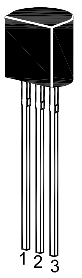
2SC1815

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 2SA1015 is recommended.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Collector 3. Base
TO-92 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}	400	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	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

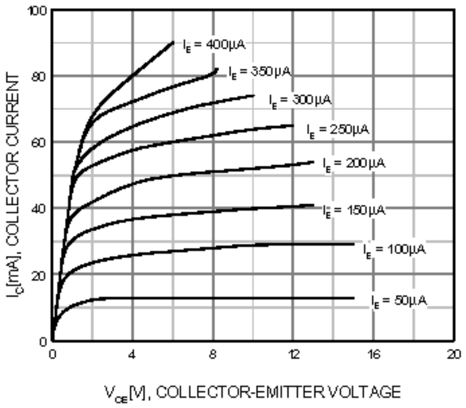


Figure 1. Static Characteristic

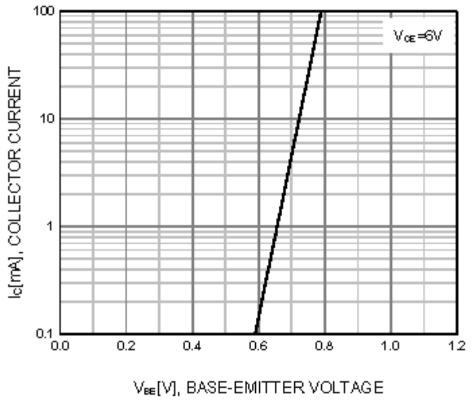


Figure 2. Transfer Characteristic

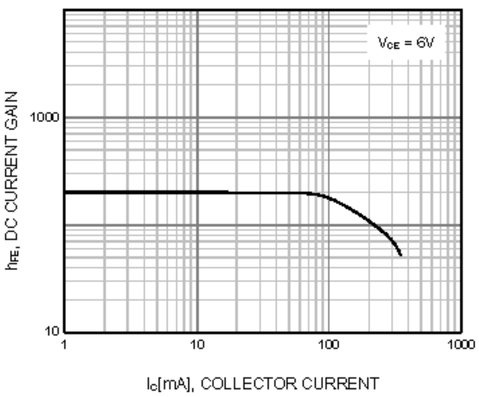


Figure 3. DC current Gain

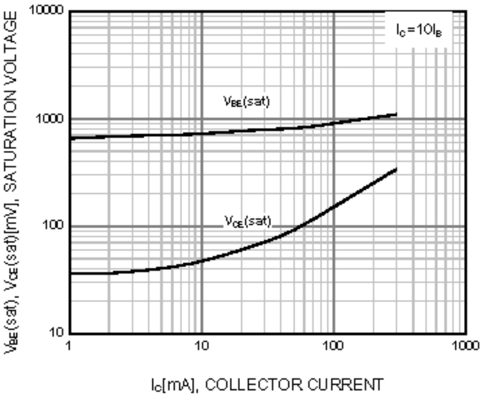


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

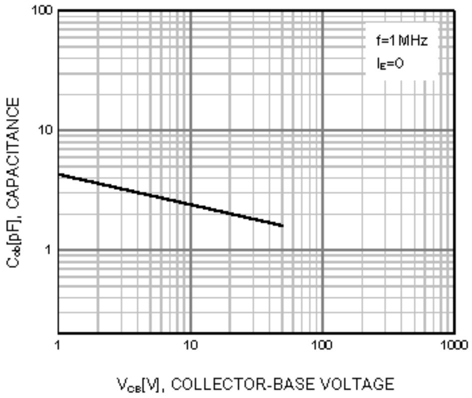


Figure 5. Output Capacitance

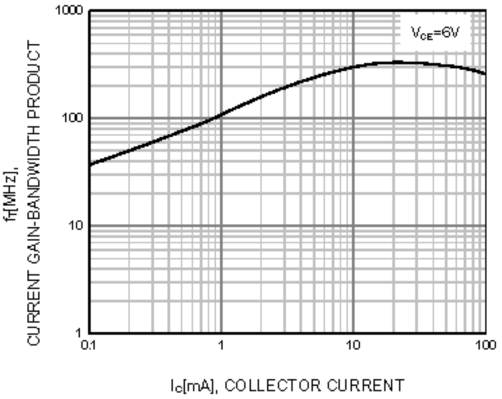


Figure 6. Current Gain Bandwidth Product