

**NTE7128**  
**Integrated Circuit**  
**Positive Voltage Regulator**  
**with ON/OFF Feature, 12V, 1A**

**Description:**

The NTE7128 is a 1A low power-loss voltage regulator in a 4-Lead TO220 type package designed for use in constant voltage power applications in electronic equipment such as VCRs and musical instruments.

**Features:**

- Low Power Loss
- Includes ON/OFF Control Terminal
- Precision Output Voltage:  $\pm 2.5\%$

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

Input Voltage (Note 1), $V_{IN}$ .....	35V
ON/OFF Control Terminal Voltage, $V_C$ .....	35V
Output Current, $I_O$ .....	1A
Power Dissipation, $P_D$	
No Heat Sink .....	1.5W
With Infinite Heat Sink .....	15W
Junction Temperature (Note 2), $T_J$ .....	+150°C
Operating Temperature Range, $T_{opr}$ .....	-20° to +80°C
Storage Temperature Range, $T_{stg}$ .....	-40° to +150°C
Lead Temperature (During Soldering, 10sec), $T_L$ .....	+260°C

Note 1. All are open except GND and applicable terminals.

Note 2. Overheat protection operates at  $T_J \leq +125^\circ\text{C}$ .

**Electrical Characteristics:** ( $V_{IN} = 18V$ ,  $I_O = 0.5A$ ,  $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_O$		11.7	12.0	12.3	V
Load Regulation	$R_{egL}$	$I_O = 5mA$ to 1A	–	0.1	2.0	%
Line Regulation	$R_{egI}$	$V_{IN} = 13V$ to 29V	–	0.5	2.5	%
Temperature Coefficient of Output Voltage	$T_C V_O$	$T_J = 0$ to $+125^\circ C$	–	$\pm 0.02$	–	%/ $^\circ C$
Ripple Rejection	RR		45	55	–	dB
Dropout Voltage	$V_{I-O}$	Note 3	–	–	0.5	V
ON-State Voltage for Control	$V_C(on)$	Note 4	2.0	–	–	V
On-State Current for Control	$I_C(on)$	$V_C = 2.7V$	–	–	20	$\mu A$
OFF-State Voltage for Control	$V_C(off)$		–	–	0.8	V
OFF-State Current for Control	$I_C(off)$	$V_C = 0.4V$	–	–	–0.4	mA
Quiescent Current	$I_Q$	$I_O = 0$	–	–	10	mA

Note 3. Input voltage shall be the value when output voltage is 95% in comparison with the initial value.

Note 4. In case of opening control terminal, output voltage turns on.

