

DESCRIPTION The 2SC1845 is the best for use as the middle range amplifier in Hi-Fi stereo control amplifiers, power amplifiers, and etc.

FEATURES

- High Voltage. $V_{CEO} : 120 \text{ V}$
- Low Output Capacitance. $C_{ob} : 1.6 \text{ pF TYP. } (V_{CB} = 30 \text{ V})$
- High h_{FE} . $h_{FE} : 600 \text{ TYP. } (V_{CE} = 6.0 \text{ V, } I_C = 1.0 \text{ mA})$
- Super Low Noise. $NV : 25 \text{ mV TYP. (See test Circuit.)}$

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature $-55 \text{ to } +125^\circ\text{C}$

Junction Temperature $+125^\circ\text{C Maximum}$

Maximum Power Dissipation ($T_a = 25^\circ\text{C}$)

Total Power Dissipation 500 mW

Maximum Voltages and Currents ($T_a = 25^\circ\text{C}$)

V_{CBO} Collector to Base Voltage 120 V

V_{CEO} Collector to Emitter Voltage 120 V

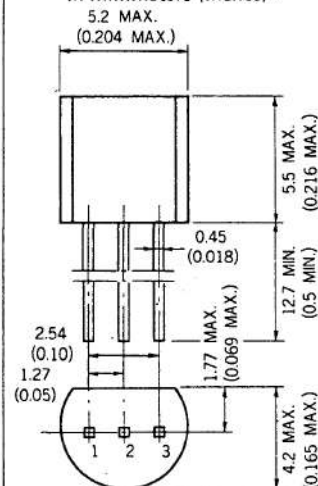
V_{EBO} Emitter to Base Voltage 5.0 V

I_C Collector Current 50 mA

I_B Base Current 10 mA

PACKAGE DIMENSIONS

in millimeters (inches)



1. EMITTER EIAJ : SC-43B
2. COLLECTOR JEDEC : TO-92
3. BASE IEC : PA33

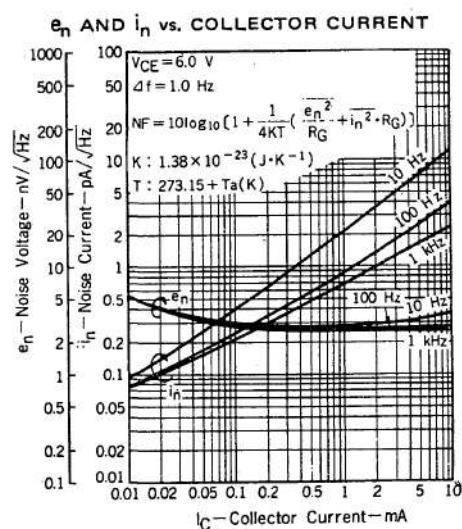
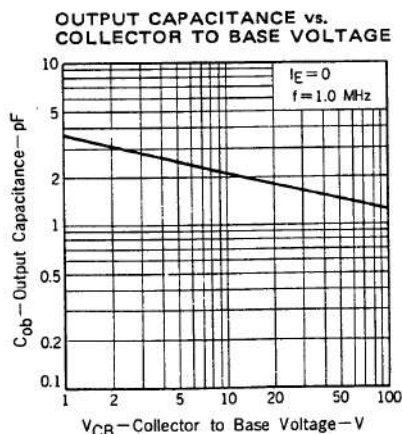
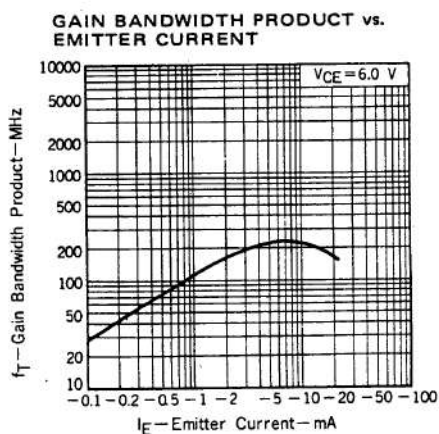
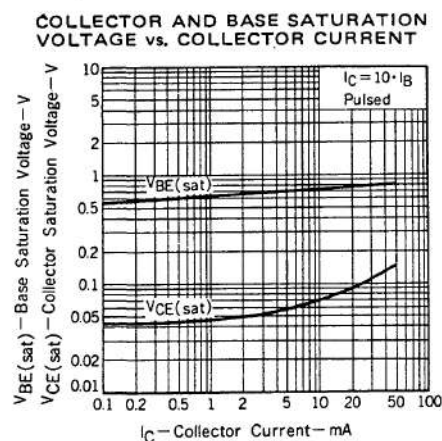
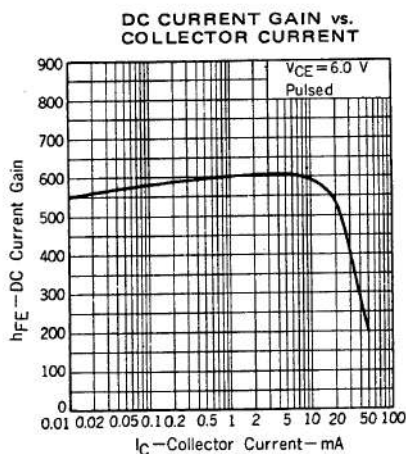
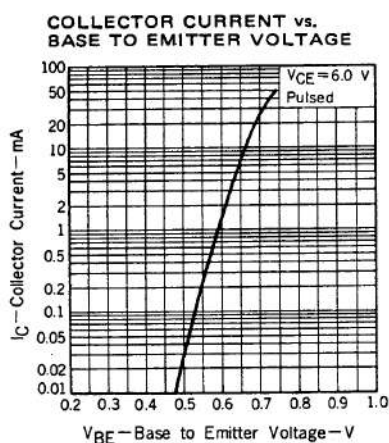
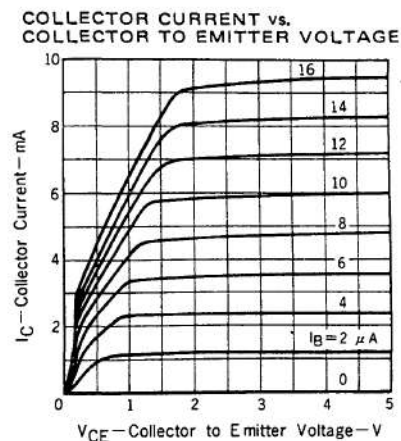
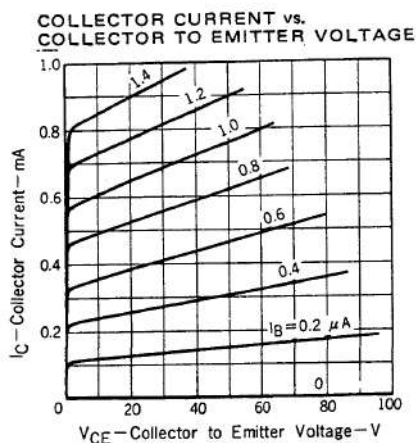
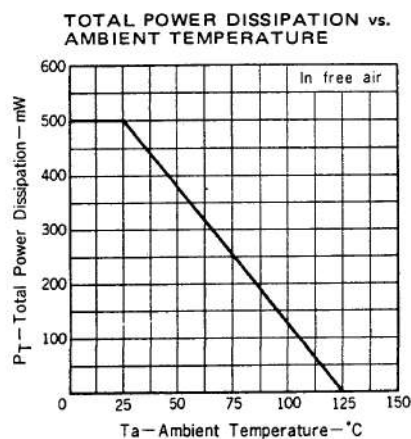
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1}	DC Current Gain	150	580	—	—	$V_{CE} = 6.0 \text{ V, } I_C = 0.1 \text{ mA}$
h_{FE2}	DC Current Gain	200	600	1200	—	$V_{CE} = 6.0 \text{ V, } I_C = 1.0 \text{ mA}$
f_T	Gain Bandwidth Product	50	110	—	MHz	$V_{CE} = 6.0 \text{ V, } I_E = -1.0 \text{ mA}$
C_{ob}	Output Capacitance	—	1.6	2.5	pF	$V_{CB} = 30 \text{ V, } I_E = 0, f = 1.0 \text{ MHz}$
NV	Noise Voltage	—	25	40	mV	$V_{CE} = 5.0 \text{ V, } I_C = 1.0 \text{ mA, } R_G = 100 \text{ k}\Omega$ $G_v = 80 \text{ dB, } f = 10 \text{ Hz to } 1.0 \text{ kHz}$
I_{CBO}	Collector Cutoff Current	—	—	50	nA	$V_{CB} = 120 \text{ V, } I_E = 0$
I_{EBO}	Emitter Cutoff Current	—	—	50	nA	$V_{EB} = 5.0 \text{ V, } I_C = 0$
V_{BE}	Base to Emitter Voltage	0.55	0.59	0.65	V	$V_{CE} = 6.0 \text{ V, } I_C = 1.0 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage	—	0.07	0.30	V	$I_C = 10 \text{ mA, } I_B = 1.0 \text{ mA}$

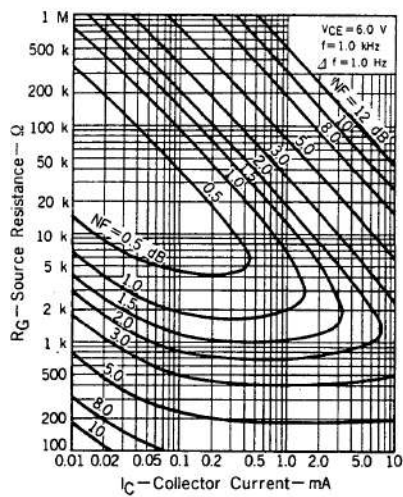
Classification of h_{FE2}

Rank	P	F	E	U
Range	200 — 400	300 — 600	400 — 800	600 — 1200

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

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$ unless otherwise noted)

NOISE FIGURE MAP.



NOISE VOLTAGE TEST CIRCUIT

