

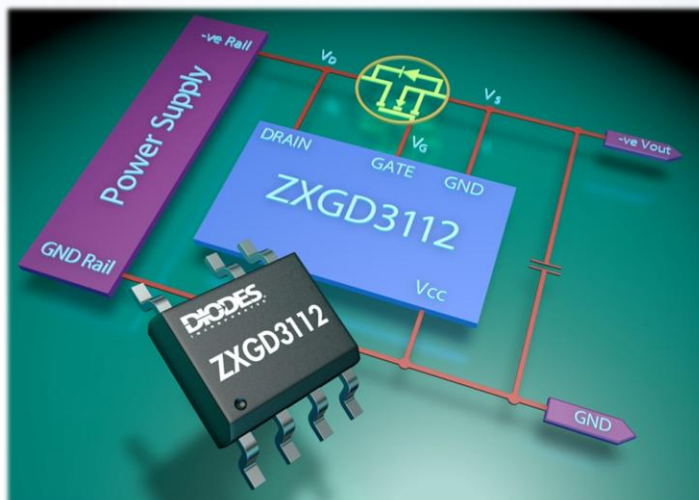


Best-in-Class Active OR'ing MOSFET Controller Supports Power Supplies up to 400V

Diodes Incorporated has extended its family of dedicated Active OR'ing MOSFET Controllers with the ZXGD3112N7 designed for redundant power supply architectures up to 400V in telecom, data center and server duties.

The ZXGD3112N7 is designed to fully enhance very low $R_{DS(on)}$ power MOSFETs. This enables the replacement of lossy Schottky blocking diodes which in turn lowers the operating temperature and increases system integrity. By driving MOSFETs as 'ideal diodes' the controller improves the overall system efficiency in high-voltage power systems.

For samples and quotations please contact your nearest Diodes sales office or representative.



The Diodes Advantage

The ZXGD3112N7 is a 400V active MOSFET OR'ing controller designed for (N+1) redundancy in high-voltage power rails.

▪ Light Load Stability

The typical -3mV (± 2 mV tolerance) turn-off threshold enables the control of very low $R_{DS(on)}$ MOSFETs while maintaining stability under light load conditions.

▪ Fast Turn-Off

5A current sinking capability allows fast-gate discharge of paralleled OR-ing MOSFETs and avoids reverse current flow under fault conditions.

▪ Increased Reliability and Efficiency

Increased efficiency eases the thermal design and reduces the heat sinking size and cost. Moreover, it lowers the operating temperature which increases the overall power system reliability.

Applications

Target application is OR'ing rectifiers in (N+1) redundancy power supply architectures up to 400V for power rails found in:

- Telecoms
- Data Center
- Servers

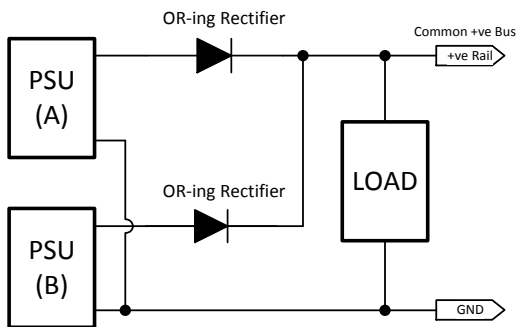


Product Family

Orderable Part Number	Supply Voltage (V)	Drain Voltage (V)	Source Current (A)	Sink Current (A)	Turn-Off Threshold (mV)	Turn-Off Prop. Delay (ns)	Turn-Off Fall Time (ns)	Package
ZXGD3108N8	25	40	2	5	-5	400	131	SO-8
ZXGD3111N7	25	200	2	5	-5	400	131	SO-7
ZXGD3112N7	25	400	2	5	-5	400	131	SO-7

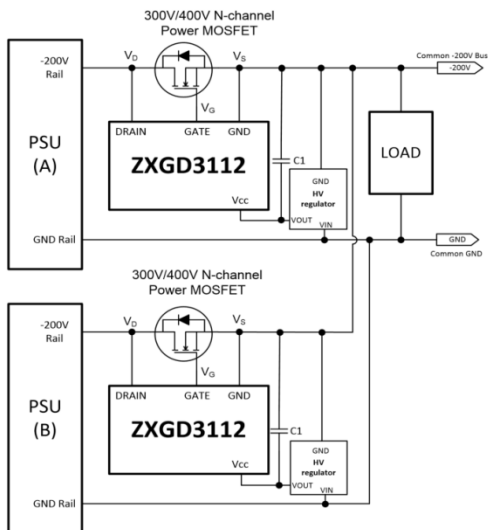
OR'ing Rectification in (N+1) Redundancy

Critical systems require fault-tolerant power supply that can be achieved by paralleling two or more PSUs into (N+1) redundancy configuration.



- Under normal operation PSU (A) and (B) share the load for maximum reliability
- PSU (A) supports the load if PSU (B) fails and vice versa
- OR'ing rectifiers protect the load from a faulty PSU effecting the common bus voltage
- The load can be >10Amps and on-state losses in the OR'ing rectifiers can be high
- Active OR'ing Controller drives very low $R_{DS(on)}$ MOSFET as an 'ideal diode' to replace the lossy Schottky rectifiers.

Example of ZXGD3112N7 in OR'ing Rectification



The focus application of the ZXGD3112 OR'ing Controller is for Redundant Low-Side 200V Power Supply Rail (or up to 400V).

HV to 12V regulator or a potential divider is suggested to power the V_{CC} of ZXGD3112 from high-voltage lines.