

PNP General Purpose Transistor

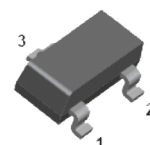
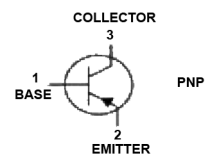


Features:

- Epitaxial planar die construction
- Complementary NPN type available (MMBT5551)

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	0.3	W
Junction and Storage Temperature	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

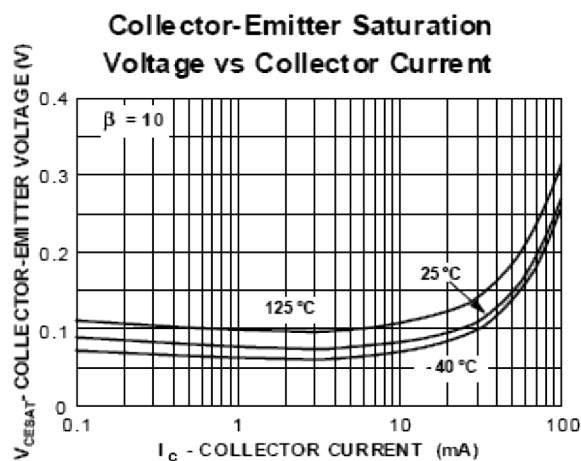
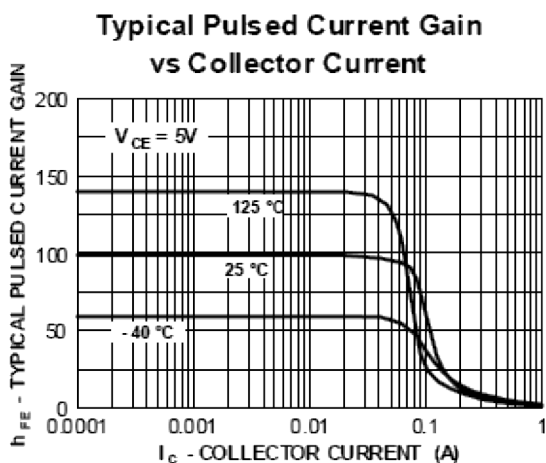
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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		

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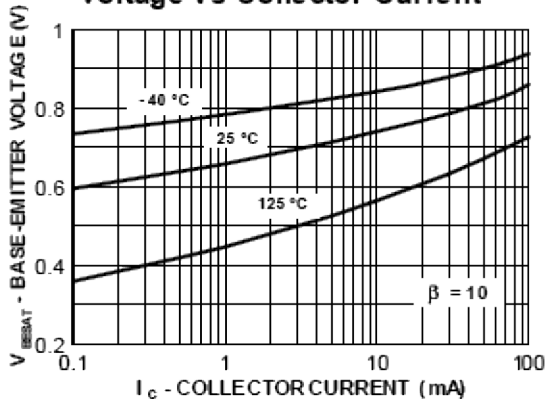
Parameter	Symbol	Test conditions	Min.	Max.	Unit
Collector Cut-Off Current	I_{CBO}	$I_E = 0; V_{CB} = -120V$	-	-50	nA
Emitter Cut-Off Current	I_{EBO}	$I_C = 0; V_{EB} = -3V$	-		
DC Current Gain	h_{FE}	$V_{CE} = -5V; I_C = -1mA$ $V_{CE} = -5V; I_C = -10mA$ $V_{CE} = -5V; I_C = -50mA$	50 60 50	- 240 -	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -10mA, I_B = -1mA$ $I_C = -50mA, I_B = -5mA$	-	-0.2 -0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -10mA, I_B = -1mA$ $I_C = -50mA, I_B = -5mA$	-	-1 -1	
Transition Frequency	f_T	$I_C = -10mA; V_{CE} = -5V;$ $f = 100MHz$	100	300	MHz
Output Capacitance	C_{obo}	$I_E = 0; V_{CB} = -10V,$ $f = 1MHz$		6	MHz

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

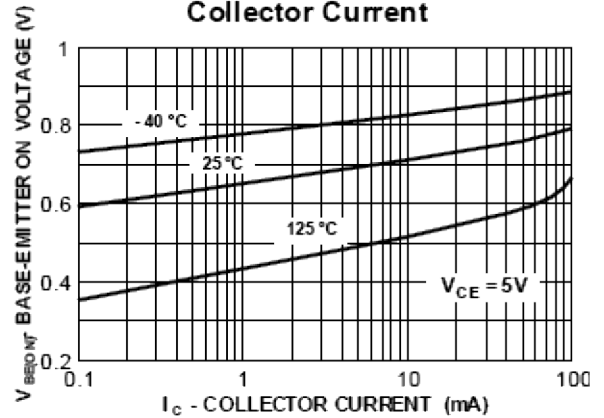


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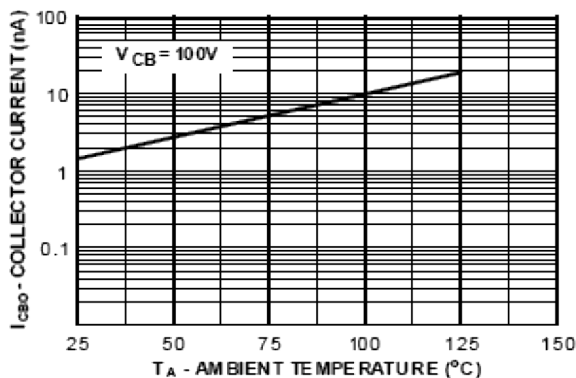
Base-Emitter Saturation Voltage vs Collector Current



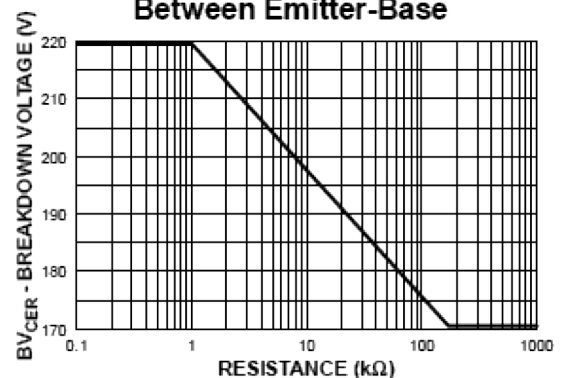
Base-Emitter ON Voltage vs Collector Current



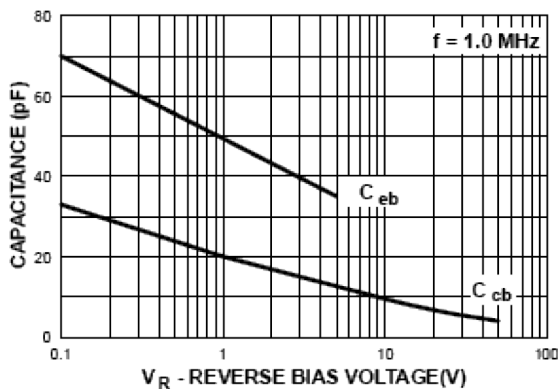
Collector-Cutoff Current vs Ambient Temperature



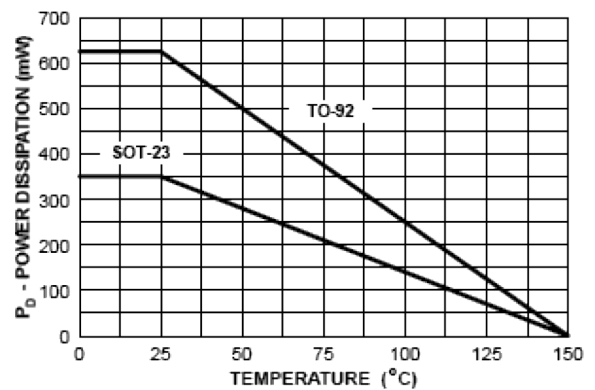
Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base



Input and Output Capacitance vs Reverse Voltage

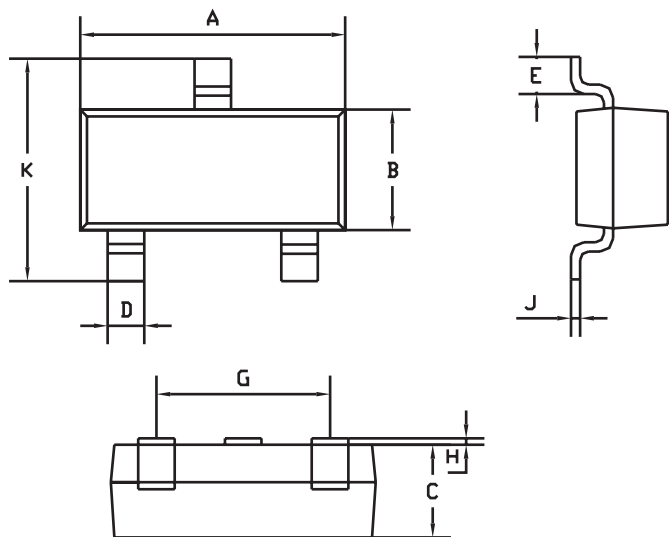


Power Dissipation vs Ambient Temperature



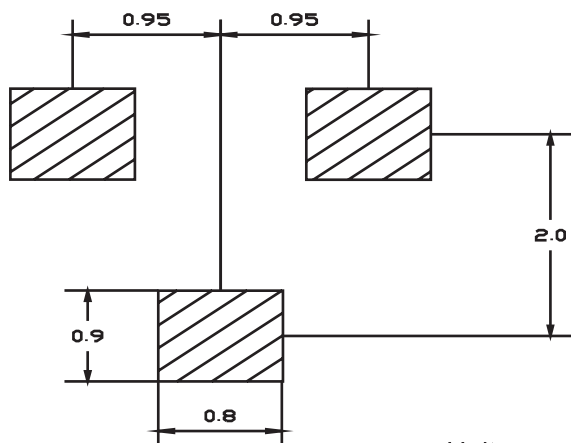
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Plastic Surface Mounted Package:



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1 Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1 Typical	
K	2.35	2.45
All Dimensions in mm		

Soldering Footprint:



Unit : mm

Part Number Table

Description	Part Number
Transistor, Bipolar, PNP, -150V, -600mA, SOT-23-3	MMBT5401-7-F

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