



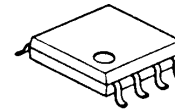
# NJW4190/NJW4191

## Doubler/Invert Charge Pump IC

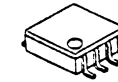
### FEATURES

- Operating Voltage Range 6V to 15V
- Output Current 55mA
- $V_{OUT}$  Programmable
- Stand-by Function
- Synchronizable to an External Clock divide-by-4 counter
- Thermal Shutdown
- Package Outline DMP8, VSP8

### PACKAGE OUTLINE



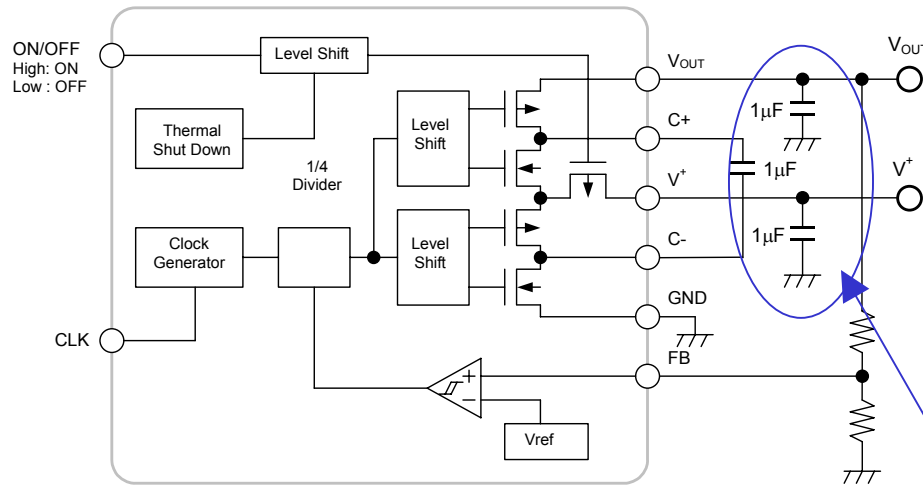
NJW4190M  
NJW4191M  
(DMP8)



NJW4190R  
NJW4191R  
(VSP8)

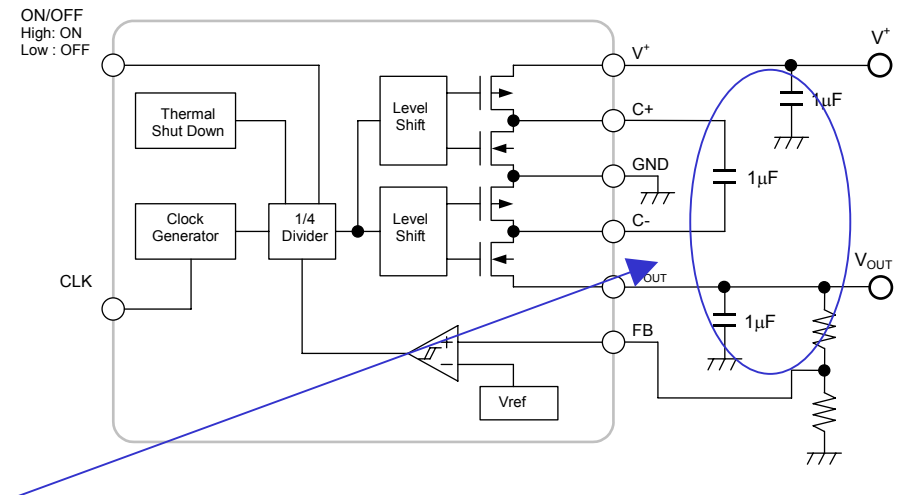
### Doubler Charge Pump

Maximum Output Voltage 30V



### Inverting Charge Pump

Maximum Output Voltage -15V



Please note that this device is still under the development and therefore the specifications are subject to change.

MLCC is corresponding



# NJW4190/91 Advantage and Difference with SW.REG.

Charge pump IC is boost or inverted voltage converter of the small electric power usage with few emission noise.

These are suitable for Bias Voltage Source of LCD-panel, CCD, Sensor and Amplifier.

SW-Reg IC	Charge Pump IC
Emission noise is big to use Inductor	Emission noise is small to use capacitor
Required many ext parts	Ext parts is little
Rising cost	Low cost
Output power is high	Output power is low
Wide output voltage range	Limited output voltage range

Please note that this device is still under the development and therefore the specifications are subject to change.

NJW4190/91 are improved about following matters: MLCC corresponding, Output Current Capability and Output Voltage adjustment

	NJW4190	NJW4191	Competitive 7662
Circuit Type	For doubler	For Inverting	For Doubler/ Negative
Operating Voltage Range	6V~15V	6V~15V	6V~20V
Capacitor	MLCC:1 $\mu$ F	MLCC:1 $\mu$ F	AL:10 $\mu$ F
Output Current	Over 20mA	Over 20mA	Up to 20mA
Setting Output Voltage	Available	Available	NG
ON/OFF	x	x	None
Protection Circuit	Thermal Shutdown	Thermal Shutdown	None
Package	VSP8, DMP8	VSP8, DMP8	DIP8, DMP8