

NTE2508 (NPN) & NTE2509 (PNP) Silicon Complementary Transistors Video Output for HDTV

Features:

- High Gain Bandwidth Product: $f_T = 500\text{MHz}$
- High Breakdown Voltage: $V_{CEO} = 120\text{V Min}$
- Low Reverse Transfer Capacitance and Excellent HF Response

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}	120V
Collector to Emitter Voltage, V_{CEO}	120V
Emitter to Base Voltage, V_{EBO}	3V
Collector Current, I_C	
Continuous	300mA
Peak	600mA
Collector Dissipation, P_C	
$T_A = +25^\circ\text{C}$	1.3W
$T_C = +25^\circ\text{C}$	8W
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}	$V_{CB} = 80\text{V}, I_E = 0$	—	—	0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 2\text{V}, I_C = 0$	—	—	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	40	—	320	
		$V_{CE} = 10\text{V}, I_C = 200\text{mA}$	20	—	—	
Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	—	400	—	MHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Capacitance NTE2508	C_{ob}	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	–	3.1	–	pF
NTE2509			–	4.4	–	pF
Reverse Transfer Capacitance NTE2508	C_{re}	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	–	2.7	–	pF
NTE2509			–	4.0	–	pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	–	–	1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	–	–	1.0	V

