LOW POWER AND LOW OFFSET VOLTAGE SUPER SMALL-SIZED SINGLE C-MOS COMPALATOR

■GENERAL DESCRIPTION

The **NJU7118** is a super small-sized package single C-MOS comparators with open drain output.

The operating voltage is from 1V to 5.5V, and the interface can be connected with most of TTL and C-MOS type standard logic ICs.

Furthermore, The input offset voltage is lower than 4mV and the package is super small-sized SC88A, therefore they can be suitable for battery use items and other portable items.

■PACKAGE INFORMATION

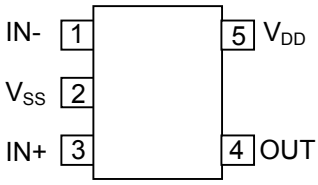
NJU7118F2

■FEATURES

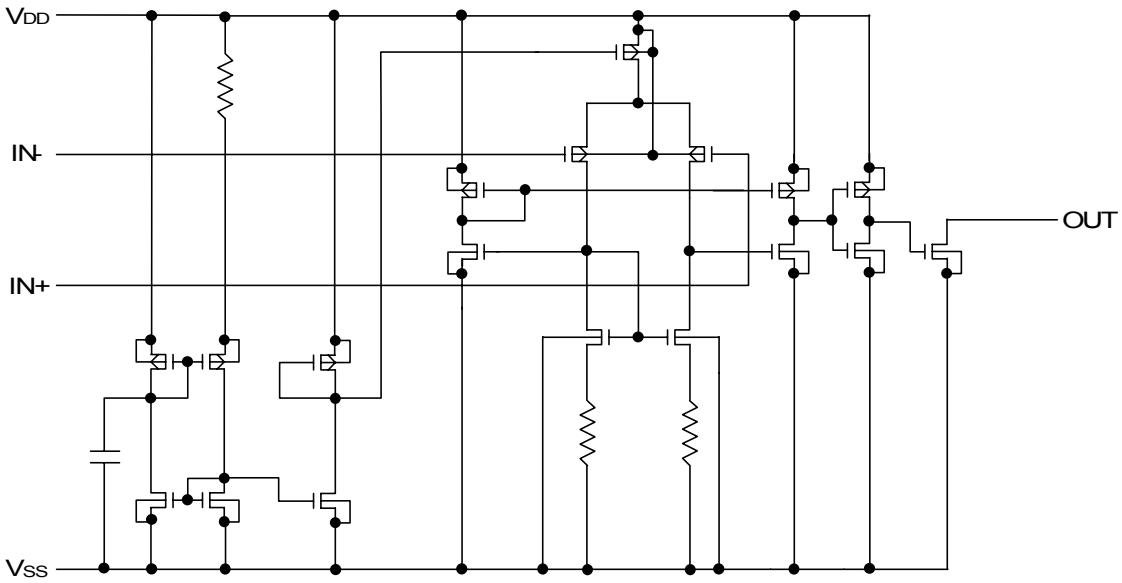
●Single Low Power Supply	V_{DD}=1.0~5.5V
●Low Offset Voltage	V_{IO}=4mV max
●Low Operating Current	I_{DD}=10uA typ
●Open Drain Output	
●Package Outline	SC88A
●C-MOS Technology	

■PIN CONFIGURATION

(Top View)



■EQUIVALENT CIRCUIT



■ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V_{DD}	7.0	V
Differential Input Voltage	V_{ID}	±7.0 (Note1)	V
Common Mode Input Voltage	V_{IC}	-0.3~7.0	V
Power Dissipation	P_D	250 (Note2)	mW
Operating Temperature	Topr	-40~+85	°C
Storage Temperature	Tstg	-55~+125	°C

Note1) If the supply voltage (V_{DD}) is less than 7.0V, the input voltage must not over the V_{DD} level though 7.0V is limit specified.

Note2) The power dissipation is value mounted on aglass epoxy board (FR-4) in size of 50x50x1.6 millimeters square.

Note3) Decoupling capacitor should be connected between V_{DD} and V_{SS} due to the stabilized operation for the circuit.

■ELECTRICAL CHARACTERISTICS

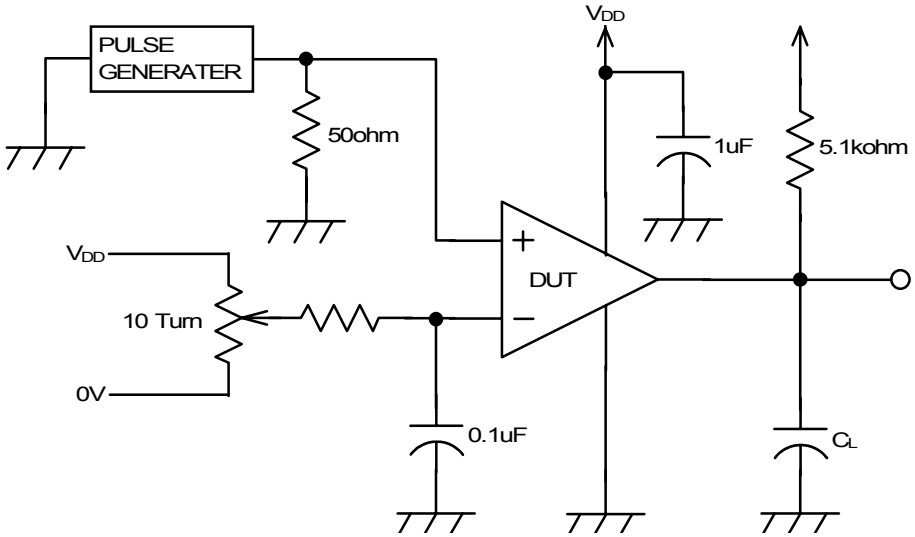
(V_{DD}=3.0V,R_L=∞,Ta=25°C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	V_{DD}		1.0	-	5.5	V
Input Offset Voltage	V_{IO}	$V_{IN}=V_{DD}/2$	-	-	4	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
Low Level Output Voltage	V_{OL}	I_{OL}=+5mA	-	-	0.3	V
Operating Current	I_{DD}		-	10	20	uA

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

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Propagation Delay Low to High	t_{PLH}	Over Drive=100mV	-	540	-	ns
Propagation Delay High to Low	t_{PHL}	Over Drive=100mV	-	190	-	ns
Output Signal Falling Time	t_{THL}	Over Drive=100mV	-	4	-	ns

■SWITCHING CHARACTERISTICS MEASUREMENT CIRCUIT



■TYPICAL CHARACTERISTICS

Output Voltage vs. Output Current
(Sink)