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NTE318 Silicon NPN Transistor RF Power Output

Description:

The NTE318 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:

- Designed for HF military and commercial equipment 40W minimum with greater than 10.0dB gain
- Withstands severe mismatch under operating conditions
- 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	6A
Total Device Dissipation (+25°C), P_T	80W
Thermal Resistance, Junction–to–Case, R_{thJC}	2.2°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	$V_{(BR)CEO}$	$I_C = 200mA, I_B = 0, \text{Note 1}$	18	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C = 200mA, V_{BE} = 0, \text{Note 1}$	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 2.5mA, I_C = 0$	4	–	–	V
Collector Cut–Off Current	I_{CBO}	$V_{CB} = 15V, I_E = 0$	–	–	1	mA
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 250mA$	10	–	–	
Gain Bandwidth	f_t	$V_{CE} = 13.5V, I_C = 100mA$	200	–	–	MHz
Output Capacitance	C_{ob}	$V_{CB} = 12.5V, I_C = 0, -F_O = 1.0MHz$	–	–	200	pF
Amplifier Power Out	P_O	28MHz/12.5V	47	–	–	W
Amplifier Power Gain	P_g		10	–	–	dB

Note 1. Pulsed through 25mH Inductor

