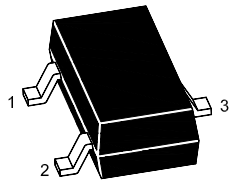
MMBT5401
PNP Transistor

Features

- For High Voltage Amplifer Applications.
- Silicon Epitaxial Chip.

SOT-23
(TO-236)



1.Base 2.Emitter 3.Collector

Absolute Maximum Ratings (T_A = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	160	V
Collector Emitter Voltage	$-V_{CEO}$	150	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	600	mA
Power Dissipation	P_D	350	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	- 55 to + 150	°C

Electrical Characteristics at T_A = 25℃

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 5 V, $-I_C$ = 1 mA at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA at $-V_{CE}$ = 5 V, $-I_C$ = 50 mA	 h_{FE} h_{FE} h_{FE}	 50 60 50	 - 240 -	 - - -
Collector Base Cutoff Current at $-V_{CB}$ = 120 V	$-I_{CBO}$	-	50	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 3 V	$-I_{EBO}$	-	50	nA
Collector Base Breakdown Voltage at $-I_C$ = 100 μA	$-V_{(BR)CBO}$	160	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA	$-V_{(BR)CEO}$	150	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 10 μA	$-V_{(BR)EBO}$	5		V
Collector Emitter Saturation Voltage at $-I_C$ = 10 mA, $-I_B$ = 1 mA at $-I_C$ = 50 mA, $-I_B$ = 5 mA	$-V_{CE(sat)}$	- -	0.2 0.5	V
Base Emitter Saturation Voltage at $-I_C$ = 10 mA, $-I_B$ = 1 mA at $-I_C$ = 50 mA, $-I_B$ = 5 mA	$-V_{BE(sat)}$	- -	1 1	V
Gain Bandwidth Product at $-V_{CE}$ = 10 V, $-I_C$ = 10 mA, f = 100 MHz	f_T	100	300	MHz
Output Capacitance at $-V_{CB}$ =10 V, f = 1 MHz	C_{ob}	-	6	pF

Electrical Characteristics Curves

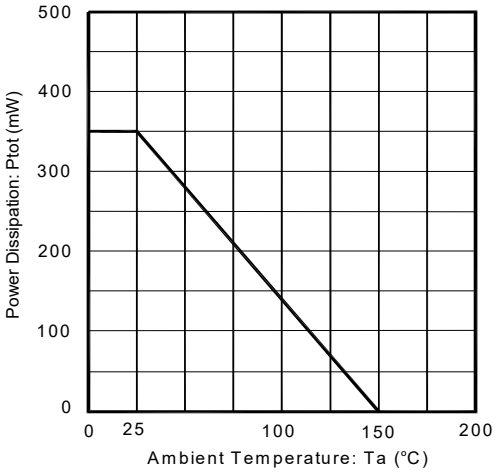


Fig. 1 Power Derating Curve

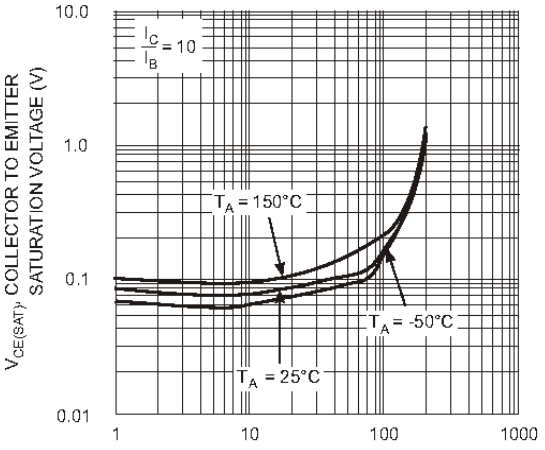


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

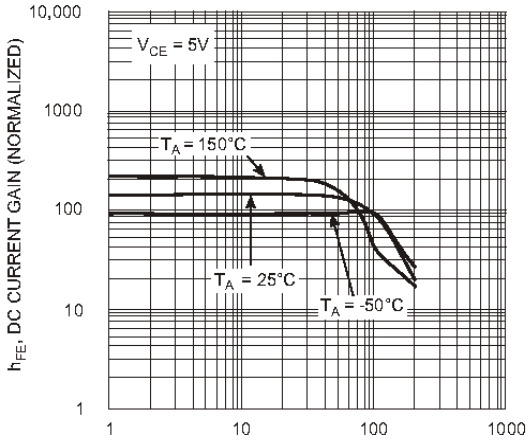


Fig. 3, DC Current Gain vs. Collector Current

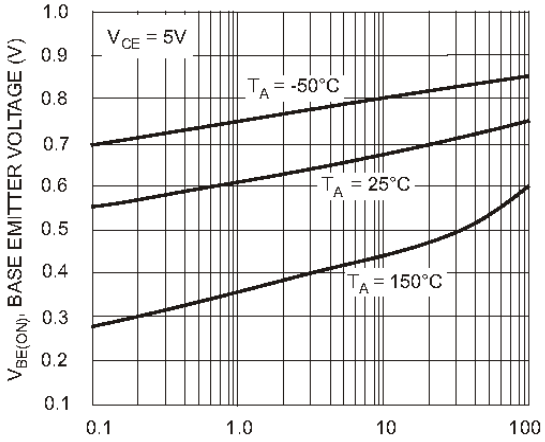


Fig. 4, Base Emitter Voltage vs. Collector Current

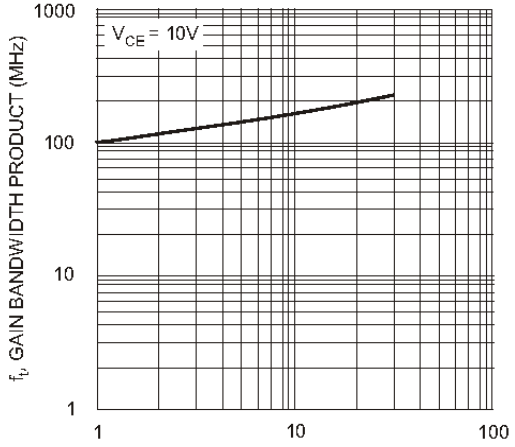
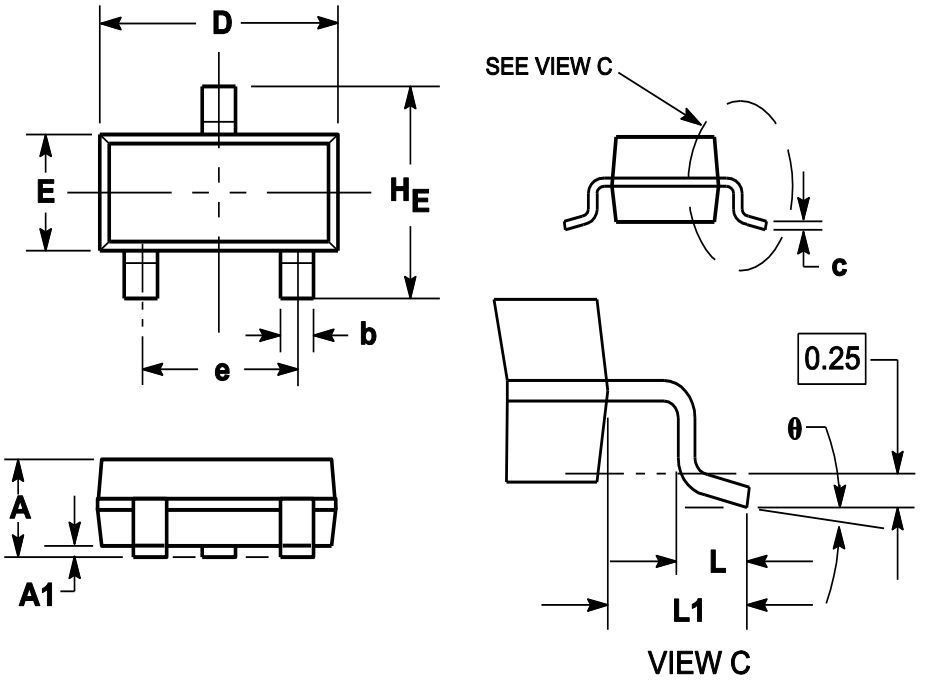


Fig. 5, Gain Bandwidth Product vs Collector Current

Package Outline (SOT-23)



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
H_E	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°

Ordering Information

Device	Package	Reel Dimension (inch)	Shipping Quantity
MMBT5401	SOT-23	7	3,000