

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_{CBO}	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	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$	—	—	0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 2\text{V}, I_C = 0$	—	—	1.0	μA
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

