

Transistors

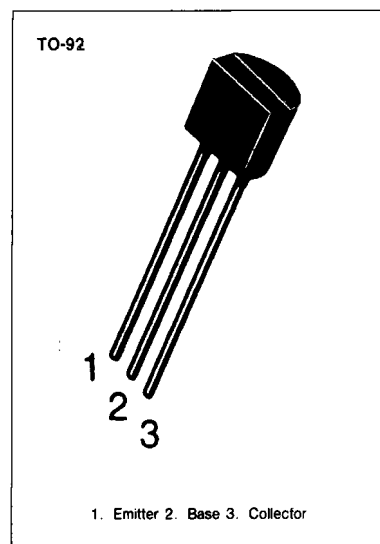
2SA9012

1W OUTPUT AMPLIFIER OF POTABLE RADIOS IN CLASS B PUSH-PULL OPERATION.

- High total power dissipation. ($P_T=625\text{mW}$)
- High Collector Current. ($I_C=-500\text{mA}$)
- Excellent h_{FE} linearity

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	-40	V
Collector-Emitter Voltage	V_{CE0}	-20	V
Emitter-Base Voltage	V_{EB0}	-5	V
Collector Current	I_C	-500	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$



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

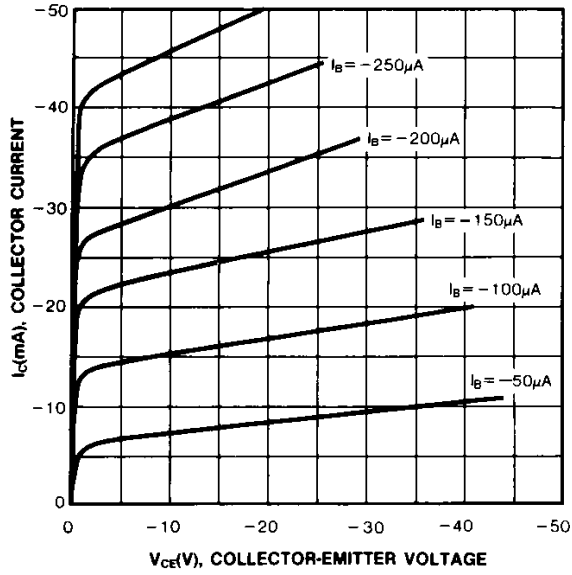
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C=-100\mu\text{A}, I_E=0$	-40			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C=-1\text{mA}, I_B=0$	-20			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E=-100\mu\text{A}, I_C=0$	-5			V
Collector Cutoff Current	I_{C0}	$V_{CB}=-25\text{V}, I_E=0$			-100	nA
Emitter Cutoff Current	I_{E0}	$V_{EB}=-3\text{V}, I_C=0$			-100	nA
DC Current Gain	h_{FE1}	$V_{CE}=-1\text{V}, I_C=-50\text{mA}$	64	120	202	
	h_{FE2}	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$	40	90		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-0.18	-0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-0.95	-1.2	V
Base-Emitter On Voltage	$V_{BE(on)}$	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	-0.6	-0.67	-0.7	V

h_{FE} (1) CLASSIFICATION

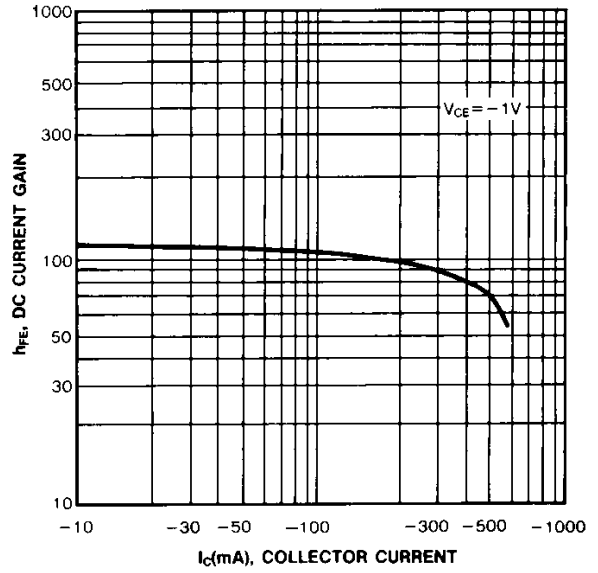
Classification	D	E	F	G	H
h_{FE} (1)	64-91	78-112	96-135	112-166	144-202



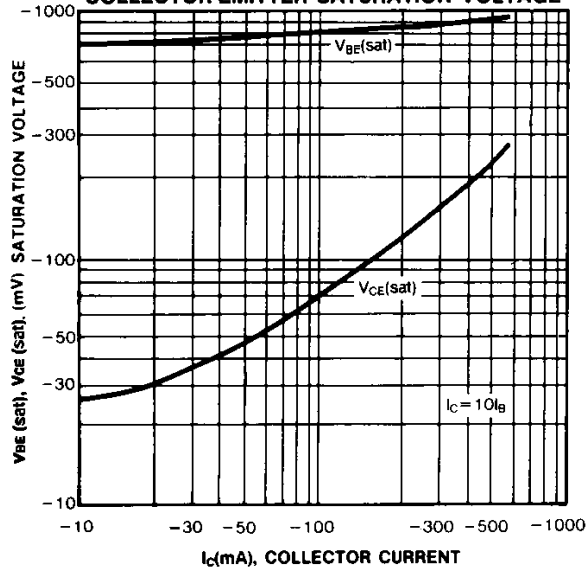
STATIC CHARACTERISTIC



DC CURRENT GAIN



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



CURRENT GAIN-BANDWIDTH PRODUCT

