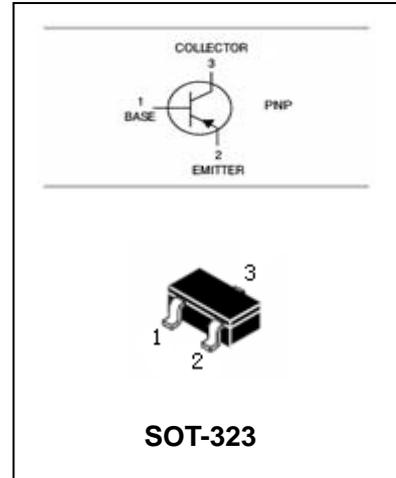


## PNP Silicon Epitaxial Planar Transistor

## MMST3906

### FEATURES

- Power dissipation.
- 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°C unless otherwise specified

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	-40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-40	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current -Continuous	-200	mA
P <sub>C</sub>	Collector Dissipation	150	mW
T <sub>j</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-55 to +150	°C

PNP Silicon Epitaxial Planar Transistor

**MMST3906**

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$			-0.05	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-0.05	$\mu A$
Collector cut-off current	$I_{CES}$	$V_{CE} = -30V, I_B = 0$			-0.05	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = -1V, I_C = -0.1mA$	60		300	
		$V_{CE} = -1V, I_C = -1mA$	80			
		$V_{CE} = -1V, I_C = -10mA$	100			
		$V_{CE} = -1V, I_C = -50mA$	60			
		$V_{CE} = -1V, I_C = -100mA$	30			
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	$C_{iob}$	$V_{CB} = -5V, I_E = 0, f = 1MHz$			10	pF
Noise figure	NF	$V_{CE} = -5V, I_C = -0.1mA,$ $f = 1KHz, R_s = 1K\Omega$			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

PNP Silicon Epitaxial Planar Transistor

**MMST3906**

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

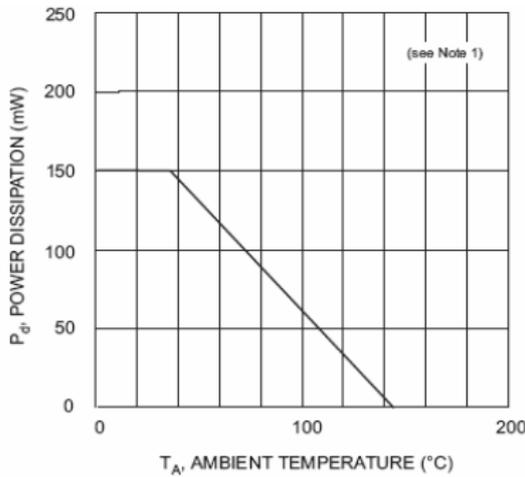


Fig. 1, Power Derating Curve

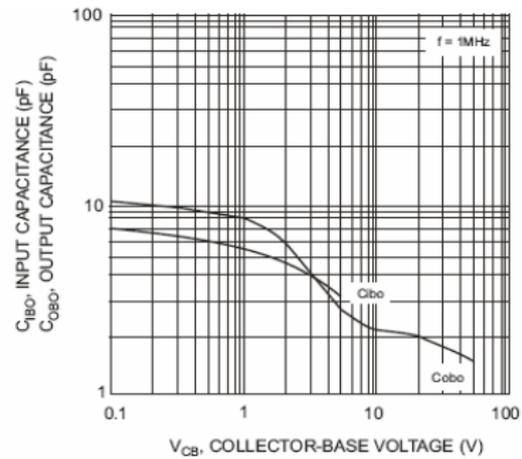


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

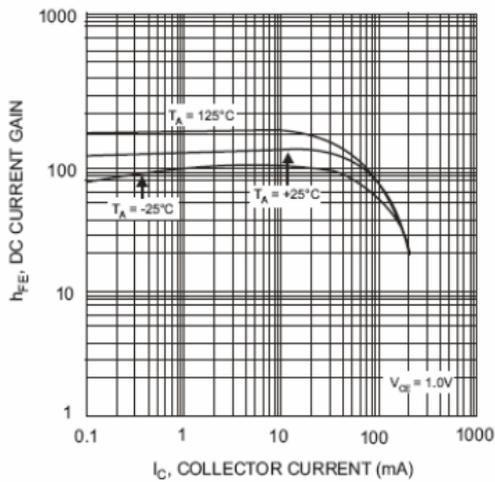


Fig. 3, Typical DC Current Gain vs. Collector Current

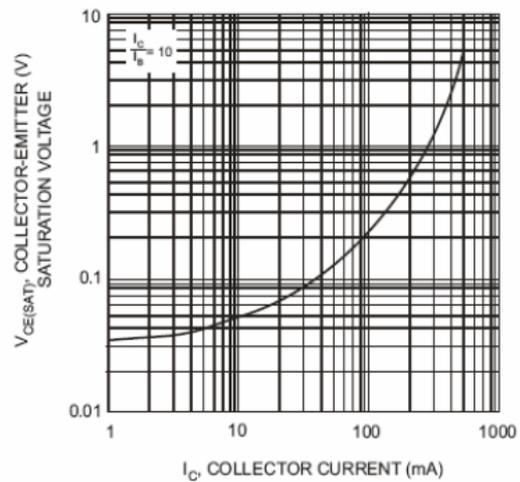


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

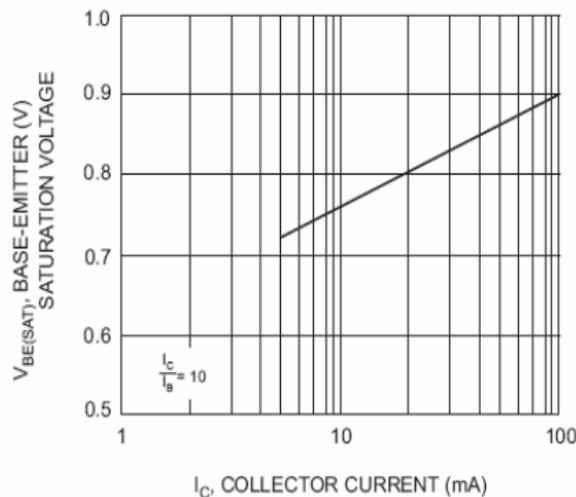


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

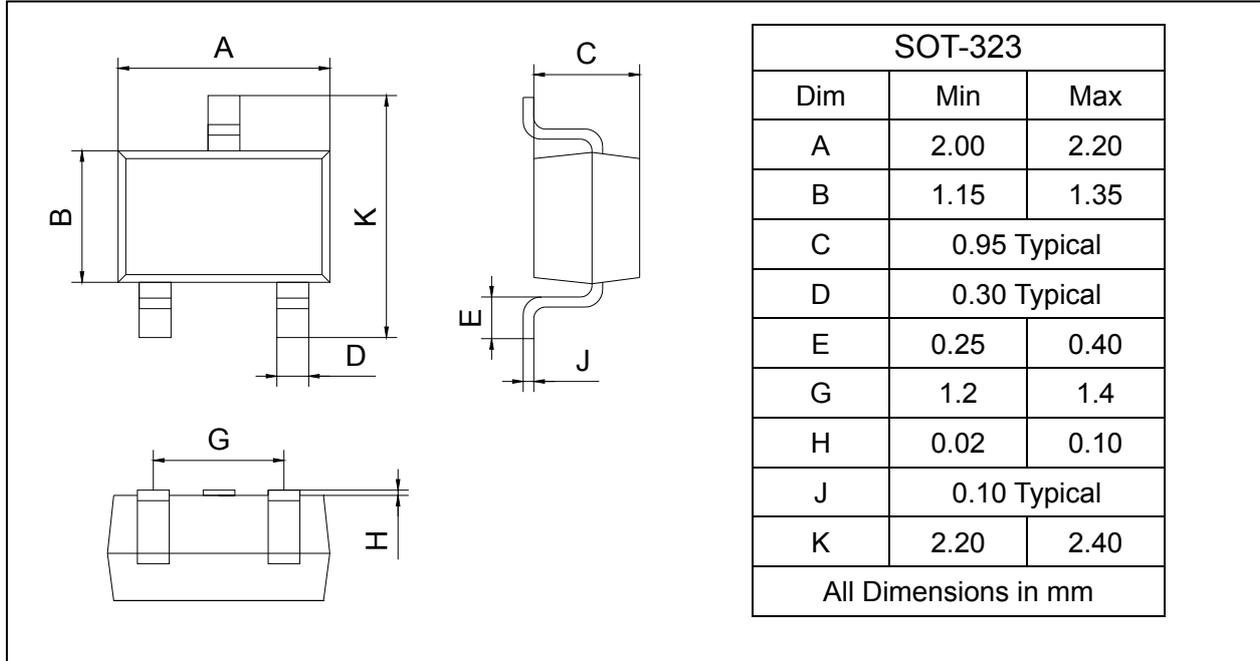
## PNP Silicon Epitaxial Planar Transistor

## MMST3906

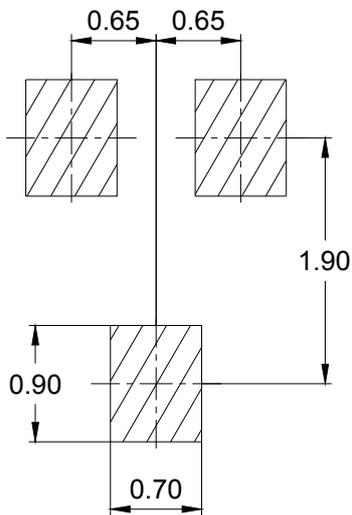
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
MMST3906	SOT-323	3000/Tape&Reel