HIGH PRECISION AND HIGH OUTPUT CURRENT C-MOS POSITIVE VOLTAGE REGULATOR

PRELIMINARY

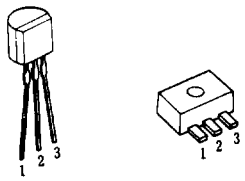
■ GENERAL DESCRIPTION

The NJU7222 series is a high precision output voltage and high output current C-MOS 3-terminal positive voltage regulator which contains internal acourate voltage reference, error amplifier, control transistor, output voltage setting resistor and over load protection circuit.

The regulation voltage is fixed by internal circuits and the following line-up of different output voltages version are available.

This series is suitable for battery operated items and battery back-up systems because of low operating current and low dropout voltage.

■ PACKAGE OUTLINE



NJU7222L(TO-92) NJU7222U(SOT-89)

■ FEATURES

- High Precision Output Voltage (±2%)
- High Output Current (I_O =100mA)
- Low Current Consumption (20μA typ)
- Low Dropout Voltage (ΔV_{IO}<0.6V, I_O=100mA)
- Wide Operating Voltage Range
- Small Temperature Coefficient of Output Voltage
- Over Load Protection Circuit on Chip
- Package Outline TO-92 / SOT-89
- C-MOS Technology

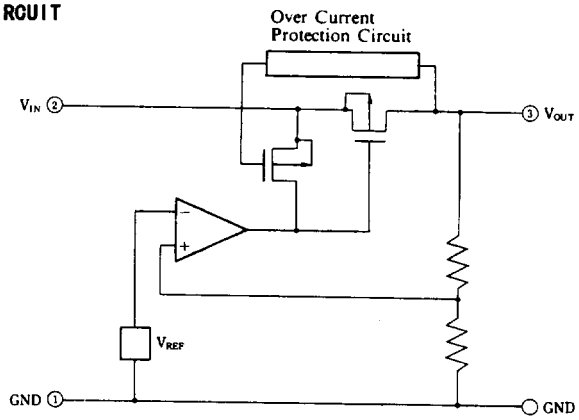
■ TERMINAL DESCRIPTION

NO	DESCRIPTION
1	GND
2	INPUT
3	OUTPUT

■ OUTPUT VOLTAGE LINE-UP

OUTPUT VOLTAGE	TO-92 TYPE	SOT-89 TYPE
3.0V	7222L30	7222U30
5.0V	7222L50	7222U50

■ EQUIVALENT CIRCUIT



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■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V_{IN}	15	V
Output Voltage	V_{OUT}	GND-0.3～V_{IN}+0.3	V
Output Current	I_{OUT}	200	mA
Power Dissipation	P_D	(TO-92) 500 (SOT-89) 300	mW
Operating Temperature Range	T_{opr}	- 25～+ 75	°C
Storage Temperature Range	T_{stg}	- 40～+125	°C

■ ELECTRICAL CHARACTERISTICS

● +3.0V VERSION

(C_{IN}=C_{OUT}=0.1μF, Ta=25°C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	V_{IN}=5.0V, I_{OUT}=70mA	2.94	3.00	3.06	V
Dropout Voltage	ΔV_{IO}	I_{OUT}=50mA		0.40	0.60	V
Input Voltage	V_{IN}				14	V
Operating Current	I_Q	V_{IN}=5.0V		20	30	μA
Load Regulation	$\Delta V_{OUT}/\Delta I_{OUT}$	V_{IN}=5.0V, I_{OUT}=1～100mA		120	160	mV
Line Regulation	$\Delta V_{OUT}/(\Delta V_{IN} \cdot V_{OUT})$	V_{IN}=4.0V～12.0V		0.1		%/V

● +5.0V VERSION

(C_{IN}=C_{OUT}=0.1μF, Ta=25°C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	V_{IN}=7.0V, I_{OUT}=70mA	4.90	5.00	5.10	V
Dropout Voltage	ΔV_{IO}	I_{OUT}=100mA		0.30	0.60	V
Input Voltage	V_{IN}				14	V
Operating Current	I_Q	V_{IN}=7.0V		20	30	μA
Load Regulation	$\Delta V_{OUT}/\Delta I_{OUT}$	V_{IN}=7.0V, I_{OUT}=1～100mA		120	160	mV
Line Regulation	$\Delta V_{OUT}/(\Delta V_{IN} \cdot V_{OUT})$	V_{IN}=6.0V～12.0V		0.1		%/V

■ MEASUREMENT CIRCUIT