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## NTE359 Silicon NPN Transistor RF & Microwave Transistor

**Description:**

RF Power Transistor 20W – 175 MHz

**Features:**

Specified 28 Volt, 175MHz Characteristics

- Output Power = 20 Watts
- Minimum Gain = 8.2dB
- Efficiency = 60%

Characterized from 125 to 175MHz

Includes Series Equivalent Impedances

**Absolute Maximum Ratings:**

Collector–Emitter Voltage, $V_{CEO}$ .....	35V
Collector–Base Voltage, $V_{CB}$ .....	65V
Emitter–Base Voltage, $V_{eb}$ .....	4V
Collector Current–Continuous, $I_C$ .....	3A
Total Device Dissipation @ 25°C, $P_d$ .....	30W
Derate Above 25°C .....	171mW/°C
Storage Temperature Range, $T_{stg}$ .....	–65 to °C +200
Operating Junction Temperature Range, $T_J$ .....	–65 to °C +200

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Off Characteristics</b>						
Collector–Emitter Breakdown Voltage	$V_{(Br)CEO}$	$I_C = 200\text{mA}, I_B = 0$ , Note 1	–	35	–	V
Collector–Emitter Sustaining Voltage	$V_{(Br)CES}$	$I_C = 200\text{mA}, V_{BE} = 0$	–	65	–	V
Emitter–Base Breakdown Voltage	$V_{(Br)eb0}$	$I_E = 10\text{mA}, I_C = 0$	–	4	–	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 30\text{V}, I_E = 0$	–	1	–	mA
<b>On Characteristics</b>						
DC Current Gain	$H_{fe}$	$I_C = 200\text{mA}, V_{CE} = 5.0\text{V}$	–	5	–	–

Note 1. Pulsed through 25mH inductor

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Dynamic Characteristics</b>						
Output Capacitance	$C_{ob}$	$V_{CB} = 30\text{V}, I_E = 0, f = .1 \text{ to } 1\text{MHz}$	-	22	35	pF
Common-Emitter Amplifier Power Gain	$G_{pe}$	$P_{OUT} = 20\text{W}, V_{CE} = 28\text{V}, f = 175\text{MHz}$	8.2	-	-	dB
Collector Efficiency	$\eta$		-	60	-	-

