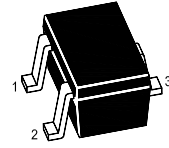


MMBT9014W

NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications



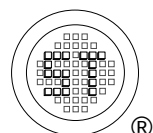
1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

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

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	$^\circ\text{C}$
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 _{CE} = 5 V, I _C = 1 mA	MMBT9014BW	h _{FE}	110	220	-
	MMBT9014CW	h _{FE}	200	450	-
	MMBT9014DW	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 = 10 mA	V _{CE(sat)}	-	0.25	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	



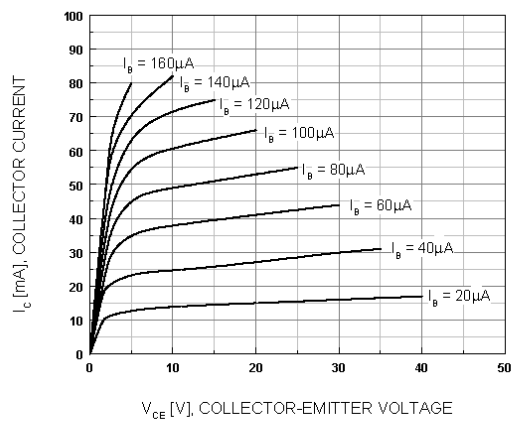


Figure 1. Static Characteristic

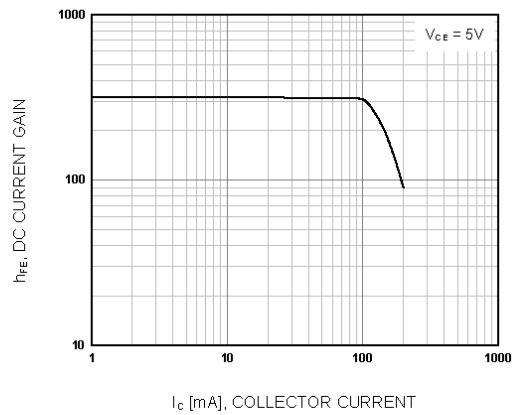


Figure 2. DC current Gain

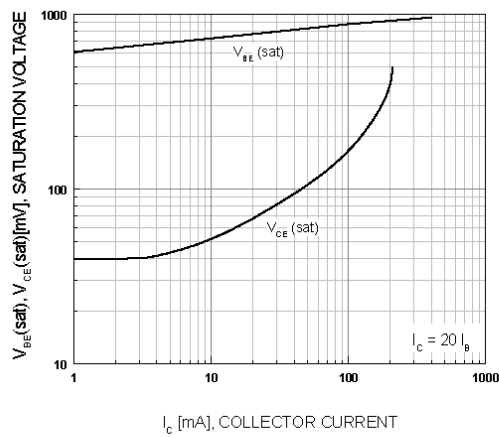


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

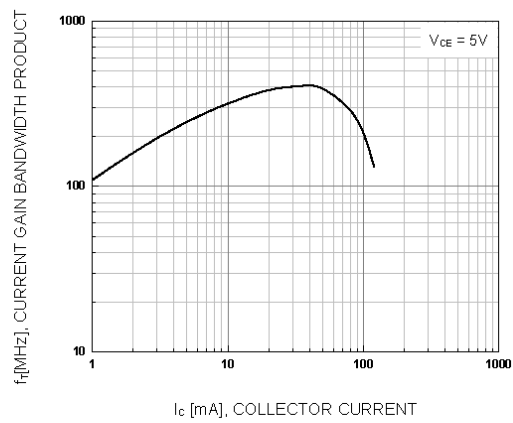


Figure 4. Current Gain Bandwidth Product

