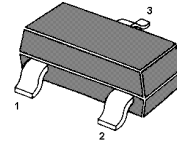


MMBT9015

PNP Silicon Epitaxial Planar Transistors

for switching and AF amplifier applications

As complementary types the NPN transistor
MMBT9014 is recommended.



1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{\text{CBO}}$	50	V
Collector Emitter Voltage	$-V_{\text{CEO}}$	45	V
Emitter Base Voltage	$-V_{\text{EBO}}$	5	V
Collector Current	$-I_{\text{C}}$	100	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{\text{CE}} = 5\text{ V}$, $-I_{\text{C}} = 1\text{ mA}$ Current Gain Group B C D	h_{FE}	110	220	-
	h_{FE}	200	450	-
	h_{FE}	420	800	-
Collector Base Cutoff Current at $-V_{\text{CB}} = 50\text{ V}$	$-I_{\text{CBO}}$	-	50	nA
Emitter Base Cutoff Current at $-V_{\text{EB}} = 5\text{ V}$	$-I_{\text{EBO}}$	-	50	nA
Collector Base Breakdown Voltage at $-I_{\text{C}} = 100\text{ }\mu\text{A}$	$-V_{(\text{BR})\text{CBO}}$	50	-	V
Collector Emitter Breakdown Voltage at $-I_{\text{C}} = 1\text{ mA}$	$-V_{(\text{BR})\text{CEO}}$	45	-	V
Emitter Base Breakdown Voltage at $-I_{\text{E}} = 100\text{ }\mu\text{A}$	$-V_{(\text{BR})\text{EBO}}$	5	-	V
Collector Emitter Saturation Voltage at $-I_{\text{C}} = 100\text{ mA}$, $-I_{\text{B}} = 5\text{ mA}$	$-V_{\text{CE(sat)}}$	-	0.65	V
Base Emitter Saturation Voltage at $-I_{\text{C}} = 100\text{ mA}$, $-I_{\text{B}} = 5\text{ mA}$	$-V_{\text{BE(sat)}}$	-	1	V
Gain Bandwidth Product at $-V_{\text{CE}} = 5\text{ V}$, $-I_{\text{C}} = 10\text{ mA}$	f_{T}	100	-	MHz
Output Capacitance at $-V_{\text{CB}} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{OB}	-	7	pF
Noise Figure at $-V_{\text{CE}} = 5\text{ V}$, $-I_{\text{C}} = 200\text{ }\mu\text{A}$, $f = 1\text{ KHz}$, $R_{\text{G}} = 2\text{ K}\Omega$	NF	-	10	dB

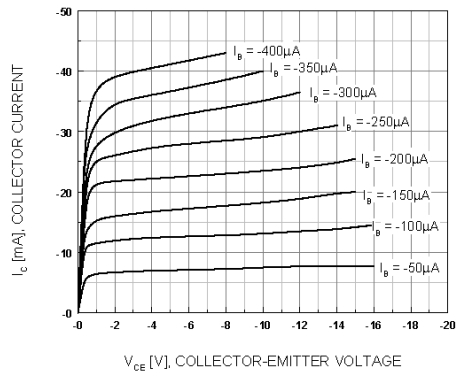


Figure 1. Static Characteristic

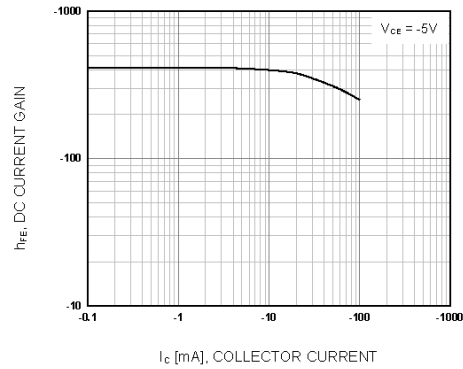


Figure 2. DC current Gain

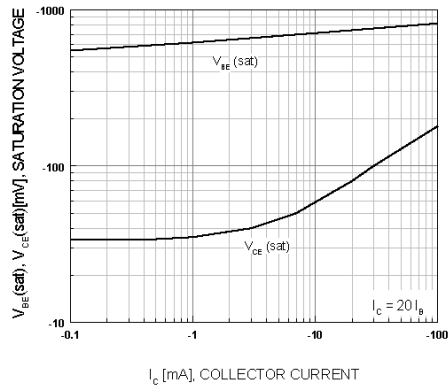


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

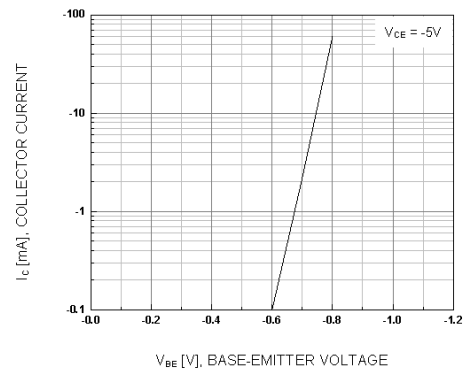


Figure 4. Base-Emitter On Voltage

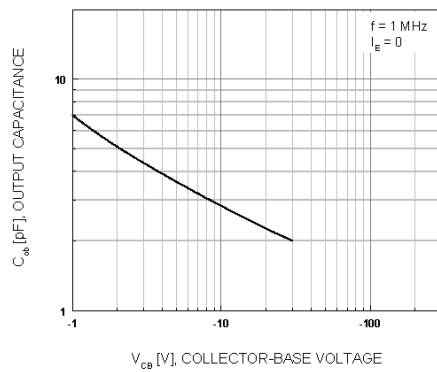


Figure 5. Collector Output Capacitance

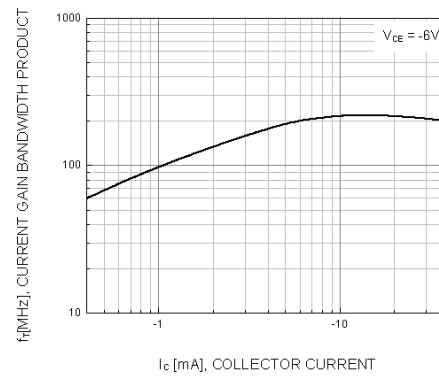


Figure 6. Current Gain Bandwidth Product