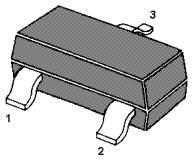
MMBTSC1815

NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into four groups O, Y, G and L, according to its DC current gain. As complementary type the PNP transistor MMBTSA1015 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}	60	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}	- 55 to + 150	°C

Characteristics at T_{amb}=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	-
		L	h_{FE}	350	700	-
at V_{CE} = 6 V, I_C = 150 mA			h_{FE}	25	-	-
Collector Base Cutoff Current at V_{CB} = 60 V			I_{CBO}	-	100	nA
Emitter Base Cutoff Current at V_{EB} = 5 V			I_{EBO}	-	100	nA
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 = 10 mA			$V_{BE(sat)}$	-	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}	-	3	pF

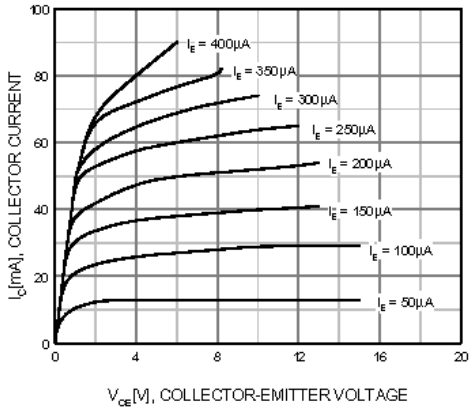


Figure 1. Static Characteristic

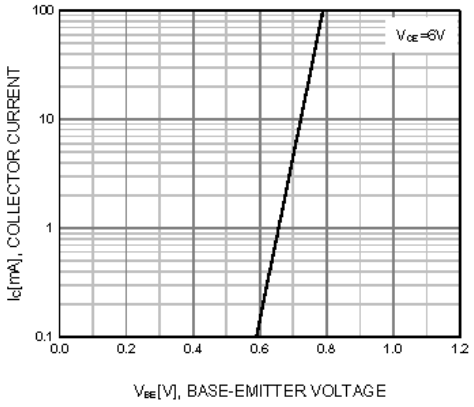


Figure 2. Transfer Characteristic

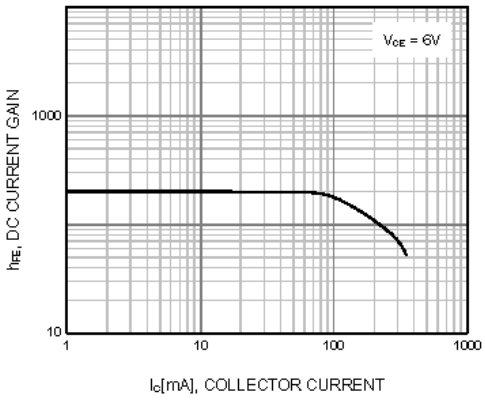


Figure 3. DC current Gain

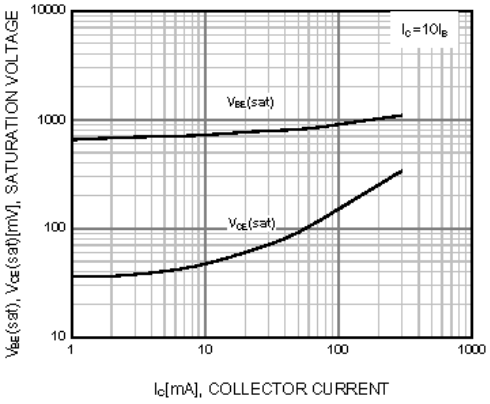


Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

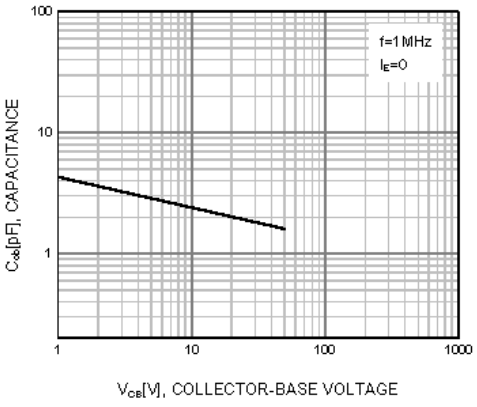


Figure 5. Output Capacitance

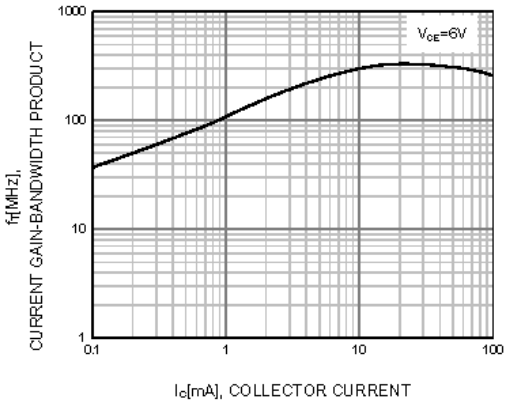


Figure 6. Current Gain Bandwidth Product