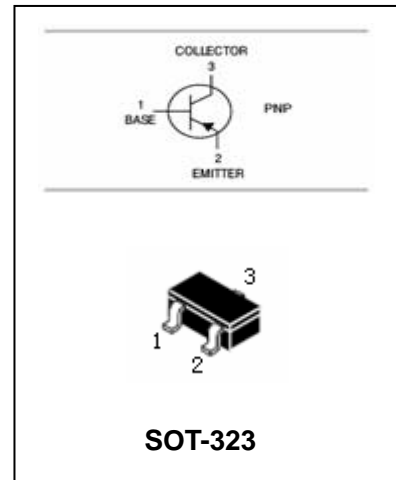


PNP Silicon Epitaxial Planar Transistor

MMST3906

FEATURES

- Power dissipation.($P_C=150\text{mW}$)
- 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 @ $T_a=25^\circ\text{C}$ 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	150	mW
T_j, T_{stg}	Junction and Storage Temperature	-55~150	$^\circ\text{C}$

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

PNP Silicon Epitaxial Planar Transistor

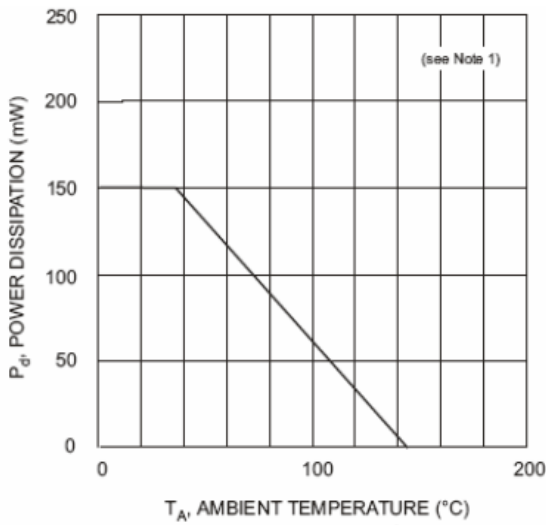
MMST3906

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}	$V_{CB} = -30V, I_E = 0$			-0.05	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-0.05	μA
DC current gain	h_{FE}	$V_{CE} = -1V, I_C = -0.1mA$	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

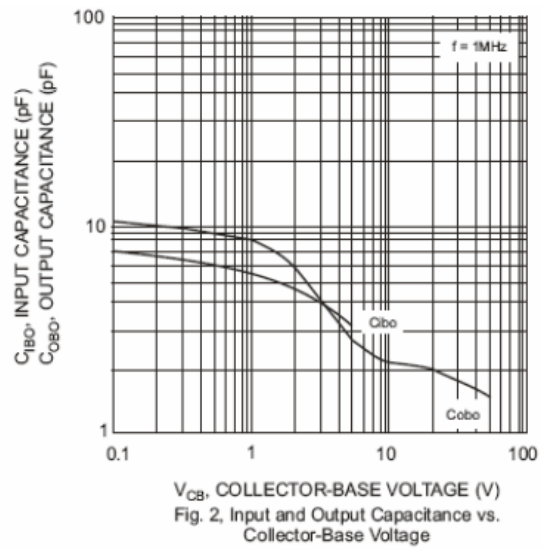
TYPICAL CHARACTERISTICS @ $T_a = 25^\circ C$ unless otherwise specified

PNP Silicon Epitaxial Planar Transistor

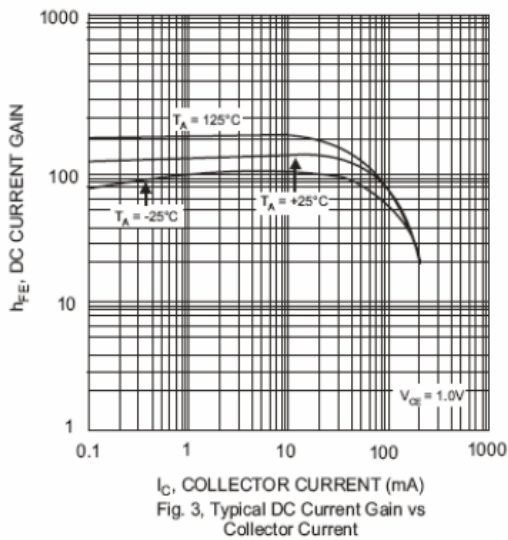
MMST3906



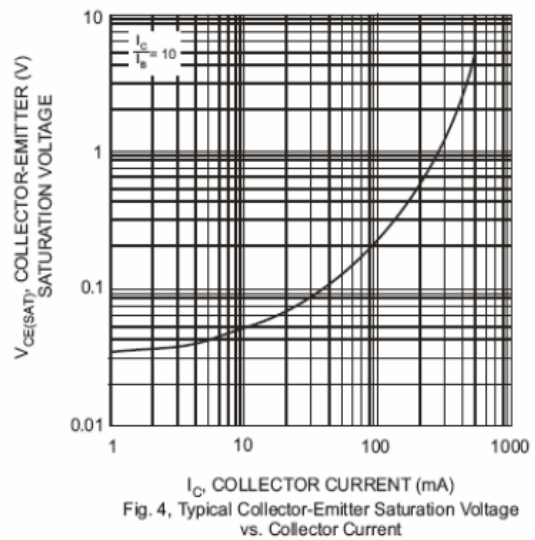
T_A , AMBIENT TEMPERATURE (°C)
Fig. 1, Power Derating Curve



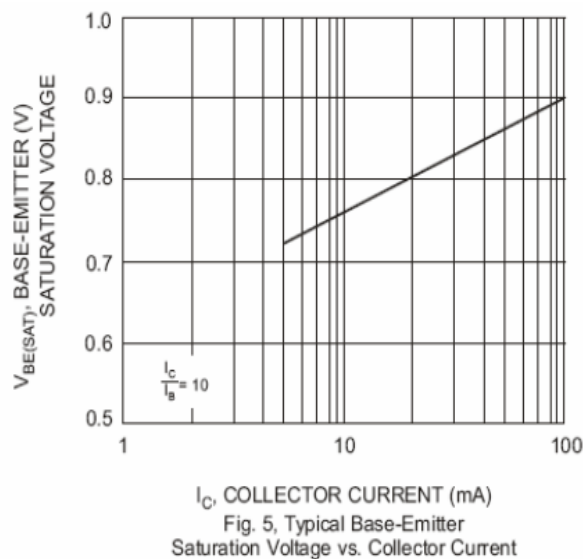
V_{CB} , COLLECTOR-BASE VOLTAGE (V)
Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage



I_C , COLLECTOR CURRENT (mA)
Fig. 3, Typical DC Current Gain vs. Collector Current



I_C , COLLECTOR CURRENT (mA)
Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current



I_C , COLLECTOR CURRENT (mA)
Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

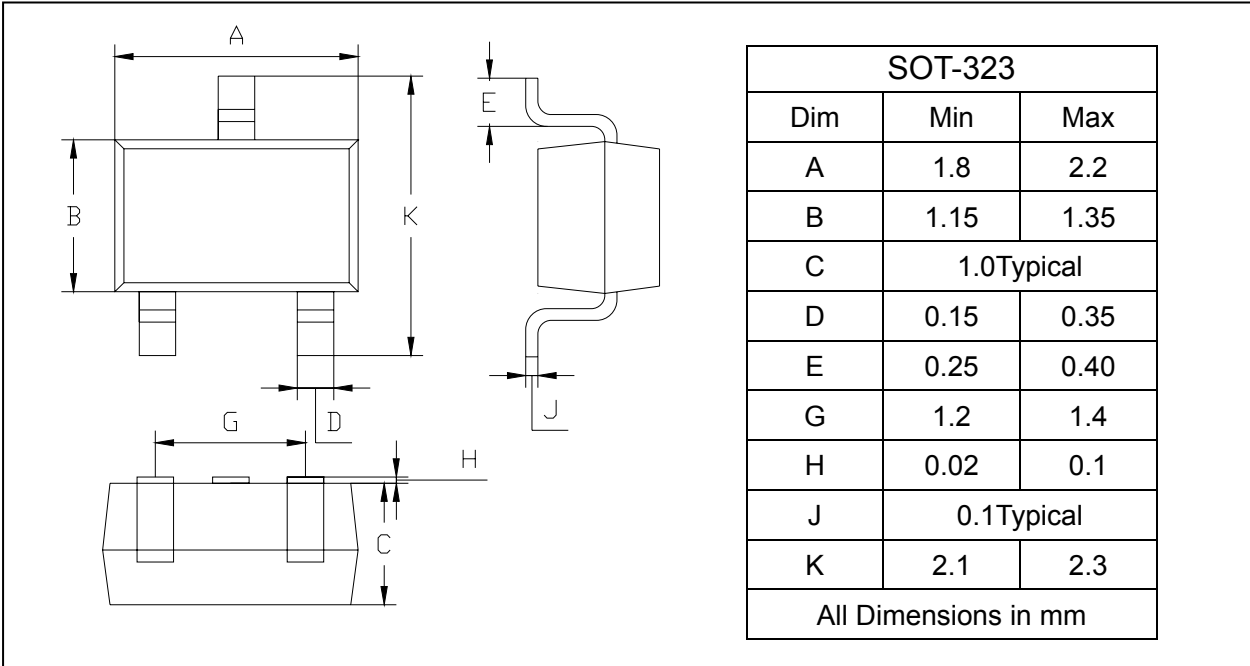
PNP Silicon Epitaxial Planar Transistor

MMST3906

PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



PACKAGE INFORMATION

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