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NTE349
Silicon NPN Transistor
RF Power Amp, Driver

Description:

The NTE349 is a silicon NPN transistor in a T72H type package designed primarily for use in 13.6V VHF large–signal amplifier applications required in military and industrial equipment to 240MHz.

Features:

- Specified 13.6V, 175MHz Characteristics:
  - Output Power = 10W
  - Minimum Gain = 5.2dB
  - Efficiency = 50%

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO} 18V
Collector–Base Voltage, V_{CB} 36V
Emitter–Base Voltage, V_{EB} 4V
Continuous Collector Current, I_C 2A
Total Device Dissipation (T_C = +25°C), P_D 30W
Derate Above 25°C . . . . . 0171mW/°C
Operating Junction Temperature Range, T_J . . . . . –65° to +200°C
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 200mA, I_B = 0	18	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 2.5mA, I_C = 0	4	–	–	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 15V, I_E = 0	–	–	1.0	mA
ON Characteristics						
DC Current Gain	h_{FE}	I_C = 250mA, V_{CE} = 5V	5	–	–	
Dynamic Characteristics						
Output Capacitance	C_{ob}	V_{CB} = 15V, I_E = 0, f = 0.1 to 1MHz	–	35	70	pF

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Functional Tests (V_{CE} = 13.6V unless otherwise specified)						
Common–Emitter Amplifier Power Gain	G_{PE}	P_{out} = 10W, f = 175MHz	5.2	–	–	dB
Power Input	P_{in}	P_{OUT} = 10W, f = 175MHz	–	–	3	W
Collector Efficiency	η	P_{out} = 10W, f = 175MHz	50	–	–	%