

## Low Dropout Voltage Regulator

### ■ GENERAL DESCRIPTION

The NJU7250 series is low dropout voltage and high precision positive voltage regulator with ON/OFF control.

This IC is suitable for the battery items because of low operating current and 150mA output current.

Furthermore, this series is packaged with MTP5

### ■ PACKAGE OUTLINE



NJU7250F

### ■ FEATURES

- Low Operating Current                    35 $\mu$ A typ.
- Output Current                            150mA
- High Precision Output Voltage         $V_o \pm 2\%$
- Low Dropout Voltage                    0.2V typ. @ $I_o=100$ mA,  $2.8V \leq V_o \leq 3.3V$
- Standby Function
- Short Current Protection Circuit
- C-MOS Technology
- Package Outline                            MTP5

### ■ OUTPUT VOLTAGE LINE-UP

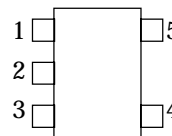
Device Name	$V_{OUT}$
NJU7250F25	2.5V
NJU7250F27	2.7V
NJU7250F28	2.8V
NJU7250F29	2.9V

Device Name	$V_{OUT}$
NJU7250F30	3.0V
NJU7250F32	3.2V
NJU7250F33	3.3V

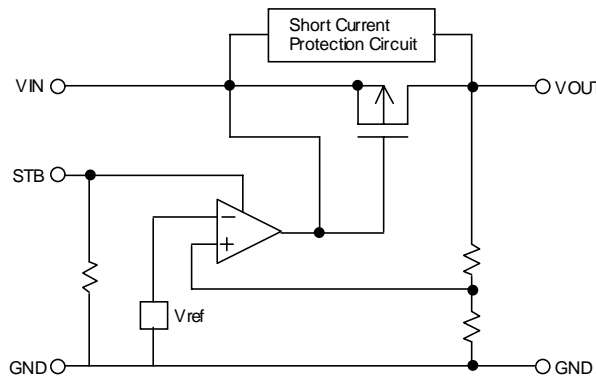
### ■ TERMINAL DESCRIPTION

No.	Symbol	Function
1	$V_{IN}$	Input
2	GND	GND
3	STB	H: Regulation L: Standby, Output off
4	NC	Non Connection
5	$V_{OUT}$	Output

### ■ PIN CONFIGURATION



### ■ EQUIVALENT CIRCUIT



**■ ABSOLUTE MAXIMUM RATINGS**

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
Input Voltage	$V_{IN}$	9	V
Control Voltage	$V_{CONT}$	GND-0.3 ~ $V_{IN}+0.3$	V
Output Voltage	$V_{OUT}$	GND-0.3 ~ $V_{IN}+0.3$	V
Output Current	$I_{OUT}$	200	mA
Power Dissipation	$P_D$	250	mW
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +150	°C

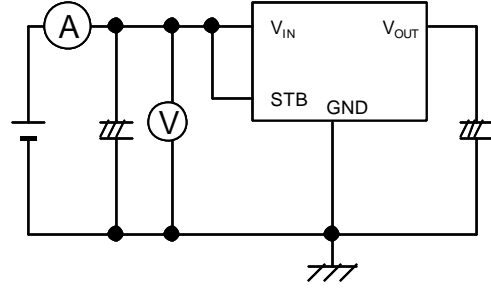
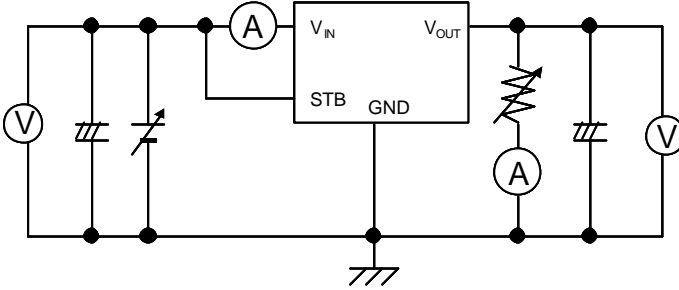
**■ ELECTRICAL CHARACTERISTICS**

 (C<sub>IN</sub>=0.1μF, C<sub>O</sub>=2.2μF, Ta=25°C)

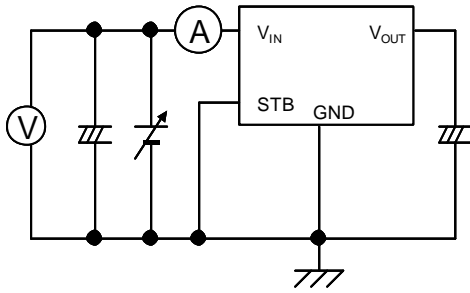
Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Output Voltage	$V_O$	$V_{IN}=V_O+1V, 1mA \leq I_O \leq 30mA$	-2%		+2%	V
Output Current	$I_O$	$1.5 \leq V_O \leq 1.7, V_{IN}=V_O+1V$	100			mA
		$1.8 \leq V_O \leq 5.0, V_{IN}=V_O+1V$	150			
Dropout Voltage	$\Delta V_{IO}$	$V_O=1.5V, I_O=100mA$	0.5			V
		$V_O=1.6V, I_O=100mA$	0.4			
		$V_O=1.7V, I_O=100mA$	0.3			
		$1.8 \leq V_O \leq 1.9, I_O=100mA$		0.60	1.40	
		$2.0 \leq V_O \leq 2.4, I_O=100mA$		0.35	0.70	
		$2.5 \leq V_O \leq 2.7, I_O=100mA$		0.24	0.35	
		$2.8 \leq V_O \leq 3.3, I_O=100mA$		0.20	0.30	
		$3.4 \leq V_O \leq 5.0, I_O=100mA$		0.17	0.26	
Operating Current	$I_Q$	$V_{IN}=V_O+1V, V_{CONT(ON)}=V_{IN}$		35	70	μA
Standby Current	$I_{Q(OFF)}$	$V_{IN}=V_O+1V, V_{CONT(OFF)}=GND$		0.1	1.0	μA
Load Regulation	$\Delta V_O / \Delta I_O$	$V_{IN}=V_O+1V, 1mA \leq I_O \leq 80mA$		12	40	mV
Line Regulation	$\frac{\Delta V_O}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{IN}=V_O+0.5V \sim 8V, I_O=30mA$		0.05	0.2	%/V
Output Voltage Temperature Coefficient	$\Delta V_O / \Delta T$	$-40 \leq T_a \leq +85^\circ C, I_O=10mA$		±100		ppm/°C
Input Voltage	$V_{IN}$				8	V
Short Current Limit	$I_{LIM}$	$V_O=0V$		50		mA
Pull-down Resistance	RPD		2.5	5	10	MΩ
H Level Control Voltage	$V_{CONT(ON)}$		1.5		$V_{IN}$	V
L Level Control Voltage	$V_{CONT(OFF)}$		0		0.25	V
Output Noise Voltage	$V_{NO}$	f=10Hz~100kHz		30		μV/rms

v TEST CIRCUIT

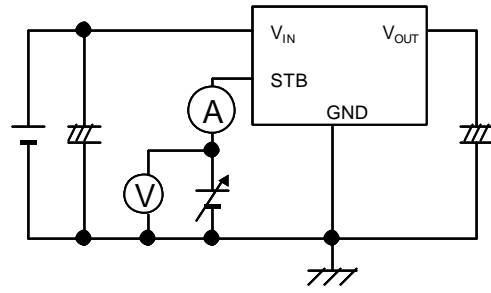
1. Output Voltage, Output Current, Dropout Voltage, Operating Current, Line Regulation, Line Regulation, Output Voltage Temperature Coefficient, Short Current Limit
2. Input Voltage



3. Standby Current



4. H Level Control Voltage, L Level Control Voltage, Pull-down Resistance



[CAUTION]  
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