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NTE484
Silicon NPN Transistor
RF Power Output for Mobile Use,
P_O = 25W @ 947MHz

Description:

The NTE484 is a 12.5 Volt epitaxial silicon NPN planer transistor designed for primarily for 800MHz mobile communications. This device is internally input matched in the common base configuration for extremely broadband performance and optimum gain characteristics.

Features:

- Designed for 800 MHz Mobile Communications Equipment
- 25W Min., with Greater than 5dB Gain at 836MHz
- Withstands Infinite VSWR at Rated Operating Conditions
- Internal Input matched “Tuned Q”
- Common Base Configuration

Absolute Maximum Ratings: (T_C = +25°C unless othrwise specified)

Collector–Base Voltage, V_{CBO} 36V
Collector–Emitter Voltage, V_{CEO} 16V
Emitter–Base Voltage, V_{EBO} 4V
Maximum Collector Current, I_C 10A
Total Device Dissipation (At +25°C), P_{tot} 75W
Operating Junction Temperature, T_J . . . . . +200°C
Storage Temperature Range, T_{stg} . . . . . –65° to +150°C
Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 2.3°C/W

Electrical Characteristic: (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 50mA, I_B = 0, Note 1	16	–	–	V
	$V_{(BR)CES}$	I_C = 50mA, V_{BE} = 0, Note 1	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10mA, I_C = 0	4	–	–	V
Collector Cutoff Current	I_{CES}	V_{CE} = 15V, V_{BE} = 0	–	–	10	mA
DC Current Gain	h_{FE}	V_{CE} = 6V, I_C = 1A	20	–	–	

Note 1. Pulsed through 25mH indicator.

Electrical Characteristic (Cont'd): (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic						
Output Power	P_O	V_{CE} = 12.5V, f = 836MHz	25	–	–	W
Power Gain	P_G	V_{CE} = 12.5V, f = 836MHz	5	–	–	dB
Impedance	Z_s	V_{CE} = 12.5V, P_O= 25W, f = 836MHz	–	4.9– j5.8	–	Ω
	Z_{cl}		–	1.4– j3.5	–	Ω
Output Capacitance	C_{ob}	V_{CB} = 12.5V, I_E = 0, f = 1MHz	–	–	65	pF