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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°C), P_D 250W
Derate above 25°C . . . . . 1.43W/°C
Storage Temperature Range, T_{stg} . . . . . –65° to +150°C
Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 0.7°C/W

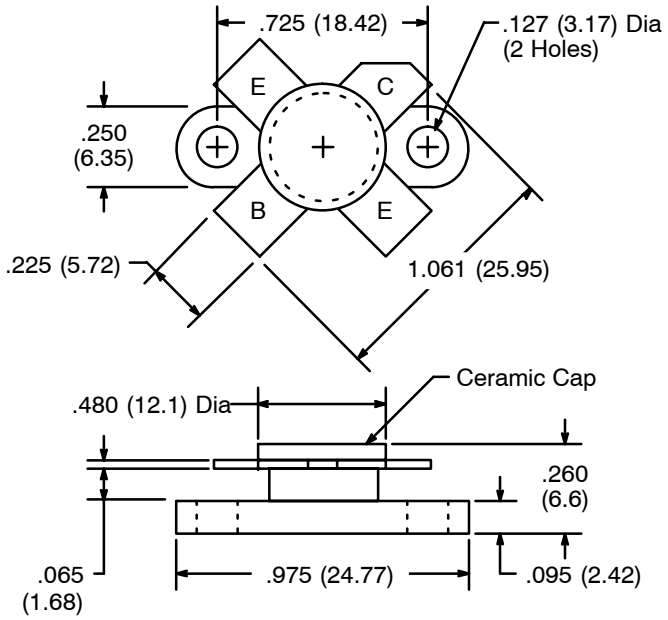
Electrical Characteristics: (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 100mA, I_B = 0	18	–	–	V
	$V_{(BR)CES}$	I_C = 50mA, V_{BE} = 0	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10mA, I_C = 0	4	–	–	V

Electrical Characteristics (Cont'd): (T_C = +25°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	–		–	1.06Ω 1817pF	–	
Parallel Equivalent Output Impedance	–		–	1.19Ω 777pF	–	

NTE335



NTE336