

NTE317 Silicon NPN Transistor RF Power Output

Description:

The NTE317 is a 12.5V epitaxial silicon NPN planar transistor designed primarily for HF communications. This device utilizes improved metallization systems to achieve extreme ruggedness under severe operating conditions.

Features:

- 70W Minimum with Greater than 13.5dB Gain
- Withstands Severe Mismatch under Operating Conditions
- Emitter Ballasted
- Low Inductance Stripline Package

Absolute Maximum Ratings:

Collector Base Voltage, V_{CBO} 36V
 Collector-Emitter Voltage, V_{CEO} 18V
 Emitter-Base Voltage, V_{EBO} 4V
 Maximum Collector Current, I_C 15A
 Total Device Dissipation (+25°C), P_T 220W
 Thermal Resistance, Junction-to-Case, R_{thJC} 0.8°C/W
 Junction Temperature Range, T_J -65° to +200°C
 Storage Temperature Range, T_{stg} -65° to +200°C

Electrical Characteristics:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50mA$, $I_B = 0$, Note 1	18	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C = 20mA$, $V_{BE} = 0$, Note 1	36	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 5mA$, $I_C = 0$	4	—	—	V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 15V$, $I_E = 0$	—	—	3	mA
DC Current Gain	h_{FE}	$V_{CE} = 5V$, $I_C = 5A$	10	—	—	
Gain Bandwidth	f_t	$V_{CE} = 13.5V$, $I_C = 100mA$	200	—	—	MHz
Output Capacitance	C_{ob}	$V_{CB} = 12.5V$, $I_C = 0$, -F _O = 1.0MHz	—	300	—	pF
Amplifier Power Out	P_O	30MHz/12.5V	70	—	—	W
Amplifier Power Gain	P_g		13.5	14.2	—	dB

Note 1. Pulsed through 25mH Inductor

