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NTE7152
Integrated Circuit
Hybrid Switching Voltage Regulator

Features:
- Built–In Power Transistor NPN Triple Diffused Planar
- On–Line SMPS for Color TV
- Output Voltage is Pre–Fixed – No External Adjustment is Required

Absolute Maximum Ratings:
Peak Input Voltage, V_{IN} 900V
Input Current, I_{IN} 6A
Power Dissipation (T_C = +100°C), P_D 27W
Maximum Power Transistor Junction Temperature, T_J . . . . . +150°C
Operating Temperature Range (T_C), T_{opr} . . . . . –20° to +125°C
Storage Temperature Range, T_{stg} . . . . . –30° to +125°C

Electrical Characteristics: (Note 1)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	V_{IN} = 220V, I_O = 500mA	101.5	103.0	104.5	V
Detecting Voltage (Fixed Output)	V_O	I_{IN} = 6mA	102.4	103.4	104.4	V
Load Regulation	Reg_{LOAD}	V_{IN} = 180V to 280V	Initial Value ±1			V
		V_{IN} = 220V, I_O = 300mA to 500mA	Initial Value ±1			V
Output Ripple		V_{IN} = 180V, I_O = 500mA, Note 2	($\Delta V_{IN}/\Delta V_O$) x 100 1% Typ.			
Output Voltage Temperature Coefficient		T_C = –20° to +100°C, I_{IN} = 6mA	–	±4	–	mV/°C
Saturation Voltage	$V_{CE(sat)}$	I_C = 2A, I_B = 400mA	–	–	1.0	V
	$V_{BE(sat)}$	I_C = 2A, I_B = 400mA	–	–	1.5	V
DC Current Gain	h_{FE}	I_C = 1A, V_{CE} = 4V	10	–	30	
Collector Cutoff Current	I_{CEX}	V_{CE} = 900V, V_{BE} = –1.5V	–	–	1.0	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 5.5V	–	–	1.0	mA
Power Transistor Thermal Resistance	R_{thJC}	Between Junction and Stem Upper Surface	–	1.8	–	°C/W
Switching Time	t_s	V_{CE} = 250V, I_C = 1A, I_{B1} = 150mA, I_{B2} = 500mA	–	–	7	µs
	t_f		–	–	1	µs

Note 1. Recommended Case Temperature: T_{opr} = +100°C.
Note 2. ΔV_{IN}: Input Ripple Voltage
ΔV_O: Output Ripple Voltage

Pin Connection Diagram
(Front View)