

NTE345 Silicon NPN Transistor RF Power Amp, Driver

Description:

The NTE345 is a silicon NPN transistor in a T72H type package designed primarily for use in 13.6V large-signal amplifier applications in industrial and commercial FM equipment operating to 175MHz. This device is ideally suited for marine radio applications.

Features:

- Specified 13.6V, 160MHz Characteristics:
 Output Power = 30W
 Minimum Gain = 9dB
 Efficiency = 60%

Absolute Maximum Ratings:

Collector-Emitter Voltage, V_{CEO} 18V
 Collector-Base Voltage, V_{CBO} 36V
 Emitter-Base Voltage, V_{EBO} 4V
 Continuous Collector Current, I_C 5A
 Total Device Dissipation ($T_C = +25^\circ\text{C}$), P_D 65W
 Derate Above 25°C 0.37W/ $^\circ\text{C}$
 Operating Junction Temperature Range, T_J -65° to $+200^\circ\text{C}$
 Storage Temperature Range, T_{stg} -65° to $+200^\circ\text{C}$

Electrical Characteristics: ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100\text{mA}$, $I_B = 0$	18	—	—	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 15\text{mA}$, $I_E = 0$	36	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 5\text{mA}$, $I_C = 0$	4	—	—	V
ON Characteristics						
DC Current Gain	h_{FE}	$I_C = 1\text{A}$, $V_{CE} = 5\text{V}$	5	—	—	
Dynamic Characteristics						
Output Capacitance	C_{ob}	$V_{CB} = 15\text{V}$, $I_E = 0$, $f = 0.1$ to 1MHz	—	110	130	pF
Functional Tests ($V_{CC} = 13.6\text{V}$ unless otherwise specified)						
Common-Emitter Amplifier Power Gain	G_{PE}	$P_{out} = 30\text{W}$, $f = 160\text{MHz}$	9	10	—	dB
Collector Efficiency	η	$P_{out} = 30\text{W}$, $f = 160\text{MHz}$	60	—	—	%

