

NTE2331 Silicon NPN Transistor Color TV Horizontal Deflection Output w/Damper Diode

Applications:

- Color TV Horizontal Deflection Output
- Color Display Horizontal Deflection Output

Features:

- High Speed ($t_f = 100\text{nsec}$)
- High Breakdown Voltage ($V_{CBO} = 1500\text{V}$)
- High Reliability
- On-Chip Damper Diode

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

Collector–Base Voltage, V_{CBO}	1500V
Collector–Emitter Voltage, V_{CEO}	800V
Emitter–Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	6A
Peak	20A
Collector Dissipation ($T_C = +25^\circ\text{C}$), P_C	60W
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_{CES}	$V_{CE} = 1500\text{V}$	–	–	1.0	mA
	I_{CBO}	$V_{CB} = 800\text{V}$	–	–	10	μA
Collector Sustain Voltage	$V_{CEO(sus)}$	$I_C = 100\text{mA}$, $I_B = 0$	800	–	–	V
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}$	40	–	130	mA
Saturation Voltage Collector to Emitter	$V_{CE(sat)}$	$I_C = 5\text{A}$, $I_B = 1.0\text{A}$	–	–	5	V
Saturation Voltage Base to Emitter	$V_{BE(sat)}$	$I_C = 5\text{A}$, $I_B = 1.0\text{A}$	–	–	1.5	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Current Gain	h_{FE1}	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	8	—	—	
	h_{FE2}	$V_{CE} = 5\text{V}, I_C = 5\text{A}$	5	—	10	
Diode Forward Voltage	V_F	$I_{EC} = 6\text{A}$	—	—	2	V
Fall Time	t_f	$I_C = 4\text{A}, I_{B1} = 0.8\text{A}, I_{B2} = 1.6\text{A}$	—	0.1	0.3	μs

