VOLTAGE DETECTOR

■ GENERAL DESCRIPTION

The NJU7700/01 is a low quiescent current voltage detector featuring high precision detection voltage.

The detection voltage is fixed internally with an accuracy of 1.0%.

NJU7700 is Nch. Open Drain and NJU7701 of output form is a C-MOS output.

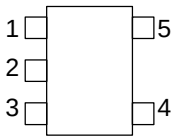
■ PACKAGE OUTLINE

NJU7700/01F

■ FEATURES

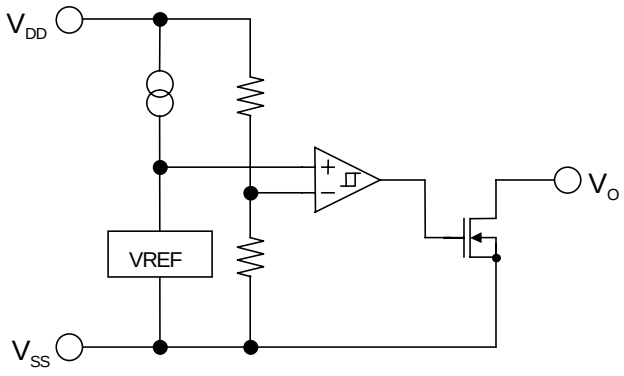
●High Precision Detection Voltage	±1.0%
●Low Quiescent Current	0.8uA typ.
●Detection Voltage Range	1.3~6.0V(0.1V Step)
●Output Circuit Form	NJU7700: Nch. Open Drain type NJU7701: C-MOS Output
●Package Outline	MTP5 (SOT-23-5)

■ PIN CONFIGURATION

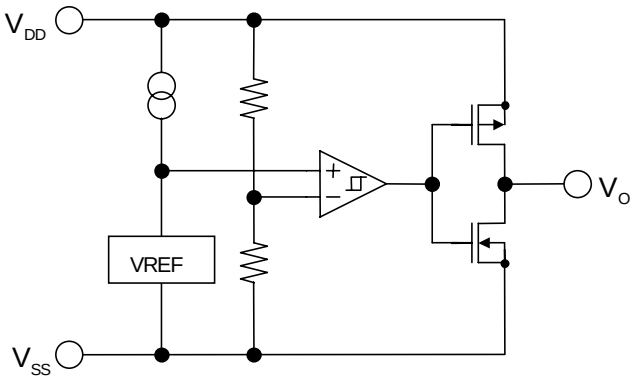


PIN FUNCTION
1.VOUT
2.VDD
3.VSS
4.NC
5.NC

■ EQUIVALENT CIRCUIT



NJU7700



NJU7701

■ DETECTION VOLTAGE RANK LIST

Device Name	V_{DET}	Device Name	V_{DET}
NJU7700/01F13	1.3V	NJU7700/01F28	2.8V
NJU7700/01F21	2.1V	NJU7700/01F42	4.2V
NJU7700/01F22	2.2V	NJU7700/01F43	4.3V
NJU7700/01F23	2.3V	NJU7700/01F45	4.5V
NJU7700/01F27	2.7V	NJU7700/01F06	6.0V

■ NJU7700

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V_{DD}	+10	V
Output Voltage	V_{OUT}	V_{SS}-0.3~+10	V
Output Current	I_{OUT}	50	mA
Power Dissipation	P_D	200	mW
Operating Temperature	Topr	–40 ~ +85	°C
Storage Temperature	Tstg	–40 ~ +125	°C

■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Detection Voltage	V_{DET}			-1.0%	–	+1.0%	V
Hysteresis Voltage	V_{HYS}			V_{DET} ×0.03	V_{DET} ×0.05	V_{DET} ×0.08	V
Quiescent Current	I_{SS}	V_{DD}=V_{DET}+1V	V_{DET}=1.3V~1.7V Version	–	0.5	1.0	uA
			V_{DET}=1.8V~6.0V Version	–	0.8	1.6	
Output Current	I_{OUT}	Nch,V_{DS}=0.5V	V_{DD}=1.2V	0.75	2.0	–	mA
			V_{DD}=2.4V (≥2.7V Version)	4.5	7.0	–	
Output Leak Current	I_{LEAK}	V_{DD}=V_{OUT}=9V		–	–	0.1	uA
Detection Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta Ta$	Ta=0 ~ +85°C		–	±100	–	ppm/°C
Operating Voltage (*note 1)	V_{DD}	R_L=100kΩ		0.8	–	9	V

*note 1 : The minimum Operating Voltage(V_{OPL}) indicates the same value of the output voltage(V_{OUT}) on condition that V_{OUT} becomes 10% or less of the input voltage(V_{DD}).

■ NJU7701

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V_{DD}	+10	V
Output Voltage	V_{OUT}	V_{SS}-0.3 ~ V_{DD}+0.3	V
Output Current	I_{OUT}	50	mA
Power Dissipation	P_D	200	mW
Operating Temperature	Topr	–40 ~ +85	°C
Storage Temperature	Tstg	–40 ~ +125	°C

■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Detection Voltage	V_{DET}			-1.0%	–	+1.0%	V
Hysteresis Voltage	V_{HYS}			V_{DET} ×0.03	V_{DET} ×0.05	V_{DET} ×0.08	V
Quiescent Current	I_{SS}	V_{DD}=V_{DET}+1V	V_{DET}=1.3V~1.7V Version	–	0.5	1.0	uA
			V_{DET}=1.8V~6.0V Version	–	0.8	1.6	
Output Current	I_{OUT}	Nch,V_{DS}=0.5V	V_{DD}=1.2V	0.75	2.0	–	mA
			V_{DD}=2.4V (≥2.7V Version)	4.5	7.0	–	
		Pch,V_{DS}=0.5V	V_{DD}=4.8V (≤3.9V Version)	2.0	3.5	–	
			V_{DD}=6.0V (4.0V~5.6V Version)	2.5	4.0	–	
			V_{DD}=8.4V (≥5.7V Version)	3.0	5.0	–	
Detection Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta Ta$	Ta=0 ~ +85°C		–	±100	–	ppm/°C
Operating Voltage (*note 1)	V_{DD}	R_L=100kΩ		0.8	–	9	V

*note 1 : The minimum Operating Voltage(V_{OPL}) indicates the same value of the output voltage(V_{OUT}) on condition that V_{OUT} becomes 10% or less of the input voltage(V_{DD}).

[CAUTION]
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