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## NTE282 Silicon NPN Transistor Final RF Power Amp, Switch

**Applications:**

- HF Power Amplifiers, Switchings
- 27MHz, 4W, AM, Citizens Band Transmitter Output Stage

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Collector–Base Voltage, $V_{CBO}$ .....	100V
Collector–Emitter Voltage, $V_{CEO}$ .....	60V
Emitter–Base Voltage, $V_{EBO}$ .....	6V
Collector Current, $I_C$ .....	4A
Base Current, $I_B$ .....	800mA
Collector Power Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ .....	10W
Operating Junction Temperature, $T_J$ .....	+175°C
Storage Temperature Range, $T_{stg}$ .....	–65° to +200°C

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 50V, I_E = 0$	–	–	1	$\mu\text{A}$
Emitter Cutoff current	$I_{EBO}$	$V_{EB} = 6V, I_C = 0$	–	–	2	$\mu\text{A}$
Collector–Base Voltage	$V_{CBO}$	$I_C = 100\mu\text{A}$	100	–	–	V
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 10\text{mA}$	60	–	–	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 400\text{mA}$	–	0.3	0.8	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 400\text{mA}$	–	1.0	1.4	V
DC Current Gain	$h_{FE1}$	$V_{CE} = 2V, I_C = 100\text{mA}$	27	100	264	
	$h_{FE2}$	$V_{CE} = 2V, I_C = 2A$	–	60	–	
Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1\text{MHz}$	–	45	60	pF
Collector–Base Time Constant	$C_c \cdot r_{bb'}$	$V_{CB} = 10V, I_E = -15\text{mA}, f = 31.9\text{MHz}$	–	35	70	ps
Gain Bandwidth Product	$f_T$	$V_{CB} = 10V, I_E = -100\text{mA}$	70	140	–	MHz
Power Output	$P_O$	$P_{IN} = 400\text{mW}, V_{CC} = 12V$	4	6	–	W
Power Gain	$P \cdot G$	$f = 27\text{MHz}$	10	–	–	dB

