

2SD471

NPN Silicon Epitaxial Planar Transistor

Audio Frequency Power amplifier applications.

The transistor is subdivided into three group, O, Y and G according to its DC current gain.

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



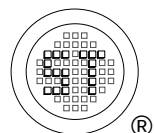
1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Power Dissipation	P_{tot}	800	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 1\text{ V}$, $I_C = 100\text{ mA}$ Current Gain Group O Y G	h_{FE}	70	-	140	-
	h_{FE}	120	-	240	-
	h_{FE}	200	-	400	-
	h_{FE}				
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	40	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	30	-	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 100\text{ mA}$	$V_{CE(sat)}$	-	-	0.5	V
Base Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 100\text{ mA}$	$V_{BE(sat)}$	-	-	1.2	V
Transition Frequency at $V_{CE} = 6\text{ V}$, $I_C = 10\text{ mA}$	f_T	-	130	-	MHz
Collector Output Capacitance at $V_{CB} = 6\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	18	-	pF



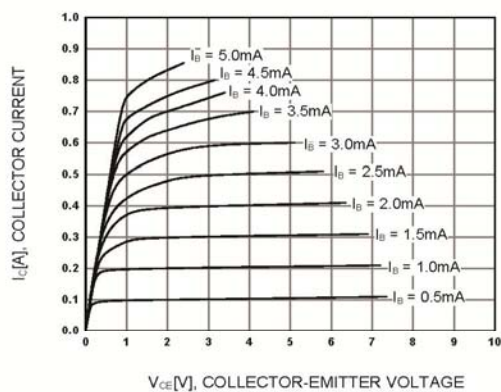


Figure 1. Static Characteristic

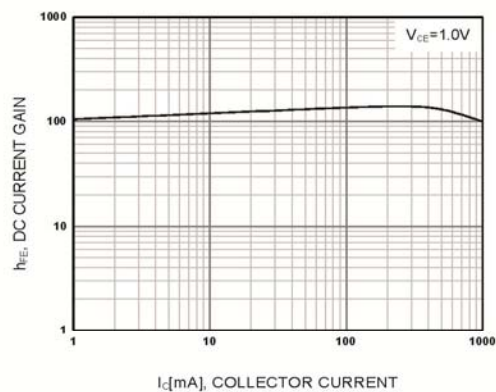


Figure 2. DC current Gain

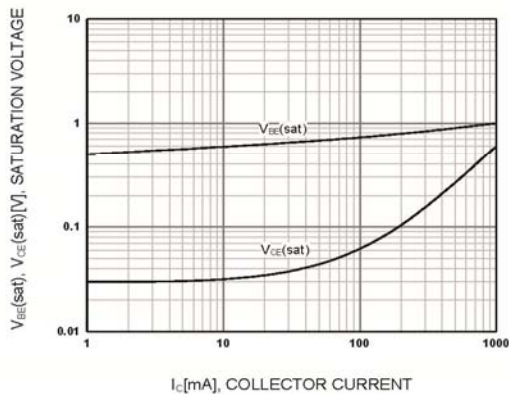


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

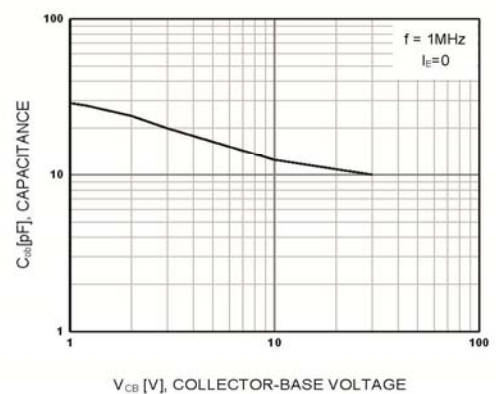


Figure 4. Collector Output Capacitance

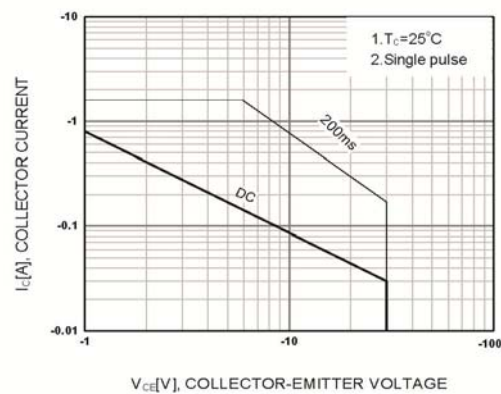


Figure 5. Safe Operating Area

