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## NTE7152 Integrated Circuit Hybrid Switching Voltage Regulator

### Features:

- Built-In Power Transistor NPN Triple Diffused Planar
- On-Line SMPS for Color TV
- Output Voltage is Pre-Fixed – No External Adjustment is Required

### Absolute Maximum Ratings:

Peak Input Voltage,  $V_{IN}$  ..... 900V  
 Input Current,  $I_{IN}$  ..... 6A  
 Power Dissipation ( $T_C = +100^\circ\text{C}$ ),  $P_D$  ..... 27W  
 Maximum Power Transistor Junction Temperature,  $T_J$  .....  $+150^\circ\text{C}$   
 Operating Temperature Range ( $T_C$ ),  $T_{opr}$  .....  $-20^\circ$  to  $+125^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-30^\circ$  to  $+125^\circ\text{C}$

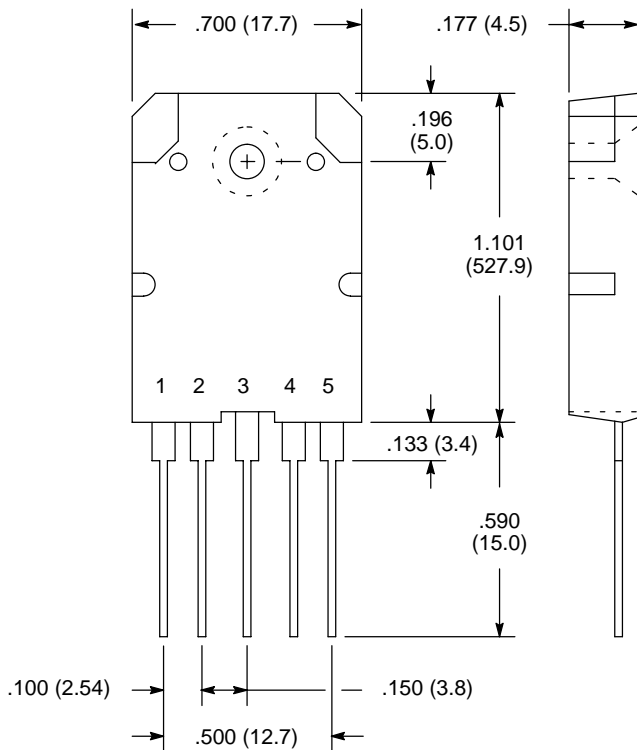
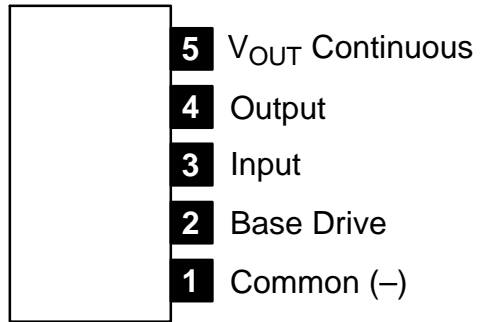
### Electrical Characteristics: (Note 1)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_O$	$V_{IN} = 220\text{V}$ , $I_O = 500\text{mA}$	101.5	103.0	104.5	V
Detecting Voltage (Fixed Output)	$V_O$	$I_{IN} = 6\text{mA}$	102.4	103.4	104.4	V
Load Regulation	$\text{Reg}_{LOAD}$	$V_{IN} = 180\text{V}$ to $280\text{V}$	Initial Value $\pm 1$			V
		$V_{IN} = 220\text{V}$ , $I_O = 300\text{mA}$ to $500\text{mA}$	Initial Value $\pm 1$			V
Output Ripple		$V_{IN} = 180\text{V}$ , $I_O = 500\text{mA}$ , Note 2	$(\Delta V_{IN}/\Delta V_O) \times 100$ 1% Typ.			
Output Voltage Temperature Coefficient		$T_C = -20^\circ$ to $+100^\circ\text{C}$ , $I_{IN} = 6\text{mA}$	–	$\pm 4$	–	mV/ $^\circ\text{C}$
Saturation Voltage	$V_{CE(sat)}$	$I_C = 2\text{A}$ , $I_B = 400\text{mA}$	–	–	1.0	V
	$V_{BE(sat)}$	$I_C = 2\text{A}$ , $I_B = 400\text{mA}$	–	–	1.5	V
DC Current Gain	$h_{FE}$	$I_C = 1\text{A}$ , $V_{CE} = 4\text{V}$	10	–	30	
Collector Cutoff Current	$I_{CEX}$	$V_{CE} = 900\text{V}$ , $V_{BE} = -1.5\text{V}$	–	–	1.0	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{BE} = 5.5\text{V}$	–	–	1.0	mA
Power Transistor Thermal Resistance	$R_{thJC}$	Between Junction and Stem Upper Surface	–	1.8	–	$^\circ\text{C}/\text{W}$
Switching Time	$t_s$	$V_{CE} = 250\text{V}$ , $I_C = 1\text{A}$ , $I_{B1} = 150\text{mA}$ , $I_{B2} = 500\text{mA}$	–	–	7	$\mu\text{s}$
	$t_f$		–	–	1	$\mu\text{s}$

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

Note 2.  $\Delta V_{IN}$ : Input Ripple Voltage  
 $\Delta V_O$ : Output Ripple Voltage

**Pin Connection Diagram**  
(Front View)



**OR**

