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NTE1870 Integrated Circuit Module – Color TV Switching Regulator

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

Input AC Voltage, V_{ACmax}	280V
Output Power, P_{Omax}	
AC: 90V to 280V	80W
AC: 150V to 280V	100W
Substrate Temperature, T_{Cmax}	+105°C
Junction Temperature, T_J	+105°C
Ambient Operating Temperature Range, T_{opr}	-10° to +60°C
Storage Temperature Range, T_{stg}	-30° to +105°C
Thermal Resistance, Junction-to-Case, R_{thJC}	1.8°C/W

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

Parameter	Test Conditions	Min	Typ	Max	Unit
Output Voltage Hi +B	$V_{AC} = 220\text{V}, I_{O1} = 500\text{mA}, I_{O2} = 500\text{mA}$	114.0	115.0	116.0	V
		Low +B	–	15.0	–
Line Regulation	$V_{AC} = 90\text{V to } 280\text{V}, I_{O1} = 500\text{mA}, I_{O2} = 500\text{mA}$	–	–	1	V
Load Regulation	$V_{AC} = 220\text{V}, I_{O1} = 300\text{mA to } 700\text{mA}, I_{O2} = 500\text{mA}$	–	1.5	2.0	V
Ripple Voltage	$V_{AC} = 220\text{V}, I_{O1} = 500\text{mA}, I_{O2} = 500\text{mA}$	–	0.3	0.6	V_{P-P}
Temperature Stability	$V_{AC} = 220\text{V}, I_{O1} = 500\text{mA}, I_{O2} = 500\text{mA}$	–	0.01	–	%/°C
Operating Frequency	$V_{AC} = 220\text{V}, I_{O1} = 500\text{mA}, I_{O2} = 500\text{mA}$	–	34	–	kHz
Operating Efficiency	$V_{AC} = 220\text{V}, I_{O1} = 500\text{mA}, I_{O2} = 500\text{mA}$	–	80	–	%
Cross Road Regulation	$V_{AC} = 220\text{V}, I_{O1} = 500\text{mA}, I_{O2} = 0 \text{ to } 1\text{A}$	–	0.2	–	V
Dielectric Voltage	Prim – Second	4	–	–	kV

Note 1. Hi +B: V_{O1}, I_{O1} ; Low +B: V_{O2}, I_{O2}

Pin Connection Diagram
(Front View)

15	TR5 Collector (Internal)
14	TR5 Collector (Internal)
13	No Pin
12	No Pin
11	TR5 Emitter (Internal)
10	TR5 Base (Internal)
9	Constant Current base Drive
8	Voltage Compensation
7	Constant Current Base Driver Control
6	Constant Current Base Driver Control
5	Current Feedback for Overcurrent Protection
4	Power Supply for Control Voltage Set Up
3	Voltage to Set Up an Output Voltage
2	Soft Start/Output Voltage Setting
1	Control Circuit GND

