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NTE7124 Integrated Circuit Positive 5V Regulator w/Reset Function

Description:

The NTE7124 is a reset function–provided, general–purpose voltage regulator IC in a 5–Lead TO220 type package with output current 500mA designed for use in microcomputers.

Features:

- Reset Function (Power Supply Voltage Monitor: Generates a Reset Signal at a Power–ON and Temporal Power–Down)
- On–Chip ASO Protector
- On–Chip Thermal Protector
- On–Chip Overcurrent Limiter

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

Maximum Input Voltage, V_{INmax}	35V
Reset Pin Supply Voltage, V_{reset}	35V
Allowable Power Dissipation, P_{dmax}	
No Fin	1.75W
$TC = +25^{\circ}\text{C}$	20W
Operating Temperature Range, T_{opr}	-30° to $+80^{\circ}\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^{\circ}\text{C}$

Recommended Operating Conditions: ($T_A = +25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	V_{IN}		7.5	–	20.0	V
Output Current	I_O		5	–	500	mA

Electrical Characteristics: ($T_A = +25^{\circ}\text{C}$, $V_{IN} = 10\text{V}$, $I_O = 0.35\text{A}$, $C_O = 10\mu\text{F}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Output Voltage	V_{O1}	$T_J = +25^{\circ}\text{C}$	4.8	5.0	5.2	V	
	V_{O2}	$7\text{V} \leq V_{IN} \leq 20\text{V}$, $5\text{mA} \leq I_O \leq 0.35\text{A}$	4.75	–	5.25	V	
Line Regulation LN1	ΔV_O	$T_J = +25^{\circ}\text{C}$, $I_O = 0.2\text{A}$	$7\text{V} \leq V_{IN} \leq 20\text{V}$	–	1.0	100	mV
			$8\text{V} \leq V_{IN} \leq 20\text{V}$	–	0.5	50	mV
LN2							

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, $V_{IN} = 10\text{V}$, $I_O = 0.35\text{A}$, $C_O = 10\mu\text{F}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Load Regulation LD1		$T_J = +25^\circ\text{C}$ $5\text{mA} \leq I_O \leq 0.5\text{A}$	-	3.0	100	mV	
LD2							$5\text{mA} \leq I_O \leq 0.2\text{A}$
Current Dissipation	I_{CC}	$T_J = +25^\circ\text{C}$	-	3.4	6.0	mA	
Current Dissipation Variation Line (LN)	ΔI_{CC}	$8\text{V} \leq V_{IN} \leq 25\text{V}$, $I_O \leq 0.2\text{A}$	-	-	0.8	mA	
Load (LD)		$5\text{mA} \leq I_O \leq 0.35\text{A}$	-	-	0.5	mA	
Output Noise Voltage	V_{NO}	$I_O = 5\text{mA}$, $10\text{Hz} \leq f \leq 100\text{kHz}$	-	60	-	μV	
Ripple Rejection	RR	$I_O = 0.1\text{A}$	$T_J = +25^\circ\text{C}$, $f = 120\text{Hz}$, $8\text{V} \leq V_{IN} \leq 18\text{V}$	62	80	-	dB
		$I_O = 0.3\text{A}$		62	77	-	dB
Dropout Voltage	V_{drop}		-	2.0	2.5	V	
Peak Output Current	I_{OP}	$T_J = +25^\circ\text{C}$	-	1.1	-	A	
Short-Circuit Current	I_{OSC}	$T_J = +25^\circ\text{C}$, $V_{IN} = 35\text{V}$	-	0.02	-	A	
Temperature Coefficient of Output Voltage	$\Delta V_O / \Delta T$	$I_O = 5\text{mA}$, $T_J = +25^\circ$ to $+125^\circ\text{C}$	-	-0.3	-	$\text{mV}/^\circ\text{C}$	
'L' Reset Output Voltage	V_{ORL}	$V_O \leq 4.5\text{V}$, $I_O = 5\text{mA}$	-	-	0.2	V	
Reset Threshold Voltage	V_{RT}	$I_O = 5\text{mA}$	$V_O^{-0.3}$	$V_O^{-0.2}$	-	V	
Reset Hysteresis Voltage	V_{RTH}	$I_O = 5\text{mA}$	-	100	-	mV	
Reset Output Delay Time	t_d	$C_d = 0.1\mu\text{F}$, $I_O = 5\text{mA}$	-	10	-	ms	

Pin Connection Diagram
(Front View)



