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## NTE7073 Integrated Circuit Hybrid Switching Regulator

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  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
$T_{C1} = +100^\circ\text{C}$ .....	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 ( $V_O = 115\text{V}$ ), $I_O$ .....	1.7A

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

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

Note 3.  $T_{C2}$  denotes the internal frame temperature. Recommended  $T_{C2} = +100^\circ\text{C}$ .

**Electrical Characteristics (TR1 Characteristics):** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Saturation Voltage	$V_{CE(sat)}$	$I_C = 8\text{A}, I_B = 1.2\text{A}$	–	–	0.5	V
	$V_{BE(sat)}$	$I_C = 6\text{A}, I_B = 1.2\text{A}$	–	–	1.5	V
Collector Cutoff Current	$I_{CBO}$	$V_{CE} = 500\text{V}, V_{BE} = 1.5\text{V}$	–	–	1.8	mA
DC Current Gain	$h_{FE}$	$I_C = 1\text{A}, V_{CE} = 4\text{V}$	15	–	40	
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)

