

NTE2501 (NPN) & NTE2502 (PNP) Silicon Complementary Transistors High Voltage for Video Output

Features:

- High Breakdown Voltage
- Excellent High Frequency Characteristics

Applications:

- High Definition CRT Display
- Color TV Chroma Output, High Breakdown Voltage Drivers

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

Collector–Base Voltage, V_{CB0}	300V
Collector–Emitter Voltage, V_{CE0}	300V
Emitter–Base Voltage, V_{EBO}	5V
Collector Current, I_C	
Continuous	100mA
Peak	200mA
Collector Dissipation, P_C	
$T_A = +25^\circ\text{C}$	1.5W
$T_C = +25^\circ\text{C}$	7W
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}	$V_{CB} = 200V, I_E = 0$	–	–	0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	–	–	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10V, I_C = 10\text{mA}$	100	–	200	
Gain Bandwidth Product	f_T	$V_{CE} = 30V, I_C = 10\text{mA}$	–	70	–	MHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Capacitance NTE2501	C_{ob}	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	–	2.6	–	pF
NTE2502			–	3.1	–	pF
Reverse Transfer Capacitance NTE2501	C_{re}	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	–	1.8	–	pF
NTE2502			–	2.3	–	pF
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 20\text{mA}, I_B = 2\text{mA}$	–	–	600	mV
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 20\text{mA}, I_B = 2\text{mA}$	–	–	1.0	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	300	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	300	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5	–	–	V

