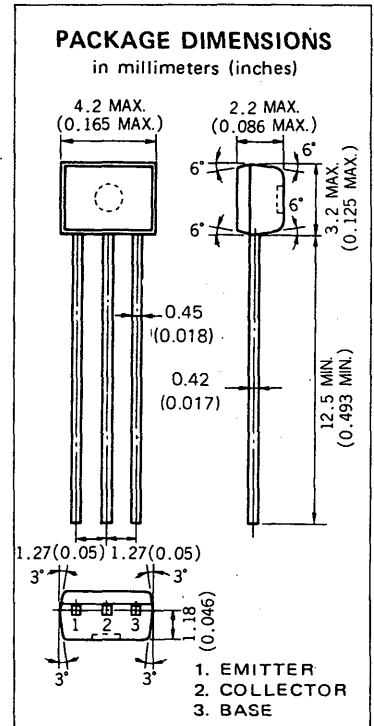


DESCRIPTION The 2SC3731 is designed for general purpose amplifier and high speed switching applications.

- FEATURES**
- High Frequency Current Gain.
 - High Speed Switching.
 - Small Output Capacitance.
 - Complementary to the NEC 2SA1458 PNP transistor.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Junction Temperature	150 °C Maximum
Maximum Power Dissipation (T _a = 25 °C)	
Total Power Dissipation	250 mW
Maximum Voltages and Current (T _a = 25 °C)	
V _{CB0} Collector to Base Voltage	60 V
V _{CEO} Collector to Emitter Voltage	40 V
V _{EBO} Emitter to Base Voltage	6.0 V
I _C Collector Current	200 mA



ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
t _{on}	Turn-on Time			70	ns	See Test Circuit.
t _{stg}	Storage Time		100	200	ns	See Test Circuit.
t _{off}	Turn-off Time			250	ns	See Test Circuit.
f _T	Gain Bandwidth Product	300	510		MHz	V _{CE} = 20 V, I _E = -10 mA, f = 100 MHz
C _{ob}	Output Capacitance		3.0	4.0	pF	V _{CB} = 5.0 V, I _E = 0, f = 1 MHz
h _{FE1} *	DC Current Gain	75	200	300	-	V _{CE} = 1.0 V, I _C = 10 mA
h _{FE2} *	DC Current Gain	25	80		-	V _{CE} = 1.0 V, I _C = 100 mA
V _{CE(sat)} *	Collector Saturation Voltage		0.12	0.30	V	I _C = 50 mA, I _B = 5.0 mA
V _{BE(sat)} *	Base Saturation Voltage		0.80	0.95	V	I _C = 50 mA, I _B = 5.0 mA
I _{CB0}	Collector Cutoff Current			0.1	μA	V _{CB} = 30 V, I _E = 0
I _{EBO}	Emitter Cutoff Current			0.1	μA	V _{EB} = 3.0 V, I _C = 0

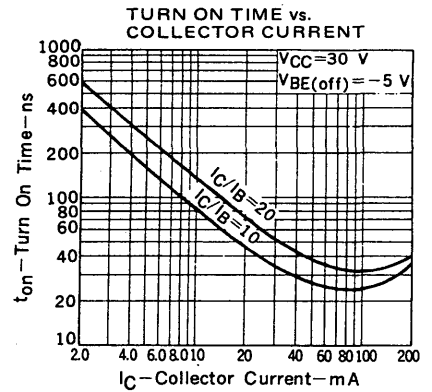
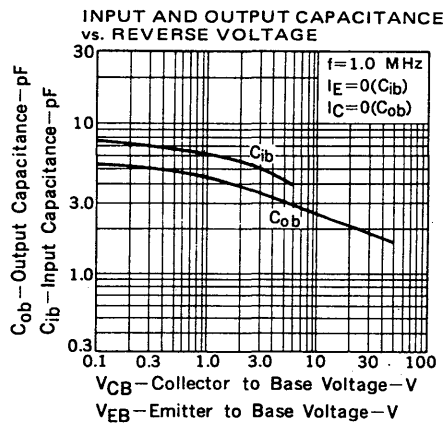
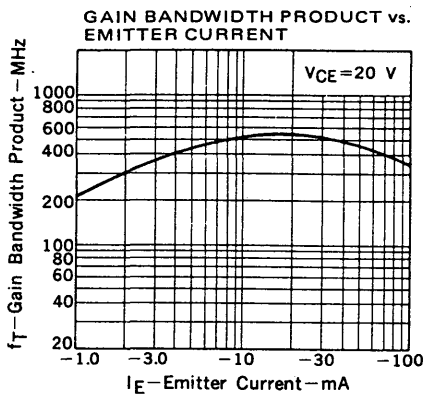
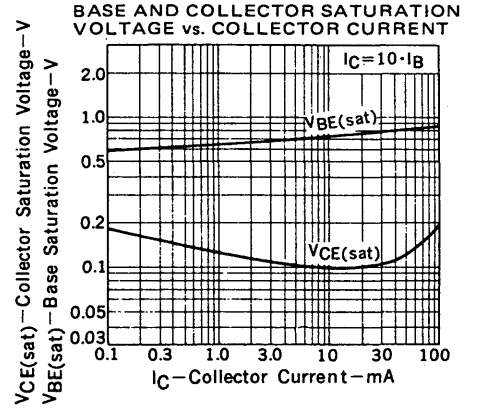
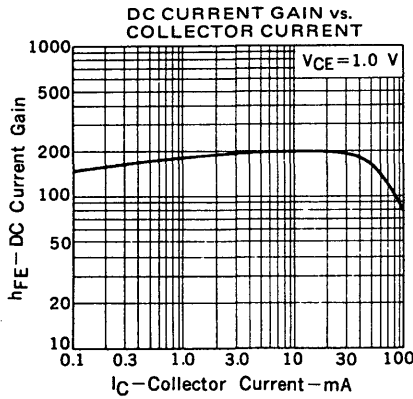
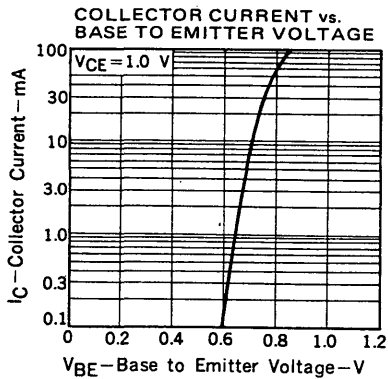
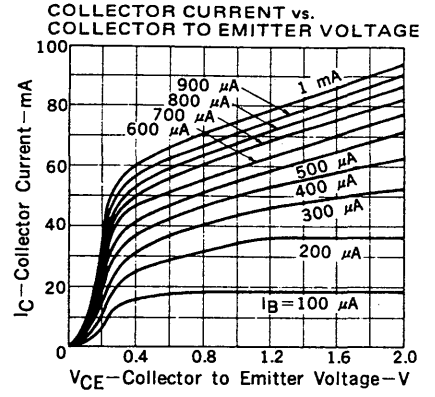
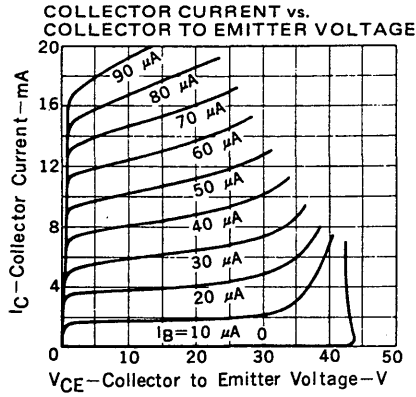
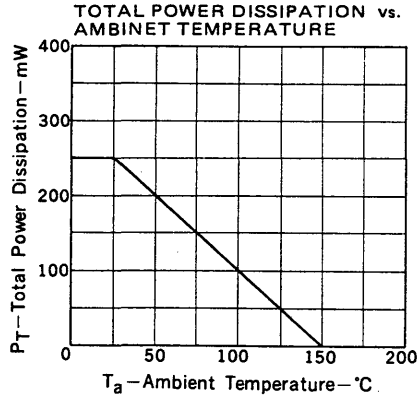
* Pulsed PW ≤ 350 μs, Duty Cycle ≤ 2 %

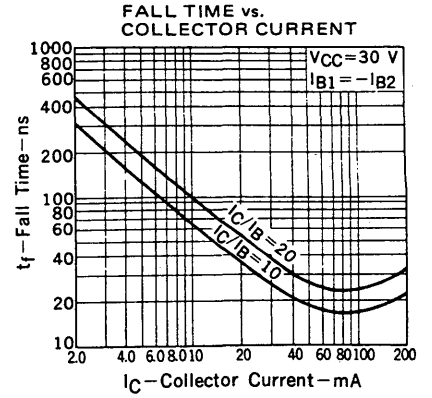
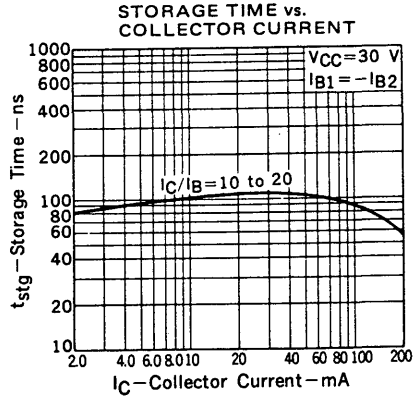
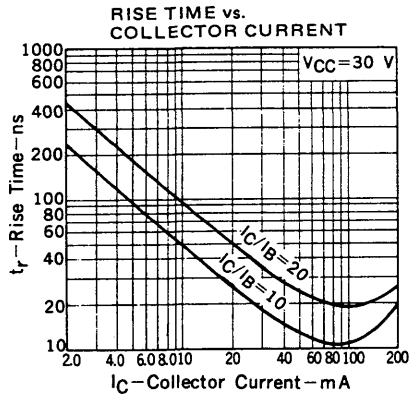
Classification of h_{FE1}

Rank	M	L	K
Range	75 to 150	100 to 200	150 to 300

Test Conditions : V_{CE} = 1.0 V, I_C = 10 mA

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





SWITCHING TIME TEST CIRCUIT

