

## 2SA708

### PNP Silicon Epitaxial Planar Transistor

for medium speed switching and low frequency amplifier applications.

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



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

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	80	V
Collector Emitter Voltage	$-V_{CEO}$	60	V
Emitter Base Voltage	$-V_{EBO}$	8	V
Collector Current	$-I_C$	700	mA
Collector 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 $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit			
DC Current Gain at $-V_{CE} = 2\text{ V}$ , $-I_C = 50\text{ mA}$	Current Gain Group	R	$h_{FE}$	40	-	80	-	
			O	$h_{FE}$	70	-	140	-
			Y	$h_{FE}$	120	-	240	-
Collector Base Cutoff Current at $-V_{CB} = 60\text{ V}$	$-I_{CBO}$	-	-	0.1	$\mu\text{A}$			
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	-	0.1	$\mu\text{A}$			
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	80	-	-	V			
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	$-V_{(BR)CEO}$	60	-	-	V			
Emitter Base Breakdown Voltage at $-I_E = 100\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	8	-	-	V			
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$ , $-I_B = 50\text{ mA}$	$-V_{CEsat}$	-	-	0.7	V			
Base Emitter Saturation Voltage at $-I_C = 500\text{ mA}$ , $-I_B = 50\text{ mA}$	$-V_{BEsat}$	-	-	1.1	V			
Current Gain Bandwidth Product at $-V_{CE} = 10\text{ V}$ , $-I_C = 50\text{ mA}$	$f_T$	-	50	-	MHz			
Output Capacitance at $-V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$	$C_{ob}$	-	13	-	pF			



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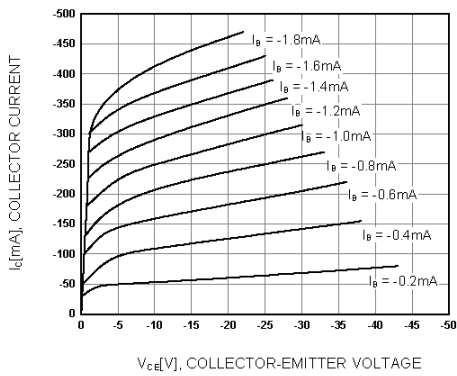


Figure 1. Static Characteristic

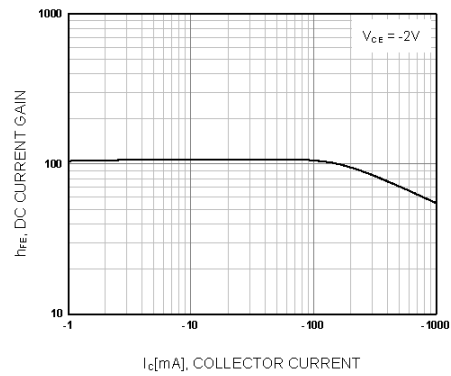


Figure 2. DC current Gain

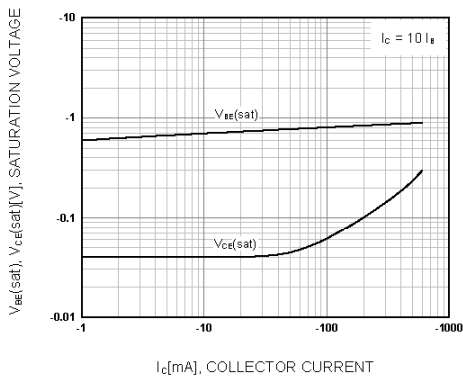


Figure 3. Base-Emitter Satration Voltage  
Collector-Emitter Satration Voltage

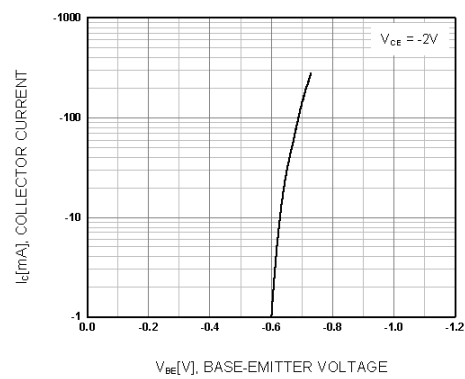


Figure 4. Base-Emitter On Voltage

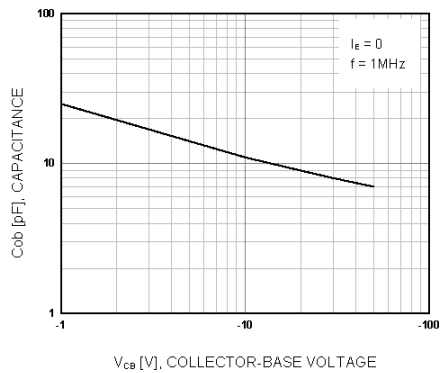


Figure 5. Collector Output Capacitance