

GENERAL DESCRIPTION:—

The 8050 is an NPN epitaxial silicon planar transistor designed for use in the audio output stage and converter/inverter circuits. Complementary to 8550.

T0-92B



ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures	
Storage Temperature	-55°C to +135°C
Operating Temperature	135°C
Lead Temperature (soldering, 10 seconds time limit)	230°C
Maximum power Dissipation	
Total Dissipation at 25°C Ambient Temperature (Note 2)	1.0 Watt
Total Dissipation at 25°C Case Temperature (Note 2)	3.0 Watt
Maximum Voltage	
VCBO Collector to Base Voltage	30V
VCEO Collector to Emitter Voltage (Note 3)	25V
VEBO Emitter to Base Voltage	6V
I _C Collector current (continuous)	1.5A

ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

SYMBOL	CHARACTERISTICS	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
HFE1	DC current gain (Note 4)	85		300		I _c = 100mA V _{ce} = 1V
HFE2	DC current gain	40				I _c = 800mA V _{ce} = 1V
VCE (SAT)	Collector Saturation Voltage (Note 4)		0.2	0.5	V	I _c = 800mA I _b = 80mA
VBE (SAT)	Base Saturation Voltage (Note 4)		0.92	1.2	V	I _c = 800mA I _b = 80mA
LV _{ceo}	Collector to Emitter breakdown Voltage (Note 3 & 4)	25			V	I _c = 10mA I _b = 0
BV _{cbo}	Collector to Base breakdown voltage	30			V	I _c = 100uA I _e = 0
BV _{ebo}	Emitter to Base breakdown voltage	6			V	I _e = 100uA I _c = 0
I _{cbo}	Collector cutoff current			0.1	uA	V _{cb} = 20V I _e = 0
hfe	High frequency current gain	1.0				I _c = 50mA V _{ce} = 10V f = 100MHz
C _{cb}	Collector to Base capacitance			40	pF	V _{cb} = 10V I _c = 0 f = 1MHz

NOTES:

- (1) These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
- (2) These ratings give a maximum junction temperature of 145°C, junction to ambient thermal resistance of 120°C/Watt (derating factor of 8.33mW/°C) and junction to case thermal resistance of 40°C/W (derating factor of 25mW/°C)
- (3) Rating refers to a high-current point where collector-to-emitter voltage is lowest.
- (4) Pulse Conditions: length ≤ 300 us; duty cycle ≤ 2%

CLASSIFICATION OF HFE GROUP

GROUP	MIN	MAX	TEST CONDITION
B	85	160	I _c = 100mA V _{ce} = 1V
C	120	200	I _c = 100mA V _{ce} = 1V
D	160	300	I _c = 100mA V _{ce} = 1V



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