

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 ($T_C = +25^\circ C$), 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–Emitter 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 through 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

