



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
Off Characteristics						
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	$V_{(Br)ebo}$	$I_E = 10\text{mA}$, $I_C = 0$	–	4	–	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 30\text{V}$, $I_E = 0$	–	1	–	mA
On Characteristics						
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
Dynamic Characteristics						
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	η		–	60	–	–

