

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

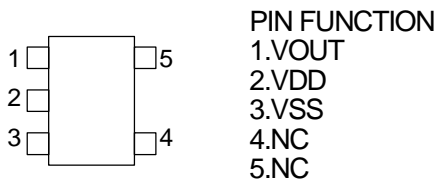


NJU7700/01F

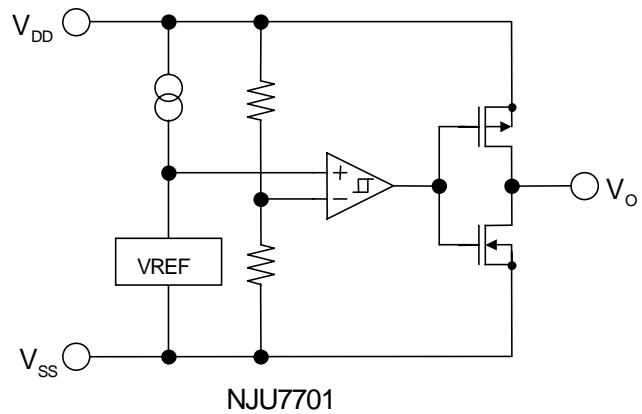
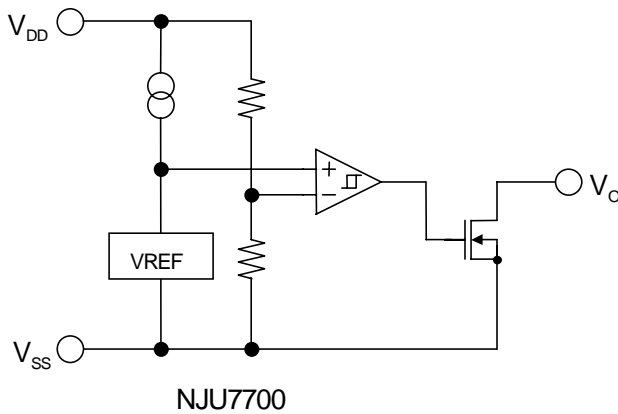
■ FEATURES

- 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



■ EQUIVALENT CIRCUIT



■ 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

NJU7700/01

■ 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	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-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	Δ V _{DET} / ΔTa	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	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-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	μA
			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	Δ V _{DET} / ΔTa	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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