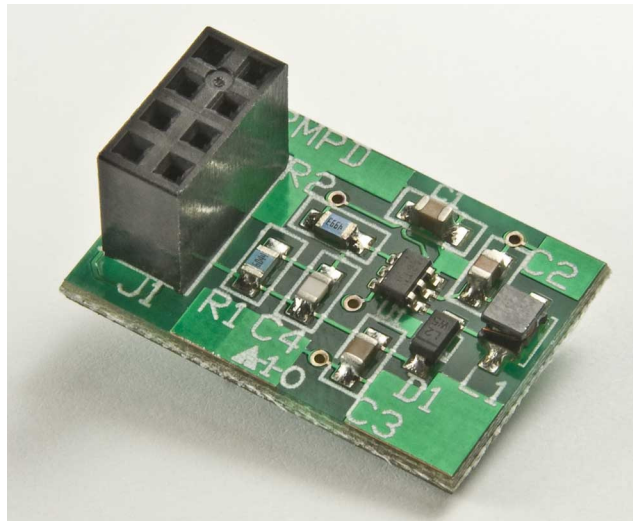


## **IS-CHPMP User Manual**

Revision B



### **NKK SWITCHES**

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## 1. General Description.

The IS-CHPMP is a DC/DC voltage step-up converter with an input of 2.7-5.5V and an output of 16V for use in driving OLED displays. The IS-CHPMP utilizes Maxim's MAX8574 step-up converter to take advantage of its floating output during shutdown mode. A 2x4 .100" header is required to interface with charge pump.

**IS-CHPMP is RoHS compliant.**

Photo 1, Primary side

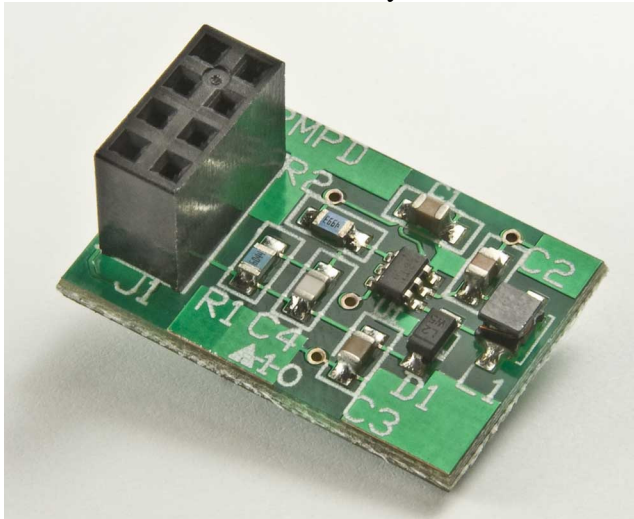
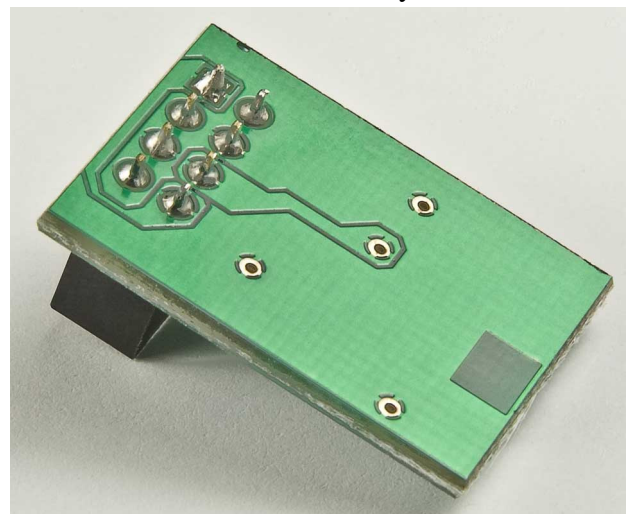


Photo 2, Secondary side



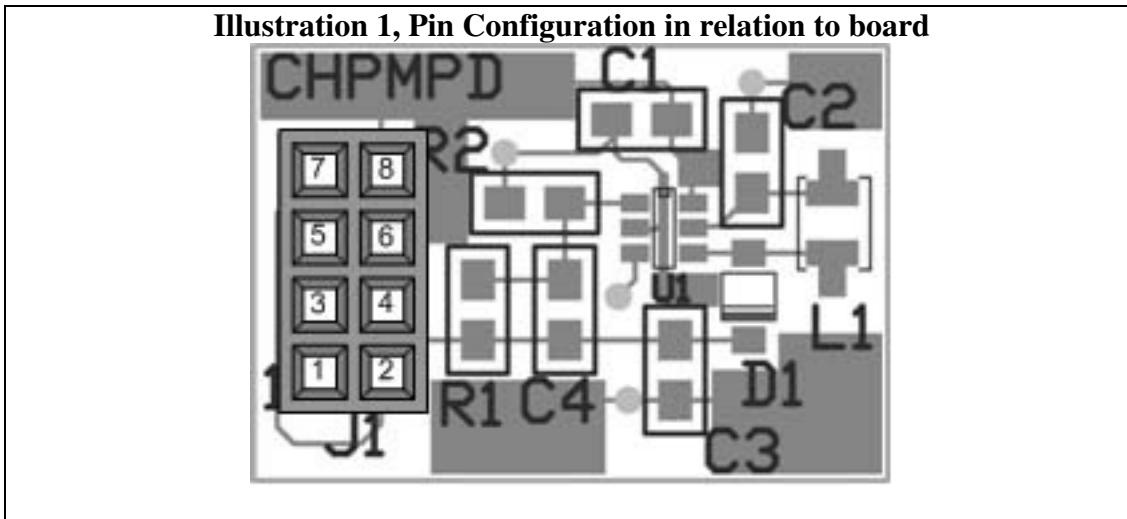
## 2. Electrical Characteristics

- 2.7-5.5V Input Voltage.
- 16V Output Voltage.
- Floating output when in shutdown mode.
- Current .05uA typical, 1uA maximum in shutdown mode.

### 3. Pin Configurations

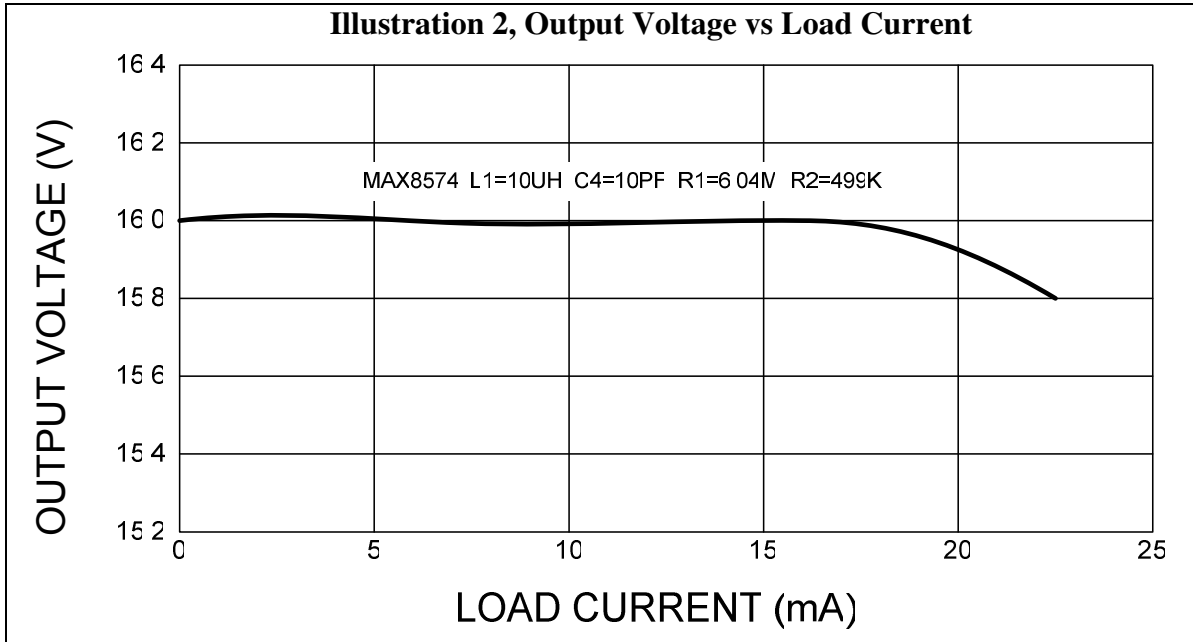
Pin	Name	Function
1	V3.3	Input voltage supply between 2.7-5V.
2	V16	Output voltage preset to 16V.
3	SHTDN	Shutdown input. A logic high puts the MAX8574 into normal operation. A logic low at SHTDN places the MAX8574 into low-power shutdown mode.
4	GND	Ground
5	GND	Ground
6	SHTDN	Shutdown input. A logic high puts the MAX8574 into normal operation. A logic low at SHTDN places the MAX8574 into low-power shutdown mode.
7	V16	Output voltage preset to 16V.
8	V3.3	Input voltage supply between 2.7-5V.

**Illustration 1, Pin Configuration in relation to board**



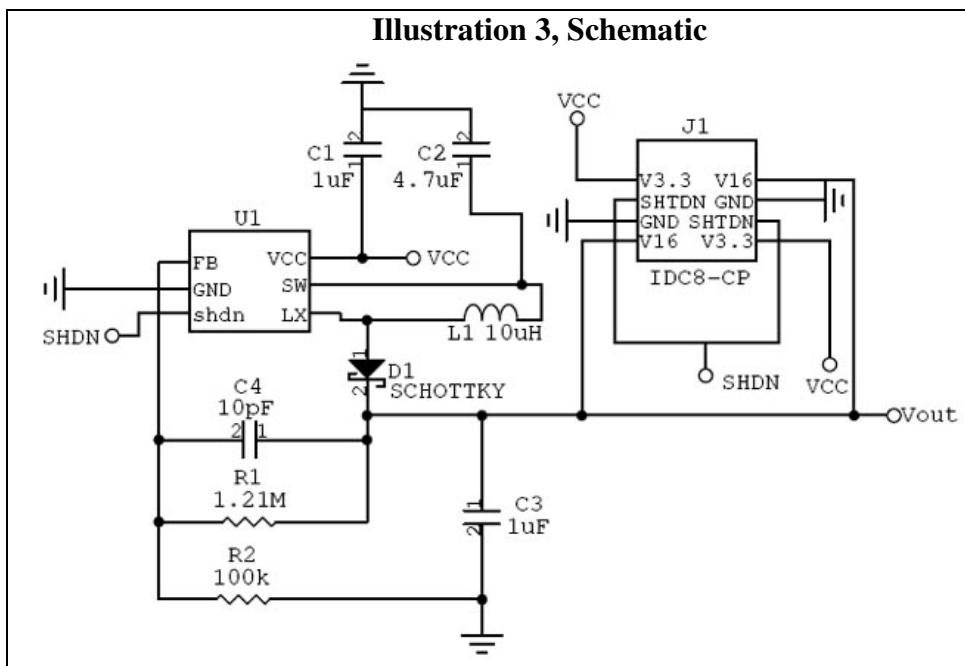
**Note: Incorrect installation of the connector could damage the charge pump and/or the motherboard.**

**4. Typical Operating Characteristics**



- 4.1. Testing was done using 3.3V input with constant load. Load was set for 16V output operation then increased until output voltage dropped 200mV.
- 4.2. Testing was done on eleven assemblies with a variation of 1% of graph.

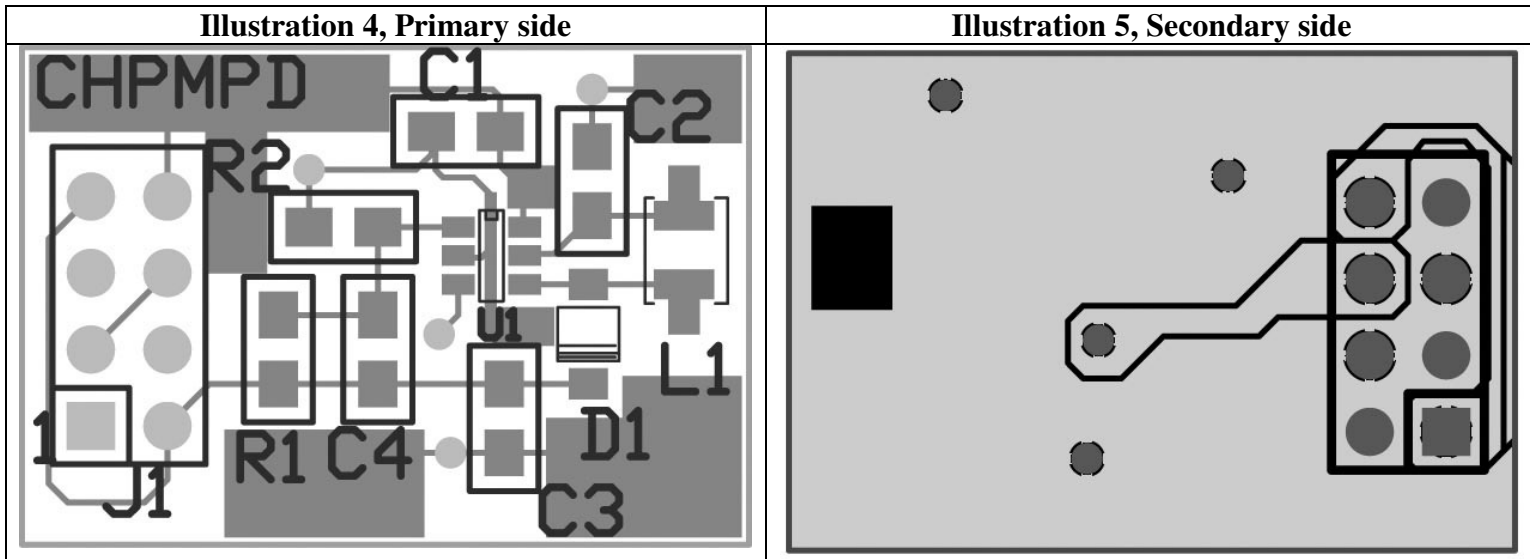
**5. Schematic**



## 6. Build of Material

Item	Count	Designation	Part Number	Description	Value	Package
1	1	-	P-CHPMPD	PCB/OLED CHARGE PUMP/REV D	-	-
2	1	C1	MA0805XR105K160R	CAPACITOR/1UF/16V/SM0805 X7R	1UF	SM0805
3	1	C2	C2012X5R0J475K	CAPACITOR/4.7UF/6.3V/SM0805 X5R	4.7UF	SM0805
4	1	C3	GRM219R71E105KA88D	CAPACITOR/1UF/25V/SM0805 X7R	1UF	SM0805
5	1	C4	GRM2165C1H4R7CD01D	CAPACITOR/4.7PF/50V/SM0805/C0G	10PF	SM0805
6	1	D1	BAT42W-V-GS08	DIODE/SCHOTTKY/30V/0.200A/SOD-123		SOD-123
7	1	J1	PPPC042LFBN-RC	HEADER/2X4/GOLD/RECEPTACLE/FEMALE/2.54MM		THR HOLE
8	1	L1	LQH32CN100K33L	INDUCTOR/10UH/450MA/.300OHM/SMD	10UH	SMD
9	1	R1	RK73H2ATTD6044F	RESISTOR/6.04M/1/8W/1%/SM0805	6.04M	SM0805
10	1	R2	RK73H2ATTD4993F	RESISTOR/499K/1/8W/1%/SM0805	499K	SM0805
11	1	U1	MAX8574EUT+T	IC/SM SOT-23-6/LCD STEP-UP DC-DC CONVERTER		SOT-23-6

## 7. Board Layout



Note: No traces or ground plane shall be present under the inductor.

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