

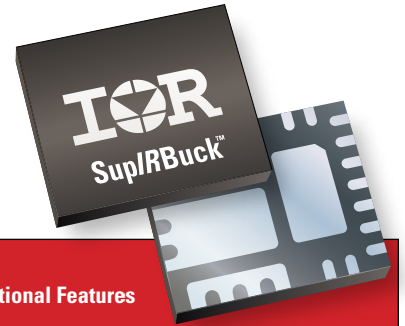
Point-of-Load Product Selection Guide



International
IOR Rectifier

Point-of-Load PWM IC Reference Designs

Part	Featured Part	V _{IN} (V)	V _{OUT} (V)	I _{OUT} (A)	Switching Frequency (kHz)	Description
IRDC3640	IR3640	12	1.07	23	350	1% Acc. OCP, OTP, PB, SS, PGOOD, EFS, Tracking
IRDC3629	IR3629	12	0.08	20	600	OCP, OTP, PB, SS, PGOOD
IRDC3629A	IR3629A	12	0.08	25	300	OCP, OTP, PB, SS, PGOOD
IRDC3651	IR3651	48	3.3	10	100	OCP, PB SS, EFS



SupIRBuck™ Reference Designs

Part	Integrated Voltage Regulator	V _{IN} (V)	V _{OUT} (V)	I _{OUT} (A)	Switching Frequency (kHz)	Additional Features
IRDC3812	IR3812MPbF	12	0.75	4	600	Tracking
IRDC3822	IR3822MPbF	12	1.8	4	600	PGOOD
IRDC3822A	IR3822AMPbF	12	1.8	6	300	PGOOD
IRDC3811	IR3811MPbF	12	0.75	7	600	Tracking
IRDC3821	IR3821MPbF	12	1.8	7	600	PGOOD
IRDC3821A	IR3821AMPbF	12	1.8	9	300	PGOOD
IRDC3810	IR3810MPbF	12	0.75	12	600	Tracking
IRDC3820	IR3820MPbF	12	1.8	12	600	PGOOD
IRDC3820A	IR3820AMPbF	12	1.8	14	300	PGOOD
IRDC3802	IR3802MPbF	12	3.3	4	600	NA
IRDC3802A	IR3802AMPbF	12	3.3	6	300	NA
IRDC3830	IR3830MPbF	12	0.75	12	400	PGOOD, Enable, Tracking
IRDC3831	IR3831MPbF	12	0.75	8	400	PGOOD, Enable, Tracking
IRDC3832	IR3832MPbF	12	0.75	4	400	PGOOD, Enable, Tracking
IRDC3840	IR3840MPbF	12	1.8	12	600	PGOOD, Enable, SEQ
IRDC3841	IR3841MPbF	12	1.8	8	600	PGOOD, Enable, SEQ
IRDC3842	IR3842MPbF	12	1.8	4	600	PGOOD, Enable, SEQ
IRDC3870	IR3870MPbF	12	1.1	10	300 (nominal)	Hysteretic Constant On-time Control, PGOOD, Enable

iPOWIR™ - Single Power Stage Products

Part	Size (mm)	Package Style	V _{IN} Range (V)	V _{DD} Range (V)	V _{OUT} Range (V)	I _{out} (A)	Switch Frequency (kHz)
iP2005A	7.7 x 7.7 x 1.7	LGA	6.5 - 13.2	4.5 - 7.0	0.8 - 3.3	40	250 - 1,500
iP2005C	7.7 x 7.7 x 1.7	LGA	2.5 - 13.2	4.5 - 7.0	0.8 - 3.3	40	250 - 1,500

iPOWIR™ - Dual Phase or Dual Channel Power Stage Products

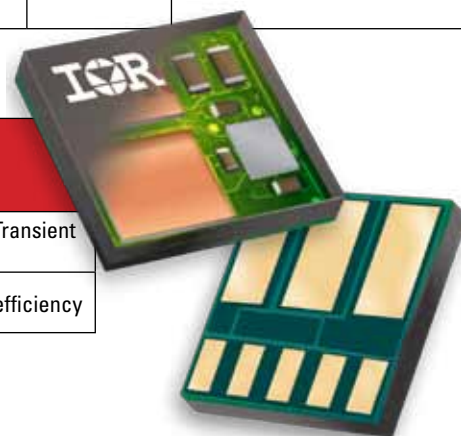
Part	Size (mm)	Package Style	V _{IN} Range (V)	V _{DD} Range (V)	V _{OUT} Range (V)	I _{out} (A)	Switch Frequency (kHz)
iP2021C	7.7 x 11 x 1.7	LGA	6.5 - 13.2	4.5 - 7.0	0.8 - 3.3	40	250 - 1,000

iPOWIR™ - Synchronous Buck Products

Part	Size (mm)	Package Style	Circuit	V _{IN} Range (V)	V _{OUT} Range (V)	I _{out} (A)	Switch Frequency (kHz)	Features
iP1206	15.5 x 9.25 x 1.97	LGA	2-Phase: Single Output or Dual Ch	7.5 - 14.5	0.8 - 5.5	30	200 - 600	OVP, OCP, OTP Pre-Bias, EFS, Tracking, Sequencing,
iP1202	15.5 x 9.25 x 1.97	BGA	2-Phase: Single Output or Dual Ch	5.5 - 13.2	0.8 - 5	30	200 - 400	OVP, OCP, OTP, Soft Start
iP1201	15.5 x 9.25 x 2.6	BGA	2-Phase: Single Output or Dual Ch	3.14 - 5.5	0.9 - 3.3	30	200 - 400	OVP, OCP, OTP, Soft Start
iP1203	9 x 9 x 2.6	LGA	Single Output	5.5 - 13.2	0.8 - 8	15	200 - 400	OVP, OCP, OTP, Soft Start

iPOWIR™ - Power Stage Reference Designs

Part	Featured Part	V _{IN} (V)	V _{OUT} (V)	I _{OUT} (A)	Phases	Switching Frequency (kHz)	Description
IRDCiP2005A-A	iP2005A	9.5 - 13.2	1.25	65	2	1000	Designed for Fast Transient Response
IRDCiP2005A-B	iP2005A	8.5 - 14.5	1.5	60	2	500	Designed for high efficiency



iPOWIR™ - Synchronous Buck Reference Designs

Part	Featured Part	V _{IN} (V)	V _{OUT} (V)	I _{OUT} (A)	Phases	Switching Frequency (kHz)	Description
IRDCiP1206-A	iP1206	7.5 - 14.5	1.2	30	2	300	Configured for single output
IRDCiP1206-B	iP1206	7.5 - 14.5	1.5, 2.5	15	2	300	Configured for dual independent outputs
IRDCiP1201-A	iP1201	3.1 - 5.5	1.5	30	2	200 - 400	May be configured for single or dual outputs
IRDCiP1202-A	iP1202	5.5 - 13.2	1.5, 2.5	30	2	200 - 400	May be configured for single or dual outputs
IRDCiP1203-A	iP1203	5.5 - 13.2	1.8	15	1	200 - 400	Single output design

Sup/IRBuck™ Integrated Voltage Regulators

Part	Size (mm)	Package Style	Circuit	V _{IN} Range (V)	V _{OUT} Range (V)	I _{out} (A)	Switch Frequency (kHz)	Key Target Applications	Features
IR3812MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	4	600	Server, Storage, Netcom	Tracking
IR3822MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	4	600	Server, Storage, Netcom	PGOOD
IR3822AMPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	6	300	Server, Storage, Netcom	PGOOD
IR3811MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	7	600	Server, Storage, Netcom	Tracking
IR3821MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	7	600	Server, Storage, Netcom	PGOOD
IR3821AMPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	9	300	Server, Storage, Netcom	PGOOD
IR3810MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	12	600	Server, Storage, Netcom	Tracking
IR3820MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	12	600	Server, Storage, Netcom	PGOOD
IR3820AMPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	14	300	Server, Storage, Netcom	PGOOD
IR3800MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	12	600	Gaming, STB, Computing	NA
IR3800AMPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	14	300	Gaming, STB, Computing	NA
IR3801MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	7	600	Gaming, STB, Computing	NA
IR3801AMPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	9	300	Gaming, STB, Computing	NA
IR3802MPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	4	600	Gaming, STB, Computing	NA
IR3802AMPbF	5 x 6	QFN	Single Output	2.5 - 21	0.6 - 12	6	300	Gaming, STB, Computing	NA
IR3830MPbF	5 x 6	QFN	Single Output	1.5 - 16	0.7 - 0.9Vin	12	250 - 1,500	Server, Storage, Netcom, Consumer	Programmable Frequency, PGOOD, Tracking, Enable
IR3831MPbF	5 x 6	QFN	Single Output	1.5 - 16	0.7 - 0.9Vin	8	250 - 1,500	Server, Storage, Netcom, Consumer	Programmable Frequency, PGOOD, Tracking, Enable
IR3832MPbF	5 x 6	QFN	Single Output	1.5 - 16	0.7 - 0.9Vin	4	250 - 1,500	Server, Storage, Netcom, Consumer	Programmable Frequency, PGOOD, Tracking, Enable
IR3840MPbF	5 x 6	QFN	Single Output	1.5 - 16	0.7 - 0.9Vin	12	250 - 1,500	Server, Storage, Netcom, Consumer	Programmable Frequency, PGOOD, SEQ, Enable
IR3841MPbF	5 x 6	QFN	Single Output	1.5 - 16	0.7 - 0.9Vin	8	250 - 1,500	Server, Storage, Netcom, Consumer	Programmable Frequency, PGOOD, SEQ, Enable
IR3842MPbF	5 x 6	QFN	Single Output	1.5 - 16	0.7 - 0.9Vin	4	250 - 1,500	Server, Storage, Netcom, Consumer	Programmable Frequency, PGOOD, SEQ, Enable
IR3870MPbF	5 x 6	QFN	Single Output	3 - 26	0.5 - 12	10	100 - 1,000	Notebook, Consumer	Hysteretic Constant On-time Control, Programmable Frequency, PGOOD, Enable



30V DirectFET® MOSFETs

Part	Function	@ 4.5V Max. (mΩ)	@ 4.5V Typ. (mΩ)	V _{GS} Max. (V)	Q _G Typ. (nC)	Q _{GD} Typ. (nC)	Q _{sw} Typ. (nC)	Pad Outline Code
IRF6720S2	Q1	12.8	9.8	±20	7.9	2.8	3.7	S1
IRF6727M	Q2	2.4	1.8	±20	49	16	21	MX
IRF6724M	Q2	3.5	2.7	±20	33	10.0	14.0	MX

Single POL PWM Controllers

Part	Package Style	Size (mm)	V _{IN} Range (V)	V _{DD} Range (V)	V _{OUT} Range (V)	Key Target Applications	Switch Frequency (kHz)	Features
IR3640M	20-Lead MLPQ	3 x 4	1.8 - 24	4.5 - 5.5	0.7 - 0.9 x	Server, Storage, Netcom	250 - 1500	1% Acc, OCP, OTP, PB, SS, PGOOD, EFS, Tracking
IR3628M	12-Lead MLPD	3 x 4	2.5 - 21	4.5 - 14	0.6 - 0.7*	Gaming, STB, Computing	600	OCP, OTP, PB, SS, Tracking, Margining
IR3629M	12-Lead MLPD	3 x 4	2.5 - 21	4.5 - 14	0.6 - 0.7 *	Gaming, STB, Computing	600	OCP, OTP, PB, SS, PGOOD
IR3629AM	12-Lead MLPD	3 x 4	2.5 - 21	4.5 - 14	0.6 - 0.8*	Gaming, STB, Computing	300	OCP, OTP, PB, SS, PGOOD

Dual Phase and Dual Channel PWM Controllers

Part	Package Style	Size (mm)	V _{IN} Range (V)	V _{DD} Range (V)	V _{OUT} Range (V)	Key Target Applications	Switch Frequency (kHz)	Features
IR3622AM	32-Lead MLPQ	5 x 5	10 - 28	6.7 - 16	0.8 -	Server, Storage, Netcom	200 - 600	1% Acc, OCP, OVP, OTP, PB, SS, PGOOD, EFS, Tracking, EFS
IR3623M	32-Lead MLPQ	5 x 5	0 - 14.5	8.5 - 14.5	0.8 -	Server, Storage, Netcom	200 - 1,200	1% Acc, OCP, OVP, OTP, PB, SS, PGOOD, EFS, Tracking, EFS

Single POL PWM Controller for Notebook Applications

Part	Package Style	Size (mm)	V _{IN} Range (V)	V _{DD} Range (V)	V _{OUT} Range (V)	Key Target Applications	Switch Frequency (kHz)	Features
IR3710M	16 - Lead MLPQ	3 x 3	3 - 26	3.3 & 5	0.5 -	Notebook, Consumer	100 - 1000	Hysteretic Constant On-time Control, 1% Acc, OCP, OTP, SS, PB, PGOOD, Enable

High-Voltage Non Isolated PWM Controller

Part	Package Style	Size (mm)	V _{IN} Range (V)	V _{DD} Range (V)	V _{OUT} Range (V)	Key Target Applications	Switch Frequency (kHz)	Features
IR3651S	14-Pin SOIC (NB)	6 x 8.6	24 - 100	10 - 13.2	1.25 -	Industrial, Consumer	100 - 1000	OCP, PB SS, EFS

Key

OCP	Programmable Over Current Protection
OVP	Over Voltage Protection
OTP	Over Temperature Protection
PB	Pre-bias Start-up
SS	Programmable Soft Start
PGOOD	Power Good
EFS	External frequency synchronization

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Product Line	Applications	Key Products
 <p>Energy Saving Products</p> <p>Integrated design platforms that enable customers to add energy-conserving features that achieve lower operating energy costs and manufacturing Bill of Material (BOM) costs.</p>	<ul style="list-style-type: none"> • Appliances • Audio • Display • Industrial • Lighting • SMPS 	<ul style="list-style-type: none"> • Digital Control ICs • High-Voltage ICs • IGBTs • IRAM Integrated Power Modules • Intelligent Power Switches • MERs
 <p>Enterprise Power</p> <p>Optimized power management system solutions that deliver benchmark power density, efficiency and performance in enterprise power.</p>	<ul style="list-style-type: none"> • Servers • Storage Networks • Switchers & Routers • Workstations • Notebooks • Game Stations 	<ul style="list-style-type: none"> • DirectFET® • Low-Voltage ICs • Sup/BBuck™ • XPhase® • Power Monitor IC • iPOWIR®
 <p>Automotive</p> <p>Automotive grade power management solutions qualified to meet the needs of 12V, 24V and HE/EV applications with a zero defect goal.</p>	<ul style="list-style-type: none"> • AC and DC Motor Drives • Powertrain / Engine control • Body Electronics • Lighting • Class D Audio • Heavy Loads and Actuators 	<p>Automotive Qualified:</p> <ul style="list-style-type: none"> • HEXFET® Power MOSFETs • Intelligent Power Switches • Driver ICs (Low-, Mid- and High-Voltage) • IGBTs for Motor Drives, Various Loads
 <p>Benchmark MOSFETs</p> <p>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.</p>	<ul style="list-style-type: none"> • Audio • Computing • Communications • Motor Control • Synchronous Rectification 	<ul style="list-style-type: none"> • Trench HEXFET® MOSFETs • Discrete HEXFET® MOSFETs • Dual HEXFET® MOSFETs • FlipFET™ • FETKY®
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