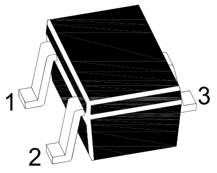
MMBTSC1815E

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.



1.Base 2.Emitter 3.Collector
SOT-523 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}	150	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 $V_{CE} = 6$ V, $I_C = 2$ mA Current Gain Group O Y G L at $V_{CE} = 6$ V, $I_C = 150$ mA	h_{FE} h_{FE} h_{FE} h_{FE} h_{FE}	70 120 200 350 25	140 240 400 700 -	- - - - -
Collector Base Cutoff Current at $V_{CB} = 60$ V	I_{CBO}	-	0.1	µA
Emitter Base Cutoff Current at $V_{EB} = 5$ V	I_{EBO}	-	0.1	µA
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
Collector Output Capacitance at $V_{CB} = 10$ V, f = 1 MHz	C_{ob}	-	3	pF

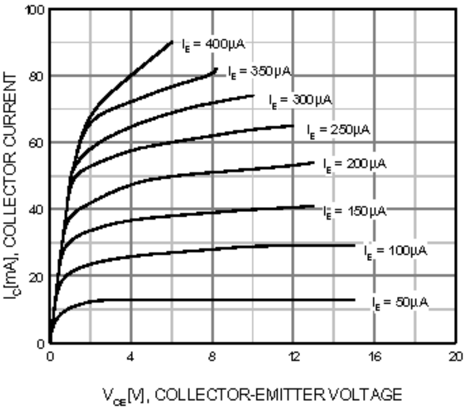


Figure 1. Static Characteristic

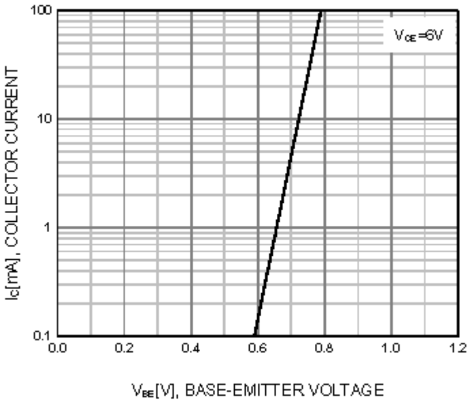


Figure 2. Transfer Characteristic

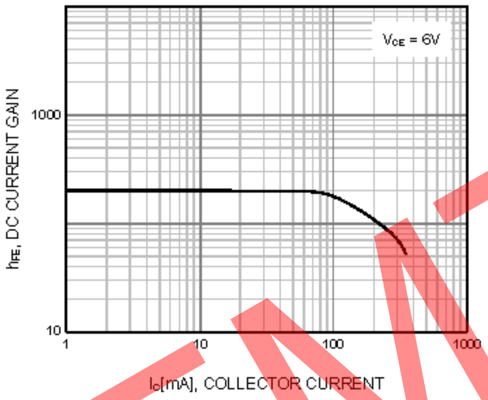


Figure 3. DC current Gain

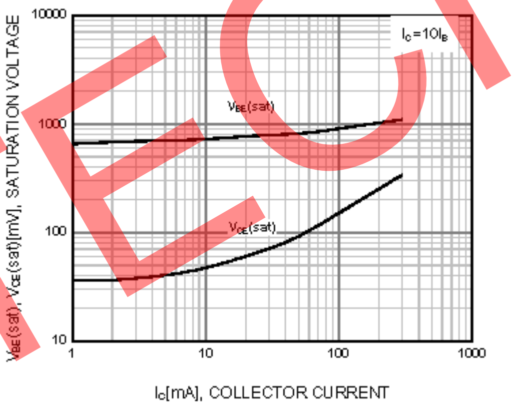


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

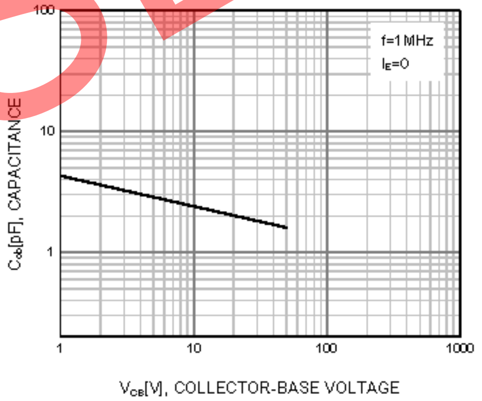


Figure 5. Output Capacitance

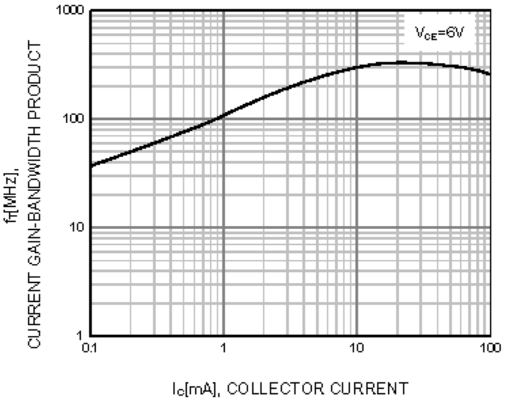


Figure 6. Current Gain Bandwidth Product