



ELECTRONICS, INC.

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## NTE2510 Silicon NPN Transistor High Frequency Video Output

### Features:

- High Gain Bandwidth Product:  $f_T = 2\text{GHz}$
- High Current Capacity:  $I_C = 500\text{mA}$

### Applications:

- High-Definition CRT Display Video Output
- Wide-Band Amp

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

Collector-to-Base Voltage, $V_{CBO}$	30V
Collector-to-Emitter Voltage, $V_{CEO}$	20V
Emitter-to-Base Voltage, $V_{EBO}$	3V
Collector Current, $I_C$	
Continuous	500mA
Peak	1000mA
Collector Dissipation, $P_C$	
$T_A = +25^\circ\text{C}$	1.3W
$T_C = +25^\circ\text{C}$	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	$I_{CBO}$	$V_{CB} = 20\text{V}, I_E = 0$	-	-	0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 2\text{V}, I_C = 0$	-	-	5.0	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 5\text{V}, I_C = 50\text{mA}$	60	-	120	
		$V_{CE} = 5\text{V}, I_C = 500\text{mA}$	20	-	-	
Gain Bandwidth Product	$f_T$	$V_{CE} = 5\text{V}, I_C = 100\text{mA}$	-	2.0	-	GHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	–	6.0	–	pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	–	4.6	–	pF
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 300\text{mA}, I_B = 30\text{mA}$	–	0.3	0.8	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 300\text{mA}, I_B = 30\text{mA}$	–	0.9	1.2	V

