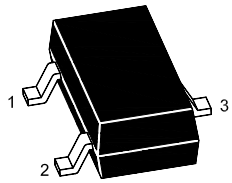
MMBT9015
PNP Transistor

Features

- For Switching and Amplifier Applications.
- As Complementary Type of the PNP Transistor MMBT9014 is Recommended.

SOT-23
(TO-236)



1.Base 2.Emitter 3.Collector

Absolute Maximum Ratings

Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	50	V
Collector Emitter Voltage	$-V_{CEO}$	45	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	100	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55 to 150	℃

Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 5 V, $-I_C$ = 1 mA Current Gain Group	B C D	H_{FE}	110 200 420	- - -	220 450 800	
Collector Base Cutoff Current at $-V_{CB}$ = 50 V		$-I_{CBO}$	-	-	50	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	-	50	nA
Collector Base Breakdown Voltage at $-I_C$ = 100 μA		$-V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA		$-V_{(BR)CEO}$	45	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 100 μA		$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 100 mA, $-I_B$ = 5 mA		$-V_{CE(sat)}$	-	-	0.65	V
Base Emitter Saturation Voltage at $-I_C$ = 100 mA, $-I_B$ = 5 mA		$-V_{BE(sat)}$	-	-	1	V
Transition Frequency at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA		F_T	100	-	-	MHz
Collector Base Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz		C_{ob}	-	-	7	pF

Electrical Characteristics Curves

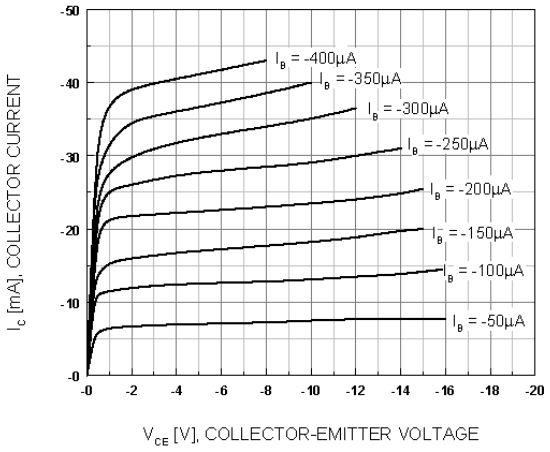


Figure 1. Static Characteristic

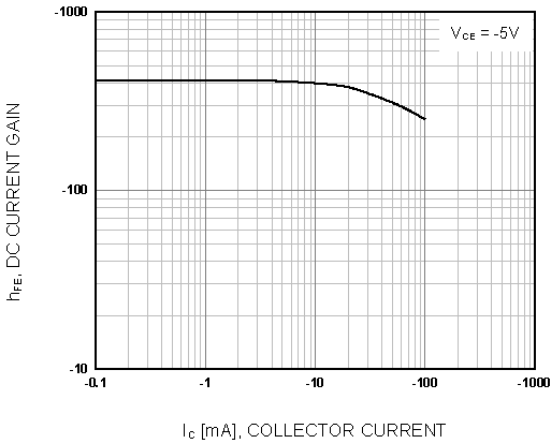


Figure 2. DC current Gain

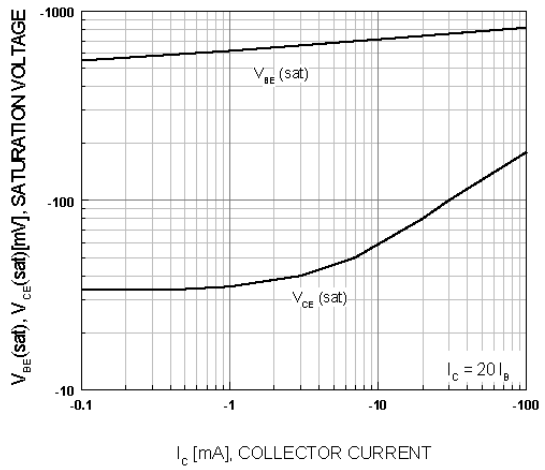


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

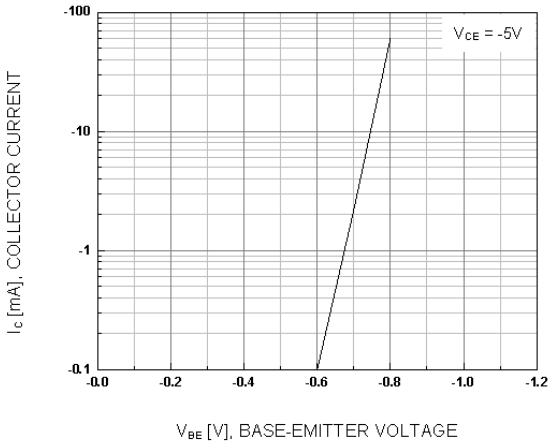


Figure 4. Base-Emitter On Voltage

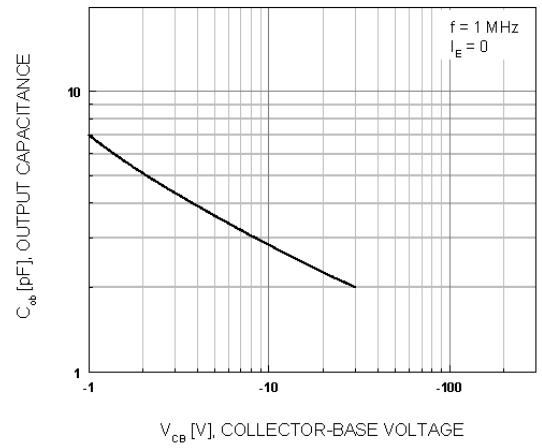


Figure 5. Collector Output Capacitance

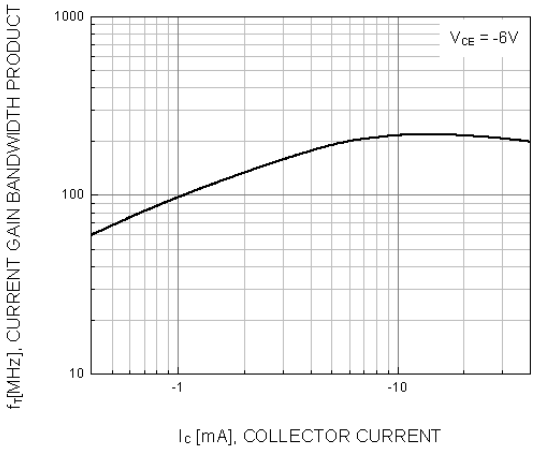
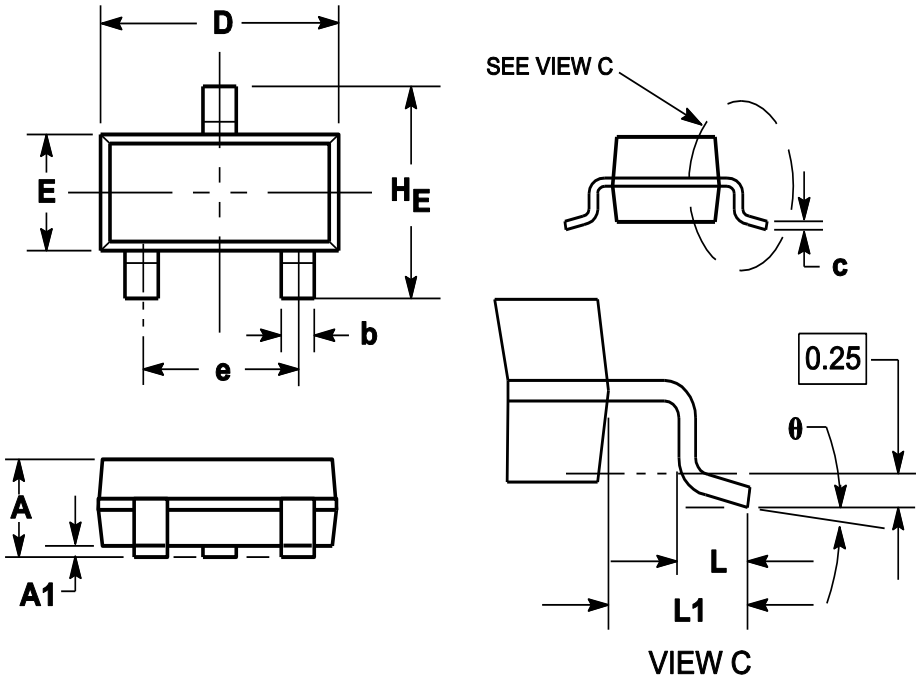


Figure 6. Current Gian Bandwidth Product

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
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°

Device	Package	Reel Dimension (inch)	Shipping
MMBT9015	SOT-23	7	3,000

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