

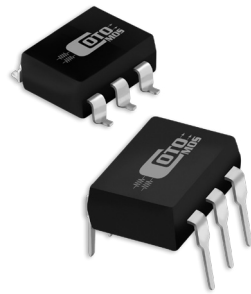


# HIGH VOLTAGE MOSFET

## FOR POWER SYSTEMS

CotoMOS high voltage MOSFETs are an ideal solution for power systems adopted in electric vehicles (EV), hybrid vehicles (HEV), and large scale power storage systems.

With the rapid development of power storage system technologies in recent years, the use of batteries has been spreading, not only in electric power generation such as electric/hybrid vehicles, automatic guided electric vehicles (AGV), and renewable energy systems (solar, wind, etc.), but also in ordinary power supply systems. The crucial component for these power systems is a high voltage MOSFET.



for batteries, which are an aggregation of cells. In order to maintain efficient operation and long life, it is important to keep a balance between each cell. Battery Management Systems (BMS) are utilized in battery systems to monitor and control conditions such as voltage, current, charging, discharging and temperature changes in each cell. High-speed and high-voltage control circuits are required in BMS; and CotoMOS is ideally suited to the needs of such functions.

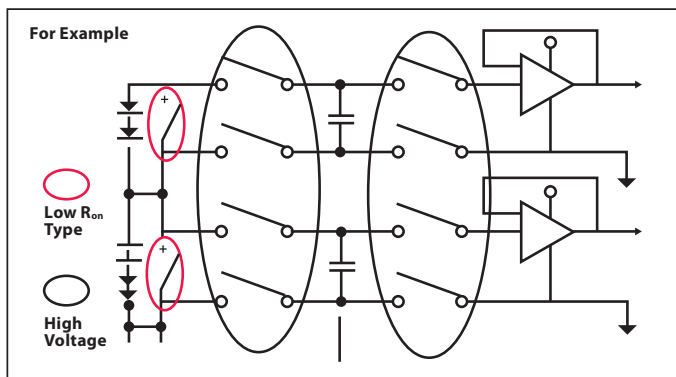
Large-scale Electric Storage Systems (ESS) have spread into solar and wind power generation, which contain high performance inverters for DC-AC conversion. In addition to these, uninterruptible power supply systems (UPS) also need BMS to monitor and control the conditions of each cell.

**High speed and high voltage control circuits are required in Battery Management Systems, and CotoMOS is ideally suited to the needs of such functions.**

### Features of CotoMOS MOSFETs

- Highly reliable
- 100% tested before shipment
- Flexible for custom design needs
- Information of applications for various designs available
- Technical specifications
  - High current version available
  - Applicable to high voltage
  - Applicable to wide range of temperature
  - Extremely small space needed

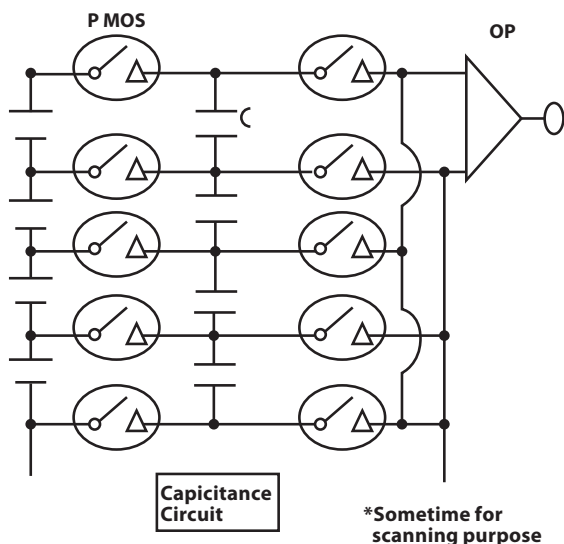
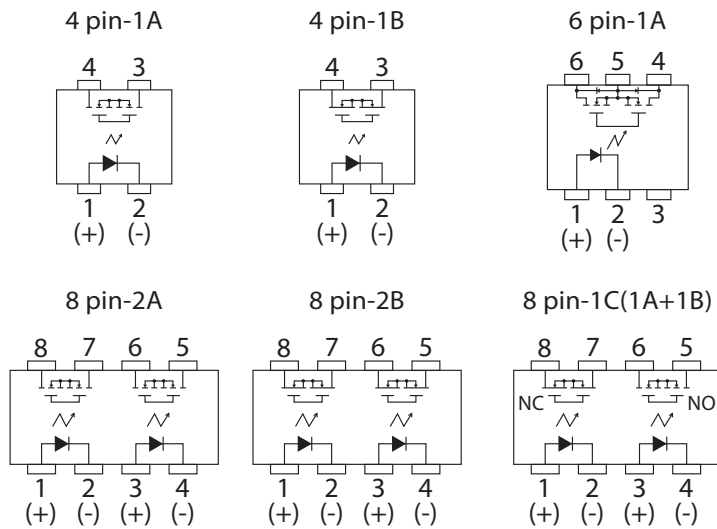
The electric power supply systems for EV and HEV consist of three major elements – batteries, inverters and motors. The MOSFETs are adopted in all three elements. They are particularly indispensable



Nominal current ranges covered by CT24/26/28/36/47 series products are 2A to 4.5A. Maximum current is configurable to 7A in DC Mode. Internal resistance of CT128/CS128 is so low (0.05Ω), they are capable of high current switching (4.5A) and are applicable to 40V systems. CT128/CS128 are suitable for automatic inspection equipment, control devices, measuring instruments, testers, and systems requiring high current capability and long life.

The CotoMOS® C238S is an SOP packaged device that fits high-speed switching needs. The C338S has two independent channels in a single device (A) to save space. Having two independent relay functions is ideal for testers, measuring instruments and communication apparatus.

CotoMOS® CT330/CS330 relays, which have a switching capability up to 100mA, are suitable to testers/measuring instruments required up to 400V.

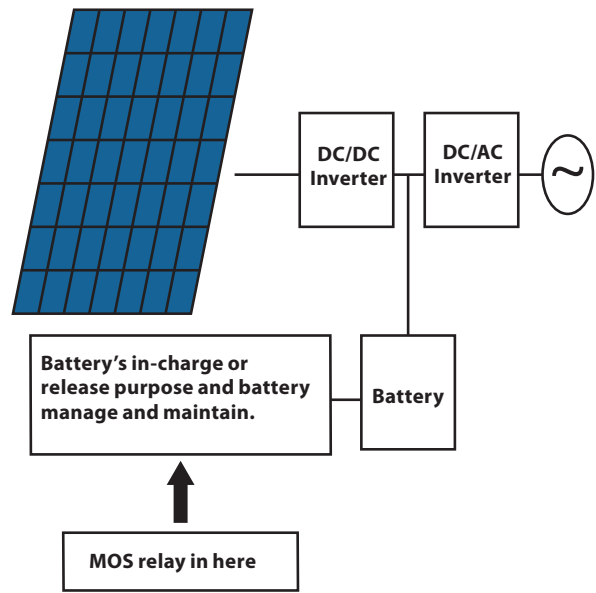
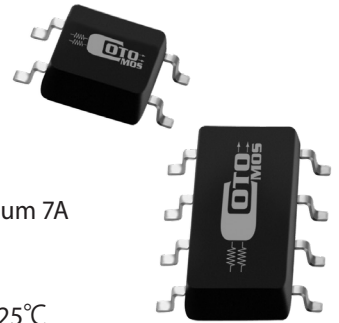


The CotoMOS® 140 Series is a 1500V high-voltage MOSFET device capable of switching a 70mA load current in DC mode and 45mA in AC/DC mode. Featuring 6-pin terminals in a surface mount package (A) the relay is compliant to EU standards applicable to 3,750V standard I/O breakdown voltage.

CotoMOS140 has been developed for equipment requiring high voltage applications such as control for factory automation, testers, measuring instruments, BMS and solar battery systems. Coto already established an organization to support design applications by clients.

### CotoMOS® Roadmap

- High-voltage  
Nominal load voltage: 1.5KV
- Increase of RF performance:  
Nominal CxR: Approx. 5pFΩ  
Style of 1A/2A: SOP package
- High current release  
Nominal current of 4.5A: Maximum 7A  
1A package: DIP and SMD
- Wide range of temperature  
Temperature range: -40°C to +125°C  
SMD 8 pin: DIP/SMD
- Form 1A+1B Series released  
Application of replacing ATE in 70 Series
- VSSOP package release-  
4 pin and 8 pin  
Extended RF performance



To learn more about Coto Technology's CotoMOS® solid state relay offerings and how our applications support team can help you with your latest design, please contact us at [CotoMOS@cotorelay.com](mailto:CotoMOS@cotorelay.com) or visit our website at [www.cotorelay.com](http://www.cotorelay.com).