



ELECTRONICS, INC.

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NTE2510 Silicon NPN Transistor High Frequency Video Output

Features:

- High Gain Bandwidth Product: $f_T = 2\text{GHz}$
- High Current Capacity: $I_C = 500\text{mA}$

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} | 30V |
| Collector-to-Emitter Voltage, V_{CEO} | 20V |
| Emitter-to-Base Voltage, V_{EBO} | 3V |
| Collector Current, I_C | |
| Continuous | 500mA |
| Peak | 1000mA |
| Collector Dissipation, P_C | |
| $T_A = +25^\circ\text{C}$ | 1.3W |
| $T_C = +25^\circ\text{C}$ | 5W |
| 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} | $V_{CB} = 20\text{V}, I_E = 0$ | - | - | 0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = 2\text{V}, I_C = 0$ | - | - | 5.0 | μA |
| DC Current Gain | h _{FE} | $V_{CE} = 5\text{V}, I_C = 50\text{mA}$ | 60 | - | 120 | |
| | | $V_{CE} = 5\text{V}, I_C = 500\text{mA}$ | 20 | - | - | |
| Gain Bandwidth Product | f_T | $V_{CE} = 5\text{V}, I_C = 100\text{mA}$ | - | 2.0 | - | GHz |

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|-----|------|
| Output Capacitance | C_{ob} | $V_{CB} = 10\text{V}, f = 1\text{MHz}$ | – | 6.0 | – | pF |
| Reverse Transfer Capacitance | C_{re} | $V_{CB} = 10\text{V}, f = 1\text{MHz}$ | – | 4.6 | – | pF |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 300\text{mA}, I_B = 30\text{mA}$ | – | 0.3 | 0.8 | V |
| Base–Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 300\text{mA}, I_B = 30\text{mA}$ | – | 0.9 | 1.2 | V |

