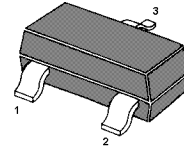


NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications

As complementary types the PNP transistor MMBT9015 is recommended.



1.BASE 2.EMITTER 3.COLLECTOR

SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

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 _{tot}	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{Stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V _{CE} = 5 V, I _C = 1 mA	MMBT9014B h _{FE}	110	220	-
	MMBT9014C h _{FE}	200	450	-
	MMBT9014D h _{FE}	420	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)}	-	0.6	V
Base Emitter Saturation Voltage at I _C = 100 mA, I _B = 5 mA	V _{BE(sat)}	-	1	V
Gain Bandwidth Product at V _{CE} = 5 V, I _C = 10 mA	f _T	100	-	MHz
Output Capacitance at V _{CB} = 10 V, f = 1 MHz	C _{OB}	-	6	pF
Noise Figure at V _{CE} = 5 V, I _C = 200 μA, f = 1 KHz, R _G = 2 KΩ	NF	-	10	dB

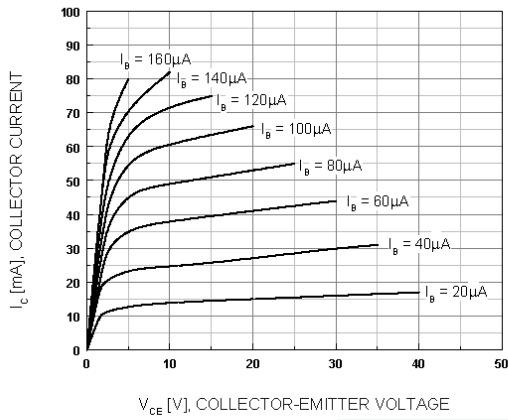


Figure 1. Static Characteristic

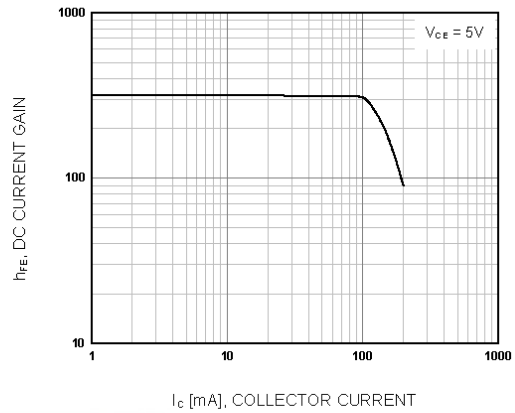
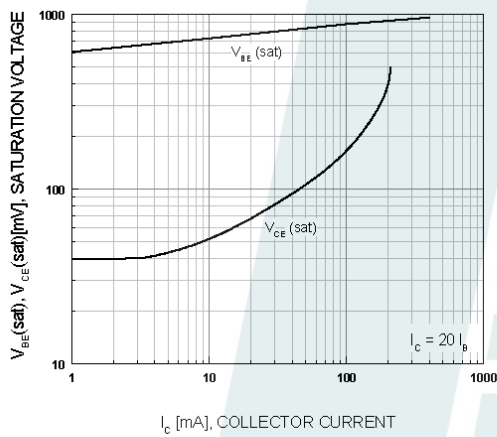


Figure 2. DC current Gain



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

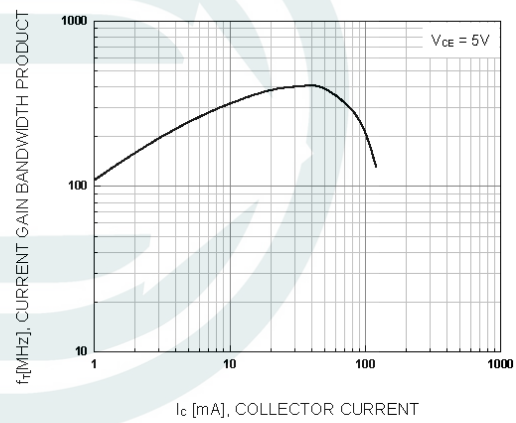


Figure 4. Current Gain Bandwidth Product