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NTE1902 Integrated Circuit 3 Terminal Positive Voltage Regulator 9V, 100mA

Features:

- Output Current up to 100mA
- No External Components
- Internal Thermal Overload Protection
- Internal Short-Circuit Current Limiting
- Output Voltage Tolerances of $\pm 5\%$ over the Temperature Range

Absolute Maximum Ratings:

Input Voltage, V_{IN}	35V
Internal Power Dissipation, P_D	Internally Limited
Operating Junction Temperature Range, T_J	0° to +125°C
Storage Temperature Range, T_{STG}	-55° to +150°C
Lead Temperature (During Soldering, 10sec), T_L	+260°C

Electrical Characteristics: ($V_{OUT} = 9V$, $V_{IN} = 15V$, $0^\circ \leq T_J \leq +125^\circ C$, $I_O = 40mA$, $C_{IN} = 0.33\mu F$, $C_{OUT} = 0.1\mu F$, Note 1 unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = +25^\circ C$		8.64	9.00	9.36	V
		$1mA \leq I_O \leq 70mA$, $11.5V \leq V_{IN} \leq 24V$		8.55	9.00	9.45	V
Line Regulation	Reg_{Line}	$T_J = +25^\circ C$	$11.5V \leq V_{IN} \leq 24V$	-	90	200	mV
			$13V \leq V_{IN} \leq 24V$	-	100	150	mV
Load Regulation	Reg_{Load}	$T_J = +25^\circ C$	$1mA \leq I_O \leq 100mA$	-	20	90	mV
			$1mA \leq I_O \leq 40mA$	-	10	45	mV
Quiescent Current	I_B			-	2.1	5.5	mA
Quiescent Current Change	I_B	With line, $11.5V \leq V_{IN} \leq 24V$		-	-	1.5	mA
		With load, $1mA \leq I_O \leq 40mA$		-	-	0.1	mA
Output Noise Voltage	V_N	$T_A = +25^\circ C$, $f = 10Hz$ to $10kHz$		-	70	-	μV
Temperature Coefficient of V_{OUT}		$I_{OUT} = 5mA$		-	-0.9	-	mV/C
Ripple Rejection	RR	$T_J = +25^\circ C$, $15V \leq V_{IN} \leq 25V$, $f = 120Hz$		38	44	-	dB
Dropout Voltage	V_{DO}	$T_J = +25^\circ C$		-	1.4	-	V
Peak Output/Short Circuit Current	I_{pk}/I_{OS}	$T_J = +25^\circ C$		-	140	-	mA

Note 1. The maximum steady state usable output current and input voltage are very dependent on the heat sink and/or lead length of the package. The data above represents pulse test conditions with junction temperatures as indicated at the initiation of the test.

