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NTE362
Silicon NPN Transistor
RF Power

Description:

The NTE362 is designed for 7.0 to 15 volts, UHF large signal amplifier applications required in industrial and commercial FM equipment operating in the 400 to 960MHz range.

Features:

- Specified 12.5 Volt, 470MHz Characteristics Power Output = 2.0 Watts
- Minimum Gain = 9.0dB
- Efficiency = 60% Minimum
- RF ballasting provides protection against device damage due to load mismatch

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

Collector–Emitter Voltage, V_{CEO} 16V
Collector–Base Voltage, V_{CBO} 36V
Emitter–Base Voltage, V_{EBO} 4V
Collector Current–Continuous, I_C 0.4V
Total Device Dissipation (T_C = +25°C, Note 1), P_D 5.0W
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C
Stud Torque (Note 2) . . . . . 6.5 in–lbs

Note 1. These devices are designed for RF operation. The total device dissipation rating applies only when the devices are operated as RF amplifiers.

Note 2. For repeated assembly use 5 in–lbs.

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 = 50mA, I_B = 0	16	–	–	V
	$V_{(BR)CES}$	I_C = 50mA, V_{BE} = 0	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1.0mA, I_C = 0	4.0	–	–	V
Collector Cutoff Current	I_{CES}	V_{CE} = 15V, V_{BE} = 0, T_C = +55°C	–	0.2	10	mA
	I_{CBO}	V_{CB} = 15V, I_E = 0	–	–	1.0	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
On Characteristics						
DC Current Gain	h_{FE}	I_C = 100mA, V_{CE} = 5.0V	20	80	–	–
Dynamic Characteristics						
Output Capacitance	C_{ob}	V_{CB} = 12.5V, I_E = 0, f = 1.0MHz	–	11	15	pF
Functional Test						
Common–Emitter Amplifier Power Gain	G_{PE}	V_{CC} = 12.5 V, P_{OUT} = 2.0W I_C = 267mA, f = 470MHz	9	10	–	dB
Collector Efficiency	η	V_{CC} = 12.5V, P_{out} = 2.0W I_C = 240mA, f = 470MHz	60	–	–	%