

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} = 7mA	41.3	41.8	42.3	V
Output Voltage		V _{IN} = 100V, I _{O1} = 1.2A	115 ±2			V
Line Regulation vs. Input Voltage	Reg _{LINE1}	V _{IN} = 85V to 132V, I _O = 1.2A	Initial Value ±2			V
Line Regulation vs. Output Current	Reg _{LINE2}	V _{IN} = 100V, I _{O1} = 0.4 to 1.2A	Initial Value ±2			V
Temperature Coefficient of Output Voltage		T _C = −20° to +100°C, I _{IN} = 7mA	±2			mV/°C
Power Transistor Characteristics						
Collector–Emitter Saturation Voltage	V _{CE(sat)}	I _C = 5A, I _B = 1A	–	–	0.5	V
Base–Emitter Saturation Voltage	V _{BE(sat)}	I _C = 5A, I _B = 1A	–	–	1.5	V
Collector Cutoff Current	I _{CEX}	V _{CE} = 500V, V _{BE} = −1.5V	–	–	1	mA
DC Current Gain	h _{FE}	V _{CE} = 4V, I _C = 1A	15	–	40	
Switching Turn–On Time	t _{on}		–	–	10	μs
Switching Fall Time	t _f		–	–	0.4	μs
Thermal Resistance, Junction to Case	R _{θJC}	Top Part of Junction Stem	1.8			°C/W

Pin Connection Diagram
(Front View)

