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## NTE362 Silicon NPN Transistor RF Power

**Description:**

The NTE362 is designed for 7.0 to 15 volts, UHF large signal amplifier applications required in industrial and commercial FM equipment operating in the 400 to 960MHz range.

**Features:**

- Specified 12.5 Volt, 470MHz Characteristics Power Output = 2.0 Watts
- Minimum Gain = 9.0dB
- Efficiency = 60% Minimum
- RF ballasting provides protection against device damage due to load mismatch

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Collector–Emitter Voltage, $V_{CEO}$ .....	16V
Collector–Base Voltage, $V_{CBO}$ .....	36V
Emitter–Base Voltage, $V_{EBO}$ .....	4V
Collector Current–Continuous, $I_C$ .....	0.4V
Total Device Dissipation ( $T_C = +25^\circ\text{C}$ , Note 1), $P_D$ .....	5.0W
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+200^\circ\text{C}$
Stud Torque (Note 2) .....	6.5 in–lbs

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

Note 2. For repeated assembly use 5 in–lbs.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF Characteristics</b>						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50\text{mA}, I_B = 0$	16	–	–	V
	$V_{(BR)CES}$	$I_C = 50\text{mA}, V_{BE} = 0$	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1.0\text{mA}, I_C = 0$	4.0	–	–	V
Collector Cutoff Current	$I_{CES}$	$V_{CE} = 15\text{V}, V_{BE} = 0, T_C = +55^\circ\text{C}$	–	0.2	10	mA
	$I_{CBO}$	$V_{CB} = 15\text{V}, I_E = 0$	–	–	1.0	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>On Characteristics</b>						
DC Current Gain	$h_{FE}$	$I_C = 100\text{mA}, V_{CE} = 5.0\text{V}$	20	80	-	-
<b>Dynamic Characteristics</b>						
Output Capacitance	$C_{ob}$	$V_{CB} = 12.5\text{V}, I_E = 0, f = 1.0\text{MHz}$	-	11	15	pF
<b>Functional Test</b>						
Common-Emitter Amplifier Power Gain	$G_{PE}$	$V_{CC} = 12.5\text{V}, P_{OUT} = 2.0\text{W}$ $I_C = 267\text{mA}, f = 470\text{MHz}$	9	10	-	dB
Collector Efficiency	$\eta$	$V_{CC} = 12.5\text{V}, P_{out} = 2.0\text{W}$ $I_C = 240\text{mA}, f = 470\text{MHz}$	60	-	-	%

