

NTE2521 Silicon NPN Transistor Video Output for HDTV

Features:

- High Gain Bandwidth Product: $f_T = 400\text{MHz Typ}$
- High Breakdown Voltage: $V_{CE0} \geq 250\text{V Min}$
- High Current
- Low Reverse Transfer Capacitance and Excellent HF Response

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

Collector to Base Voltage, V_{CBO}	250V
Collector to Emitter Voltage, V_{CEO}	250V
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
$T_C = +25^\circ\text{C}$	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_{CBO}	$V_{CB} = 150\text{V}, I_E = 0$	–	–	0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 2\text{V}, I_C = 0$	–	–	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	60	–	320	
		$V_{CE} = 10\text{V}, I_C = 250\text{mA}$	20	–	–	
Gain Bandwidth Product	f_T	$V_{CE} = 30\text{V}, I_C = 100\text{mA}$	–	400	–	MHz
Output Capacitance	C_{ob}	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	–	4.2	–	pF
Reverse Transfer Capacitance	C_{re}	$V_{CB} = 30\text{V}, f = 1\text{MHz}$	–	3.4	–	pF

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	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	–	–	1.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	–	–	1.0	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	250	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	250	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	3	–	–	V

