

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° to $+200^\circ C$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
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
ON Characteristics						
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 100\text{mA}$	20	—	200	
Dynamic Characteristics						
Output Capacitance	C_{ob}	$V_{CB} = 12.5\text{V}, I_E = 0, f = 1\text{MHz}$	—	—	15	pF
Functional Test						
Common-Emitter Amplifier Power Gain	G_{PE}	$P_{OUT} = 2\text{W}, V_{CC} = 12.5\text{V}, f = 470\text{MHz}$	8.0	—	—	dB
Collector Efficiency	η	$P_{OUT} = 2\text{W}, V_{CC} = 12.5\text{V}, f = 470\text{MHz}$	50	—	—	%

