NTE7046
Integrated Circuit
Hybrid Switching Regulator

Absolute Maximum Ratings: $(T_A = +25°C$ unless otherwise specified)

TR1 Collector–Emitter Voltage (Note 1), V_{CEX} 500V

Applying Voltage, Pin4–2, V_{2-4} 12V

Applying Voltage, Pin2–5, V_{2-5} 12V

Applying Voltage, Pin5–9, V_{5-9} 30V

Applying Voltage, Pin7–6, V_{7-6} 5V

TR1 Collector Current, $I_{C(TR1)}$
      Continuous 10A
      Pulsed 20A

TR4 Collector Current, $I_{C(TR4)}$ 500mA

D2 Forward Current, $I_{IN(D2)}$ 500mA

D3 Forward Current, $I_{IN(D3)}$ 100mA

Maximum Power Dissipation (Note 2), P_D
      No Fin 3.2W
      $T_{C1} = +100°C$ 2.7W

TR1 Junction Temperature, T_J . . . . +150°C

Frame Temperature Range (Operating, Note 3), T_{C2} . . . . −20° to +125°C

Storage Temperature Range, T_{stg} . . . . −30° to +125°C

Maximum Output Current $(V_O = 115V)$, I_O 1.7A

Note 1. Reference: $V_{CEO} = 400V$ Min

Note 2. T_{C1} denotes the temperature of resin beneath the Power Transistor.

Note 3. T_{C2} denotes the internal frame temperature. Recommended $T_{C2} = +100°C$.

Electrical Characteristics (TR1 Characteristics): $(T_A = +25°C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Saturation Voltage	$V_{CE(sat)}$	$I_C = 8A$, $I_B = 1.2A$	–	–	0.5	V
	$V_{BE(sat)}$	$I_C = 6A$, $I_B = 1.2A$	–	–	1.5	V
DC Current Gain	h_{FE}	$I_C = 1A$, $V_{CE} = 4V$	15	–	40	
Collector Cutoff Current	I_{CEX}	$V_{CE} = 500V$, $V_{BE} = 1.5V$	–	–	8	mA
Power Transistor Thermal Resistance	$R_{\Theta JC2}$	Between Junction and Internal Frame	–	0.7	–	°C/W
Switching Time	t_s		–	–	10.0	µs
	t_f		–	–	0.6	µs

Pin Connection Diagram
(Front View)

Pin	Function
9	Photo Coupler (−)
8	Drive TR2 Base
7	GND/Current Detector
6	Current Detector Base
5	Drive Control
4	Drive Control
3	Base
2	Emitter/Common (Power TR)
1	Collector

.953 (24.4)

.610 (15.5)

.130 (3.3) Dia

.216 (5.5)

.197 (5.0)

.905 (23.0)

1   9

.492 (12.5)

.276 (7.0)

.216 (5.5)

.100 (2.54)

.177 (4.5)

.800 (20.32)