

# PNP General Purpose Transistor

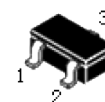
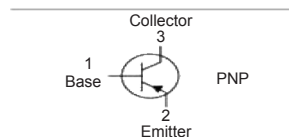


## Features:

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

## Applications:

- Ideal for medium power amplification and switching.



SOT-323

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

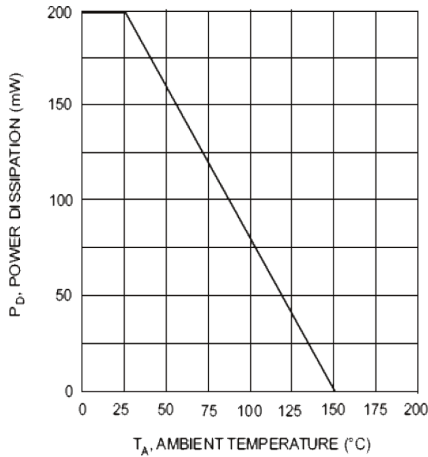
Parameter	Symbol	Value	Units
Collector-Base Voltage	$V_{CBO}$	-160	V
Collector-Emitter Voltage	$V_{CEO}$	-150	
Emitter-Base Voltage	$V_{EBO}$	-5	
Collector Current (DC)	$I_C$	-0.6	A
Collector Dissipation	$P_C$	0.2	W
Thermal resistance ,Junction to ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction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

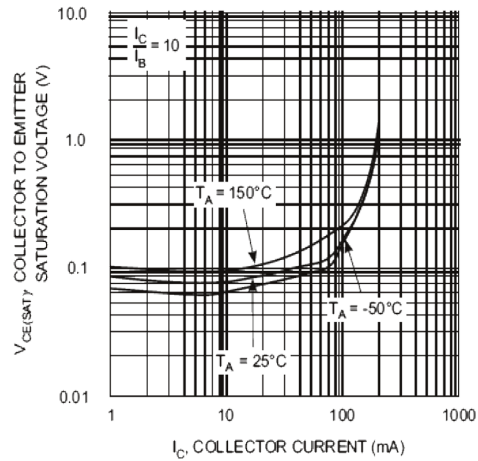
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Typical Characteristics @  $T_A = 25^\circ\text{C}$  unless otherwise specified



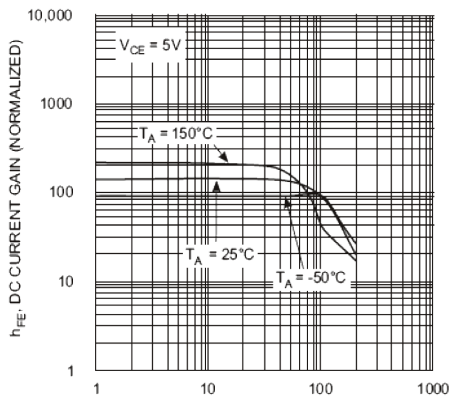
$T_A$ , AMBIENT TEMPERATURE ( $^\circ\text{C}$ )

Fig. 1. Max Power Dissipation vs Ambient Temperature



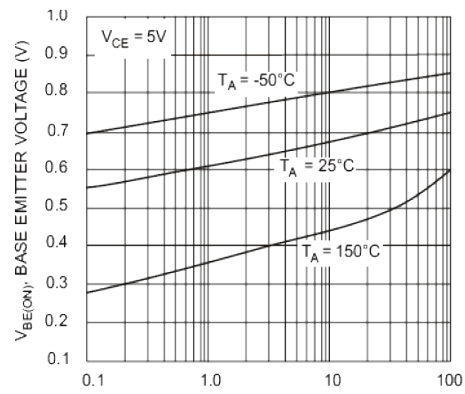
$I_C$ , COLLECTOR CURRENT (mA)

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



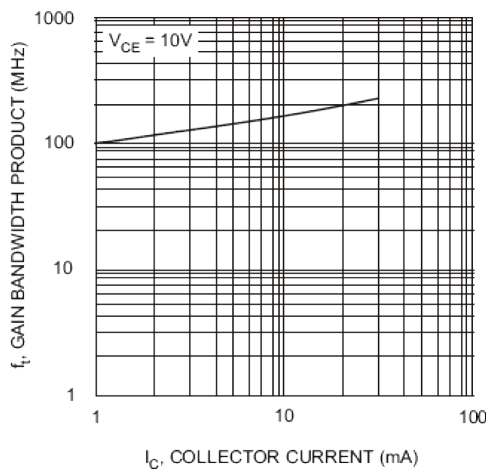
$I_C$ , COLLECTOR CURRENT (mA)

Fig. 3. DC Current Gain vs. Collector Current



$I_C$ , COLLECTOR CURRENT (mA)

Fig. 4. Base Emitter Voltage vs. Collector Current

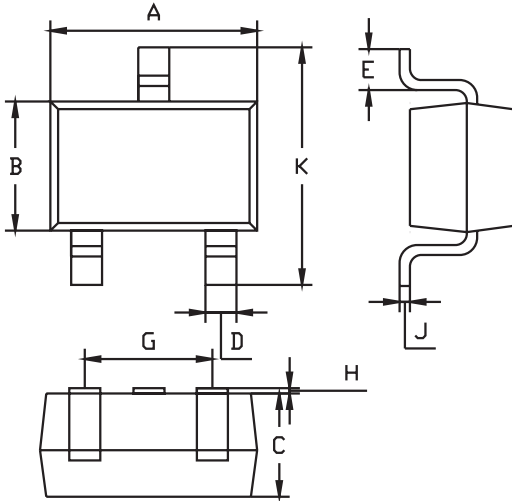


$I_C$ , COLLECTOR CURRENT (mA)

Fig. 5. Gain Bandwidth Product vs Collector Current

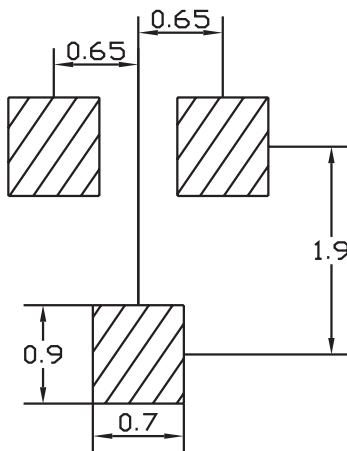
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## Package Outline



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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