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## NTE295 Silicon NPN Transistor RF Power Output, Driver

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

Collector–Base Voltage, $V_{CBO}$ .....	75V
Collector–Emitter Voltage ( $R_{BE} = 150\Omega$ ), $V_{CER}$ .....	75V
Collector–Emitter Voltage, $V_{CEO}$ .....	45V
Emitter–Base Voltage, $V_{EBO}$ .....	5V
Collector Current, $I_C$	
Continuous .....	1.0A
Peak .....	1.5A
Collector Dissipation ( $T_A = +25^\circ\text{C}$ ), $P_C$ .....	750mW
Collector Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ .....	5W
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	–55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 40V, I_E = 0$	–	–	1.0	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$	–	–	1.0	$\mu\text{A}$
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	75	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CER}$	$I_C = 1\text{mA}, R_{BE} = 150\Omega$	75	–	–	V
	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	45	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5	–	–	V
DC Current Gain	$h_{FE}$	$V_{CE} = 5V, I_C = 500\text{mA}$	60	–	320	
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 10V, I_C = 50\text{mA}$	180	250	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	–	0.2	0.6	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	–	0.9	1.2	V
Output Capacitance	$C_{ob}$	$V_{CB} = 10V, f = 1\text{MHz}$	–	15	25	pF
Output Power	$P_O$	$V_{CC} = 12V, f = 27\text{MHz}, P_i = 35\text{mW}$	1.0	1.8	–	W
Collector Efficiency	$\eta$		60	–	–	%

