

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–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	

