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NTE350F Silicon NPN Transistor RF Power AMP

Description:

The NTE350F is designed for 12.5 Volt large-signal amplifier applications required in commercial and industrial equipment operating to 300MHz.

Features:

- Specified 12.5 Volt, 175MHz Characteristics:
Output Power = 15 Watts
Minimum Gain = 6.3dB
Efficiency = 60%
- Characterized with Series Equivalent Large-Signal Impedance Parameters

Absolute Maximum Ratings:

Collector-Emitter Voltage, V_{CEO}	18V
Collector-Base Voltage, V_{CB}	36V
Emitter-Base Voltage, V_{EB}	4V
Collector Current, I_C	2.5A
Total Device Dissipation, P_D	
$T_C = +25^\circ\text{C}$ (Note 1)	31W
Derate above $+25^\circ\text{C}$	177W/ $^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+200^\circ\text{C}$

Note 1. Device is designed for RF operation. The total dissipation rating applies only when the devices are operated as RF amplifiers.

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	$V_{(BR)CEO}$	$I_C = 20\text{mA}$, $I_B = 0$	18	–	–	V
	$V_{(BR)CES}$	$I_C = 10\text{mA}$, $V_{BE} = 0$	36	–	–	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 2.0\text{mA}$, $I_C = 0$	4.0	–	–	V
Collector Cutoff Current	I_{CES}	$V_{CE} = 15\text{V}$, $V_{BE} = 0$, $T_C = +55^\circ\text{C}$	–	–	8.0	mA
	I_{CBO}	$V_{CB} = 15\text{V}$, $I_E = 0$	–	–	0.5	mA
ON Characteristics						
DC Current Gain	h_{FE}	$I_C = 0.5\text{A}$, $V_{CE} = 5.0\text{V}$	5.0	–	–	
Dynamic Characteristics						
Output Capacitance	C_{ob}	$V_{CB} = 15\text{V}$, $I_E = 0$, $f = 0.1\text{MHz}$	–	70	85	pF
Functional Test						
Common-Emitter Amplifier Gain	G_{PE}	$P_{OUT} = 15\text{W}$, $V_{CC} = 12.5\text{V}$, $f = 175\text{MHz}$	6.3	–	–	dB
Collector Efficiency	η	$P_{OUT} = 15\text{W}$, $V_{CC} = 12.5\text{V}$, $f = 175\text{MHz}$	60	–	–	%

