

**DESCRIPTION** The 2SC1844 is the best for the head amplifier of tape recorders, the equalizer of moving coil type record players, and etc.

- FEATURES**
- Super Low Noise. NV : 30 mV TYP. (See test circuit.)
  - High  $h_{FE}$ .  $h_{FE}$  : 400 TYP. ( $V_{CE} = 6.0$  V,  $I_C = 1.0$  mA)
  - Complementary to 2SA991.

**ABSOLUTE MAXIMUM RATINGS**

Maximum Temperatures

Storage Temperature . . . . . -55 to +125 °C

Junction Temperature . . . . . +125 °C Maximum

Maximum Power Dissipation ( $T_a = 25$  °C)

Total Power Dissipation . . . . . 500 mW

Maximum Voltages and Currents ( $T_a = 25$  °C)

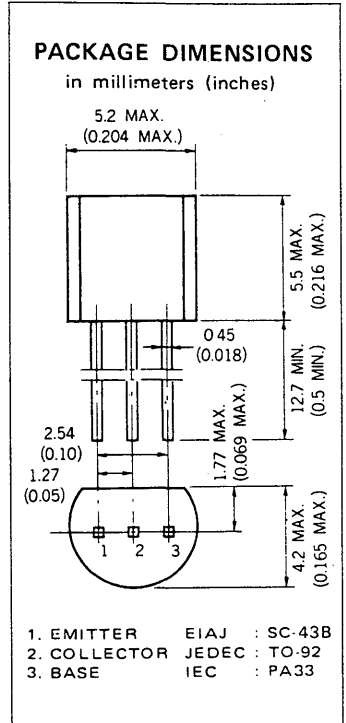
$V_{CBO}$  Collector to Base Voltage . . . . . 60 V

$V_{CEO}$  Collector to Emitter Voltage . . . . . 60 V

$V_{EBO}$  Emitter to Base Voltage . . . . . 5.0 V

$I_C$  Collector Current . . . . . 100 mA

$I_B$  Base Current . . . . . 20 mA



**ELECTRICAL CHARACTERISTICS ( $T_a = 25$  °C)**

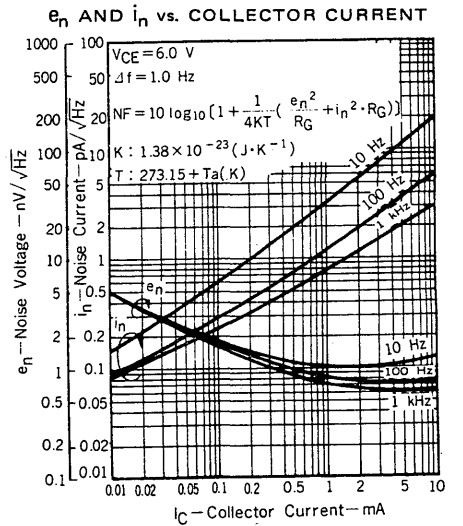
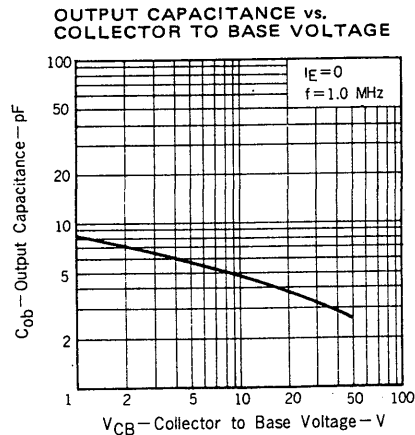
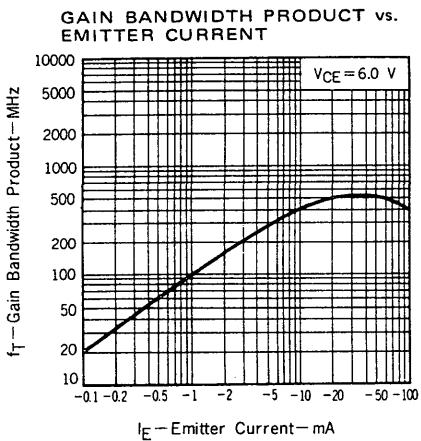
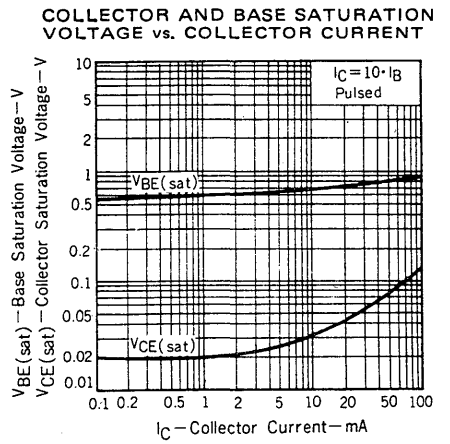
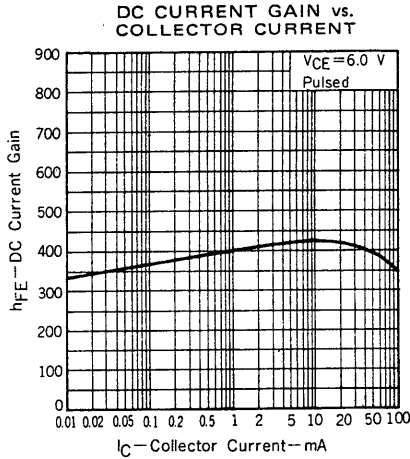
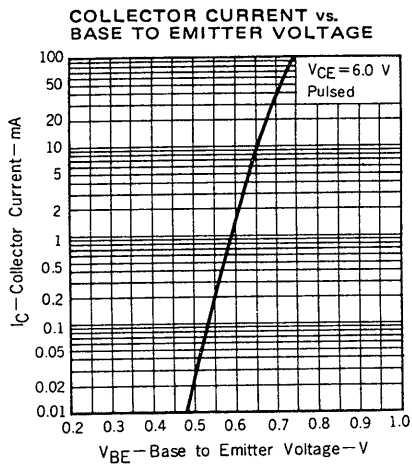
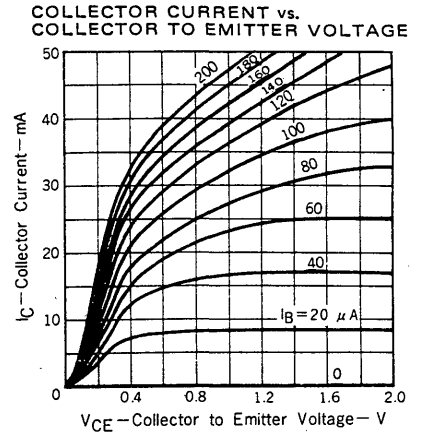
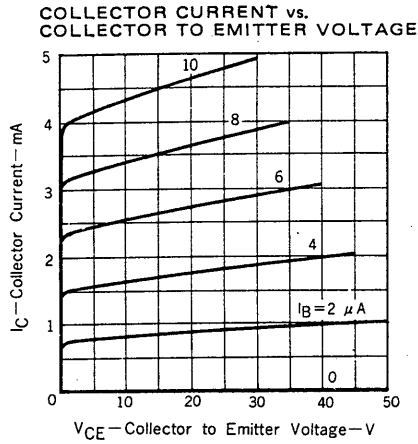
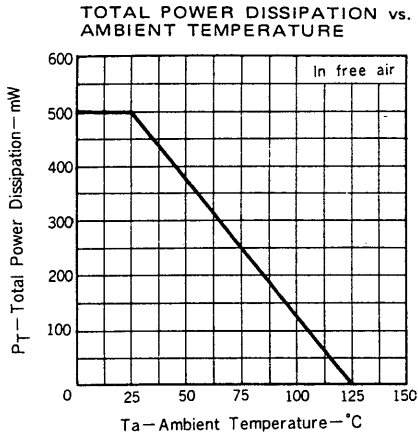
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$h_{FE1}$	DC Current Gain	150	370		—	$V_{CE} = 6.0$ V, $I_C = 0.1$ mA
$h_{FE2}$	DC Current Gain	200	400	800	—	$V_{CE} = 6.0$ V, $I_C = 1.0$ mA
$f_T$	Gain Bandwidth Product	50	100		MHz	$V_{CE} = 6.0$ V, $I_E = -1.0$ mA
$C_{ob}$	Output Capacitance		4.8	8.0	pF	$V_{CB} = 10$ V, $I_E = 0$ , $f = 1.0$ MHz
NV	Noise Voltage		30	45	mV	$V_{CE} = 5.0$ V, $I_C = 1.0$ mA, $R_G = 100$ k $\Omega$ $G_v = 80$ dB, $f = 10$ Hz to 1.0 kHz
$I_{CBO}$	Collector Cutoff Current			50	nA	$V_{CB} = 60$ V, $I_E = 0$
$I_{EBO}$	Emitter Cutoff Current			50	nA	$V_{EB} = 5.0$ V, $I_C = 0$
$V_{BE}$	Base to Emitter Voltage	0.55	0.59	0.65	V	$V_{CE} = 6.0$ V, $I_C = 1.0$ mA
$V_{CE(sat)}$	Collector Saturation Voltage		0.13	0.30	V	$I_C = 100$ mA, $I_B = 10$ mA

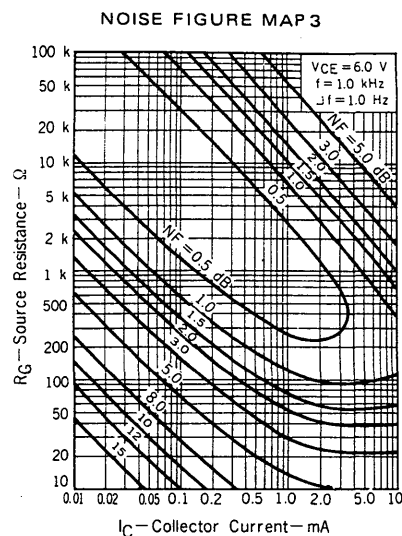
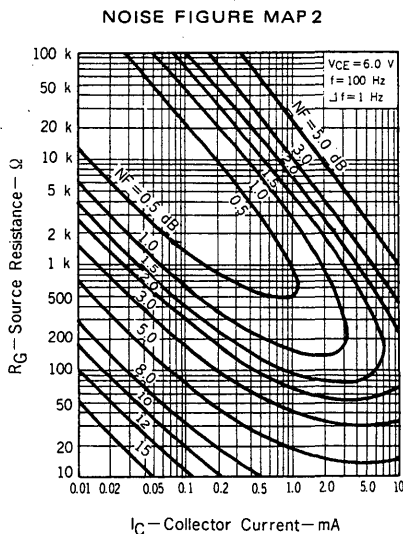
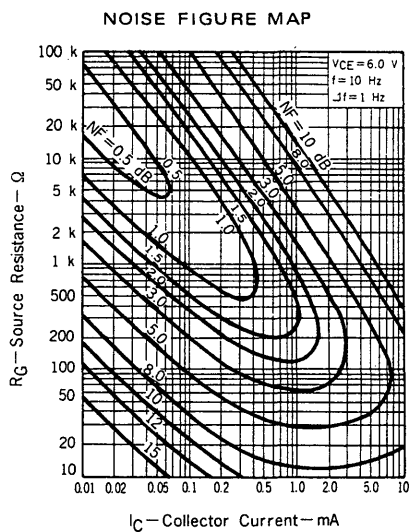
Classification of  $h_{FE2}$

Rank	P	F	E
Range	200 - 400	300 - 600	400 - 800

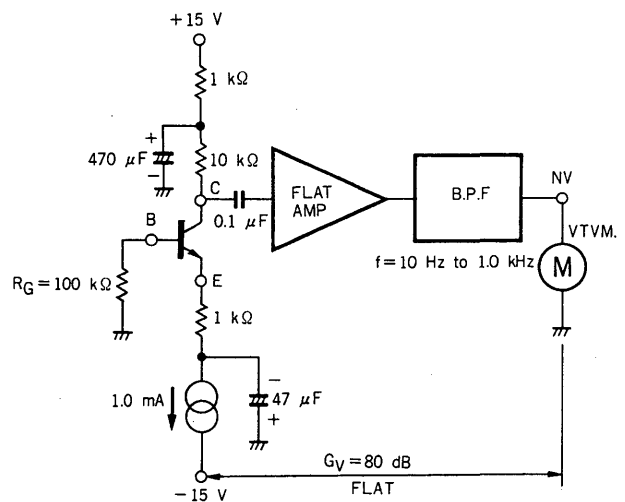
$h_{FE}$  Test Conditions :  $V_{CE} = 6.0$  V,  $I_C = 1.0$  mA

TYPICAL CHARACTERISTICS (Ta = 25 °C unless otherwise noted)





**NOISE VOLTAGE TEST CIRCUIT**



VCE = 5 V, IC = 1.0 mA, RG = 100 k $\Omega$ , GV = 80 dB FLAT (f = 10 Hz to 1.0 kHz)