

# NTE472 Silicon NPN Transistor RF Power Output P<sub>O</sub> = 1.8W @ 175MHz

#### **Description:**

The NTE472 is a silicon NPN transistor designed for amplifier, frequency multiplier or oscillator applications in military, mobile marine and citizens band equipment. Suitable for use as output driver or pre—driver stages in VHF and UHF equipment.

#### Features:

- Specified 12.5 Volt, 175MHz Characteristics:
   Output Power = 1.75 Watts
   Minimum Gain = 11.5dB
   Efficiency = 50%
- Characterized through 225MHz

#### **Absolute Maximum Ratings:**

Collector–Emitter Voltage, V <sub>CEO</sub>	16V
Collector–Base Voltage, V <sub>CBO</sub>	36V
Emitter–Base Voltage, V <sub>EBO</sub>	3.5V
Continuous Collector Current, I <sub>C</sub> 0	).33A
Total Device Dissipation ( $T_C = +75^{\circ}C$ , Note 1), $P_D$	3.5W
Derate Above 75°C 28m\	W/°C
Storage Temperature Range, $T_{stg}$	00°C

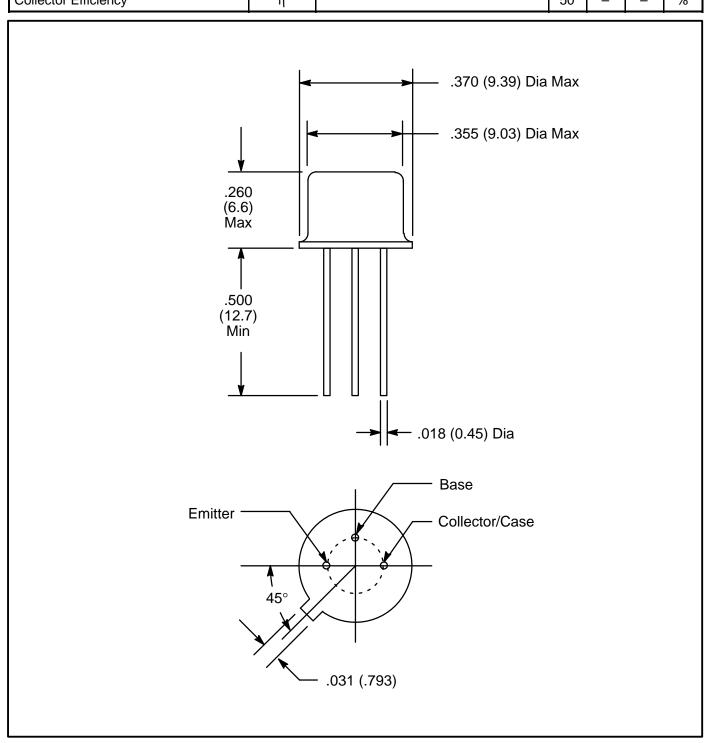
Note 1. This device is designed for RF operation. The total device dissipation rating applies only when the device is operated as a class B or C RF amplifier.

#### **<u>Electrical Characteristics</u>**: $(T_C = +25^{\circ}C \text{ unless otherwise specified})$

Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit			
OFF Characteristics									
Collector–Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	$I_C = 25 \text{mA}, I_B = 0$	16	_	_	V			
	V <sub>(BR)CES</sub>	$I_C = 25 \text{mA}, V_{BE} = 0$	36	_	_	V			
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = 0.5 \text{mA}, I_C = 0$	3.5	_	_	V			
Collector Cutoff Current	I <sub>CEO</sub>	V <sub>CE</sub> = 10V, I <sub>B</sub> = 0	_	_	0.3	mΑ			

## **<u>Electrical Characteristics (Cont'd)</u>**: $(T_C = +25^{\circ}C \text{ unless otherwise specified})$

Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit				
ON Characteristics										
DC Current Gain	h <sub>FE</sub>	$V_{CE} = 5V$ , $I_C = 50mA$	20	_	150					
Dynamic Characteristics										
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 12V, I <sub>E</sub> = 0, f = 1MHz	_	_	15	pF				
Functional Test			•		•	•				
Common–Emitter Amplifier Power Gain	$G_PE$	P <sub>OUT</sub> = 1.75W, V <sub>CC</sub> = 12.5V, f = 175MHz	11.5	_	_	dB				
Collector Efficiency	η		50	-	_	%				



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