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

# NTE333 & NTE334
# Silicon NPN Transistors
# RF Power Output

**Description:**

The NTE333 & NTE334 are designed for power amplifier applications in industrial, commercial and amateur radio equipment to 30MHz.

**Features:**

- Specified 12.5 Volt, 30MHz Characteristics–
  Output Power = 60 Watts
  Minimum Gain = 13dB
  Efficiency = 55%

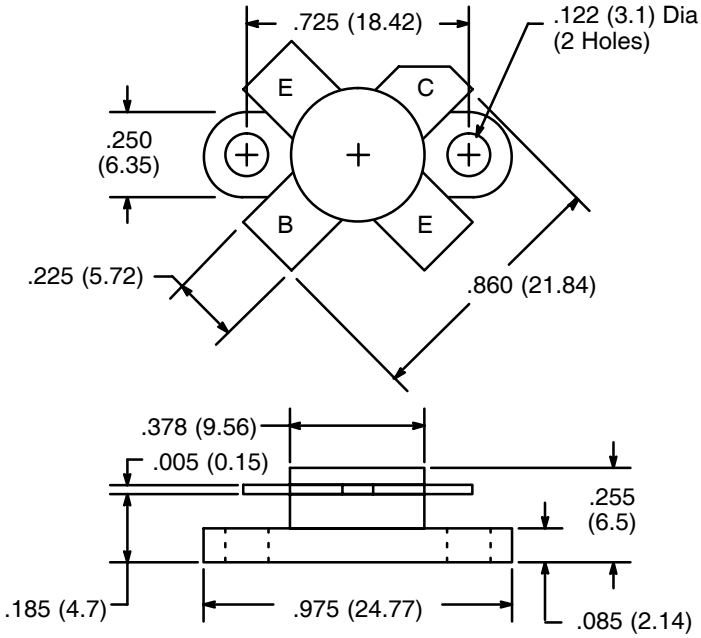
**Absolute Maximum Ratings:**

Collector–Emitter Voltage, $V_{CEO}$ . . . . . 18V
Collector–Emitter Voltage, $V_{CES}$ . . . . . 36V
Emitter–Base Voltage, $V_{EBO}$ . . . . . 4V
Collector Current–Continuous, $I_C$ . . . . . 15A
Total Device Dissipation ($T_C$ = +25°C), $P_D$ . . . . . 175W
Derate Above 25°C . . . . . 1.0W/°C
Storage Temperature Range, $T_{stg}$ . . . . . –65° to +150°C
Thermal Resistance, Junction–to–Case, $R_{thJC}$ . . . . . 1.0°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 |
| Collector–Emitter Breakdown Voltage | $V_{(BR)CES}$ | $I_C$ = 50mA, $V_{BE}$ = 0 | 36 | – | – | V |
| Emitter–Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$ = 10mA, $I_C$ = 0 | 4.0 | – | – | V |
| **ON Characteristics** | | | | | | |
| DC Current Gain | $h_{FE}$ | $I_C$ = 5.0A, $V_{CE}$ = 5.0V | 10 | – | 150 | |
| **Dynamic Characteristics** | | | | | | |
| Output Capacitance | $C_{ob}$ | $V_{CB}$ = 12.5Vdc, $I_E$ = 0, f = 1.0MHz | – | – | 250 | pF |
| Common–Emitter Amplifier Power Gain | $G_{pe}$ | $V_{CC}$ = 12.5Vdc, $P_{out}$ = 60W, f = 30MHz | 13 | – | – | dB |
| Collector Efficiency | $\eta$ | $V_{CC}$ = 12.5Vdc, $P_{out}$ = 60W, f = 30MHz | 55 | – | – | % |
| Series Equivalent Input Impedance | $Z_{in}$ | $V_{CC}$ = 12.5Vdc, $P_{out}$ = 60W, f = 30MHz | – | 1.6 – j.844 | – | Ohms |
| Series Equivalent Output Impedance | $Z_{out}$ | $V_{CC}$ = 12.5Vdc, $P_{out}$ = 60W, f = 30MHz | – | 1.7 – j.188 | – | Ohms |
| Parallel Equivalent Input Impedance | $Z_{in}$ | $V_{CC}$ = 12.5Vdc, $P_{out}$ = 60W, f = 30MHz | – | 2.09/ 1030 | – | Ω/pF |
| Parallel Equivalent Output Impedance | $Z_{out}$ | $V_{CC}$ = 12.5Vdc, $P_{out}$ = 60W, f = 30MHz | – | 1.75/ 330 | – | Ω/pF |

## NTE333




## NTE334