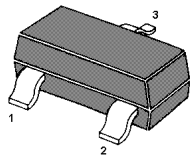
NPN Silicon Epitaxial Planar Transistor

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-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	100	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_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 6 V, I_C = 1 mA	Current Gain Group	O	h_{FE}	90	-	180	-
		Y	h_{FE}	135	-	270	-
		G	h_{FE}	200	-	400	-
		L	h_{FE}	300	-	600	-
Collector Base Breakdown Voltage at I_C = 100 µA			$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA			$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at I_E = 10 µA			$V_{(BR)EBO}$	5	-	-	V
Collector Cutoff Current at V_{CB} = 60 V			I_{CBO}	-	-	0.1	µA
Emitter Cutoff Current at V_{EB} = 5 V			I_{EBO}	-	-	0.1	µA
Collector Saturation Voltage at I_C = 100 mA, I_B = 10 mA			$V_{CE(sat)}$	-	-	0.3	V
Base Saturation Voltage at I_C = 100 mA, I_B = 10 mA			$V_{BE(sat)}$	-	-	1	V
Gain Bandwidth Product at V_{CE} = 6 V, I_C = 10 mA			f_T	-	250	-	MHz
Output Capacitance at V_{CB} = 6 V, f = 1 MHz			C_{OB}	-	3	-	pF

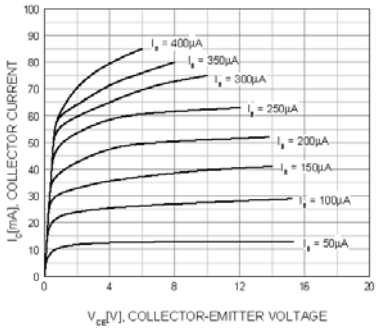


Figure 1. Static Charactersitic

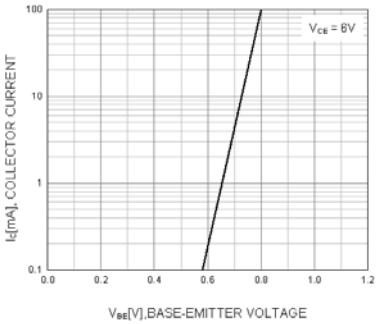


Figure 2. Transfer Characteristic

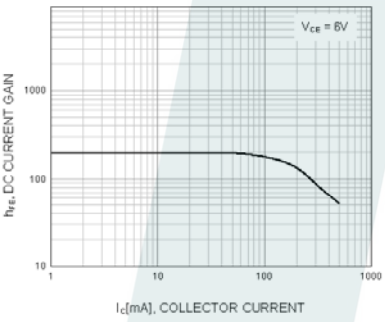


Figure 3. DC current Gain

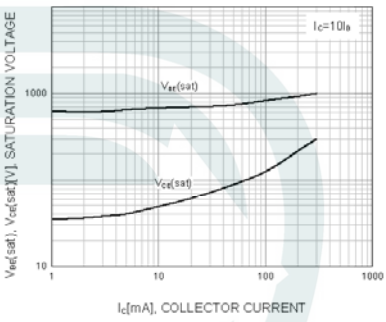


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

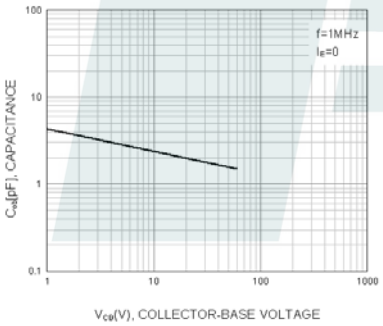


Figure 5. Output Capacitance

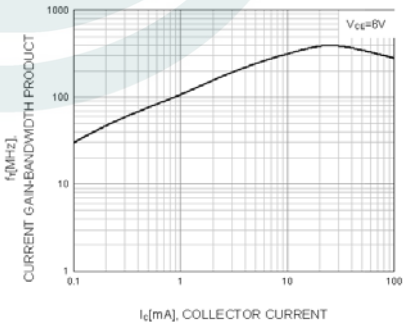


Figure 6. Current Gain Bandwidth Product