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## NTE2521 Silicon NPN Transistor Video Output for HDTV TO-126 Type Package

**Features:**

- High Gain Bandwidth Product:  $f_T = 400\text{MHz Typ}$
- High Breakdown Voltage:  $V_{CEO} \geq 250\text{V Min}$
- High Current
- Low Reverse Transfer Capacitance and Excellent High Frequency 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, $T_J$ .....	$+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ 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	$I_{CBO}$	$V_{CB} = 150\text{V}, I_E = 0$	–	–	0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 2\text{V}, I_C = 0$	–	–	0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	60	–	120	
		$V_{CE} = 10\text{V}, I_C = 250\text{mA}$	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

