VOLTAGE DETECTOR

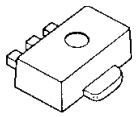
■ GENERAL DESCRIPTION

The NJU7719 is a low quiescent current voltage detector featuring high precision detection voltage.

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

NJU7719 is Nch. Open Drain output type.

■ PACKAGE OUTLINE

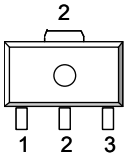


NJU7719U/U1

■ FEATURES

- High Precision detection Voltage ±1.0%
- Low Quiescent Current 0.8μA typ.
- Detection Voltage Range 1.3 ~ 6.0V(0.1V step)
- Output Configuration Nch. Open Drain Type
- Package Outline SOT-89-3

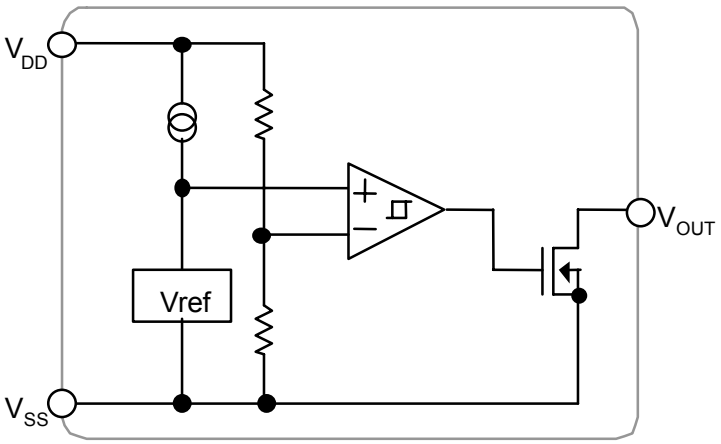
■ PIN CONFIGURATION



NJU7719U/U1

PIN FUNCTION
1. V_{DD}
2. V_{SS}
3. V_{OUT}

■ EQUIVALENT CIRCUIT



■ DETECTION VOLTAGE RANK LIST

Device Name	V_{DET}	Device Name	V_{DET}
NJU7719U/U1-21	2.1V	NJU7719U/U1-34	3.4V
NJU7719U/U1-23	2.3V	NJU7719U/U1-39	3.9V
NJU7719U/U1-27	2.7V	NJU7719U/U1-42	4.2V
NJU7719U/U1-29	2.9V	NJU7719U/U1-45	4.5V
NJU7719U/U1-32	3.2V		

■ 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	350(*1)	mW
Operating Temperature	Topr	−40 ~ +85	°C
Storage Temperature	Tstg	−40 ~ +125	°C

(*1): Device itself

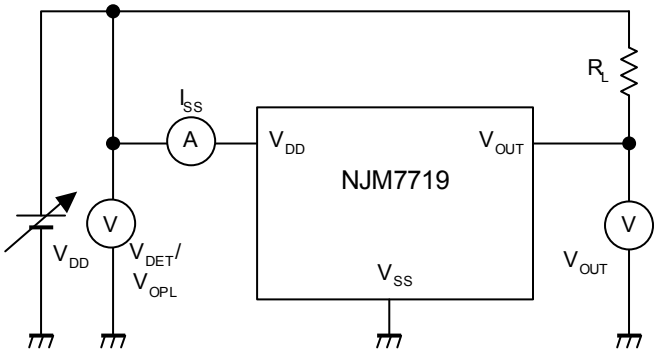
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Detection Voltage	V_{DET}			-1.0%	–	+1.0%	V
Hysterisis 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	μA
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	–	mA
Output Leak Current	I_{LEAK}	V_{DD}=V_{OUT}=9V		–	–	0.1	μA
Detection Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta Ta$	Ta=0 ~ +85°C		–	±100	–	ppm/°C
Operating Voltage (*2)	V_{DD}	R_L=100kΩ		0.8	–	9	V

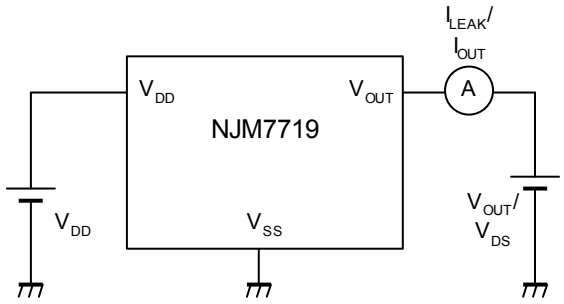
(*2): The minimum Operating Voltage(V_{OPL}) indicates the same value of the output voltage(V_{OUT}) on condition that V_{OUT} becomes 10% or less of the input voltage(V_{DD}).

■ TEST CIRCUIT

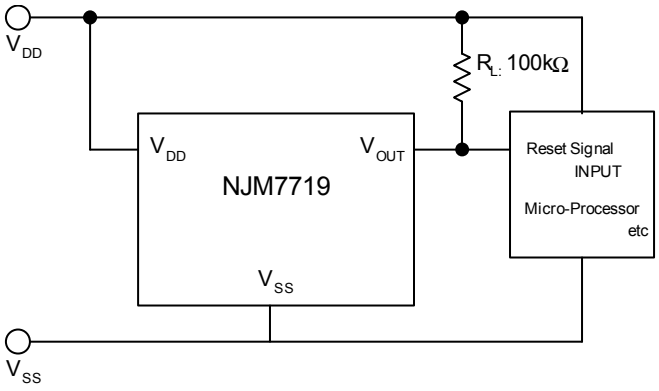
① COMMON TEST CIRCUIT



② Output Current/Output Leak Current TEST CIRCUIT

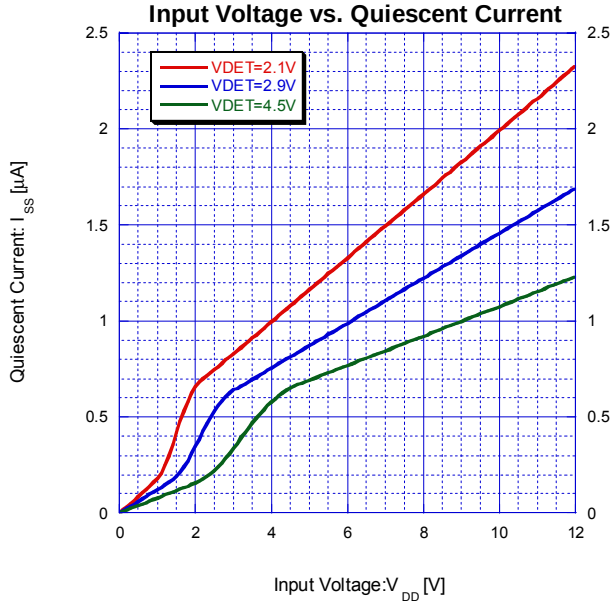


■ TYPICAL APPLICATION

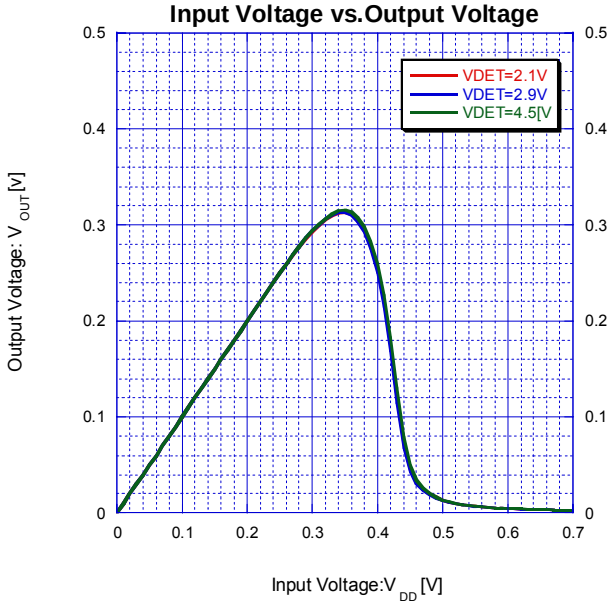


■ TYPICAL CHARACTERISTICS

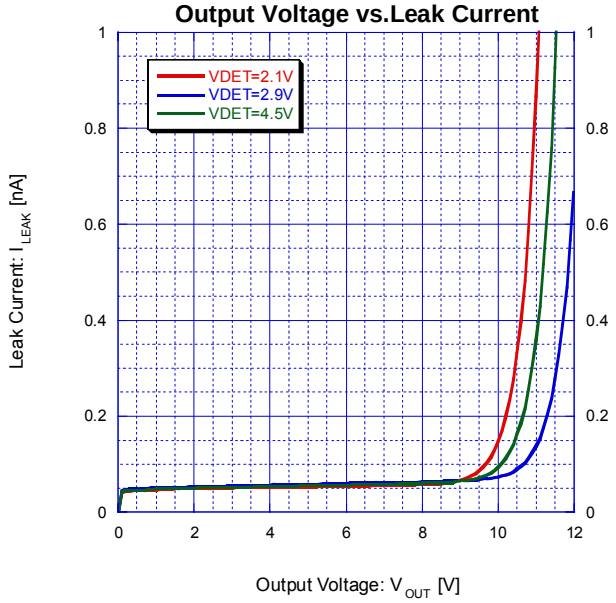
NJU7719
Input Voltage vs. Quiescent Current



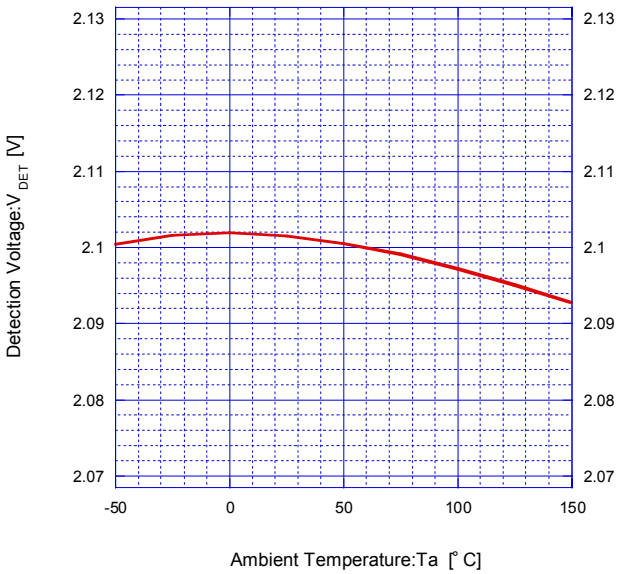
NJU7719
Input Voltage vs.Output Voltage



NJU7719
Output Voltage vs.Leak Current

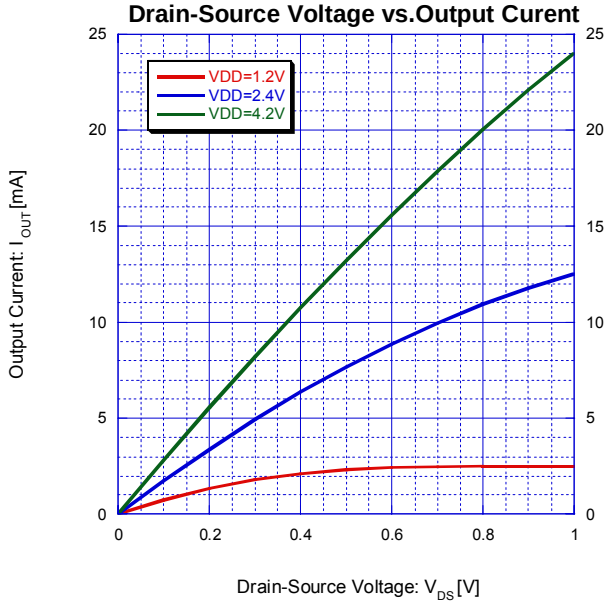


NJU7719U21
Detection Voltage vs.Ambient Temperature

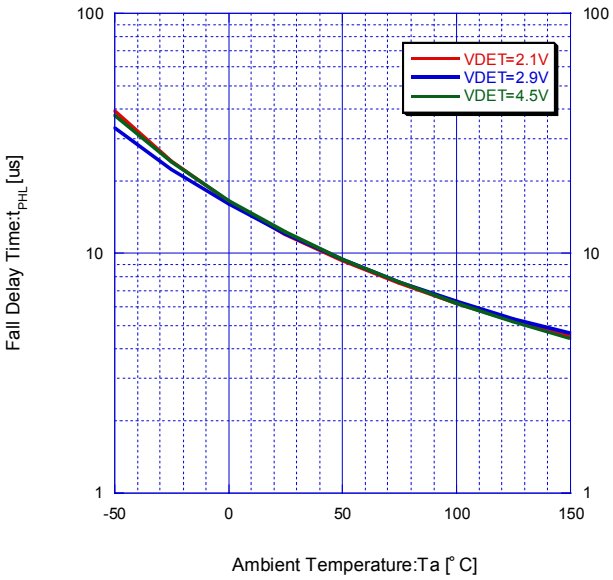


■ TYPICAL CHARACTERISTICS

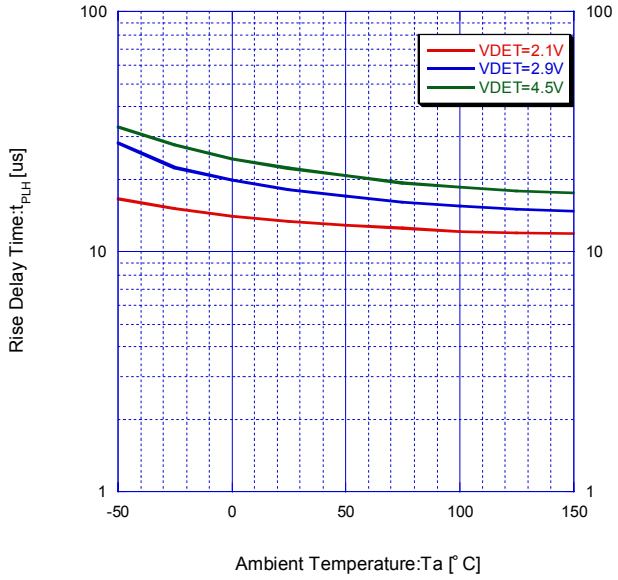
NJU7719
Drain-Source Voltage vs.Output Curent



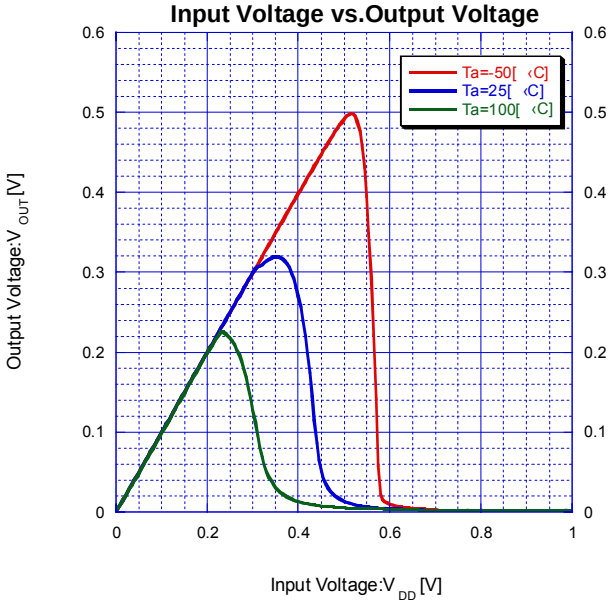
NJU7719
Ambient Temperature vs.Fall Delay Time



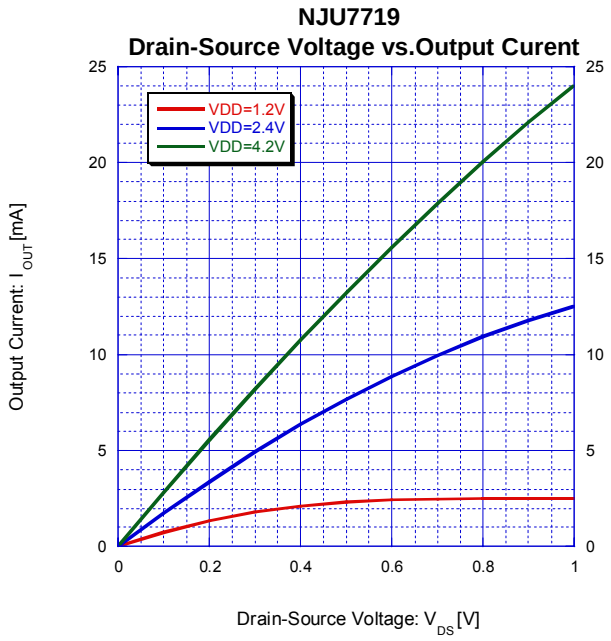
NJU7719
Ambient Temperature vs.Rise Delay Time



NJU7719
Input Voltage vs.Output Voltage



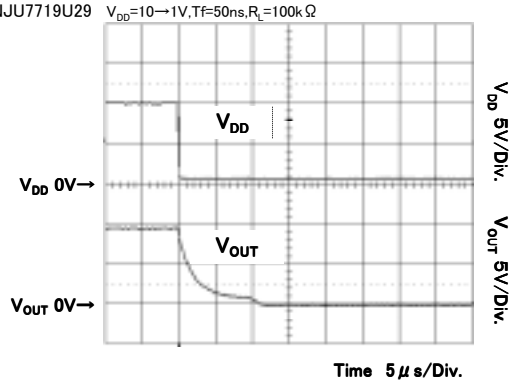
■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS

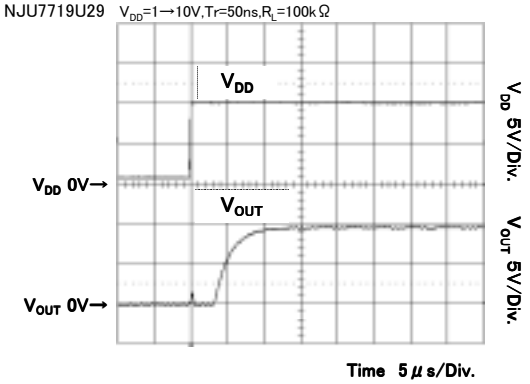
Transient Response

NJU7719U29 V_{DD}=10→1V,Tf=50ns,R_L=100kΩ



Transient Response

NJU7719U29 V_{DD}=1→10V,Tr=50ns,R_L=100kΩ



[CAUTION]
The specifications on this databook are only given for information , without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

NJR:

NJU7719U45-TE1 NJU7719U1-29-TE1 NJU7719U1-23-TE1 NJU7719U23-TE1 NJU7719U1-32-TE1 NJU7719U1-42-TE1 NJU7719U1-39-TE1 NJU7719U29-TE1 NJU7719U1-34-TE1 NJU7719U39-TE1 NJU7719U27-TE1 NJU7719U34-TE1 NJU7719U32-TE1 NJU7719U1-45-TE1 NJU7719U21-TE1 NJU7719U1-27-TE1 NJU7719U42-TE1 NJU7719U1-21-TE1