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**NTE236**  
**Silicon NPN Transistor**  
**Final RF Power Output**  
**( $P_O = 16W, 27MHz, SSB$ )**

**Description:**

The NTE236 is a silicon NPN epitaxial planer type transistor designed for RF power amplifiers on HF band mobile radio applications.

**Features:**

- High Power Gain:  $G_{pe} \geq 12dB$  ( $V_{CC} = 12V, P_O = 16W, f = 27MHz$ )
- Ability to Withstand Infinite VSWR Load when Operated at:  
 $V_{CC} = 16V, P_O = 20W, f = 27MHz$

**Application:**

- 10 to 14 Watt Output Power Class AB Amplifier Applications in HF band

**Absolute Maximum Ratings:** ( $T_C = +25^\circ C$  unless otherwise specified)

Collector–Base Voltage, $V_{CBO}$ .....	60V
Collector–Emitter Voltage ( $R_{BE} = \infty$ ), $V_{CEO}$ .....	25V
Emitter–Base Voltage, $V_{EBO}$ .....	5V
Collector Current, $I_C$ .....	6A
Collector Dissipation, $P_C$	
$T_A = 25^\circ C$ .....	1.7W
$T_C = 25^\circ C$ .....	20W
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	-55° to +150°C
Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ .....	73.5°C/W
Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	6.25°C/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 5\text{mA}, I_C = 0$	5	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	60	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, R_{BE} = \infty$	25	–	–	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 30\text{V}, I_E = 0$	–	–	100	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$	–	–	100	$\mu\text{A}$
DC Forward Current Gain	$h_{FE}$	$V_{CE} = 12\text{V}, I_C = 10\text{mA}, \text{Note 1}$	10	50	180	–
Output Power	$P_O$	$V_{CC} = 12\text{V}, P_{in} = 1\text{W}, f = 27\text{MHz}$	16	18	–	W
Collector Efficiency	$h_C$	$V_{CC} = 12\text{V}, P_{in} = 1\text{W}, f = 27\text{MHz}$	60	70	–	%

Note 1. Pulse Test: Pulse Width = 150 $\mu\text{s}$ , Duty Cycle = 5%.

