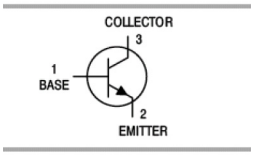
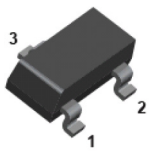
NPN General Purpose Transistor

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°C unless otherwise specified

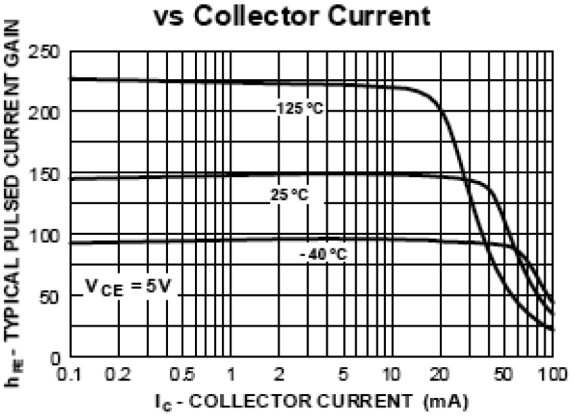
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (DC)	Ic	0.6	A
Collector dissipation	P_C	0.35	W
Thermal Resistance Junction to Ambient	$R_{\theta jA}$	357	°C/W
Junction and Storage Temperature	T_j,T_{stg}	-55 to +150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

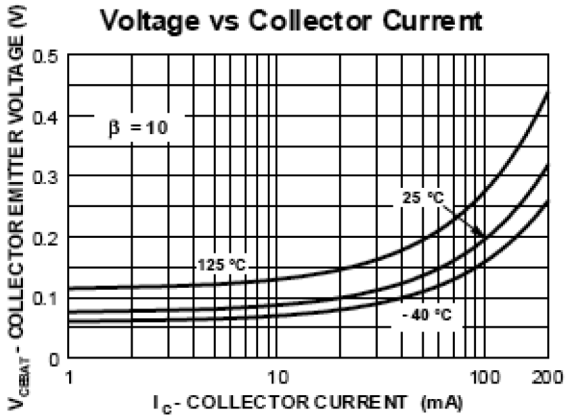
Parameter	Symbol	Test conditions	Min.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100µA I_E=0	180		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-0.1mA I_B=0	160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10µA, I_C=0	6		V
Collector cut-off current	I_{CBO}	I_E = 0, V_{CB} = 120V	-	50	nA
Emitter cut-off current	I_{EBO}	I_C = 0; V_{EB} = 4V		50	nA
DC current gain	h_{FE}	V_{CE} = 5V; I_C= 1mA V_{CE} = 5V;I_C = 10mA V_{CE} = 5V;I_C = 50mA	80 80 30	- 250 -	
Collector-emitter saturation voltage	$V_{CE(sat)}$	Ic=10mA, I_B=1mA Ic=50mA, I_B=5mA	-	0.15 0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	Ic=10mA I_B=1mA Ic=50mA I_B=5mA	-	1 1	V
Transition frequency	f_T	I_C=10mA; V_{CB}=10V; f=1MHz	100	300	MHz
Output Capacitance	Cobo	I_E=10mA; V_{CE} =10V; f=100MHz	-	6	MHz

Typical Characteristics @ T_A = 25°C unless otherwise specified

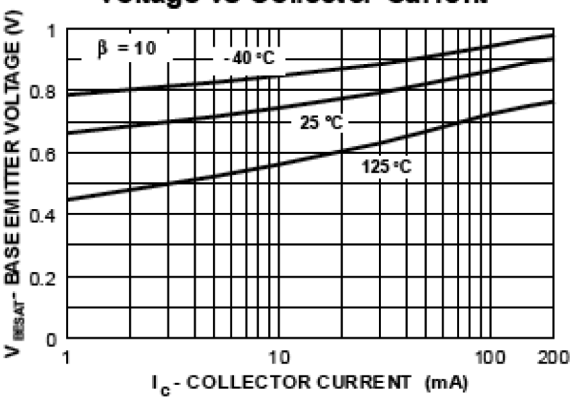
Typical Pulsed Current Gain vs Collector Current



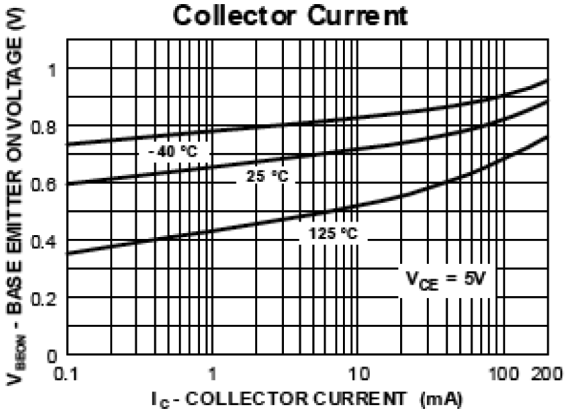
Collector-Emitter Saturation Voltage vs Collector Current



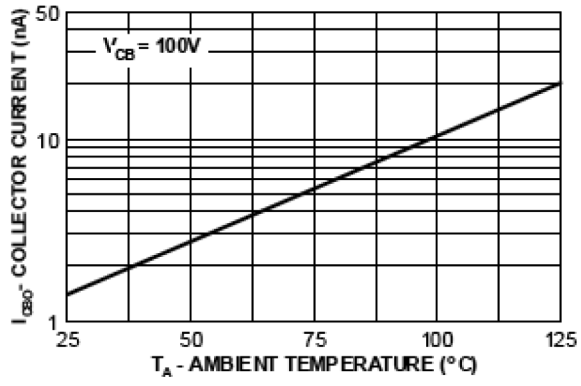
Base-Emitter Saturation Voltage vs Collector Current



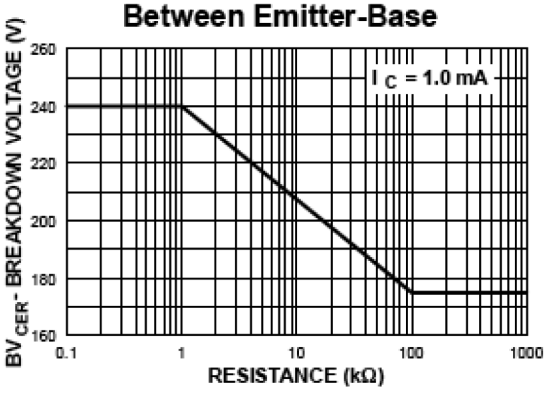
Base Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs. Ambient Temperature

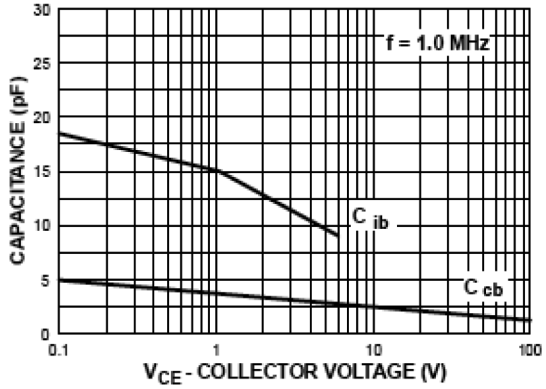


Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base

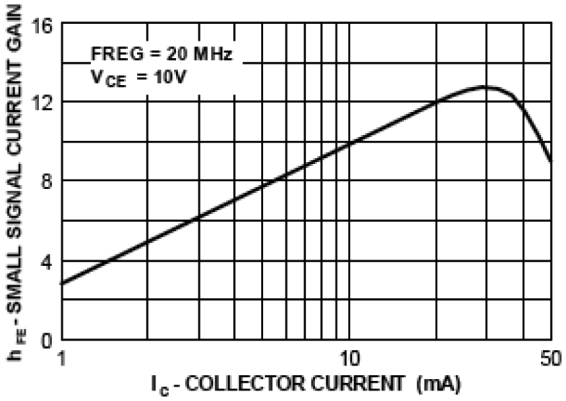


NPN General Purpose Transistor

Input and Output Capacitance vs Reverse Voltage

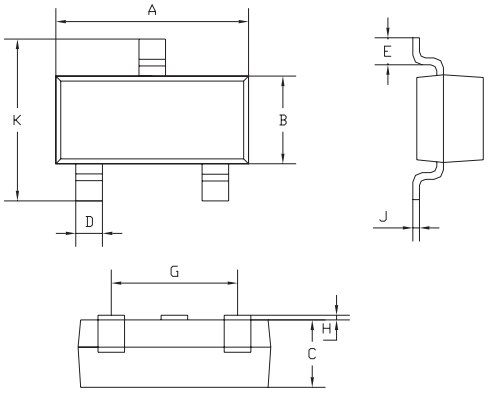


Small Signal Current Gain vs Collector Current



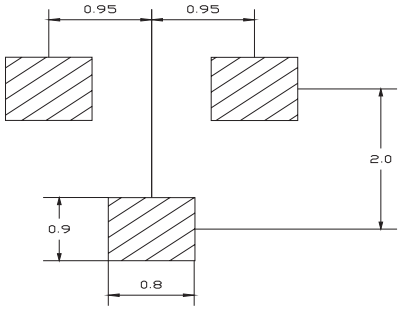
Package Outline

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