PRELIMINARY

LOW-VOLTAGE OPERATION TINY SINGLE C-MOS COMPARATOR

■ GENERAL DESCRIPTION

The NJU7141 is a low voltage single-power-supply operation single C-MOS comparator with open drain output.

The NJU7141 operated from 1 to 5V supply and interface with most of TTL and C-MOS type standard logic ICs.

The NJU7141 is in MTP-5 package, and it is suitable for battery use items and other portable system.

■ PACKAGE OUTLINE



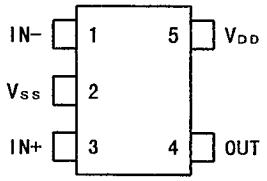
NJU7142F

■ FEATURES

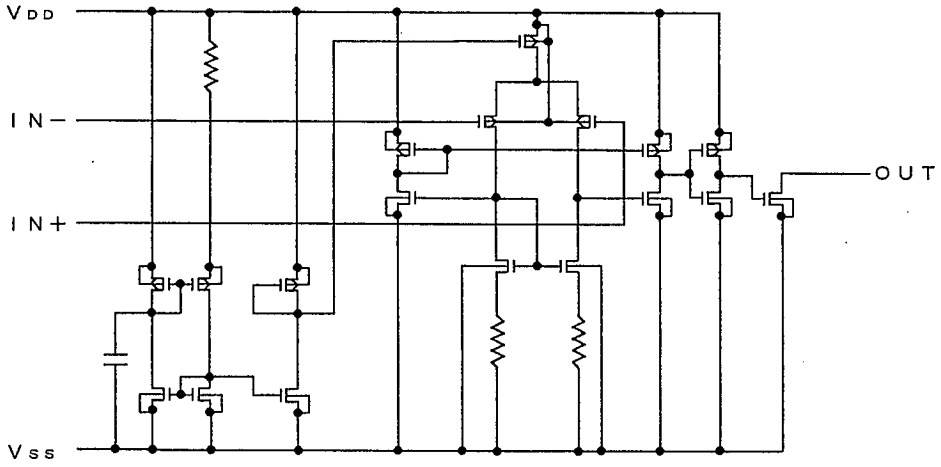
- Single-Power-Supply V_{DD}=1～5.5V
- Input Offset Voltage V_{IO}=10mV max.@3.0V
- Low Operating Current I_{DD}=50uA typ.
- Low Input Bias Current I_{IB}=1pA typ.
- Open Drain Output
- Output Signal Falling Time 10ns typ.
- C-MOS Technology
- Package Outline MTP-5

■ PIN CONFIGURATION

(Top View)



■ EQUIVALENT CIRCUIT



5

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{IN}	7	V
Differential Input Voltage	V_{ID}	±7 (Note1)	V
Common Mode Input Voltage	V_{IC}	- 0.3 ~ 7	mA
Power Dissipation	P_D	200	mW
Operating Temperature	Topr	- 40 ~ + 85	°C
Storage Temperature	Tstg	- 55 ~ +125	°C

Note1) If the supply voltage (V_{DD}) is less than 7V, the input voltage must not over the V_{DD} level though 7V is limit specified.

Note2) Decoupling capacitor should be connected between V_{DD} and V_{SS} due to the stabilized operation for the circuit.

■ ELECTRICAL CHARACTERISTICS

(Ta=25°C, V_{DD}=3.0V, R_L=∞)

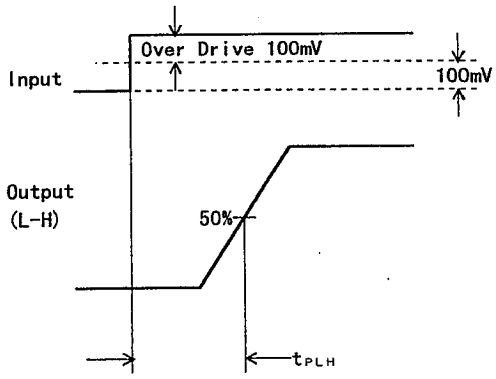
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	V_{DD}		1.0	—	5.5	V
Input Offset Voltage	V_{IO}	V_{IN}=1/2V_{DD}	—	—	10	mV
Input Offset Current	I_{IO}		—	1	—	pA
Input Bias Current	I_{IB}		—	1	—	pA
Input Common Mode Voltage Range	V_{ICM}		0~2.5	—	—	V
Output Leakage Current	I_{OFF}	V_{OH}=V_{DD}	—	—	1	uA
Low Level Output Voltage	V_{OL}	I_{OL}=-2mA	0.3	—	—	V
Common Mode Rejection Ratio	CMR	V_{IC}=1/2V_{DD}	55	—	—	dB
Supply Voltage Rejection Ratio	SVR	V_{DD}=3~5V	60	—	—	dB
Operating Current	I_{DD}	No Load, V_O=0V	—	50	80	uA

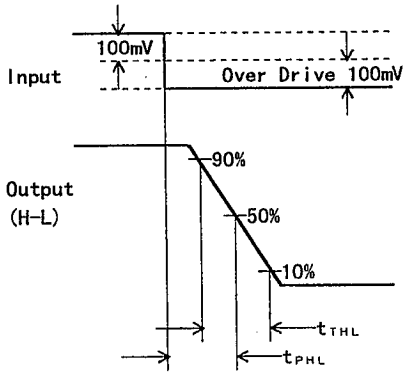
■ SWITCHING CHARACTERISTICS

(Ta=25°C, V_{DD}=3.0V, f=10kHz, C_L=15pF)

PARAMETER	SYMBOL	CONDITIONS		MIN	TYP	MAX	UNIT
Propagation Delay High to Low	t_{PHL}	Over Drive=100mV	V_{IC}=0V	—	0.25	—	us
		TTL Level Step		—	0.05	—	
Propagation Delay Low to High	t_{PLH}	Over Drive=100mV	V_{IC}=0V	—	0.50	—	us
		TTL Level Step		—	0.15	—	
Output Signal Falling Time	t_{THL}	Over Drive=100mV		—	10	—	ns

■ TIMING WAVEFORM





MEMO

[CAUTION]
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