

## NTE2511 (NPN) & NTE2512 (PNP) Silicon Complementary Transistors High Frequency Video Output for HDTV

**Features:**

- High Gain Bandwidth Product:  $f_T = 800\text{MHz Typ.}$
- Low Reverse Transfer Capacitance and Excellent HF Response:  
     NTE2511:  $C_{re} = 2.9\text{pF}$   
     NTE2512:  $C_{re} = 4.6\text{pF}$

**Applications:**

- Very High-Definition CRT Display
- Video Output
- Color TV Chroma Output
- Wide-Band Amp

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

Collector Base Voltage, $V_{CB0}$ .....	80V
Collector Emitter Voltage, $V_{CEO}$ .....	60V
Emitter base Voltage, $V_{EBO}$ .....	4V
Collector Current, $I_C$	
Continuous .....	500mA
Peak .....	1A
Collector Power Dissipation, $P_C$	
$T_A = +25^\circ\text{C}$ .....	1.2W
$T_C = +25^\circ\text{C}$ .....	10W
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	$I_{CB0}$	$V_{CB} = 60\text{V}, I_E = 0$	-	-	0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 2\text{V}, I_C = 0$	-	-	1.0	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	100	-	320	
		$V_{CE} = 10\text{V}, I_C = 400\text{mA}$	20	-	-	
Gain Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}, I_C = 100\text{mA}$	-	800	-	MHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Emitter Saturation Voltage NTE2511	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$	-	-	0.6	V
NTE2512			-	-	0.8	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$	-	-	1.0	V
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	80	-	-	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	60	-	-	V
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	4	-	-	V
Output Capacitance NTE2511	$C_{ob}$	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	-	3.4	-	pF
NTE2512			-	5.2	-	pF
Reverse Transfer Capacitance NTE2511	$C_{re}$	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	-	2.9	-	pF
NTE2512			-	4.6	-	pF

