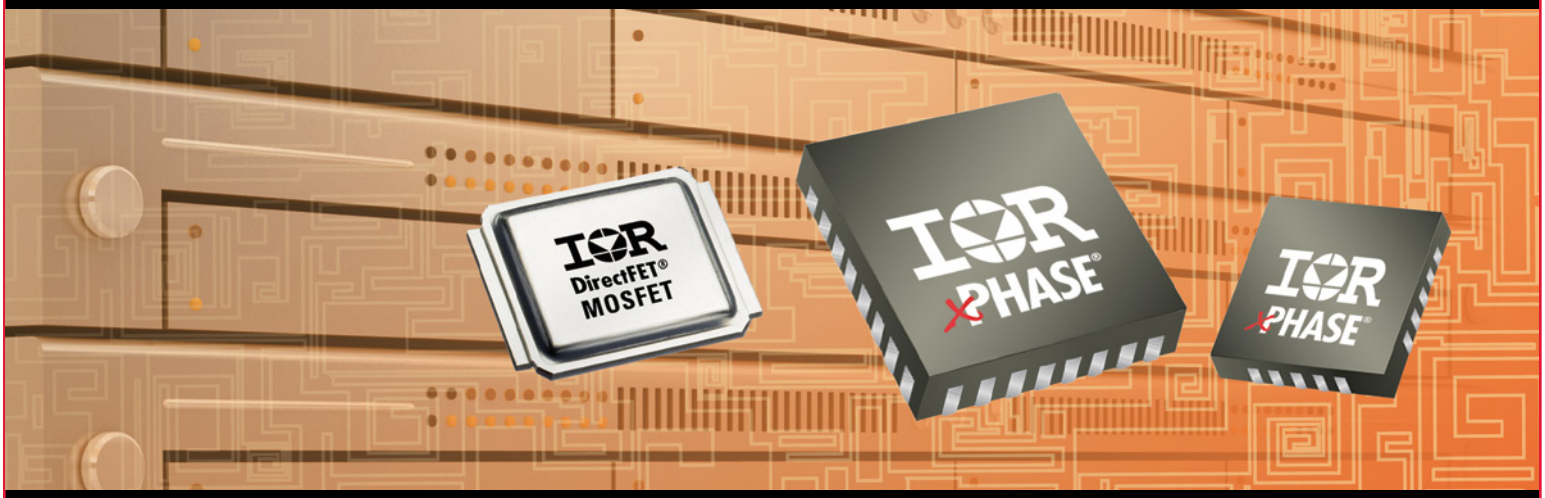
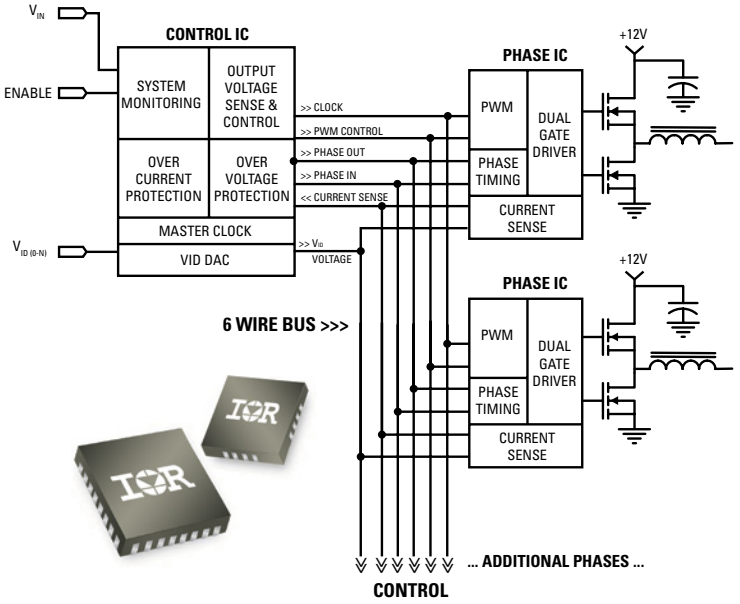
Multiphase
Product Selection Guide



International
IOR Rectifier

THE IR MULTIPHASE ADVANTAGE

- Greater than 90% efficiency
- High density (>100A/inch²)
- Complete solutions
- Cost Efficient
- Design Services available



Output Power Monitor ICs specifications

Part Number	Package	Package Size	Features
IR3720MTRPBF	10-lead DFN	3mm x 3mm	I²C interface
IR3721MTRPBF	10-lead DFN	3mm x 3mm	Analog output

Input Power Monitor ICs specifications

Part Number	Package	Package Size	Features
IR3725MTPBF	12-lead DFN	3mm x 3mm	Analog output

Multiphase XPhase® IC Product Line

Control IC

Intel System	AMD System	DDR3	POL
IR3502 • Intel VR11.1 • 5x5mm MLPQ-32	IR3521 SVI • VDD • VDDNB • 5x5mm MLPQ-32	IR3522 Dual • VDDQ • VTT • I²C Margining • Soft Stop • 5x5mm MLPQ-32	IR3513Z • Scalable POL • Margining • 5x5mm MLPQ-32
IR3500 • VR11.0 & AMD PVI • 5x5mm MLPQ-32			IR3510 • N+1 Redundant • E-Fuse/Hot-Swap • Output ORing • 5x5mm MLPQ-32
IR3500V • VR11.1 CPU VTT • 5x5mm MLPQ-32		• **Dedicated Chipset**	• **Dedicated Chipset**
IR3523 Dual • VR11.1 CPU VTT • DDR3 VDDQ • 3 bit VID Margining • 6x6mm MLPQ-40			

Phase IC

IR3505Z • 3x3mm MLPQ-16	IR3508Z • 2+ Phase PSI# • 4x4mm MLPQ-20	IR3506 • 2+ Phase PSI • Buck & Boost Capable • 3x3mm MLPQ-16	IR3088A • 4x4mm MLPQ-20
IR3507Z • 1 Phase PSI Mode • 4x4mm MLPQ-20	IR3527 •Dual Phase •1 Phase PSI Mode •4x4mm MLPQ-24		

25V DirectFET® specifications

Part Number	$R_{DS(on)}$ @ 4.5V Typ. (mΩ)	$R_{DS(on)}$ @ 10V Typ. (mΩ)	V_{GS} Max. (V)	Q_G Typ. (nC)	Q_{GD} Typ. (nC)	Rg Typ. (Ω)	AN-1035 Layout Code
IRF6718L2PBF	1.4	0.7	±20	64	20	0.9	L6
IRF6717MTRPBF	1.6	0.95	±20	46	14.0	1.3	MX
IRF6715MTRPBF	2.1	1.3	±20	39	12.0	1.1	MX
IRF6714MTRPBF	2.6	1.6	±20	29	8	1.2	MX
IRF6713STRPBF	3.5	2.2	±20	21	6.3	0.4	SQ
IRF6711STRPBF	5.2	3.0	±20	13	4.4	0.4	SQ
IRF6712STRPBF	6.7	3.8	±20	12	4.0	1.7	SQ
IRF6710S2TRPBF	9	4.5	±20	8.8	3.0	0.3	S1
IRF6709S2TRPBF	10.1	5.9	±20	8.1	2.8	3.2	S1

25V DirectFETKY® specifications

Part Number	$R_{DS(on)}$ @ 4.5V Typ. (mΩ)	$R_{DS(on)}$ @ 10V Typ. (mΩ)	V_{GS} Max. (V)	Q_G Typ. (nC)	Q_{GD} Typ. (nC)	Rg Typ. (Ω)	AN-1035 Layout Code
IRF6798MTRPBF	1.6	0.95	±20	50	16	0.3	MX
IRF6797MTRPBF	1.8	1.1	±20	45	13	1.3	MX
IRF6795MTRPBF	2.4	1.4	±20	35	10	1.3	MX

XPhase® Technology Advantages

- Smallest IC size provides highest power density
- Flexible number of phases
  - -Cost advantages for applications requiring more than 3 phases
  - -Common design scales for a series of designs
- Gate drivers and current sense located close to the Power Stage
- Small and simple PCB layout
  - -Easier layout for gate driver traces and current sense signals
  - -Shorter current sense signal traces reduce noise coupling
- Control IC can be located far from the power stage
  - -Isolated from heat and gate drive noise
- Operates from 12V - no auxiliary bias voltages needed
- Industry leading accuracy over temperature and input voltage
- Optimized 7V driver

DirectFET® Silicon Technology Advantages

- 25V BV_{DSS} optimized for 12V Synchronous Buck Converters
- Sub 1 mohm silicon $R_{DS(on)}$
- Ultra-Low Gate Resistance
  - -Gate Resistance as low as 0.25 Ohm for fast switching and excellent C dv/dt immunity
- Integrated Monolithic Schottky Diode
  - -Reduces body diode conduction and switching losses
  - -Reduces switch node ringing

International Rectifier

Product Line Overview

Product Line	Applications	Key Products
 **Energy Saving Products** Integrated design platforms that enable customers to add energy-conserving features that achieve lower operating energy costs and manufacturing Bill of Material (BOM) costs.	• Appliances • Audio • Display • Industrial • Lighting • SMPS	• Digital Control ICs • High-Voltage ICs • IGBTs • IRAM Integrated Power Modules • Intelligent Power Switches • MERs
 **Enterprise Power** Optimized power management system solutions that deliver benchmark power density, efficiency and performance in enterprise power.	• Servers • Storage Networks • Switchers & Routers • Workstations • Notebooks • Game Stations • Set-Top Box	• DirectFET® • Low-Voltage ICs • Sup*iR*Buck™ • XPhase® • Power Monitor IC • *iPOWIR®*
 **Automotive** Automotive grade power management solutions qualified to meet the needs of 12V, 24V and HE/EV applications with a zero defect goal.	• AC and DC Motor Drives • Powertrain / Engine control • Body Electronics • Lighting • Class D Audio • Heavy Loads and Actuators	Automotive Qualified: • HEXFET® Power MOSFETs • Intelligent Power Switches • Driver ICs (Low-, Mid- and High-Voltage) • IGBTs for Motor Drives, Various Loads
 **Benchmark MOSFETs** IR continues to lead the industry by offering power MOSFETs with the lowest $R_{DS(on)}$ and widest range of packages up to 250V for a diverse range of applications.	• Audio • Computing • Communications • Motor Control • Power Supply • Synchronous Rectification	• Discrete HEXFET® MOSFETs • Dual HEXFET® MOSFETs • FETKY®
 **HiRel** Our discrete components, complex hybrid power module assemblies and rugged DC-DC converters utilize leading-edge power technology which, together with demanding environmental specifications help engineers to meet their toughest design challenges.	• Space • Military • Commercial Aviation • Rugged Industrial • Medical	• RAD-Hard MOSFETs • Power Modules/Hybrid Solutions • Motor Control Solutions • DC-DC Converters