



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

NTE335 & NTE336 Silicon NPN Transistor RF Power Output

Description:

The NTE335 and NTE336 are silicon NPN RF power transistors designed for power amplifier applications in industrial, commercial and amateur radio equipment to 30MHz.

Features:

- Specified 12.5V, 30MHz Characteristics:
 Output Power = 80W
 Minimum Gain = 12dB
 Efficiency = 50%
- Available in Two Different Package Designs:
 NTE335 (W52N, Flange Mount)
 NTE336 (T93D, Stud Mount)

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO} 25V
 Collector–Base Voltage, V_{CBO} 45V
 Emitter–Base Voltage, V_{EBO} 4V
 Continuous Collector Current, I_C 20A
 Total Device Dissipation ($T_C = +25^\circ\text{C}$), P_D 250W
 Derate above 25°C 1.43W/ $^\circ\text{C}$
 Storage Temperature Range, T_{stg} -65° to $+150^\circ\text{C}$
 Thermal Resistance, Junction–to–Case, R_{thJC} 0.7°C/W

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	$V_{(BR)CEO}$	$I_C = 100\text{mA}, I_B = 0$	18	–	–	V
	$V_{(BR)CES}$	$I_C = 50\text{mA}, V_{BE} = 0$	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\text{mA}, I_C = 0$	4	–	–	V

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}	$I_C = 5A, V_{CE} = 5V$	10	-	150	
Dynamic Characteristics						
Output Capacitance	C_{ob}	$V_{CB} = 15V, I_E = 0, f = 1MHz$	-	-	250	pF
Functional Tests						
Common-Emitter Amplifier Power Gain	G_{pe}	$V_{CC} = 12.5V, P_{OUT} = 80W, f = 30MHz$	12	-	-	dB
Collector Efficiency	η		50	-	-	%
Series Equivalent Input Impedance	Z_{in}		-	.938 - j.341	-	Ω
Series Equivalent Output Impedance	Z_{out}		-	1.16 - j.201	-	Ω
Parallel Equivalent Input Impedance	-		-	1.06 Ω 1817pF	-	
Parallel Equivalent Output Impedance	-		-	1.19 Ω 777pF	-	

