

# PoF Update

3/18/2021

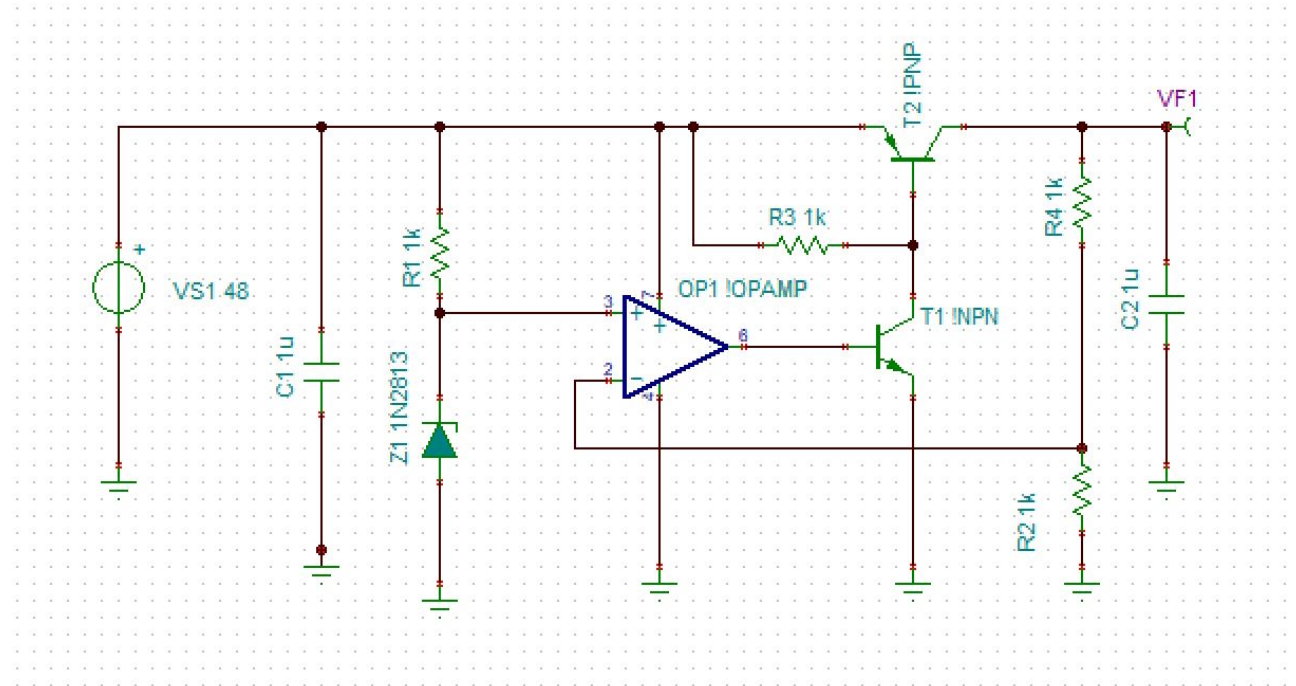
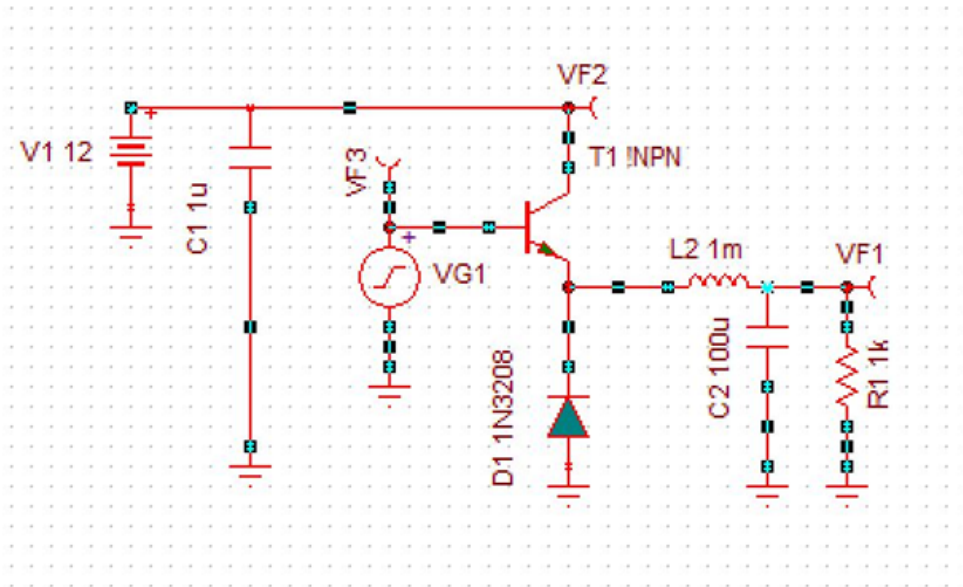
# Work - now and over next month

- Power efficiency
- Power converter
  - Higher current
  - Lower Voltage
  - How to fanout – using discrete components
- Reduce light leak
  - Testing of fibers
  - Connectors (seal with epoxy)
- Circuit board – fanout
  - This depends upon design

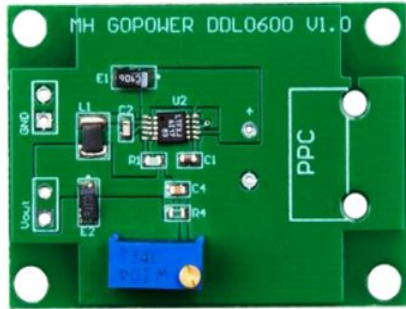
# PoF

We are testing methods of using discrete components  
To convert power to required levels mentioned in discussion.

Some options may use a fanout of clocking for gates –  
Maybe use in cold osc....still looking  
Two circuits in testing....



# Off the Shelf -



LTC3103

## Key Features:

- Input Voltage Range: 2.5V to 15V
- Output Voltage Range: 1.3V to 13.8V
- 300mA Output Current
- Efficiency up to 90%

## Applications:

- Power over Fiber (PoF)
- Remote Sensors
- Portable Products
- Battery-Operated Devices

Ultralow Quiescent Current: 1.8 $\mu$ A  
 n Synchronous Rectification: Efficiency Up to 95%  
 n Wide VIN Range: 2.5V to 15V  
 n Wide VOUT Range: 0.6V to 13.8V  
 n 300mA Output Current  
 n User-Selectable Automatic Burst Mode<sup>®</sup> or Forced Continuous Operation

PART NUMBER	DESCRIPTION	COMMENTS
LTC3104	15V, 300mA Synchronous Step-Down DC/DC Converter with Ultralow Quiescent Current and 10mA LDO	V <sub>IN</sub> : 2.5V to 15V, V <sub>OUT(MIN)</sub> = 0.6V, I <sub>Q</sub> = 2.8 $\mu$ A, I <sub>SD</sub> = 1 $\mu$ A, 3mm $\times$ 3mm DFN-10, MSOP-10
LTC3642	45V (Transient to 60V) 50mA Synchronous Step-Down DC/DC Converter	V <sub>IN</sub> : 4.5V to 45V, V <sub>OUT(MIN)</sub> = 0.8V, I <sub>Q</sub> = 12 $\mu$ A, I <sub>SD</sub> < 1 $\mu$ A, 3mm $\times$ 3mm DFN-8, MSOP-8
LTC3631	45V (Transient to 60V) 100mA Synchronous Step-Down DC/DC Converter	V <sub>IN</sub> : 4.5V to 45V, V <sub>OUT(MIN)</sub> = 0.8V, I <sub>Q</sub> = 12 $\mu$ A, I <sub>SD</sub> < 1 $\mu$ A, 3mm $\times$ 3mm DFN-8, MSOP-8
LTC3632	50V (Transient to 60V) 20mA Synchronous Step-Down DC/DC Converter	V <sub>IN</sub> : 4.5V to 50V, V <sub>OUT(MIN)</sub> = 0.8V, I <sub>Q</sub> = 12 $\mu$ A, I <sub>SD</sub> < 1 $\mu$ A, 3mm $\times$ 3mm DFN-8, MSOP-8
LTC3388-1/LTC3388-3	20V, 50mA High Efficiency Nano Power Step-Down Regulators	V <sub>IN</sub> : 2.7V to 20V, V <sub>OUT(MIN)</sub> Fixed 1.1V to 5.5V, I <sub>Q</sub> = 720nA, I <sub>SD</sub> = 400nA, 3mm $\times$ 3mm DFN-10, MSOP-10
LTC3108/LTC3108-1	Ultralow Voltage Step-Up Converter and Power Managers	V <sub>IN</sub> : 0.02V to 1V, V <sub>OUT(MIN)</sub> Fixed 2.35V to 5V, I <sub>Q</sub> = 6 $\mu$ A, I <sub>SD</sub> < 1 $\mu$ A, 3mm $\times$ 4mm DFN-12, SSOP-16
LTC3109	Auto-Polarity, Ultralow Voltage Step-Up Converter and Power Manager	V <sub>IN</sub> : 0.03V to 1V, V <sub>OUT(MIN)</sub> Fixed 2.35V to 5V, I <sub>Q</sub> = 7 $\mu$ A, I <sub>SD</sub> < 1 $\mu$ A, 4mm $\times$ 4mm QFN-20, SSOP-20
LTC4071	Li-Ion/Polymer Shunt Battery Charger System with Low Battery Disconnect	Charger Plus Pack Protection in One IC Low Operating Current (550nA), 50mA Internal Shunt Current, Pin Selectable Float Voltages (4.0V, 4.1V, 4.2V), 8-Lead, 2mm $\times$ 3mm, DFN and MSOP Packages
LTC4070	Li-Ion/Polymer Low Current Shunt Battery Charger System	Selectable V <sub>FLOAT</sub> = 4.0V, 4.1V, 4.2V, Max Shunt Current = 50mA, I <sub>CCO</sub> = 450nA to 1.04mA, I <sub>CCLB</sub> = 300nA, 2mm $\times$ 3mm DFN-8, MSOP-8
LTC1877	10V, 600mA High Efficiency Synchronous Step-Down DC/DC Converter	V <sub>IN</sub> : 2.65V to 10V, V <sub>OUT(MIN)</sub> = 0.8V, I <sub>Q</sub> = 10 $\mu$ A, I <sub>SD</sub> < 1 $\mu$ A, MSOP-8
LTC3105	5V, 400mA, MPPC Step-Up Converter with 250mV Start-Up	V <sub>IN</sub> : 0.225V to 5V, V <sub>OUT(MAX)</sub> = 5.25V, I <sub>Q</sub> = 24 $\mu$ A, I <sub>SD</sub> = 10 $\mu$ A, 3mm $\times$ 3mm DFN-10, MSOP-12