

Transistors

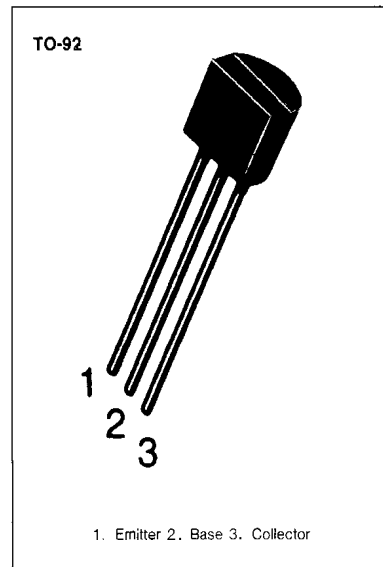
2SA708

LOW FREQUENCY AMPLIFIER MEDIUM SPEED SWITCHING

- Collector-Base Voltage $V_{CBO} = -80V$
- Collector Dissipation $P_C = 800mW$

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

Characteristic	Symbol	Rating	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 Dissipation	P_C	800	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	- 80			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -10mA, I_B = 0$	- 60			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -100\mu A, I_C = 0$	- 8			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -60V, I_E = 0$			- 0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			- 0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2V, I_C = -50mA^*$	40		240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = 50mA^*$		- 0.3	- 0.7	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -500mA, I_C = -50mA$		- 0.9	1.1	V
Current-Gain-Bandwidth Product	f_T	$V_{CE} = -10V, I_C = -50mA$		50		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0$ $f = 1MHz$		13		pF

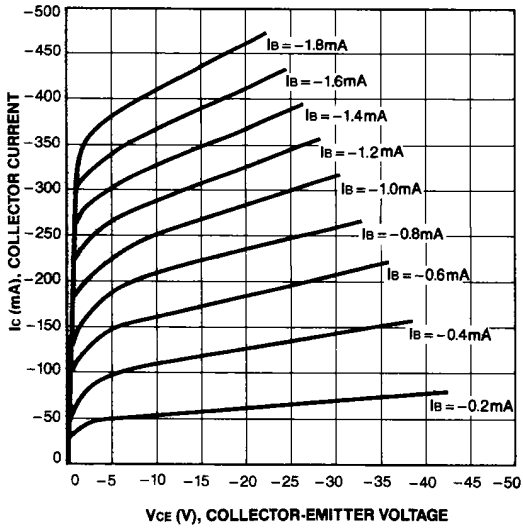
* Pulse Test: $PW \leq 350\mu s$, duty cycle $\leq 2\%$

h_{FE} CLASSIFICATION

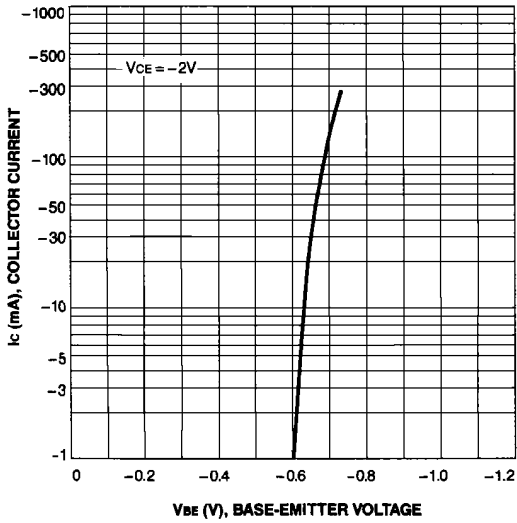
Classification	R	O	Y
h_{FE}	40-80	70-140	120-240



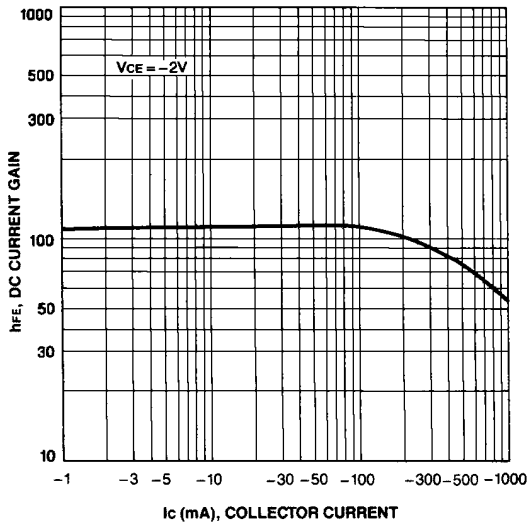
STATIC CHARACTERISTIC



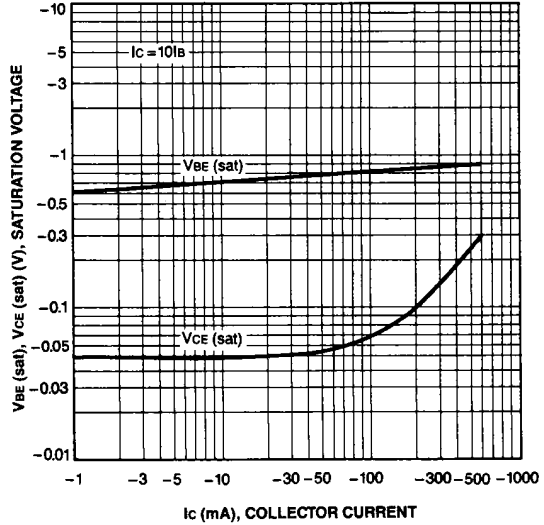
BASE-EMITTER ON VOLTAGE



DC CURRENT GAIN



**BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE**



COLLECTOR OUTPUT CAPACITANCE

