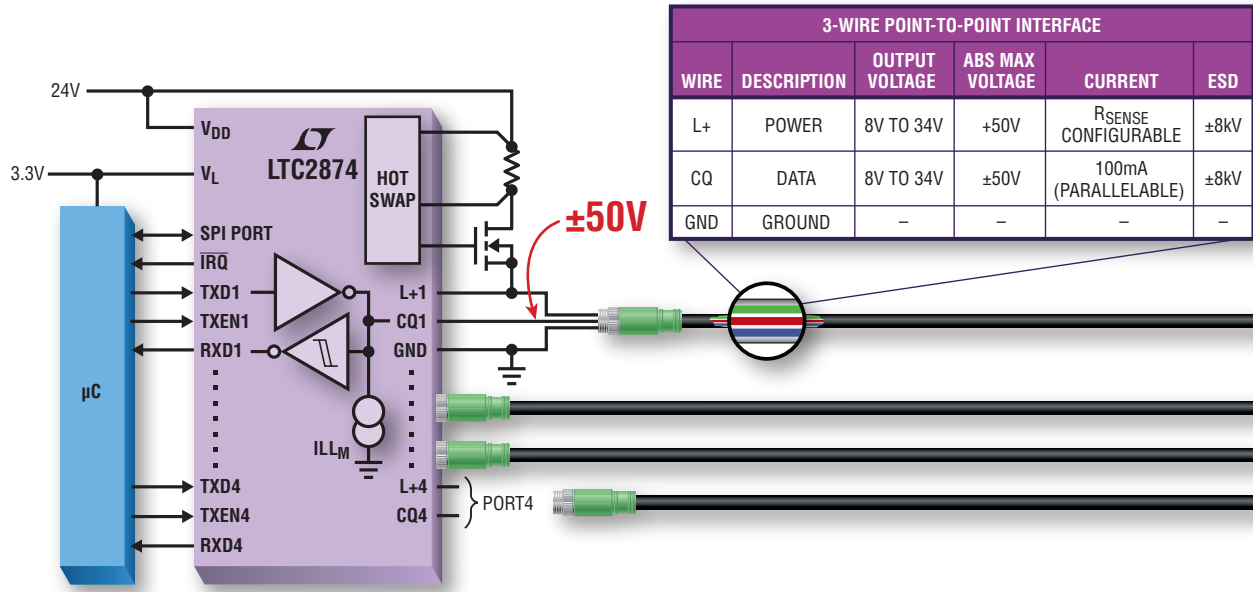


# Robust High Voltage I/O and Hot Swap Controller



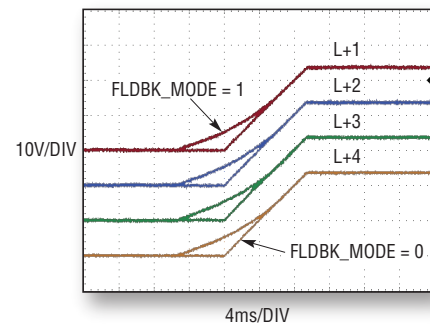
## One IC, 4 Ports, Many Applications

The LTC<sup>®</sup>2874 is a rugged, 4-port interface for powering and controlling all types of remote devices. Output supply voltage and inrush current are ramped up in a controlled manner using external N-channel pass transistors, providing improved robustness compared to fully integrated solutions. The LTC2874 features line noise suppression, connection sensing, automatic restart and many register-programmable parameters. Configuration and fault reporting are exchanged using a 4-wire SPI interface that operates at clock rates up to 20MHz.

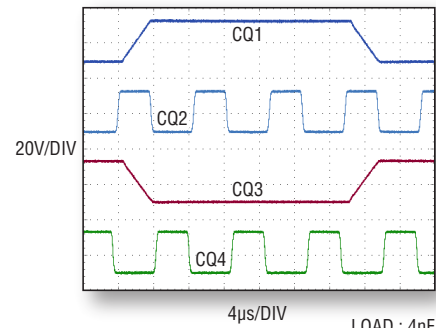
### Features

- Four Bidirectional I/O Ports
- ±50V Protection
- Up to 250kHz Operation at 12V or 24V I/O
- Hot Swap<sup>™</sup> Protected Supply Outputs with Discrete Power MOSFETs for Ruggedness and Flexibility
- Rugged CQ Line Drivers with Adjustable Slew Rate and 100mA (4-Port), 200mA (2-Port) or 400mA (1-Port) Drive Capability
- Automatic Cable Sensing
- Programmable L+ Current Limit with Foldback
- Programmable Current Sink, Start-Up Current Pulse and Noise Suppression
- Short-Circuit, Input UVLO/UV/OV and Thermal Protection
- Optional Interrupt and Auto-Retry After Faults
- 2.9V to 5.5V Logic Supply for Flexible Digital Interface
- 4-Wire 20MHz SPI-Compatible Serial Interface
- Small 38-Pin 5mm × 7mm QFN and TSSOP Packages

### Hot Swap Controlled Power



### Data Signaling

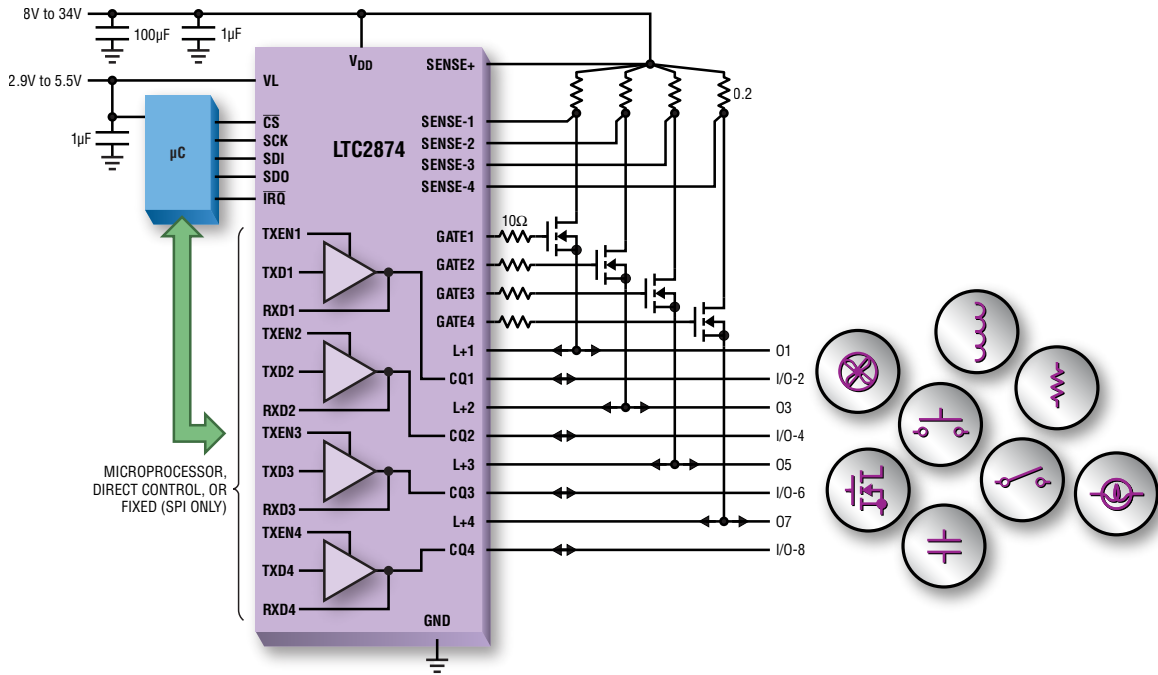


LOAD : 4nF  
CQ1, CQ3: COM3 = 0  
CQ2, CQ4: COM3 = 1



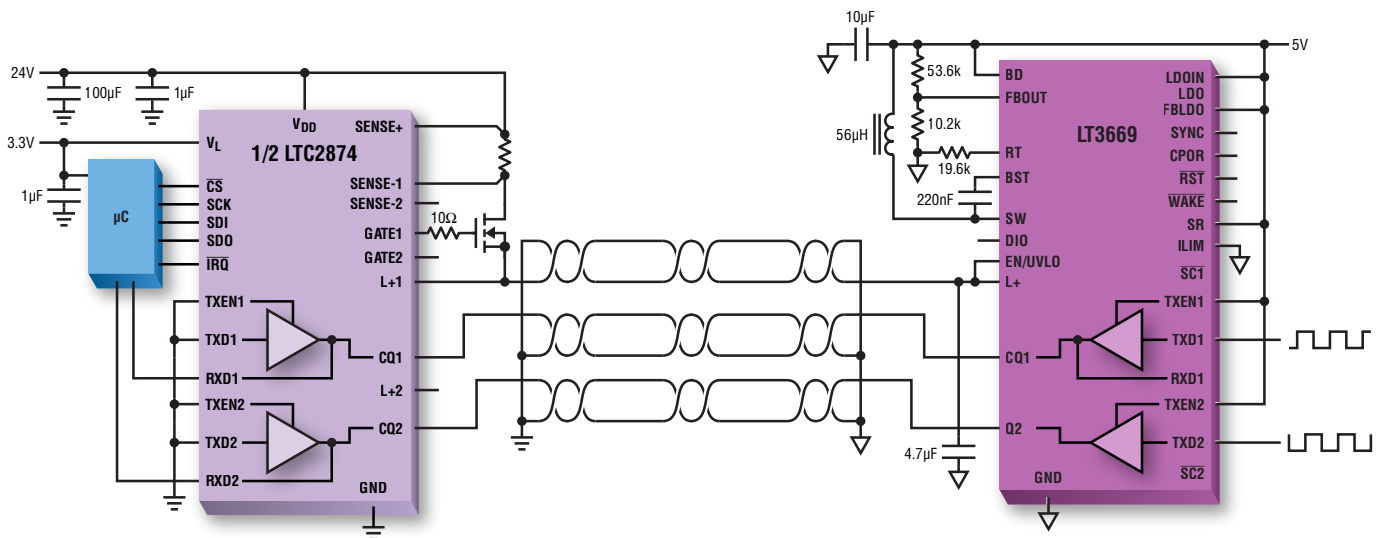
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# Applications



## Choose Your I/O

The LTC2874 connects directly to a wide array of standard inputs and outputs. From transistors and relays to resistive, capacitive and inductive loads, the LTC2874 provides microprocessors with direct and/or SPI control over many types of components typically found in such systems as aviation units, industrial equipment, traffic controls and lighting networks, to name a few. Thanks to high voltage outputs with high drive strength, the LTC2874 can even drive challenging loads such as incandescent lamps, without damage from overheating.



## Remote Communications

The LTC2874 provides a robust interface between low voltage components, such as microprocessors, and noisy high voltage environments cables must often snake through. Matching the LTC2874's ruggedness, the optional LT<sup>®</sup>3669 transceiver with integrated step-down regulator and LDO can be used to interface with devices, such as encoders or piezo sensors/actuators. Together, the LTC2874 and LT3669 provide a complete high SNR large signal swing communications solution, transmitting both power and data for self-powered applications.