

## NTE1840 & NTE1841 Integrated Circuit Hybrid Switching Voltage Regulator

### Features:

- Triple Diffused Transistor Chips Incorporated
- Compact Plastic Package with Industry Standard Reliability
- Output Voltage is Pre-Fixed – No External Adjustment is Required

### Absolute Maximum Ratings:

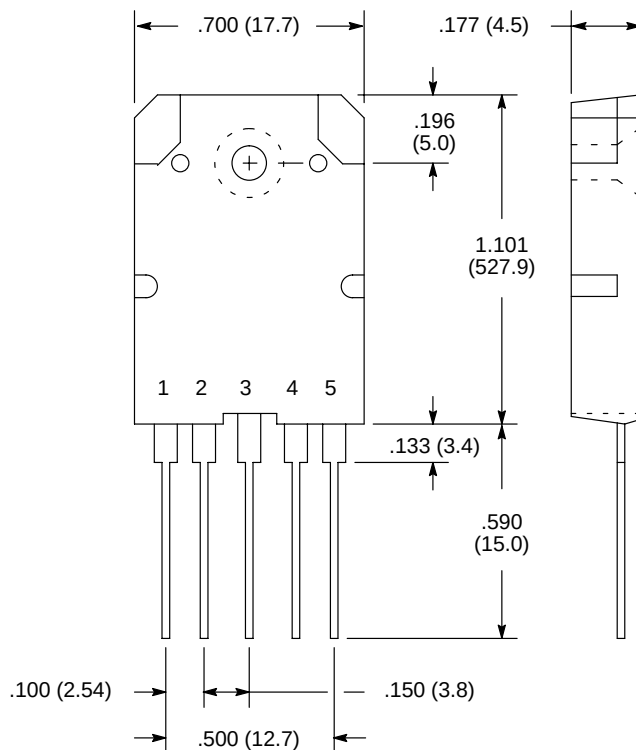
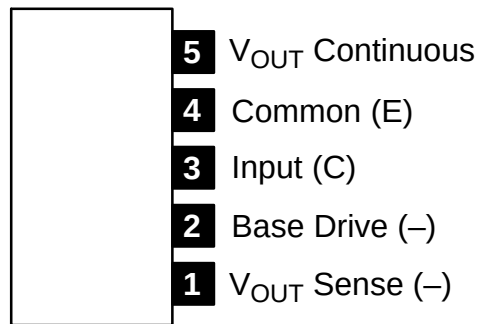
|                                                         |                |
|---------------------------------------------------------|----------------|
| Peak Input Voltage, $V_{IN}$                            | 550V           |
| Input Current, $I_{IN}$                                 |                |
| Continuous                                              | 6A             |
| Pulse                                                   | 12A            |
| Power Dissipation ( $T_C = +100^\circ\text{C}$ ), $P_D$ | 27W            |
| Maximum Power Transistor Junction Temperature, $T_J$    | +150°C         |
| Operating Temperature Range ( $T_C$ ), $T_{opr}$        | -20° to +125°C |
| Storage Temperature Range, $T_{stg}$                    | -30° to +125°C |

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

| Parameter                                   | Symbol                     | Test Conditions                                                                             | Min                   | Typ     | Max   | Unit          |
|---------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------|-----------------------|---------|-------|---------------|
| Output Voltage                              | $V_O$                      | $V_{IN} = 120\text{V}$ , $I_O = 900\text{mA}$                                               | 114.5                 | 116.0   | 117.5 | V             |
| Detecting Voltage (Fixed Output)<br>NTE1840 | $V_O$                      | $I_{in} = 7\text{mA}$                                                                       | 41.3                  | 41.8    | 42.3  | V             |
| NTE1841                                     |                            |                                                                                             | 42.5                  | 43.0    | 43.5  | V             |
| Load Regulation                             | $\text{Reg}_{\text{LOAD}}$ | $V_{IN} = 120\text{V}$ , $I_O = 500\text{mA}$ to $900\text{mA}$                             | Initial Value $\pm 1$ |         |       | V             |
| Output Voltage Temperature Coefficient      |                            | $T_C = -20^\circ$ to $+100^\circ\text{C}$ , $I_{in} = 7\text{mA}$                           | –                     | $\pm 2$ | –     | mV/°C         |
| Saturation Voltage                          | $V_{CE(\text{sat})}$       | $I_C = 2\text{A}$ , $I_B = 400\text{mA}$                                                    | –                     | –       | 1.0   | V             |
|                                             | $V_{BE(\text{sat})}$       | $I_C = 2\text{A}$ , $I_B = 400\text{mA}$                                                    | –                     | –       | 1.5   | V             |
| DC Current Gain                             | $h_{FE}$                   | $I_C = 1\text{A}$ , $V_{CE} = 4\text{V}$                                                    | 10                    | –       | 40    |               |
| Collector Cutoff Current                    | $I_{CEX}$                  | $V_{CE} = 550\text{V}$ , $V_{BE} = -1.5\text{V}$                                            | –                     | –       | 1.0   | mA            |
| Power Transistor Thermal Resistance         | $R_{thJC}$                 | Between Junction and Stem Upper Surface                                                     | –                     | 1.8     | –     | °C/W          |
| Switching Time                              | $t_s$                      | $I_C = 2\text{A}$ , $I_{B1} = 300\text{mA}$ , $I_{B2} = 300\text{mA}$ ,<br>$R_L = 50\Omega$ | –                     | –       | 12    | $\mu\text{s}$ |
|                                             | $t_f$                      |                                                                                             | –                     | –       | 7     | $\mu\text{s}$ |

Note 1. Recommended Case Temperature:  $T_{opr} = +100^\circ\text{C}$ .

**Pin Connection Diagram**  
(Front View)



OR

