

**NTE1839**  
**Integrated Circuit**  
**TV Fixed Voltage Regulator**  
**120V ±0.8V, 1A**

**Absolute Maximum Ratings:**

Maximum Peak Input Voltage,  $V_{IN}$  ..... 200V  
 Maximum Output Current,  $I_O$  ..... 1A  
 Power Dissipation ( $T_C = +100^\circ\text{C}$ ),  $P_D$  ..... 27W  
 Power Transistor Junction Temperature,  $T_J$  ..... +150°C  
 Operating Temperature Range (Case Temperature, Note 1),  $T_{opr}$  ..... -20° to +125°C  
 Storage Temperature Range,  $T_{stg}$  ..... -30° to +125°C

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

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_O$	$V_{IN} = 161\text{V}$ , $I_O = 500\text{mA}$ , $I_{IN} = 7.2\text{mA}$ , Note 2	119.2	120.0	120.8	V
Line Regulation	$\text{Reg}_{LINE}$	$V_{IN} = 145\text{V}$ to $170\text{V}$ , $I_O = 500\text{mA}$	-	-	Δ2.4	V
Load Regulation	$\text{Reg}_{LOAD}$	$V_{IN} = 161\text{V}$ , $I_O = 250\text{mA}$ to $500\text{mA}$	-	-	Δ0.5	V
Output Voltage Temperature Coefficient		$V_{IN} = 161\text{V}$ , $I_O = 500\text{mA}$ , $T_C = -20^\circ$ to $+100^\circ\text{C}$	-	±0	-	mV/°C
Input Output Saturation Voltage	$V_{EC(sat)}$	$I_C = 1\text{A}$ , $I_B = 10\text{mA}$	-	-	1.5	V
Input Output Breakdown Voltage	$V_{CEO}$	$I_{CEO} = 10\text{mA}$ , $I_B = 0$	200	-	-	V
DC Current Gain	$h_{FE}$	$I_C = 1\text{A}$ , $V_{CE} = 4\text{V}$	1500	-	6500	
Power Transistor Thermal Resistance	$R_{\theta JC}$	Between Junction and Case	-	1.8	-	°C/W
Input Output Leakage Current	$I_{CEO}$	$V_{CE}$ (Pin3, Pin4) = 200V, Pin1, Pin2, Pin5 Open	-	-	100	μA
Output Base Reverse Current Capacity (Between Emitter-Base)	$I_{EB(S/B)}$	$t = 65\text{ms}$	-	-	300	mA

Note 2. The fixed output voltage is to be measured 5 seconds after the power switch is turned on.

**Pin Connection Diagram**  
(Front View)

