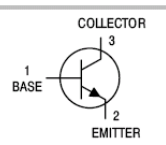
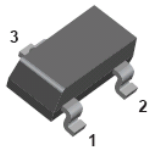
NPN General Purpose Transistor MMBT5551

FEATURES

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

Lead-free





SOT-23

APPLICATIONS

- Ideal for medium power amplification and switching

ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT5551	G1	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

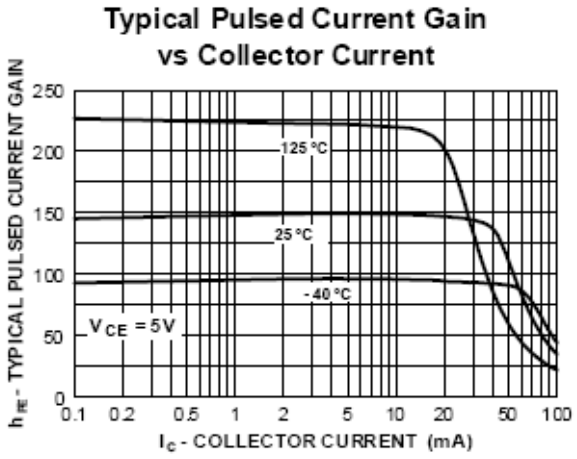
Symbol	Parameter	Value	UNIT
V_{CBO}	collector-base voltage	180	V
V_{CEO}	collector-emitter voltage	160	V
V_{EBO}	emitter-base voltage	6	V
I_C	collector current (DC)	0.6	A
P_C	Collector dissipation	0.35	W
$R_{\theta JA}$	Thermal resistance,Junction to ambient	357	°C/W
T_j , T_{stg}	junction and storage temperature	-55-150	°C

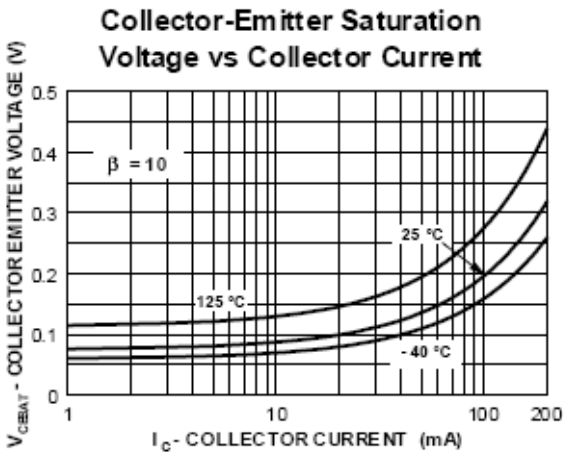
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

NPN General Purpose Transistor MMBT5551

Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA,I_E=0	180		
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=0.1mA,I_B=0	160		
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=10μA,I_C=0	6		
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = 120V	-	50	nA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = 4V	-	50	nA
h_{FE}	DC current gain	V_{CE} = 5V; I_C= 1mA V_{CE} = 5V;I_C = 10mA V_{CE} = 5V;I_C = 50mA	80 80 30	- 250 -	
$V_{CE(sat)}$	collector-emitter saturation voltage	I_C = 10mA; I_B=1mA I_C = 50mA; I_B = 5mA	-	0.15 0.2	V
$V_{BE(sat)}$	base-emitter saturation voltage	I_C=10mA; I_B=1mA I_C=50mA; I_B=5mA	-	1 1	V
f_T	transition frequency	I_C=10mA; V_{CB}=10V; f=1.0MHz	100	300	MHz
C_{obo}	Output capacitance	I_E=10mA; V_{CE} =10V; f=100MHz		6.0	MHz

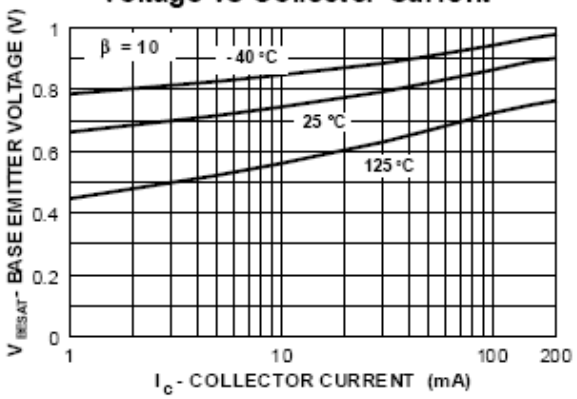
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified



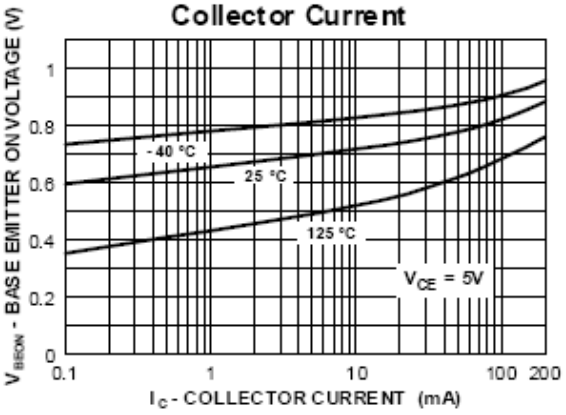


NPN General Purpose Transistor MMBT5551

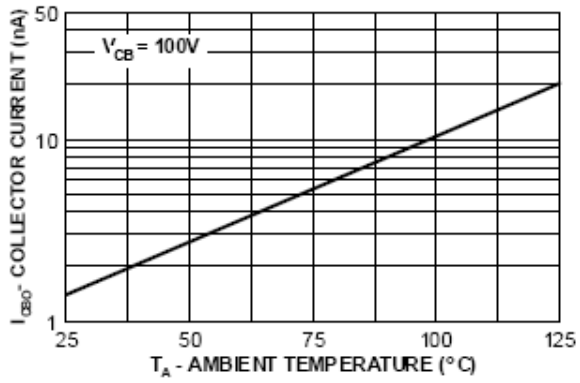
Base-Emitter Saturation Voltage vs Collector Current



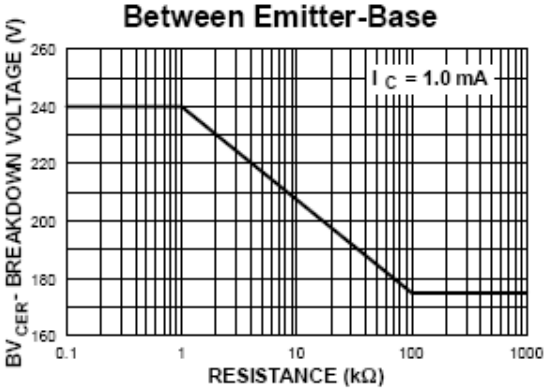
Base Emitter ON Voltage vs Collector Current



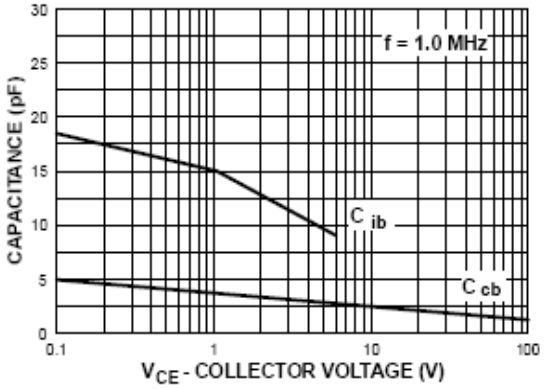
Collector-Cutoff Current vs. Ambient Temperature



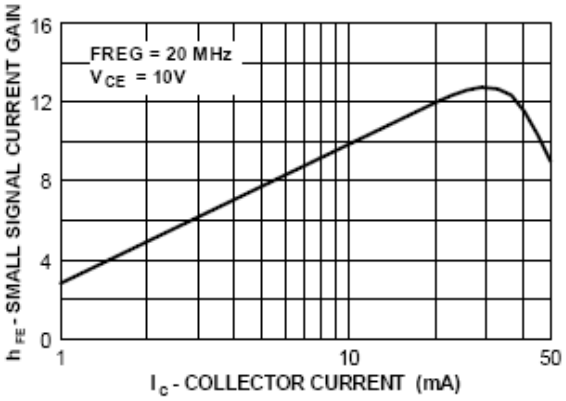
Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base



Input and Output Capacitance vs Reverse Voltage



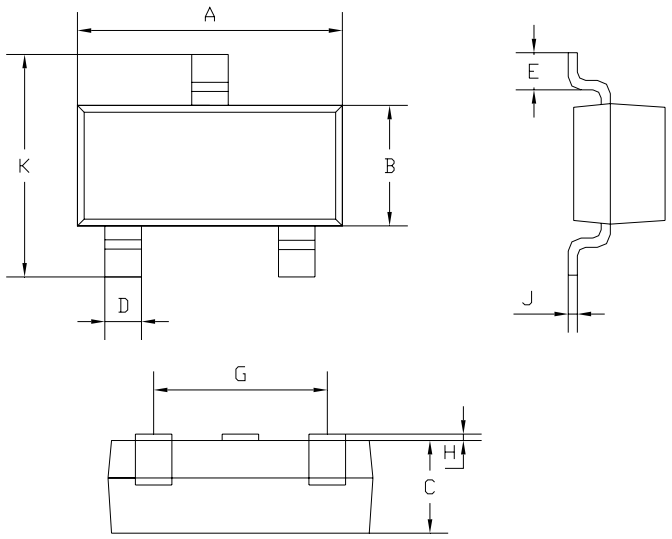
Small Signal Current Gain vs Collector Current



NPN General Purpose Transistor MMBT5551

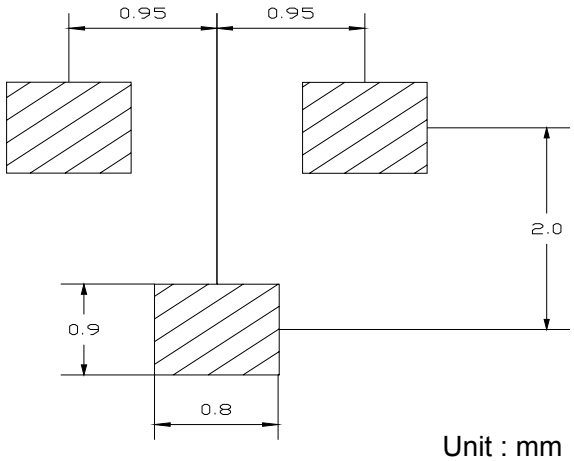
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
MMBT5551	SOT-23	3000/Tape&Reel