

# PNP General Purpose Transistor

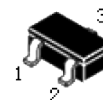
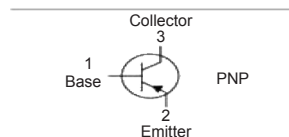


## Features:

- Epitaxial planar die construction.
- Complementary NPN type available (MMST5551).
- Also available in lead free version.

## Applications:

- Ideal for medium power amplification and switching.



SOT-23

**Maximum Rating** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

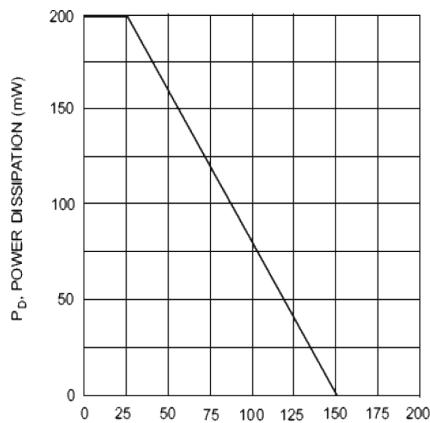
Parameter	Symbol	Value	Units
Collector-Base Voltage	$V_{CBO}$	-160	V
Collector-Emitter Voltage	$V_{CEO}$	-150	
Emitter-Base Voltage	$V_{EBO}$	-5	
Collector Current (DC)	$I_C$	-0.6	A
Collector Dissipation	$P_C$	0.2	W
Thermal resistance ,Junction to ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to 150	$^\circ\text{C}$

**Electrical Characteristics** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	MIN.	MAX.	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-160		
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-150		
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5		
Collector Cut-Off Current	$I_{CBO}$	$I_E = 0; V_{CB} = -120\text{V}$	-	-50	nA
Emitter Cut-Off Current	$I_{EBO}$	$I_C = 0; V_{EB} = -3\text{V}$		-50	
DC Current Gain	$h_{FE}$	$V_{CE} = -5\text{V}; I_C = -1\text{mA}$ $V_{CE} = -5\text{V}; I_C = -10\text{mA}$ $V_{CE} = -5\text{V}; I_C = -50\text{mA}$	50 60 50	- 240 -	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}; I_B = -5\text{mA}$ $I_C = -10\text{mA}; I_B = -1\text{mA}$	-	-0.5 -0.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}; I_B = -5\text{mA}$ $I_C = -10\text{mA}; I_B = -1\text{mA}$		-1 -1	
Transition Frequency	$f_T$	$I_C = -10\text{mA}; V_{CE} = -10\text{V},$ $f = 100\text{MHz}$	100	300	MHz
Noise Figure	NF	$I_C = -200\text{mA}, V_{CE} = -5\text{V},$ $f = 100\text{MHz}$		8	dB

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Typical Characteristics @  $T_A = 25^\circ\text{C}$  unless otherwise specified



$T_A$ : AMBIENT TEMPERATURE ( $^\circ\text{C}$ )

Fig. 1, Max Power Dissipation vs Ambient Temperature

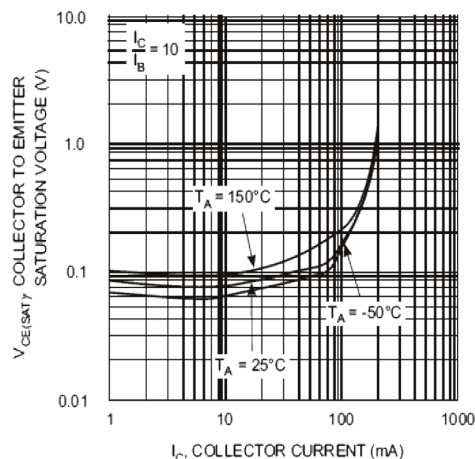


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

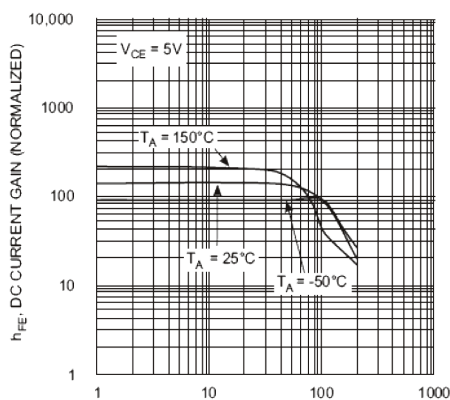


Fig. 3, DC Current Gain vs. Collector Current

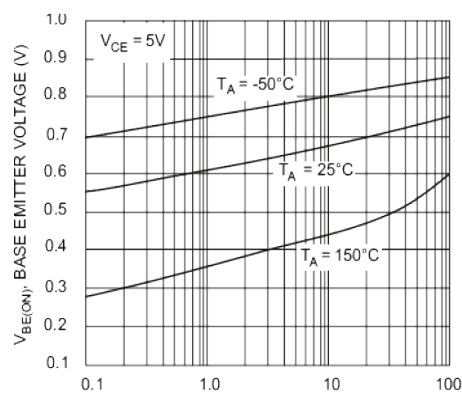


Fig. 4, Base Emitter Voltage vs. Collector Current

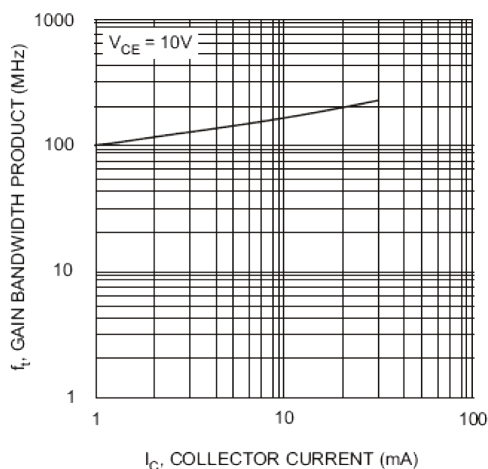
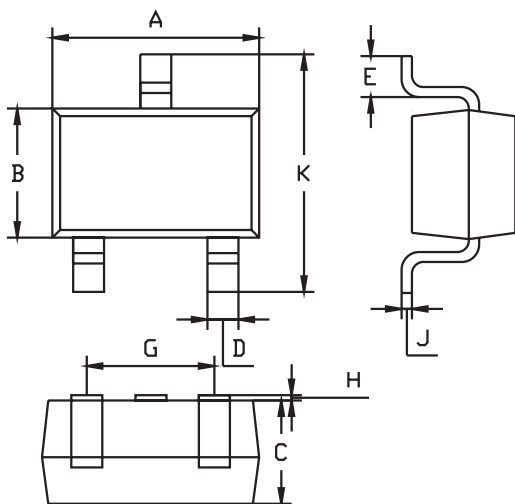


Fig. 5, Gain Bandwidth Product vs Collector Current

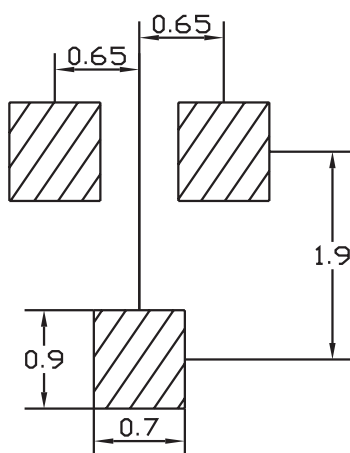
# PNP General Purpose Transistor

## Package Outline



SOT-323		
Dim	Min	Max
A	1.8	2.2
B	1.15	1.35
C	1Typical	
D	0.15	0.35
E	0.25	0.40
G	1.2	1.4
H	0.02	0.1
J	0.1Typical	
K	2.1	2.3
All Dimensions in mm		

## Soldering Footprint



Dimensions : Millimetres

## Part Number Table

Description	Part Number
Transistor, Bipolar, PNP, -150V, -600mA, SOT-323	MMST5401-7-F

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