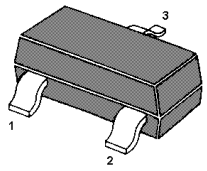
MMBTSA1015

PNP Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into three groups O, Y and G, according to its DC current gain. As complementary type the NPN transistor MMBTSC1815 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	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	150	mA
Base Current	$-I_B$	50	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{Stg}	- 65 to +150	°C

Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Max.	Unit
DC Current Gain						
at $-V_{CE}$ = 6 V, $-I_C$ = 2 mA	Current Gain Group	O	h_{FE}	70	140	-
		Y	h_{FE}	120	240	-
		G	h_{FE}	200	400	-
at $-V_{CE}$ = 6 V, $-I_C$ = 150 mA			h_{FE}	25	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 50 V			$-I_{CBO}$	-	0.1	µA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V			$-I_{EBO}$	-	0.1	µA
Collector Base Breakdown Voltage at $-I_C$ =100 µA			$-V_{(BR)CBO}$	50	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA			$-V_{(BR)CEO}$	50	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 10 µA			$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 100 mA, $-I_B$ = 10 mA			$-V_{CE(sat)}$	-	0.3	V
Base Emitter Saturation Voltage at $-I_C$ = 100 mA, $-I_B$ = 10 mA			$-V_{BE(sat)}$	-	1.1	V
Gain Bandwidth Product at $-V_{CE}$ = 10 V, $-I_C$ = 1 mA			f_T	80	-	MHz
Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz			C_{OB}	-	7	pF

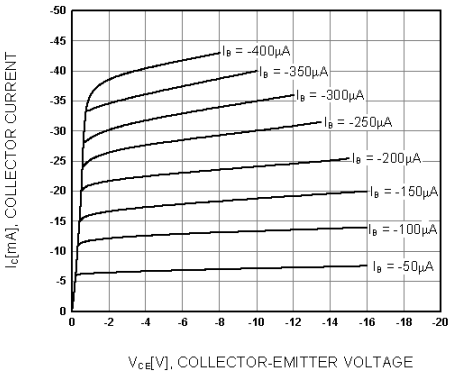


Figure 1. Static Characteristic

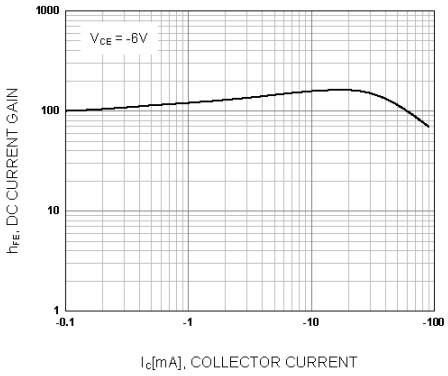


Figure 2. DC current Gain

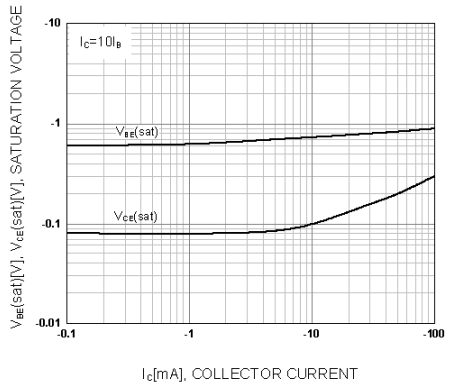


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

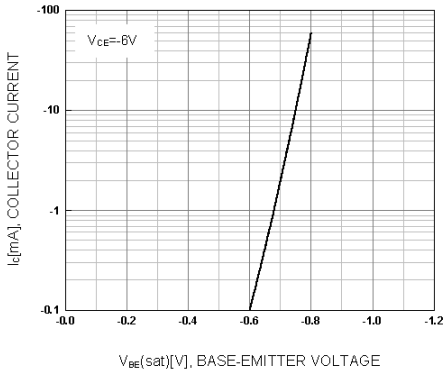


Figure 4. Base-Emitter On Voltage

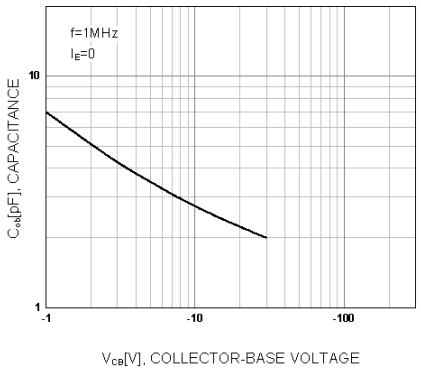


Figure 5. Collector Output Capacitance

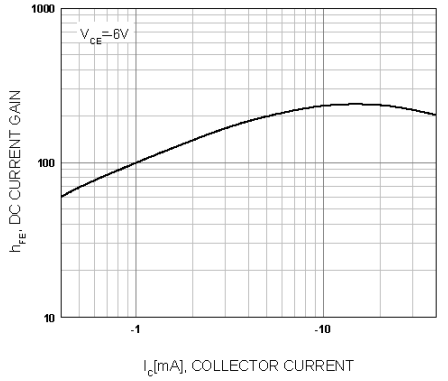


Figure 6. Current Gain Bandwidth Product