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NTE357
Silicon NPN Transistor
RF Power Output
P_O = 7W @ 175MHz

Description:

The NTE357 RF power transistor is designed primarily for wideband large−signal amplifier stages in the 125−175MHz frequency range.

Features:

- Specified 28V, 175MHz Characteristics −
  Output Power = 7.0 Watts
  Minimum Gain = 8.4dB
  Efficiency = 60%
- Characterized from 125 to 175MHz
- Includes Series Equivalent Impedances

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector−Emitter Voltage, V_{CEO} 35V
Collector−Base Voltage, V_{CB} 65V
Emitter−Base Voltage, V_{EB} 4.0V
Collector Current−Continuous, I_C 1.0A
Total Device Dissipation (T_C = +25°C), P_D . . . . . 86mW/°C
Operating Junction Temperature Range, T_J . . . . . −65° to +200°C
Storage Temperature Range, T_{stg} . . . . . −65° to +200°C

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 = 200mAdc, I_B = 0, (Note 1)	35	−	−	Vdc
Collector−Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C = 200mAdc, V_{BE} = 0	65	−	−	Vdc

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
Emitter−Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 5mAdc, I_C = 0	4	–	–	Vdc
Collector Cut−Off Current	I_{CBO}	V_{CB} = 30Vdc, I_E = 0	–	–	1	mAdc
ON Characteristics						
DC Current Gain	h_{FE}	I_C = 100mAdc, V_{CE} = 5Vdc	5	–	–	
Dynamic Characteristics						
Output Capacitance	C_{ob}	V_{CB} = 30Vdc, I_E = 0, f = 0.1 to 1.0MHz	–	8.5	15	pf
Functional Test						
Common−Emitter Amplifier Power Gain	G_{PE}	P_{OUT} = 7W, V_{CE} = 28Vdc, f = 175MHz	8.4	12.5	–	dB
Collector Efficiency	η	P_{OUT} = 7W, V_{CE} = 28Vdc, f = 175MHz	60	–	–	%