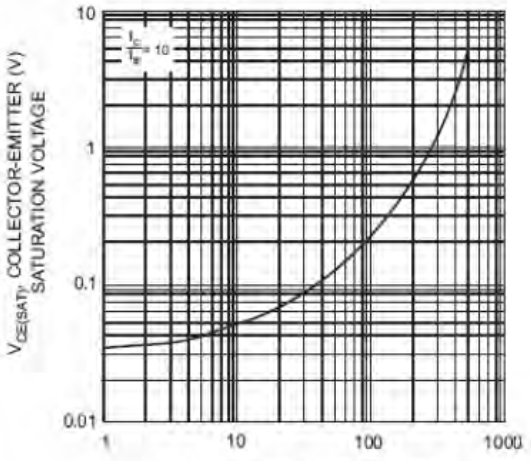


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

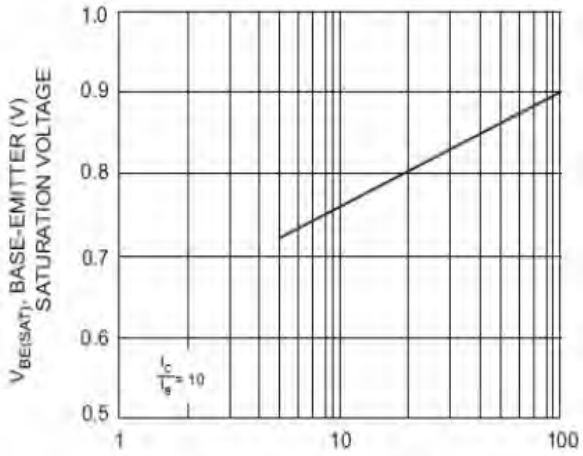


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOT -323	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220