

## NTE162 Silicon NPN Transistor TV Vertical Deflection

**Description:**

The NTE162 is an NPN transistor in a TO3 type case designed for medium-to-high voltage inverters, converters, regulators, and switching circuits.

**Features:**

- High Voltage:  $V_{CEX} = 400V$
- Gain Specified to 3.5A
- High Frequency Response to 2.5MHz

**Absolute Maximum Ratings:**

Collector–Emitter Voltage, $V_{CEX}$ .....	400V
Collector–Base Voltage, $V_{CB}$ .....	400V
Emitter–Base Voltage, $V_{EBO}$ .....	5V
Continuous Collector Current, $I_C$ .....	10A
Base Current, $I_B$ .....	2A
Total Device Dissipation ( $T_C = +25^\circ C$ ), $P_D$ .....	125W
Derate Above $25^\circ C$ .....	1W/ $^\circ C$
Operating Junction Temperature Range, $T_J$ .....	$-65^\circ$ to $+150^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+200^\circ C$
Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	1 $^\circ C/W$

**Electrical Characteristics:** ( $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF Characteristics</b>						
Collector–Emitter Sustaining Voltage	$V_{(BR)CEO(sus)}$	$I_C = 100mA, I_B = 0$ , Note 1	325	–	–	V
Collector Cutoff Current	$I_{CEX}$	$V_{CE} = 400V, V_{EB(off)} = 1.5V$	–	–	2.5	mA
		$V_{CE} = 400V, V_{EB(off)} = 1.5V,$ $T_C = +125^\circ C$	–	–	1.0	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{BE} = 5V, I_C = 0$	–	–	2.0	mA

Note 1. Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>ON Characteristics</b> (Note 1)						
DC Current Gain	$h_{FE}$	$I_C = 2.5\text{A}, V_{CE} = 5\text{V}$	15	–	35	
		$I_C = 3.5\text{A}, V_{CE} = 5\text{V}$	10	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2.5\text{A}, I_B = 0.5\text{A}$	–	–	0.7	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2.5\text{A}, I_B = 0.5\text{A}$	–	–	1.5	V
<b>Dynamic Characteristics</b>						
Current Gain–Bandwidth Product	$f_T$	$I_C = 200\text{mA}, V_{CE} = 10\text{V}, f = 1\text{MHz}$	2.5	–	–	MHz

Note 1. Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

