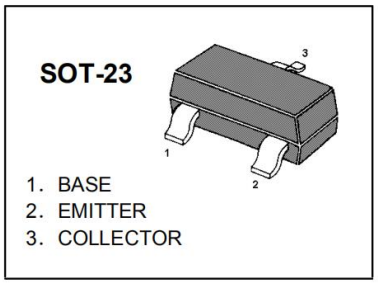
NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into four groups, O, Y, G and L, according to its DC current gain.

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

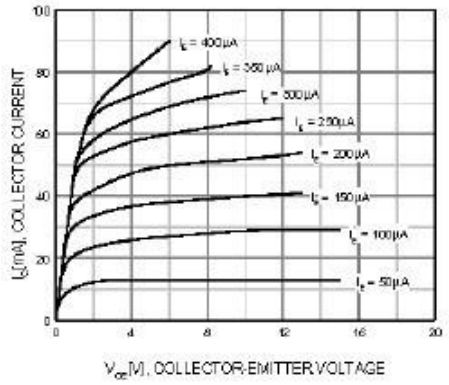


Absolute Maximum Ratings (T_a = 25 °C)

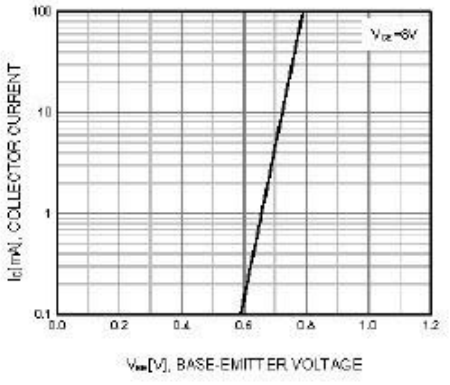
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Base Current	I_B	50	mA
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

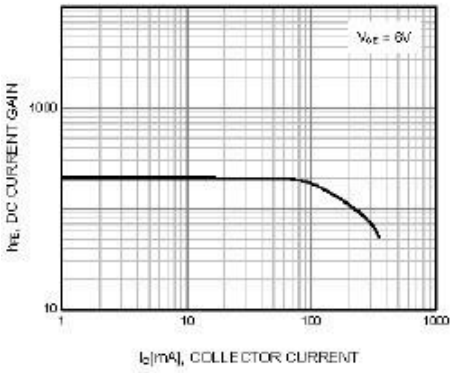
Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE} = 6 V, I_C = 2 mA	Current Gain Group O	h_{FE}	70	-	140	-
	Y	h_{FE}	120	-	240	-
	G	h_{FE}	200	-	400	-
	L	h_{FE}	350	-	700	-
at V_{CE} = 6 V, I_C = 150 mA		h_{FE}	25	100	-	-
Collector Base Cutoff Current at V_{CB} = 60 V		I_{CBO}	-	-	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		$V_{CE(sat)}$	-	0.1	0.25	V
Base Emitter Saturation Voltage at I_C = 100 mA, I_B = 10 mA		$V_{BE(sat)}$	-	-	1	V
Transition Frequency 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}	-	2	3.5	pF
Base Intrinsic Resistance at V_{CB} = 10 V, I_C = 1 mA, f = 30 MHz		Rbb'	-	50	-	Ω
Noise Figure at V_{CE} = 6 V, I_C = 0.1 mA, f = 1 KHz, R_G = 10 KΩ		NF	-	1	10	dB



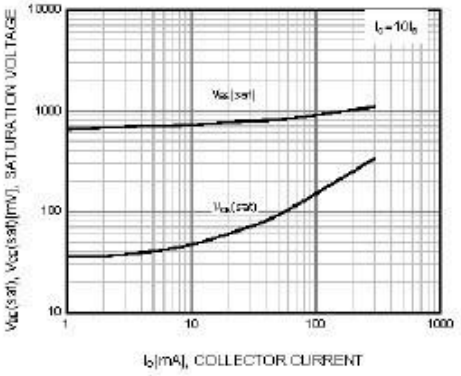
Static Characteristic



Transfer Characteristic



DC current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

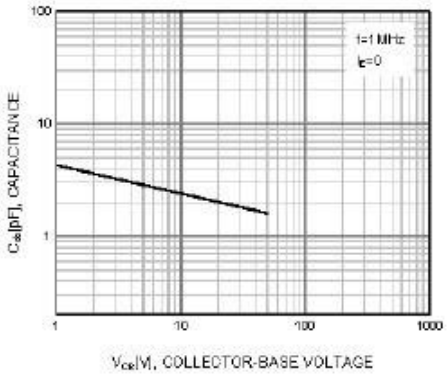


Figure 5. Output Capacitance

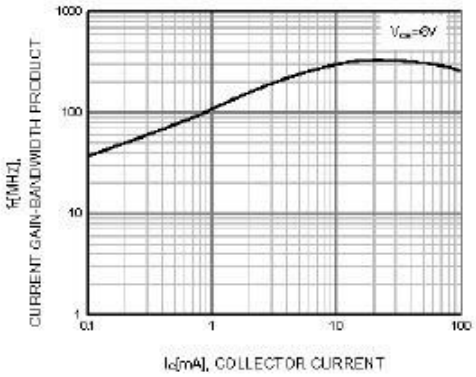


Figure 6. Current Gain Bandwidth Product