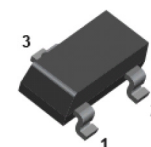
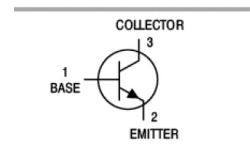


NPN General Purpose Transistor



Features:

- Epitaxial planar die construction.
- Complementary NPN type available (MMBT5401).
- Also available in lead free version.



SOT-23

Application:

- Ideal for medium power amplification and switching

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

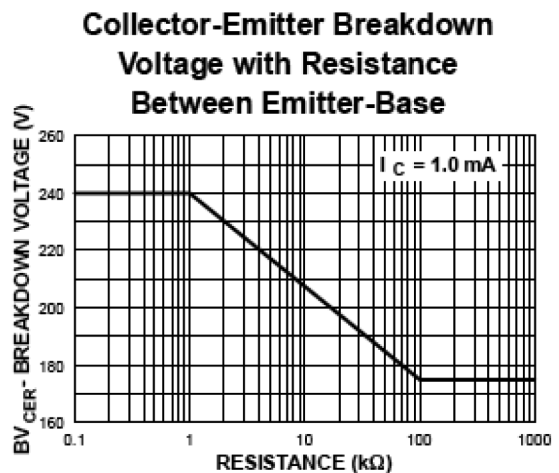
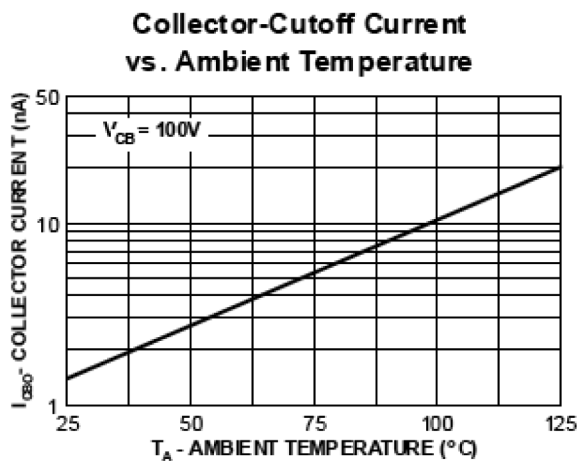
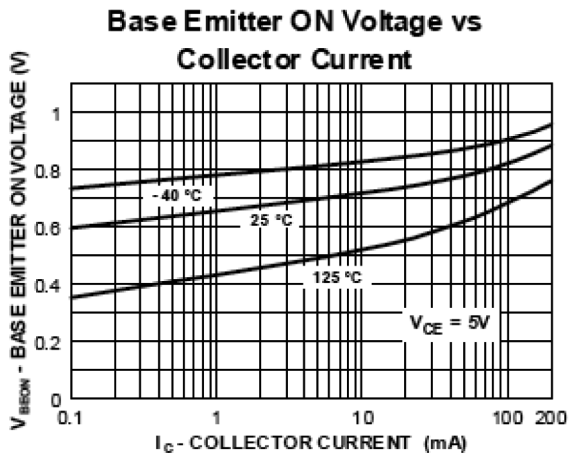
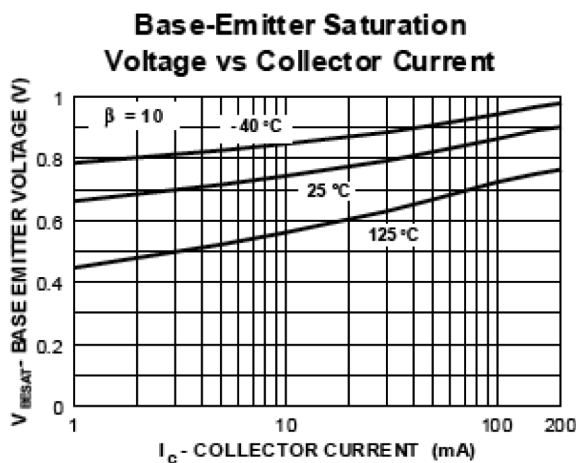
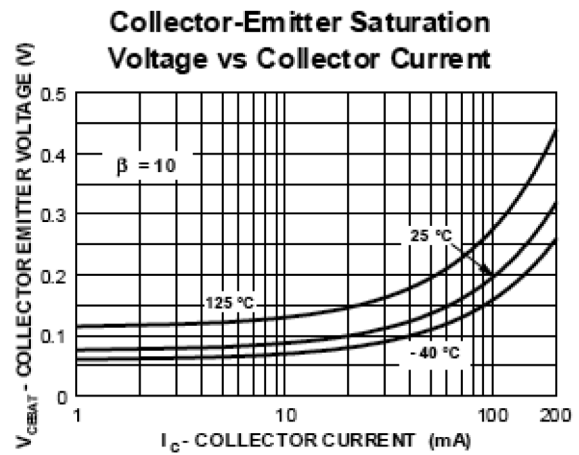
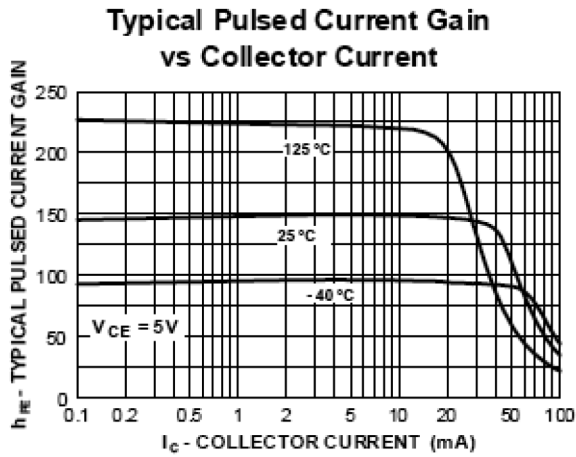
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	180	V
Collector-Emitter Voltage	V_{CE0}	160	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current (DC)	I_C	0.6	A
Collector dissipation	P_C	0.35	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction and 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	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}$, $I_E = 0$	180		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -0.1\text{mA}$, $I_B = 0$	160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}$, $I_C = 0$	6		V
Collector cut-off current	I_{CBO}	$I_E = 0$, $V_{CB} = 120\text{V}$	-	50	nA
Emitter cut-off current	I_{EBO}	$I_C = 0$; $V_{EB} = 4\text{V}$		50	nA
DC current gain	h_{FE}	$V_{CE} = 5\text{V}$; $I_C = 1\text{mA}$ $V_{CE} = 5\text{V}$; $I_C = 10\text{mA}$ $V_{CE} = 5\text{V}$; $I_C = 50\text{mA}$	80 80 30	- 250 -	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$ $I_C = 50\text{mA}$, $I_B = 5\text{mA}$	-	0.15 0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$ $I_C = 50\text{mA}$, $I_B = 5\text{mA}$	-	1 1	V
Transition frequency	f_T	$I_C = 10\text{mA}$; $V_{CB} = 10\text{V}$; $f = 1\text{MHz}$	100	300	MHz
Output Capacitance	C_{obo}	$I_E = 10\text{mA}$; $V_{CE} = 10\text{V}$; $f = 100\text{MHz}$	-	6	MHz

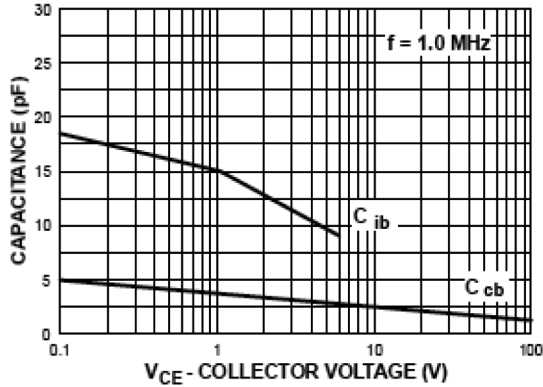
NPN General Purpose Transistor

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

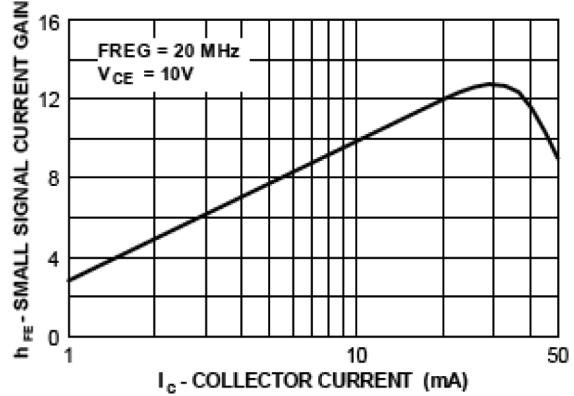


NPN General Purpose Transistor

Input and Output Capacitance vs Reverse Voltage

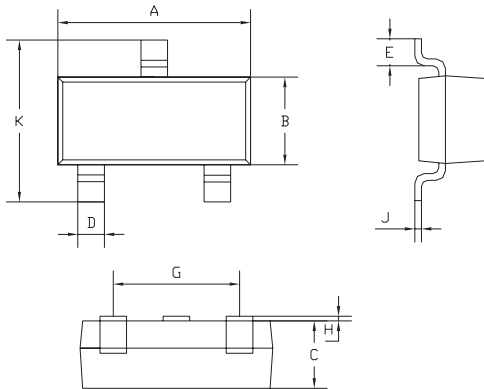


Small Signal Current Gain vs Collector Current



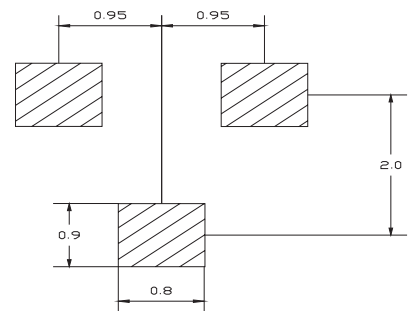
Package Outline

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



Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, Bipolar, NPN, 160V, 600mA, SOT-23	MMBT5551-7-F

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