MICRO ELECTRONICS

8050

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.

TO-92A

EBC

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		
V_{CBO}	Collector to Base Voltage	30V
V_{CEO}	Collector to Emitter Voltage (Note 3)	25V
V_{EBO}	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		Ic = 100mA Vce = 1V
HFE2	DC current gain	40				Ic = 800mA Vce = 1V
VCE (SAT)	Collector Saturation Voltage (Note 4)		0.2	0.5	V	Ic = 800mA Ib = 80mA
VBE (SAT)	Base Saturation Voltage (Note 4)		0.92	1.2	V	Ic = 800mA Ib = 80mA
LVceo	Collector to Emitter breakdown Voltage (Note 3 & 4)	25			V	Ic = 10mA Ib = 0
BVcbo	Collector to Base breakdown voltage	30			V	Ic = 100uA Ie = 0
BVebo	Emitter to Base breakdown voltage	6			V	Ie = 100uA Ic = 0
Icbo	Collector cutoff current			0.1	uA	Vcb= 20V Ie = 0
hfe	High frequency current gain	1.0				Ic = 50mA Vce = 10V f = 100MHz
Ccb	Collector to Base capacitance			40	pF	Vcb= 10V Ic = 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 resistence 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 H_{FE} GROUP

GROUP	MIN	MAX	TEST CONDITION
B	85	160	Ic = 100mA Vce = 1V
C	120	200	Ic = 100mA Vce = 1V
D	160	300	Ic = 100mA Vce = 1V

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