ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE351
Silicon NPN Transistor
RF Power Amp, Driver

Description:

The NTE351 is a silicon NPN transistor in a T72H type package designed primarily for use in 12.5V VHF large–signal power amplifier applications required in commercial and industrial equipment to 300MHz.

Features:

- Specified 12.5V, 175MHz Characteristics:
  Output Power = 25W
  Minimum Gain = 6.2dB
  Efficiency = 65%

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO} 18V
Collector–Emitter Voltage, V_{CES} 36V
Emitter–Base Voltage, V_{EBO} 4V
Continuous Collector Current, I_C 5A
Total Device Dissipation (Note 1, T_C = +25°C), P_D 65W
Derate Above 25°C . . . . . 370mW/°C
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C

Note 1. This device is designed for RF operation. The total device dissipation rating applies only when the device is operated as an RF amplifier.

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 = 100mA, I_B = 0	18	–	–	V
	$V_{(BR)CES}$	I_C = 15mA, V_{BE} = 0	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 5mA, I_C = 0	4	–	–	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 15V, I_E = 0	–	–	1.0	mA
	I_{CES}	V_{CE} = 15V, V_{BE} = 0, T_C = +55°C	–	–	10	mA
ON Characteristics						
DC Current Gain	h_{FE}	I_C = 1A, V_{CE} = 5V	5	–	–	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Characteristics						
Output Capacitance	C_{ob}	V_{CB} = 15V, I_E = 0, f = 0.1MHz	–	110	130	pF
Functional Tests (V_{CC} = 12.5V unless otherwise specified)						
Common–Emitter Amplifier Power Gain	G_{PE}	P_{out} = 25W, f = 175MHz	6.2	–	–	dB
Collector Efficiency	η	P_{out} = 25W, f = 175MHz	65	–	–	%