

NTE2301 Silicon NPN Transistor High Voltage Horizontal Output

Description:

The NTE2301 is a silicon NPN power transistor in a TO218 type package designed for use in large screen deflection circuits.

Features:

- Collector–Emitter Voltage: $V_{CEX} = 1500V$
- Glassivated Base–Collector Junction
- Safe Operating Area @ $50\mu s = 20A, 400V$
- Switching Times with Inductive Loads: $t_f = 0.4\mu s$ (Typ) @ $I_C = 4.5A$

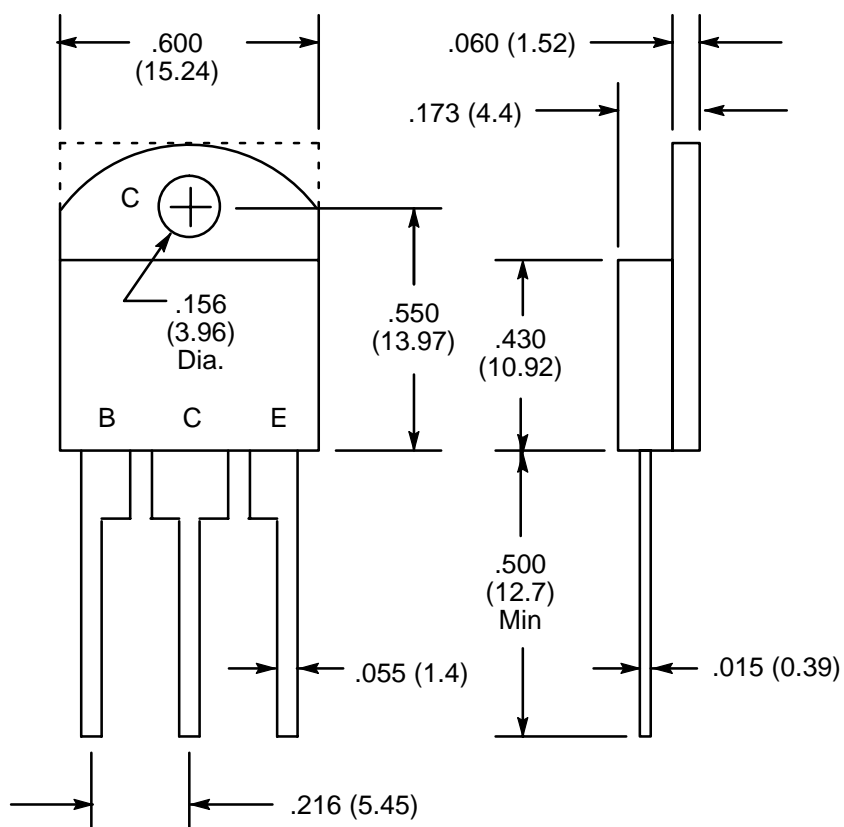
Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO}	750V
Collector–Emitter Voltage, V_{CEX}	1500V
Emitter–Base Voltage, V_{EB}	5V
Continuous Collector Current, I_C	5A
Continuous Base Current, I_B	4A
Continuous Emitter Current, I_E	9A
Total Power Dissipation, P_D	
$T_C = +25^\circ C$	100W
$T_C = +100^\circ C$	40W
Derate Above $25^\circ C$	0.8W/ $^\circ C$
Operating Junction Temperature Range, T_J	-65° to $+150^\circ C$
Storage Temperature Range, T_{stg}	-65° to $+150^\circ C$
Thermal Resistance, Junction–to–Case, R_{thJC}	1.25 $^\circ C/W$
Maximum Lead Temperature (During Soldering, 1/8" from Case for 5sec), T_L	$+275^\circ C$

Electrical Characteristics: ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics (Note 1)						
Collector–Emitter Sustaining Voltage	V _{CEO(sus)}	I _C = 50mA, I _B = 0	750	–	–	V
Collector Cutoff Current	I _{CES}	V _{CE} = 1500V, V _{BE} = 0	–	–	1	mA
Emitter Cutoff Current	I _{EBO}	V _{BE} = 5V, I _C = 0	–	–	1	mA
ON Characteristics (Note 1)						
Collector–Emitter Saturation Voltage	V _{CE(sat)}	I _C = 4.5A, I _B = 1.8A	–	–	5	V
		I _C = 3.5A, I _B = 1.5A	–	–	5	V
Base–Emitter Saturation Voltage	V _{BE(sat)}	I _C = 4.5A, I _B = 1.8A	–	–	1.5	V
		I _C = 3.5A, I _B = 1.5A	–	–	1.5	V
Dynamic Characteristics						
Current Gain – Bandwidth Product	f _T	I _C = 100mA, V _{CE} = 5V, f _{test} = 1MHz	–	4	–	MHz
Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 0.1MHz	–	125	–	pF
Switching Characteristics						
Fall Time	t _f	I _C = 4.5A, I _{B1} = 1.8A, L _B = 8μH	–	0.4	1.0	μs
		I _C = 4.5A, I _{B1} = 1.8A, L _B = 8μH, T _C = +100°C	–	0.6	–	μs

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



NOTE: Dotted line indicates that case may have square corners