Leading Circuit Protection
Products and Solutions

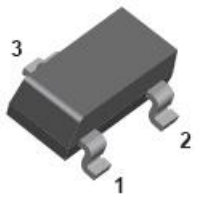
MMBT5401
PNP General Purpose Transistor

Features

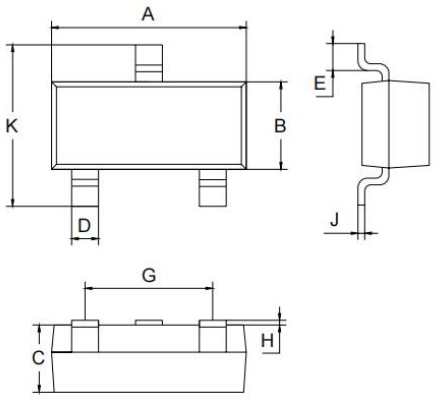
- Epitaxial planar die construction .
- Complementary NPN type available MMBT5551.
- Also available in lead free version.

Applications

- Ideal for medium power amplification and switching.



1. BASE
2. EMITTER
3. COLLECTOR



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

Ordering Information

Type No.	Marking	Package Code
MMBT5401	**2L**	**SOT-23**

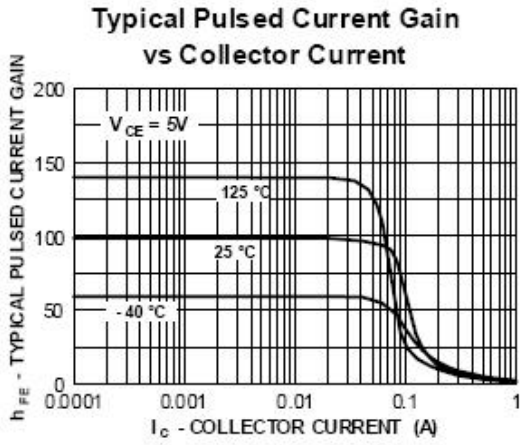
MAXIMUM RATING @ Ta=25℃ unless otherwise specified

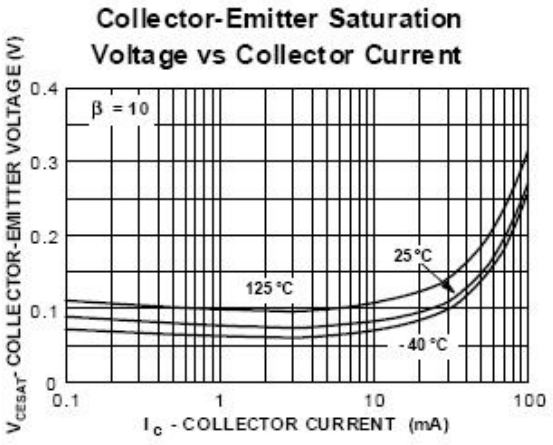
Symbol	Parameter	Value	UNIT
V_{CBO}	**collector-base voltage**	-160	V
V_{CEO}	**collector-emitter voltage**	-150	V
V_{EBO}	**emitter-base voltage**	-5	V
I_C	**collector current (DC)**	-0.6	A
P_D	**Total device dissipation**	0.35	W
$R_{\vartheta JC}$	**Thermal resistance,junction to ambient**	357	°C/W
T_j , T_{stg}	**junction and storage temperature**	-55 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

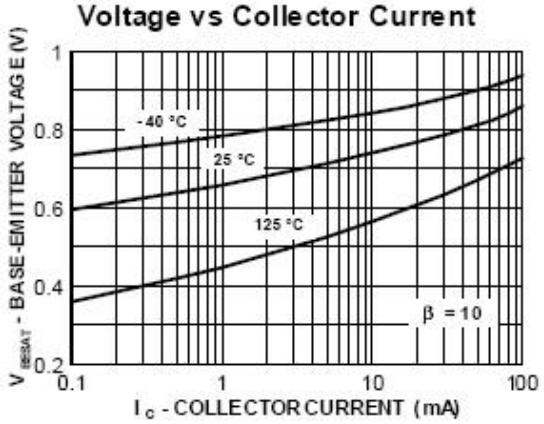
Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	**Collector-base breakdown voltage**	I_C=-100pA,I_E=0	-160		
$V_{(BR)CEO}$	**Collector-emitter breakdown voltage**	I_C=-1mA,I_B=0	-150		
$V_{(BR)EBO}$	**Emitter-base breakdown voltage**	I_E=-10pA,I_C=0	-5		
I_{CBO}	**collector cut-off current**	I_E = 0; V_{CB} = -120V	-	-50	nA
I_{EBO}	**emitter cut-off current**	I_C = 0; V_{EB} = -3V	-	-50	nA
h_{FE}	**DC current gain**	V_{CE} = -5V; I_C= -1mA V_{CE} = -5V;I_C = -10mA V_{CE} = -5V;I_C = -50 mA	50 100 50	- 300 -	
$V_{CE(sat)}$	**collector-emitter saturation voltage**	I_C = -10 mA; I_B = -1 mA I_C = -50 mA; I_B = -5 mA	-	-0.2 -0.5	V
$V_{BE(sat)}$	**base-emitter saturation voltage**	I_C = -10 mA; I_B = -1 mA I_C = -50 mA; I_B = -5 mA	-	-1 -1	V
f_T	**transition frequency**	I_C = -10mA; V_{CE} = -10V; f = 100MHz	100	300	MHz
C_{obo}	**Output capacitance**	I_E=0; V_{CB}= -10V, f = 1.0MHz		6.0	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

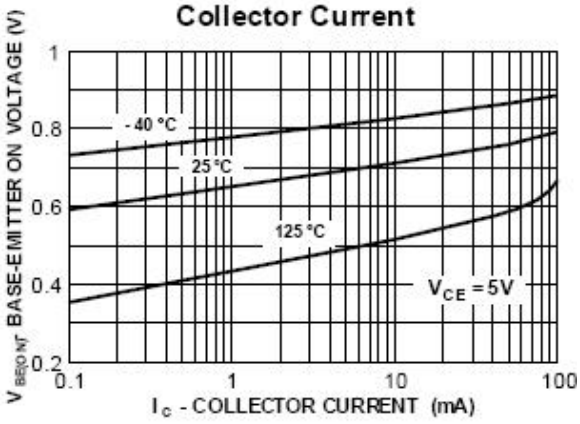




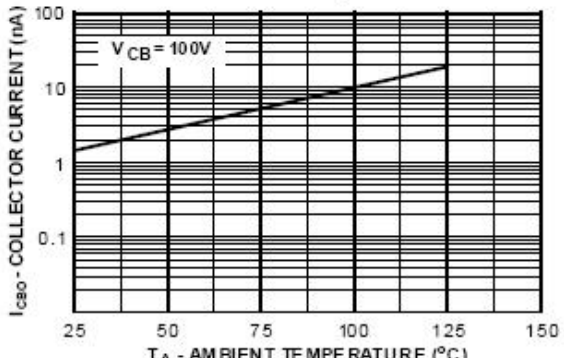
Base-Emitter Saturation Voltage vs Collector Current



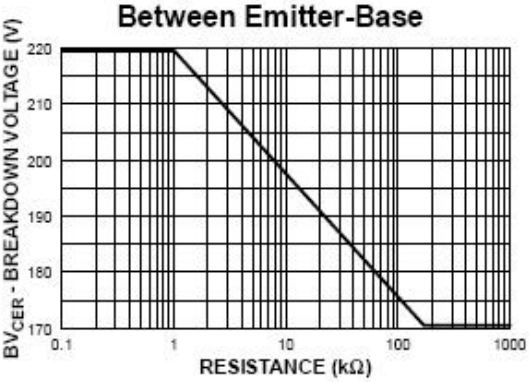
Base-Emitter ON Voltage vs Collector Current



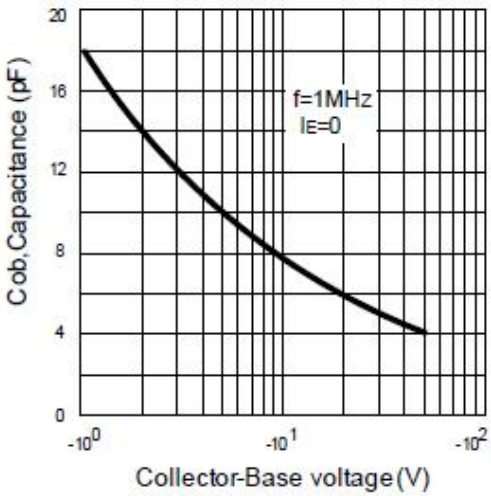
Collector-Cutoff Current vs Ambient Temperature



Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base



Collector output Capacitance



Device	Package	Shipping
MMBT5401	SOT-23	3000/Tape&Reel