ELECTRONICS, INC.
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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°C unless otherwise specified)

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

Note 1. Pulsed through 25mH inductor

Electrical Characteristics (Cont'd): (T_C = +25°C unless otherwise specified)

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