



New Product Announcement

DML3012LDC
DML3011ALFDS
DML3010ALFDS
DML3008LFDS

High-Current Smart Load Switches Provide Compact Power Delivery

The DML30xx smart load switch portfolio expands to include:

- DML3012LDC (15A)
- DML3011ALFDS (10.5A)
- DML3010ALFDS (10.5A)
- DML3008LFDS (10.5A)

These compact devices offer high-current power domain switching for 0.5V to 20V. Designed for applications including servers, computing hardware, industrial equipment, hot-swap devices and peripheral ports, they efficiently manage power delivery to microcontrollers, graphic cards, ASICs, FPGAs, and storage.

Featuring a chip-on-chip design with an ultra-low R_{ON} N-channel power MOSFET, they provide high power density within an ultra-compact footprint. Their underside heat pad enhances thermal efficiency, ensuring reliable operation. With their typical on-state current of less than 150 μ A and 0.1 μ A in standby mode, power consumption is minimized.

These load switches integrate multiple functions, reducing additional circuitry, PCB area, and time to market. A comprehensive choice of safeguards and monitoring features include short-circuit protection, overcurrent protection, undervoltage lockout, and soft-start. Quick discharge capabilities and thermal shutdown protection further enhance reliability.

The DML3008LFDS, DML3010ALFDS, and DML3011ALFDS are available in V-DFN2020-8 (2mm x 2mm) packages, and the DML3012LDC in the V-DFN3030-12 (3mm x 3mm) package.

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The DIODES Advantage

These smart load switches offer high-current power domain switching control for a wide range of voltage rails.

- **Chip-on-Chip Design Maximizes Power Density**
4mm²* ultra-compact footprint reduces PCB real estate and designs
- **Enhanced Thermal Efficiency**
Reduces operating temperature and cooling budget while enhancing system reliability
- **Low Power Consumption**
Reduces energy costs and extends battery life for portable devices
- **Feature Integration**
Minimizes the need for additional circuitry, reducing component count and costs
- **Comprehensive Safeguards and Monitoring Features**
Protects self and load to ensure system stability and recovery, maximizing uptime

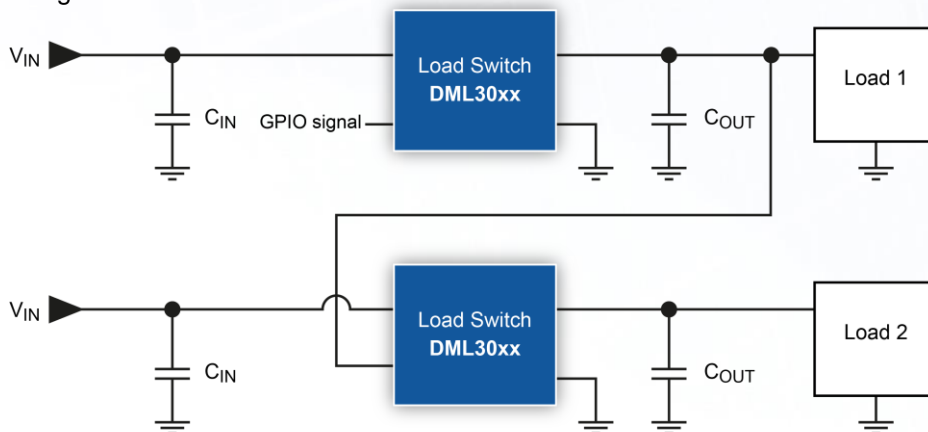
* DML3012LDC footprint = 9mm²

Applications

- Microcontrollers
- Graphic cards
- System protection
- Power management
- Hot-swap devices and peripheral ports
- Handheld devices
- Industrial equipment
- Networking infrastructure
- Gateways
- Solid-state drives
- Embedded systems
- Notebooks and tablets
- Enterprise servers and storage

Typical Application

Power sequencing



Product Portfolio

Part Number	V _{IN} Range	*I _{MAX}	R _{DS(ON)} Typ.	Output Turn-On Delay Typ.	Power Good Pin	Slew Rate Control	Short Circuit Protect	VCC Undervoltage Lockout	Thermal Shutdown	Load Bleed (Quick Discharge)
	V	A	mΩ	μs						
DML3012LDC	0.5 to 20	15	4.8	290	Y	Adj.	Y	Y	Y	Y
DML3011ALFDS	0.5 to 20	10.5	7.5	220	N	Adj.	Y	Y	Y	Y
DML3010ALFDS	0.5 to 20	10.5	7.5	220	Y	Fixed	Y	Y	Y	Y
DML3008LFDS	0.5 to 20	10.5	7.5	130	Y	Fixed	N	N	Y	Y
DML3009LDC	0.5 to 13.5	15	4.8	370	Y	Adj.	Y	Y	Y	Y
DML3006LFDS	0.5 to 13.5	11	8.6	190	Y	Fixed	Y	Y	Y	Y

*Maximum steady state current the load switch can pass at room ambient temperature without entering thermal lockout.
Values for condition V_{IN}=1.8V, V_{VCC}=5V

Ordering Information

Orderable Part Number	Package	Tape Width	Packing	
			Quantity	Carrier
DML3012LDC-7A	V-DFN3030-12 (Type B)	12mm	1,500	Tape & Reel
DML3012LDC-7	V-DFN3030-12 (Type B)	8mm	3,000	Tape & Reel
DML3011ALFDS-7	V-DFN2020-8 (Type N)	8mm	3,000	Tape & Reel
DML3010ALFDS-7	V-DFN2020-8 (Type N)	8mm	3,000	Tape & Reel
DML3008LFDS-7	V-DFN2020-8 (Type N)	8mm	3,000	Tape & Reel