

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	–	–	%

