NTE ELECTRONICS, INC.
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NTE85
Silicon NPN Transistor
General Purpose Amplifier

Applications:

- Medium Power Amplifiers
- Class B Audio Outputs
- Hi–Fi Drivers

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector–Emitter Voltage, V_{CES}	70V
Collector–Base Voltage, V_{CBO}	70V
Emitter–Base Voltage, V_{EBO}	4V
Continuous Collector Current, I_C	400mA
Total Device Dissipation (T_A = +25°C), P_D	360mW
Derate Above 25°C	2.88mW/°C
Total Device Dissipation (T_L = +25°C, Note 1), P_D	500mW
Derate Above 25°C	4mW/°C
Storage Temperature Range, T_{stg}	–65° to +150°C
Lead Temperature (During soldering, 1/16 in. from case for 10sec), T_L	+260°C

Note 1. Lead temperature is measured on the collector lead 1/16 in. from the case.

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C = 10mA, I_B = 0, Note 2	70	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA, I_E = 0	70	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100μA, I_C = 0	4	–	–	V
Collector Cutoff Voltage	I_{CBO}	V_{CB} = 20V, I_E = 0	–	–	100	nA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 3V, I_C = 0	–	–	100	nA

Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Current Gain	h_{FE}	V_{CE} = 2V, I_C = 50mA, Note 2	100	–	300	
Base–Emitter Voltage	V_{BE}	I_C = 100mA, V_{CE} = 2V, Note 2	0.5	–	1.0	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 100mA, I_B = 2mA, Note 2	–	–	0.6	V
Current Gain–Bandwidth Product	f_T	I_C = 50mA, V_{CE} = 2V, Note 3	100	–	–	MHz
Collector–Base Capacitance	C_{cb}	V_{CB} = 10V, I_E = 0, f = 1MHz	–	–	12	pF

Note 2. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

Note 3. To obtain f_T, the $|h_{fe}|$ response with frequency is extrapolated at the rate of –6dB per octive from f = 20MHz to the frequency at which $|h_{fe}|$ = 1.