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NTE337 Silicon NPN Transistor RF Power Amp, Driver

Description:

The NTE337 is a silicon NPN transistor in a T72H type package designed primarily for use in large-signal amplifier driver and pre-driver stages. This device is intended for use in industrial communications equipment operating at frequencies to 80MHz.

Features:

- Specified 12.5V, 50MHz Characteristics:
 Output Power = 8W
 Minimum Gain = 10dB
 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 ($T_C = +25^\circ\text{C}$), P_D	20W
Derate Above 25°C	114W/ $^\circ\text{C}$
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	$V_{(BR)CEO}$	$I_C = 200\text{mA}$, $I_B = 0$, Note 1	18	—	—	V
	$V_{(BR)CES}$	$I_C = 50\text{mA}$, $V_{BE} = 0$, Note 1	36	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 5\text{mA}$, $I_C = 0$	4	—	—	V
Collector Cutoff Current	I_{CES}	$V_{CE} = 15\text{V}$, $V_{BE} = 0$, $T_C = +125^\circ\text{C}$	—	—	10	mA
	I_{CBO}	$V_{CB} = 15\text{V}$, $I_E = 0$	—	—	1	mA
ON Characteristics						
DC Current Gain	h_{FE}	$I_C = 500\text{mA}$, $V_{CE} = 5\text{V}$	5	—	—	

Note 1. Pulsed through a 25mH inductor.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Characteristics						
Output Capacitance	C_{ob}	$V_{CB} = 15\text{V}$, $I_E = 0$, $f = 0.1$ to 1MHz	—	—	90	pF



Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Functional Tests ($V_{CC} = 12.5V$ unless otherwise specified)						
Common-Emitter Amplifier Power Gain	G_{PE}	$P_{out} = 8W$, $f = 50MHz$	10	—	—	dB
Power Output	P_{out}	$P_{in} = 800mW$, $f = 50MHz$	8	—	—	W
Collector Efficiency	η	$P_{out} = 8W$, $f = 50MHz$	50	—	—	%

