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NTE363
Silicon NPN Transistor
RF Power Amp, P_O = 4W

Description:

The NTE363 is a 12.5V epitaxial silicon NPN planer transistor designed primarily for UHF communications.

Features:

- Designed for UHF Military and Commercial Equipment
- 4W (Min) with Greater than 8dB Gain
- Withstands Infinite VSWR Under Operating Conditions
- Low Inductance Stripline Package
- Emitter Stabilized

Absolute Maximum Ratings:

Collector–Base Voltage, V_{CBO} 36V
Collector–Emitter Voltage, V_{CEO} 16V
Emitter–Base Voltage, V_{EBO} 4V
Maximum Collector Current, I_C 800mA
Total Device Dissipation (T_C = +25°C), P_T 15W
Operating Junction Temperature, T_J . . . . . +200°C
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C
Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 11.6°C/W

Electrical Characteristics:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emiter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 100mA, I_B = 0, Note 1	16	–	–	V
	$V_{(BR)CES}$	I_C = 100mA, I_{BE} = 0, Note 1	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 2mA, I_C = 0	4	–	–	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 5V, I_E = 0	–	–	1.0	mA
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 200mA	20	–	–	

Note 1. Pulsed throught 25MH inductor.

Electrical Characteristics (Cont'd):

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
RF Characteristics, Small–Signal						
Output Capacitance	C_{ob}	V_{CB} = 12.5V, I_C = 0	–	–	25	pF
Input Capacitance	C_{ib}	V_{EB} = 500mV, I_C = 0	–	60	–	pF
RF Characteristics, Large–Signal						
Amplifier Power Out	P_O	470MHz/12.5V	4	–	–	W
Amplifier Power Gain	P_g		8	–	–	dB
Input Impedance	Z_{in}		2.0 + J.96			Ω
Output Impedance	Z_{out}		6.0 – J3.4			Ω