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## NTE361 Silicon NPN Transistor RF Power Output $P_O = 2W @ 512MHz$

**Description:**

The NTE361 is a silicon NPN transistor designed for 12.5 Volt UHF large-signal amplifier applications in industrial and commercial FM equipment operating to 512MHz.

**Features:**

- Specified 12.5 Volt, 470MHz Characteristics:  
     Output Power = 2.0 Watts  
     Minimum Gain = 8.0dB  
     Efficiency = 50%
- Characterized with Series Equivalent Large-Signal Impedance Parameters
- Grounded Emitter TO39 Package for High Gain and Excellent Heat Dissipation
- Replaces Medium-Power Stud Mounted Devices

**Absolute Maximum Ratings:**

Collector-Emitter Voltage, $V_{CEO}$ .....	16V
Collector-Base Voltage, $V_{CBO}$ .....	36V
Emitter-Base Voltage, $V_{EBO}$ .....	4V
Collector Current-Continuous, $I_C$ .....	400mA
Total Device Dissipation @ $T_C = 25^\circ C$ , $P_D$ .....	8W
Derate Above $25^\circ C$ .....	46mW/ $^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+200^\circ C$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF Characteristics</b>						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50mA, I_B = 0$	16	-	-	V
	$V_{(BR)CES}$	$I_C = 50mA, V_{BE} = 0$	36	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	4	-	-	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 15V, I_E = 0$	-	-	1.0	mA

**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	$h_{FE}$	$V_{CE} = 5V, I_C = 100mA$	20	–	200	
<b>Dynamic Characteristics</b>						
Output Capacitance	$C_{ob}$	$V_{CB} = 12.5V, I_E = 0, f = 1MHz$	–	–	15	pF
<b>Functional Test</b>						
Common–Emitter Amplifier Power Gain	$G_{PE}$	$P_{OUT} = 2W, V_{CC} = 12.5V, f = 470MHz$	8.0	–	–	dB
Collector Efficiency	$\eta$	$P_{OUT} = 2W, V_{CC} = 12.5V, f = 470MHz$	50	–	–	%

