



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089

NTE1894 Integrated Circuit Hybrid Switching Voltage Regulator

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Peak Input Voltage, V_{IN}	500V
Input Current, I_{IN}	
Continuous	10A
Pulse	20A
Power Dissipation ($T_C = +100^\circ\text{C}$), P_D	27W
Junction Temperature, T_J	+150°C
Operating Case Temperature Range, 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
Set Output Voltage	V_O	$I_{IN} = 7\text{mA}$	41.3	41.8	42.3	V
Output Voltage		$V_{IN} = 100\text{V}, I_{O1} = 1.2\text{A}$	115 ±2			V
Line Regulation vs. Input Voltage	Reg_{LINE1}	$V_{IN} = 85\text{V to } 132\text{V}, I_O = 1.2\text{A}$	Initial Value ±2			V
Line Regulation vs. Output Current	Reg_{LINE2}	$V_{IN} = 100\text{V}, I_{O1} = 0.4 \text{ to } 1.2\text{A}$	Initial Value ±2			V
Temperature Coefficient of Output Voltage		$T_C = -20^\circ \text{ to } +100^\circ\text{C}, I_{IN} = 7\text{mA}$	±2			mV/°C
Power Transistor Characteristics						
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 1\text{A}$	–	–	0.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}, I_B = 1\text{A}$	–	–	1.5	V
Collector Cutoff Current	I_{CEX}	$V_{CE} = 500\text{V}, V_{BE} = -1.5\text{V}$	–	–	1	mA
DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}, I_C = 1\text{A}$	15	–	40	
Switching Turn–On Time	t_{on}		–	–	10	µs
Switching Fall Time	t_f		–	–	0.4	µs
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Top Part of Junction Stem	1.8			°C/W

