

NTE483 Silicon NPN Transistor RF Power Output for Mobile Use, $P_O = 18W @ 866MHz$

Description:

The NTE483 is a 12.5 Volt epitaxial silicon NPN planer transistor designed for primarily for 800MHz mobile communications. This device utilizes matched input technology (Tuned Q) to increase bandwidth and power gain over the complete range of 806–866MHz.

Features:

- Designed for 806–866MHz Mobile Equipment
- 18W Min., with Greater than 6dB Gain at 836MHz
- Withstands 10:1 VSWR at Rated Operating Conditions
- Matched Input Technology
- Common Base

Absolute Maximum Ratings: ($T_C = +25^\circ C$ unless otherwise specified)

Collector–Base Voltage, V_{CBO}	36V
Collector–Emitter Voltage, V_{CEO}	16V
Emitter–Base Voltage, V_{EBO}	4V
Maximum Collector Current, I_C	7A
Total Device Dissipation (At $+25^\circ C$), P_{tot}	46W
Operating Junction Temperature, T_J	$+200^\circ C$
Storage Temperature Range, T_{stg}	-65° to $+150^\circ C$
Thermal Resistance, Junction–to–Case, R_{thJC}	$3.8^\circ C/W$

Electrical Characteristic: ($T_C = +25^\circ C$ 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 inductor.

Electrical Characteristic (Cont'd): ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic						
Output Power	P_O	$V_{CE} = 12.5\text{V}, f = 836\text{MHz}$	18	–	–	W
Power Gain	P_G	$V_{CE} = 12.5\text{V}, f = 836\text{MHz}$	6	–	–	dB
Impedance	Z_s	$V_{CE} = 12.5\text{V}, P_i = 15\text{W}, f = 836\text{MHz}$	–	$3.0 - j4.8$	–	Ω
	Z_{cl}		–	$1.6 - j2.5$	–	Ω
Output Capacitance	C_{ob}	$V_{CB} = 12.5\text{V}, I_E = 0, f = 1\text{MHz}$	–	20	–	pF

