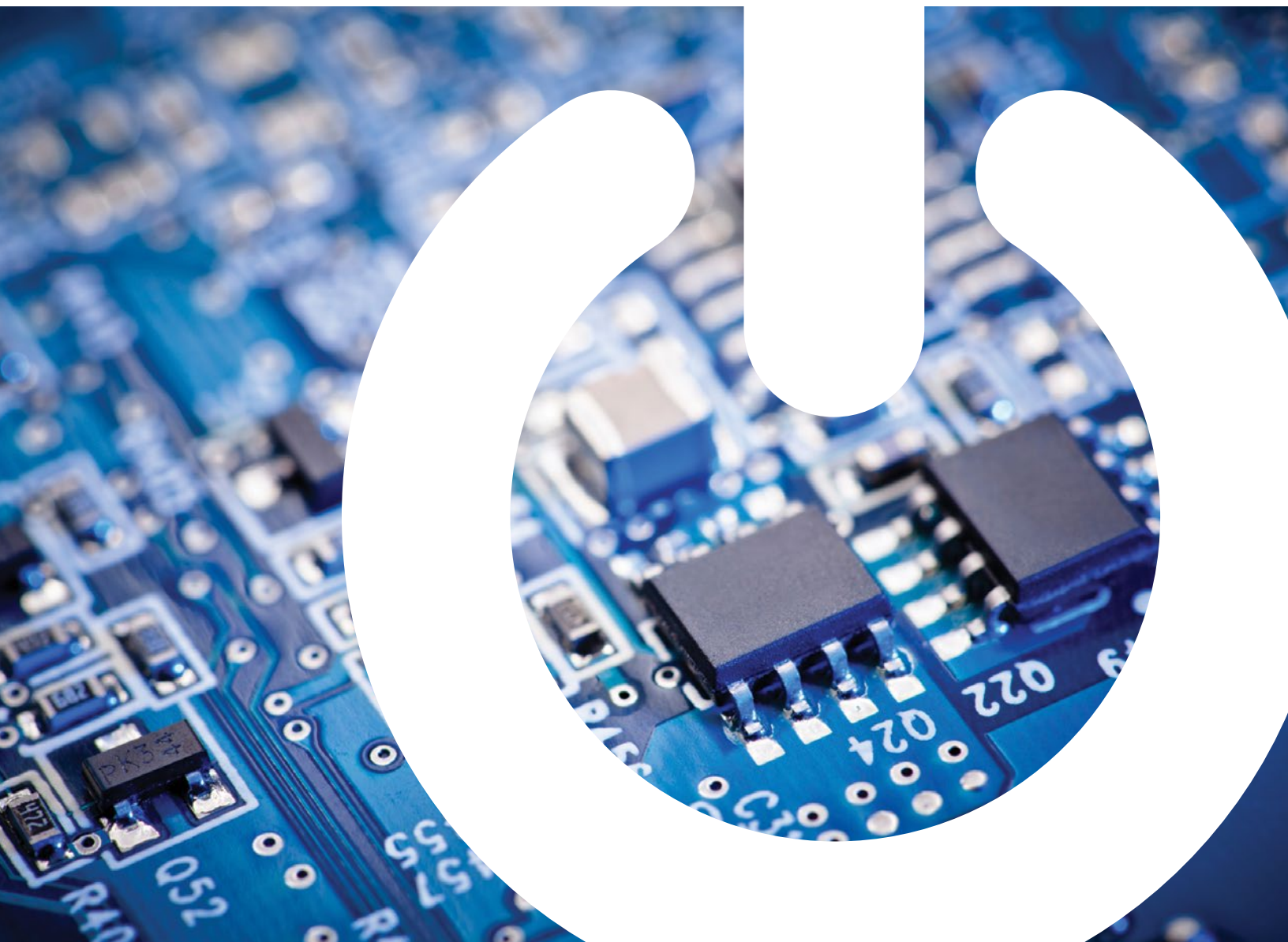


GENERAL PURPOSE POWER MANAGEMENT QUICK SELECTION GUIDE

Switching Regulators, LDOs, Power Modules, FET Drivers, Analog Controllers



intersil[™]

INTERSIL POWER MANAGEMENT SOLUTIONS

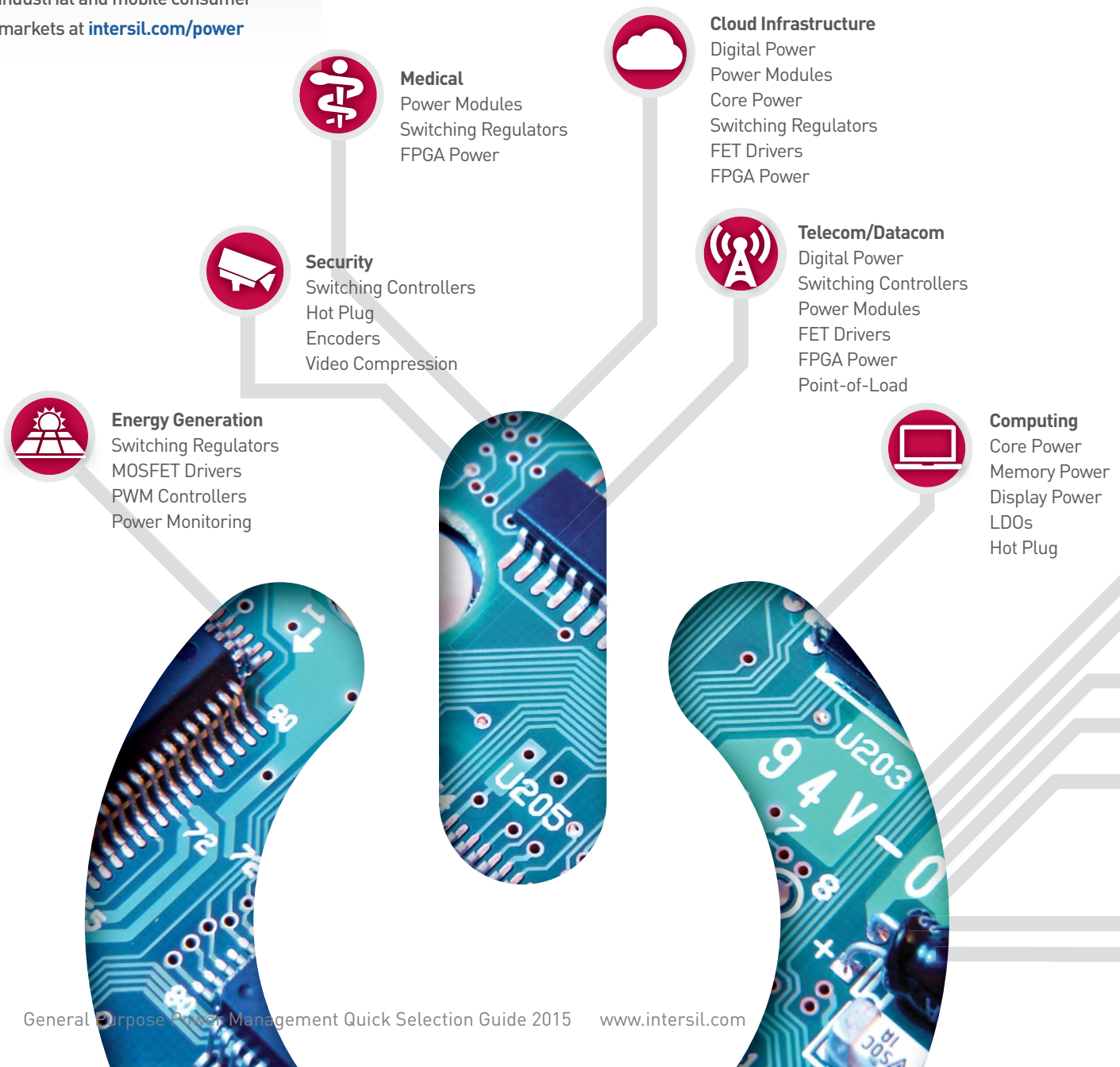


A HERITAGE OF POWERING INNOVATION

Learn how Intersil's power management technologies have transformed the semiconductor industry and are ideal for today's evolving infrastructure, industrial and mobile consumer markets at intersil.com/power

Intersil is the leader in power management expertise. Built upon an unrivaled heritage in advanced analog IC and multiphase power solutions, Intersil delivers the industry's highest performance, most efficient, easiest to use and integrate, and consistently reliable power management systems. Our solutions meet the demands of today's most complex power system designs across the infrastructure, mobile, industrial, automotive and aerospace markets.

This quick selection guide highlights our key general-purpose power management products. For a complete list of Intersil's power management products, please visit intersil.com/power



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Browse the latest application block diagrams and selection tables.

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Wired Network

Digital Power
Core Power
Power Modules
Switching Regulators
FET Drivers



Consumer/Mobile

Buck-Boost Regulators
Battery Management
LDOs
Display/Backlight Drivers
Optical Sensors



Instrumentation/ Measurement

Power Modules
Switching Regulators
FPGA Power



Military/Hi-Reliability

FPGA Power
Linear Regulators
FET Drivers
SMD



Building & Home

Voltage Regulator
Signal Conditioning
Bridge Driver
Cell Balancing and Safety
Battery Charger



Automotive

HEV/EV Cell Balancing
PWM Controllers
Video Decoders



Industrial Automation

Power Modules
Digital Power (full, hybrid)
Core Power
Switching Regulators
FET Drivers

INTEGRATED FET SWITCHING REGULATORS



Watch video tutorials, get app notes, white papers and evaluation boards at <http://go.intersil.com/ISL85415>

Some of the key requirements of today's power management solutions include less power consumption under various load conditions, less space, high reliability and wide input voltage. These requirements are driving the need for highly efficient, wide V_{IN} , low quiescent current (I_Q) switching regulators in a broad range of applications.

Intersil's Advantages

- Wide input range from 3V to 40V
 - Output range is also wide, 0.6V to 0.95 of V_{IN}
- Synchronous Buck Regulator with both high side and low side FET's integrated
 - Savings in space, BOM cost and improves efficiency
- Pin to pin 500mA, 800mA (ISL85418) and 1A (ISL85410) parts
 - Can interchange depending on the final current needs for the board (ISL85418/10)
- Internal compensation
 - Internal compensation requires fewer external components.
 - Savings in board space and BOM cost
- Simple and easy to use
 - Intersil demo boards provide a full design that is almost complete
- Light load efficiency mode
 - Improves performance in low load conditions
 - Fast transition from PFM to PWM mode allows for excellent transient performance

Wide Input Voltage Switching Regulators Family Chart

3V - up to 40V (see table below for detail)

150mA out:	ISL85412
300mA out:	ISL85413
500mA out:	ISL85415
800mA out:	ISL85418
1A out:	ISL85410

5.5V Switching Regulators Family Chart

5.5V

1.5A out:	ISL80019
2A out:	ISL8002
3A out:	ISL8023
4A out:	ISL8024
5A out:	ISL8025
6A out:	ISL8016
2A/1.7A out:	ISL8022
3A/3A out:	ISL8033
0.8A/0.8A out:	ISL8088

BUCK REGULATORS

Device	Description	V_{IN} Range (V)	I_{OUT} (max) (A)	V_{OUT} Range (V)	I_Q (typ)	Switching Freq max (MHz)	Peak Efficiency (%)	Package
Single Output 2.7V - 6V								
ISL9103/A	500mA 2.4MHz Low I_Q , Synchronous Buck Reg.	2.7 to 6.0	0.5	0.8 to V_{IN}	20 μ A	2.4	95	6 Ld μ TDFN
ISL9104/A	500mA 4.3MHz Low I_Q , Synchronous Buck Reg.	2.7 to 6.0	0.5	0.8 to V_{IN}	20 μ A	4.3	93	6 Ld μ TDFN
ISL9105	600mA Low Quiescent Current 1.6MHz Synchronous Buck Reg.	2.7 to 5.5	0.6	0.8 to V_{IN}	25 μ A	1.6	96	8 Ld DFN
ISL9106	1.2A 1.6MHz Low I_Q Synchronous Buck Reg.	2.7 to 5.5	1.2	0.8 to V_{IN}	17 μ A	1.6	95	10 Ld DFN
ISL9107	1.5A 1.6MHz Low I_Q Synchronous Buck Reg.	2.7 to 5.5	1.5	0.8 to V_{IN}	17 μ A	1.6	95	8 Ld DFN
ISL9108	1.5A 1.6MHz Low I_Q Synchronous Buck Reg.	2.7 to 5.5	1.5	0.8 to V_{IN}	17 μ A	1.6	95	8 Ld DFN
ISL9109	RF PA 1.5A DC/DC Regulator	2.7 to 5.5	1.5	0.8 to V_{IN}	4.3 μ A	1.6	95	8 Ld DFN
ISL80019/A	Compact Synchronous Buck Regulators	2.7 to 5.5	1.5	0.6 to V_{IN}	35 μ A	2.3	95	8 Ld 2x2 TDFN
ISL8002/A	Compact Synchronous Buck Regulators	2.7 to 5.5	2	0.6 to V_{IN}	35 μ A	2.3	95	8 Ld 2x2 TDFN
ISL8023/A	Compact Synchronous Buck Regulator	2.7 to 5.5	3	0.6 to 5.5	50 μ A	4	95	16 Ld 3x3 TQFN
ISL80030/A	3A Synchronous Buck Converter in 2x2 DFN Package	2.7 to 5.5	3	0.6 to 5.5	7mA/ 10mA (A ver)	1/2 (A ver)	95	8 LD 2x2 DFN
ISL80031/A	3A Synchronous Buck Converter in 2x2 DFN Package	2.7 to 5.5	3	0.6 to 5.5	35 μ A	1/2 (A ver)	95	8 LD 2x2 DFN
ISL8024/A	Compact Synchronous Buck Regulator	2.7 to 5.5	4	0.6 to 5.5	50 μ A	4	95	16 Ld 3x3 TQFN
ISL8025/A	Compact Synchronous Buck Regulator	2.7 to 5.5	5	0.6 to V_{IN}	50 μ A	2.4	95	16 Ld 3x3 TQFN
ISL8016	6A Low Quiescent Current High Efficiency Synchronous Buck Regulator	2.7 to 5.5	6	0.6 to 5.5	70 μ A	4	97	20 Ld 3x4 QFN
ISL8018	8A Low Quiescent Current High Efficiency Synchronous Buck Regulator	2.7 to 5.5	8	0.6 to 5.5	70 μ A	4	97	20 Ld QFN

INTEGRATED FET SWITCHING REGULATORS

BUCK REGULATORS (CONTINUED)

Device	Description	V _{IN} Range (V)	I _{OUT} (max) (A)	V _{OUT} Range (V)	I _Q (typ)	Switching Freq max (MHz)	Peak Efficiency (%)	Package
Single Output 3V - 36V								
ISL85412	Wide V _{IN} 150mA Synchronous Buck Regulator	3.5 to 40	0.15	0.6 to 34	50µA	0.7	92	8 Ld 3x3 DFN
ISL85413	Wide V _{IN} 300mA Synchronous Buck Regulator	3.5 to 40	0.3	0.6 to 34	50µA	0.7	92	8 Ld 3x3 DFN
ISL85415	Wide V _{IN} 500mA Synchronous Buck Regulator	3 to 36	0.5	0.6 to 95% of V _{IN}	80µA	2	94	12 Ld 4x3 DFN
ISL85418	Wide V _{IN} 800mA Synchronous Buck Regulator	3 to 40	0.8	0.6 to 95% of V _{IN}	80µA	2	96	12 Ld 4x3 DFN
ISL85410	Wide V _{IN} 1A Synchronous Buck Regulator	3 to 40	1	0.6 to 95% of V _{IN}	80µA	2	96	12 Ld 4x3 DFN
ISL8002B	Compact Synchronous Buck Regulator	2.7 to 5.5	2	0.6 to V _{IN}	35µA	2	95	8 Ld 2x2 TDFN
ISL85003/A	Highly Efficient 3A Synchronous Buck Regulator	4.5 to 18	3	0.8 to 18	3.2mA	0.5	95	12 Ld 3x4 95DFN
Single Output 40V								
ISL8540	DC/DC Power Switching Regulator	9 to 40	2	1.21 to 35	60µA	0.6	95	20 Ld 6.5x6.4 HTSSOP
Single Output 60V								
ISL8560	DC/DC Power Switching Regulator	9 to 60	2	1.21 to 55	60µA	0.6	95	20 Ld 6x6 QFN
Dual Output 2.7V - 5.5V								
ISL8088	Dual 800mA Low Quiescent Current 2.25MHz High Efficiency Synch Buck Reg	2.75 to 5.5	0.8	0.6 to 5.5	30µA	2.25	96	10 Ld 3x3 DFN
ISL8022	Dual 2A/1.7A Low Quiescent Current 2.25MHz High Efficiency Synch Buck Reg	2.8 to 5.5	2.0 / 1.7	0.6 to 5.5	40µA	2.25	97	12 Ld 4x3 DFN
ISL8033/A	Dual 3A Low Quiescent Current High Efficiency Synchronous Buck Regulator	2.85 to 6	3 / 3	0.8 to 6	15mA	1/2.5 (A ver)	95	24 Ld 4x4 QFN
ISL8036/A	Dual 3A 1MHz/2.5MHz High Efficiency Synchronous Buck Regulator	2.85 to 6	3 / 3	0.8 to 6	15mA	1	95	24 Ld 4x4 QFN
Dual Output 3V - 28V								
ISL85033	Wide V _{IN} Dual Standard Buck Regulator With 3A/3A Continuous Output Current	4.5 to 28	3	0.8 to V _{IN}	1.2mA	2	92	28 Ld 4x4 TQFN
Quad Output 2.5V - 5.5V								
ISL9305	3MHz Dual Step-Down Converters and Dual Low-Input LDOs	2.3 to 5.5	0.8	0.8 to 5.5	50µA	2.6	92	16 Ld 4x4 TQFN
ISL9305H	3MHz Dual 1.5A Step-Down Converters and Dual Low-Input LDOs	2.5 to 5.5	1.5	0.8 to 5.5	50µA	2.6	87	16 Ld 4x4 TQFN
ISL9307	3MHz Dual 1500mA Step-Down Converters and Dual Low-Input LDOs	2.5 to 5.5	1.5	0.9 to 3.3	50µA	2.6	92	16 Ld 4x4 TQFN
Digital Integrated FET Regulators								
ZL2102	6A Digital Integrated Synchronous Step-Down DC/DC Regulator	4.5 to 14	6	0.54 to 5.5	15mA	1	90	36 Ld 6x6 QFN
ZL2106	6A Digital-DC Synchronous Step-Down DC/DC Converter	4.5 to 14	6	0.54 to 5.5	11mA	1	87	36 Ld 6x6 QFN

BUCK-BOOST REGULATORS

Device	Description	V _{IN} Range (V)	I _{OUT} (max) (A)	V _{OUT} Range (V)	I _Q (typ)	Switching Freq max (MHz)	Peak Efficiency (%)	Package
Single Output 1.8V - 5.5V								
ISL9110	1.2A High Efficiency Buck-Boost Regulators	1.8 to 5.5	1.2	1 to 5.2	35µA	2.5	95	12 Ld 3x3 DFN
ISL9112	1.2A High Efficiency Buck-Boost Regulators	1.8 to 5.5	1.2	1.9 to 5	35µA	2.5	95	12 Ld 3x3 DFN
ISL91107	High Efficiency Buck-Boost Regulator with 3.6A Switches	1.8 to 5.5	3.6	1 to 5.2	45µA	2.5	96	20 Ld 3x4 TQFN
ISL91110	High Efficiency Buck-Boost Regulator with 4.5A Switches	1.8 to 5.5	4.5	1 to 5.2	35µA	2.5	96	20Ld 4x4 TQFN
Single Output 3V - 36V (Buck or Boost)								
ISL85403	2.5A Regulator with Integrated High-Side MOSFET for Synchronous Buck or Boost Buck Converter	3 to 40	2.5	0.5 to 36	300µA	2.2	96	20 Ld 4x4 QFN

BOOST REGULATORS

Device	Description	V _{IN} Range (V)	I _{OUT} (max) (A)	V _{OUT} Range (V)	I _Q (typ)	Switching Freq max (MHz)	Peak Efficiency (%)	Package
Single Output 1.8V - 5.5V								
ISL9111/A	Low Input Voltage, High Efficiency Synchronous Boost Converter with 1A Switch	0.5 to 5.25	0.24	2.5 to 5.25	20µA	1.2	97	6 Ld 2.9x2.8 SOT
ISL97656	Integrated 4A Switch PWM Step-Up Regulator	2.3 to 6	1	1.1 to 24	700µA	1.2	90	10 Ld 3x3 DFN
ISL9113A	Low Input Voltage and High Efficiency Synchronous Boost Converter	0.8 to 4.7	1.3	1 to 5.2	20µA	1.8	95	8 Ld 2x2 DFN
ISL97519A	1% Output Accuracy 600kHz/1.2MHz PWM Step-Up Regulator	2.3 to 5.5	2	1.1 to 25	700µA	1.2	90	8 Ld 3x4.9 MSOP
Single Output 12V								
ISL98012	Standard Boost Regulator	1.8 to 13.2	0.6	4.5 to 17	1.4mA	670kHz	92	10 Ld 3x4.9 MSOP

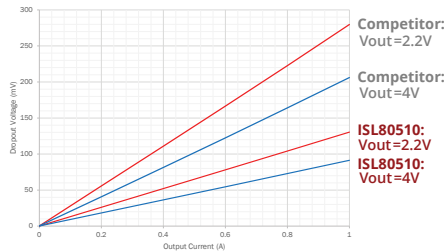
LDO / LINEAR REGULATORS

Intersil's Advantages

Low Drop-Out

Smaller dropout voltage yields possible low power consumption and maximizes the efficiency.

ISL80510 vs Competitor: Drop Out Voltage

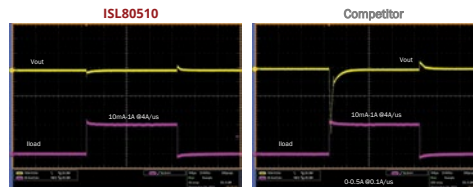


ISL80510 has ~50% lower dropout voltage

Transient

Smaller output voltage variation from the load step change.

ISL80510 vs Competitor: Transient Responses



Peak-to-peak excursion in the competitor's device is more than 9 times bigger than Intersil's LDO, under similar conditions.

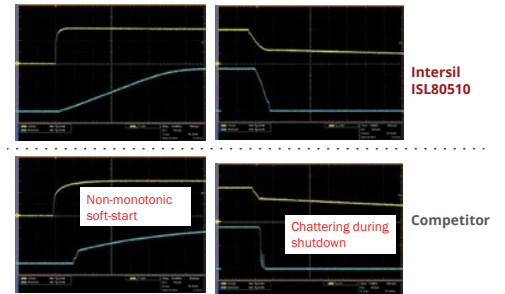
Accuracy

Tighter accuracy provides better output regulation.

Soft-start

Monotonic start-up provides better control on the inrush current ISL80510 vs Competitor: Transient Responses.

Comparison : Startup and Shutdown Voltage Ramp



The ISL80510 providing a picture-perfect startup and shutdown voltage ramp, while the competitor's device shows disturbances in both cases.

INTERSIL HIGH PERFORMANCE LDOs

Device	V _{IN} (V)	V _{OUT} (V)	I _{OUT} max (A)	PSRR @1kHz (dB)	Split Input	Fixed Vout Option	Dropout (mV)	Acc.	I _q	Package
ISL80505	1.8 – 6	0.8 – 5.5	0.5	50	No	No	45	1.80%	2.2mA	8 LD 3x3 DFN
ISL80510	2.2 – 6	0.8 – 5.5	1	48	No	No	130	1.80%	2.2mA	8 LD 3x3 DFN
ISL80101	2.2 – 6	0.8 – 5	1	58	No	Yes	130	1.80%	3.0mA	10 LD 3X3 DFN
ISL80101A	2.2 – 6	0.8 – 5	1	48	No	Yes	90	1.80%	3.0mA	10 LD 3X3 DFN
ISL80101-Adj	2.2 – 6	0.8 – 5	1	58	No	Yes	130	1.80%	3.0mA	10 LD 3X3 DFN
ISL80102	2.2 – 6	0.8 – 5	2	55	No	Yes	81	1.80%	7.5mA	10 LD 3X3 DFN
ISL80103	2.2 – 6	0.8 – 5	3.0	55	No	Yes	120	1.80%	7.5mA	10 LD 3X3 DFN
ISL80111	1 – 3.6	0.8 – 3.3	1	80	Yes	No	27	1.60%	3.5mA	10 LD 3X3 DFN
ISL80112	1 – 3.6	0.8 – 3.3	2	80	Yes	No	53	1.60%	3.5mA	10 LD 3X3 DFN
ISL80113	1 – 3.6	0.8 – 3.3	3	80	Yes	No	75	1.60%	3.5mA	10 LD 3X3 DFN
ISL80136	6 – 40	2.5 – 12	0.05	45	No	No	120	1.00%	18μA	8 LD EPSON
ISL80138	6 – 40	2.5 – 12	0.15	47	No	No	295	1.0%	18μA	14 LD HTSSOP

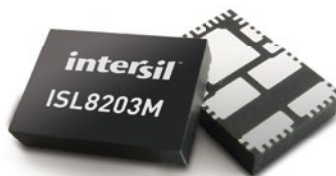
► For more information about Intersil LDOs, go to www.intersil.com/ldos

POWER MODULES

Intersil power modules are complete DC/DC power solutions which reduce design time, lower cost and save board space. With industry leading power technology, these modules offer small form factor, high efficiency and robust features such as current sharing and cascading up to six modules for high output power.

Analog Power Modules

Intersil's family of analog power modules provides users fully integrated DC/DC power solutions that combine the controller, power FETs, output inductor and compensation circuitry in a single rugged package. This minimizes the external component count, simplifies design and delivers best in class thermal performance.

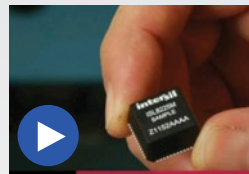


ISL8203M: Industry's Smallest Dual 3A/Single 6A Step-Down Power Module

The ISL8203M's compact solution size combined with industry-leading 95% efficiency provides a high performance, easy-to-use solution for low power, low voltage infrastructure and industrial applications.

- Dual 3A and single 6A switching power supply
- High efficiency, up to 95%
- Input voltage range: 2.85V to 6V
- Output voltage range: 0.8V to 5V
- iSim available

LEARN MORE ABOUT INTERSIL POWER MODULES



See videos about how Intersil's unique module architecture delivers unmatched thermal performance and simplifies design at go.intersil.com/PowerModules

ANALOG POWER MODULES

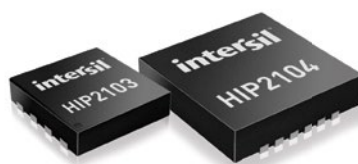
Device	Device Description	V _{IN} Range (V)	V _{OUT} Range (V)	I _{OUT} (A)	Current Share	Multi-phase	P _{GOOD}	Enable	Ambient Temp Range (°C)	Load Fault Protection	Peak Efficiency (%)	Package (mm)
Up to 6V												
ISL8203M	Dual 3A/Single 6A Step-Down DC/DC Power Module	2.85 to 6	0.8 to 5	Dual 3A or single 6A	Yes Up to 2 phase single output with current balancing and sharing	Yes	Yes	Yes	-40 to +85	Yes	95	23 Ld QFN (9x6.5x1.83)
Up to 20V												
ISL8204M*	High Efficiency DC/DC Power Module	1 to 20**	0.6 to 6	4	No	No	No	Yes	-40 to +85	Yes	95	15 Ld QFN (15x15x3.5)
ISL8206M*	Complete High Efficiency DC/DC Power Module	1 to 20**	0.6 to 6	6	No	No	No	Yes	-40 to +85	Yes	95	15 Ld QFN (15x15x3.5)
ISL8201M	10A, High Efficiency DC/DC Module	1 to 20**	0.6 to 5	10	No	No	No	Yes	-40 to +85	Yes	95	15 Ld QFN (15x15x3.5)
ISL8200AM	Complete Current Share 10A DC/DC Power Module	3 to 20	0.6 to 6	10	Yes Up to 6 phase single output with current balancing and sharing	Yes	Yes	Yes	-40 to +85	Yes	93	23 Ld QFN (15x15x2.2)
ISL8225M	Dual 15A/15A High Efficiency Power Module	4.5 to 20	0.6 to 7.5	Dual 15A or single 30A	Yes Up to 12 phase single output with current balancing and sharing	Yes	Yes	Yes	-40 to +125	Yes	94	26 Ld QFN (17x17x7.5)
ISL8240M	Dual 20A/Single 40A Step-Down Power Module	4.5 to 20	0.6 to 2.5	Dual 20A or single 40A	Yes Up to 12 phase single output with current balancing and sharing	Yes	Yes	Yes	-40 to +125	Yes	94	26 Ld QFN (17x17x7.5)
Up to 80V												
ISL8216M	Complete High Voltage 80V, 4A DC/DC Power Module	10 to 80	2.5 to 30	4	No	No	Yes	Yes	-40 to +85	Yes	96	22 Ld HDA (15x15x3.6)

*Pin to pin compatible to the ISL8201M

**P_{VCC}: 4.5V to 14.4V

FET DRIVERS

Intersil's large portfolio of driver products comprises half bridge, fullbridge, low-side, and synchronous buck MOSFET drivers. The bridge driver products handle voltages up to 100V, with industry-leading gate rise and fall times and exceptional input-to-output propagation delay performance. Select parts are available in 4x4 and 3x3 DFN packages which meet IPC-2221 creepage and clearance specifications for high-voltage systems.



HIP2103/04: 60V, 1A/2A peak, bridge drivers with 4V UVLO

The HIP2103 and HIP2104 bridge drivers significantly extend the power usage and overall product life of multi-cell Li-ion battery devices operating from 5V to 50V.

- 60V maximum bootstrap supply voltage
- 5μA sleep mode quiescent current
- 4V undervoltage lockout
- 3.3V or 5V CMOS compatible inputs with hysteresis
- Integrated bootstrap FET (emulates the boot diode)
- 3.3V and 12V LDOs with dedicated enable pins (HIP2104)

HALF BRIDGE

Device	Description	Max Bootstrap Supply Voltage (V)	Max Bias Voltage (V)	Peak Pull-up Current (A)	Peak Pull-down Current (A)	Turn-On Prop Delay (ns)	Turn-Off Prop Delay (ns)	Rise Time (ns)	Fall Time (ns)	Package
HIP2100	100V/2A Peak Low Cost High-Frequency Half Bridge Driver with CMOS Logic Inputs	114	14	2	2	20	20	10	10	8 Ld EPSONIC, 8 Ld SOIC, 12 Ld DFN, 16 Ld QFN
HIP2101	100V/2A Peak Low Cost High-Frequency Half Bridge Driver with TTL/CMOS Logic Inputs	114	14	2	2	25	25	10	10	8 Ld EPSONIC, 8 Ld SOIC, 12 Ld DFN, 16 Ld QFN
ISL2100A	100V, 2A Peak, High Frequency Half Bridge Drivers	114	14	2	2	39	31	10	10	9 Ld DFN
ISL2101A	100V, 2A Peak, High Frequency Half Bridge Drivers	114	14	2	2	39	34	10	10	9 Ld DFN
ISL2110	100V, 3A/4A Peak, High Frequency Half Bridge Drivers (CMOS compatible inputs thresholds)	114	14	3	4	38	32	9	7.5	12 Ld DFN, 8 Ld SOIC
ISL2111	100V, 3A/4A Peak, High Frequency Half Bridge Drivers (TTL compatible inputs thresholds)	114	14	3	4	38	32	9	7.5	10 Ld DFN, 12 Ld DFN, 8 Ld SOIC
ISL6700	80V/1.25A Peak, Medium Frequency, Low Cost, Half Bridge Driver	96	15	1.4	1.3	70	60	5	5	12 Ld QFN, 8 Ld SOIC
ISL89400, ISL89401	100V, 1.25A Peak, High Frequency Half Bridge Driver	114	14	1.25	1.25	39	31	16	16	8 Ld SOIC, 9 Ld DFN
HIP2103	60V, 1A/2A Peak, Half Bridge Driver with 4V UVLO	60	14	1	2	28	30	21	17	8 Ld DFN
HIP2104	60V, 1A/2A Peak, Half Bridge Driver with 4V UVLO and Two Internal LDO's 12V and 3.3V	60	14	1	2	23	27	21	17	12 Ld DFN
HIP2120	100V, 1.25A Peak, High Frequency Half Bridge Driver with PWM and Enable Inputs (CMOS inputs)	114	14	2	2	50	32	10	10	9 Ld DFN, 10 Ld DFN
HIP2121, HIP2123	100V, 2A Peak, High Frequency Half Bridge Driver with PWM and Enable Inputs (Logic/TTL inputs)	114	14	2	2	50	32	10	10	9 Ld DFN, 10 Ld DFN
HIP2122	100V, 2A Peak, High Frequency Half Bridge Driver with Independent High and Low Inputs (CMOS inputs)	114	14	2	2	50	32	10	10	9 Ld DFN, 10 Ld DFN

FULL BRIDGE

Device	Description	Max Bootstrap Supply Voltage (V)	Max Bias Voltage (V)	Peak Pull-up Current (A)	Peak Pull-down Current (A)	Turn-On Prop Delay (ns)	Turn-Off Prop Delay (ns)	Rise Time (ns)	Fall Time (ns)	Package
HIP4080A	80V/2.5A Peak, High Frequency Full Bridge FET Driver with Charge Pump and Input Comparators	95	15	2.6	2.4	70	50	10	10	20 Ld PDIP, 20 Ld SOIC
HIP4081A	80V/2.5A Peak, High Frequency Full Bridge FET Driver with Charge Pump and Independent Control Inputs	95	15	2.6	2.4	60	35	10	10	20 Ld PDIP, 20 Ld SOIC
HIP4082	80V/1.25A Peak Current Full Bridge FET Driver	95	15	1.4	1.3	75	55	9	9	16 Ld PDIP, 16 Ld SOIC
ISL83202	55V, 1A Peak Current H-Bridge FET Driver	70	15	1	1	75	55	9	9	16 Ld PDIP, 16 Ld SOIC
ISL83204A	60V/2.5A Peak, High Frequency Full Bridge FET Driver	75	15	2.6	2.4	70	50	10	10	20 Ld PDIP, 20 Ld SOIC

FET DRIVERS

THREE PHASE

Device	Description	Max Bootstrap Supply Voltage (V)	Max Bias Voltage (V)	Peak Pull-up Current (A)	Peak Pull-down Current (A)	Turn-On Prop Delay (ns)	Turn-Off Prop Delay (ns)	Rise Time (ns)	Fall Time (ns)	Package
HIP4083	80V/0.3A Peak Three Phase High Side Driver	95	15	0.24 (avg)	0.3 (avg)	65	60	35	30	16 Ld PDIP, 16 Ld SOIC
HIP4086	80V/0.5A Peak Three Phase Driver with Integrated Charge Pump	95	15	0.5	1.1	65	75	20	10	24 Ld PDIP, 24 Ld SOIC
HIP4086A	80V/0.5A Peak Three Phase Driver	95	15	0.5	1.1	65	75	20	10	24 Ld SOIC

INTEGRATED FET BRIDGE AND HIGH SIDE DRIVERS

Device	Description	Max Bootstrap Supply Voltage (V)	Max Bias Voltage (V)	Sourcing Current Capability (A)	Sinking Current Capability (A)	Turn-On Prop Delay (μs)	Turn-Off Prop Delay (μs)	Rise Time (μs)	Fall Time (μs)	Package
HIP4020	Full Bridge Driver with Integrated 0.5A Power FETs for Small 3V, 5V and 12V DC Motors	N/A	15	0.5	0.5	2.5	0.1	4	0.1	20 Ld SOIC

LOW-SIDE FET DRIVERS

Device	Device Description	# of Drivers	Input Supply Range (V)	Input Signal Range (V)	Output Signal Range (V)	I _S (mA)	Max Operating Frequency (MHz)	Peak Output I _{PK} (A)	Rise Time (ns)	Fall Time (ns)	V _{BIAS} (min) (V)	R _{ON} (Ω)	Package
ISL89160, ISL89161, ISL89162, ISL89163, ISL89164, ISL89165, ISL89166, ISL89167, ISL89168	High Speed, Dual Channel, 6A, 4.5 to 16V _{OUT} Power MOSFET Driver	2	+4.5 to +16	0 to V _P	0 to +16	5	10	6	20	20	4.5	2	8 Ld EPSON, 8 Ld TDFN
ISL89367	High Speed, Dual Channel, 6A, MOSFET Driver With Programmable Rising and Falling Edge Delay Timers	2	+4.5 to +16	0 to V _P	0 to +16	5	10	6	20	20	4.5	2	16 Ld TDFN
ISL89410	High Speed, Dual Channel Power MOSFET Drivers	2	+4.5 to +18	0 to V _P	0 to +18	4.5	10	2	10	13	4.5	4	8 Ld PDIP, 8 Ld SOIC
ISL89411	High Speed, Dual Channel Power MOSFET Drivers	2	+4.5 to +18	0 to V _P	0 to +18	1	10	2	10	13	4.5	*	8 Ld PDIP, 8 Ld SOIC
ISL89412	High Speed, Dual Channel Power MOSFET Drivers	2	+4.5 to +18	0 to V _P	0 to +18	2.5	10	2	10	13	4.5	*	8 Ld PDIP, 8 Ld SOIC

DrMOS (DRIVER + FET)

Device	Description	I _{OUT} (max) (A)	V _{BIAS} (V)	V _{IN} (min) (V)	V _{IN} (max) (V)	PWM Level	Switching Freq. (max)	Temp Range	Package Type
ISL99140	40A DrMOS Power Module with Integrated Diode Emulation and Thermal Warning Output	40	4.75 to 5.25	4.5	18	3.3V 3-State, 5V 2-State	2 MHz	-40 to 85	40 Ld QFN

ANALOG CONTROLLERS

SINGLE OUTPUT BUCK CONTROLLERS

Device	Device Descriptions	V _{IN} (min) (V)	V _{IN} (max) (V)	V _{OUT} (min) (V)	V _{OUT} (max) (V)	I _{OUT} (max) (A)	V _{BIAS} (min)	V _{BIAS} (max)	I _S (min)	I _S (typ)	Package
3.3V or 5V Input											
ISL6406	Single Synchronous Buck PWM Controller	3.3	5	0.8	5	20	3.3 V	5 V	7 mA	9.8 mA	16 Ld QFN, 16 Ld SOIC, 16 Ld TSSOP
ISL6439/A	Single Sync Buck PWM Controller for Broadband Gateway Applications	3.3	5	0.8	3.3	20	3.3 V	3.3 V	6.1 mA	6.9 mA	16 Ld QFN, 14 Ld SOIC
ISL6526/A	Single Synchronous Buck PWM Controller	2.5	5	0.8	V _{IN}	20	3.3 V	5 V	6.1 mA	6.9 mA	16 Ld QFN, 14 Ld SOIC
12V Input											
ISL6341/A/B/C	5V or 12V Single Synchronous Buck PWM Controller	1.5	12	0.8	12	30	4.5 V	14.4 V	6.4 mA	7 mA	10 Ld TDFN
ISL6535	Synchronous Buck PWM Controller	1.2	12	0.6	5	30	8 V	12 V		51 mA	16 Ld QFN, 16 Ld SOIC
ISL8104	Synchronous Buck PWM Controller	1.2	12	0.6	5	30	7.6 V	15.4 V		51 mA	14 Ld SOIC, 16 Ld QFN
ISL8105/A/B	+5V or +12V Single-Phase Synchronous Buck Converter PWM Controller with Integrated MOSFET Gate Drivers	1	12	0.6	5	25	4.9 V	14.4 V		3.2 mA	8 Ld SOIC, 10 Ld DFN
ISL8118	3.3V to 20V Single-Phase PWM Controller with Integrated 2A/4A MOSFET Drivers	3.3	20	0.6	20	30	2.9 V	5.6 V			28 Ld QFN
24V Input											
ISL6269/A/B	High-Performance Notebook PWM Controller with Bias Regulator and Audio-Frequency Clamp	7	25	0.6	3.3	25			2 mA		16 Ld QFN
ISL62870	PWM DC/DC Voltage Regulator Controller	3.3	25	0.5	3.3	30	4.75 V	5.25 V	1 µA	1.1 mA	16 Ld µTQFN
ISL62871, ISL62873, ISL62875	PWM DC/DC Controller With VID Inputs For Portable GPU Core-Voltage Regulator	3.3	25	0.5	3.3	30	4.75 V	5.25 V	1 µA	1.1 mA	16 Ld µTQFN, 20 Ld µTQFN
ISL8106	Wide V _{IN} , 7V to 25V, Single-Phase PWM Controller with Integrated MOSFET Drivers	7	25	0.6	3.3	12	5 V	5 V	2 mA	2.2 mA	16 Ld QFN
ISL95870/A/B	PWM DC/DC Controller with VID Inputs for Portable GPU Core-Voltage Regulator	3.3	25	0.5	5	30	4.75 V	5.25 V	1 µA	1.2 mA	16 Ld µTQFN
ISL95873	Buck PWM Controller with Internal Compensation and External Reference Tracking	3.3	25	0.5	3.3	30	4.75 V	5.25 V	1 µA	1.2 mA	16 Ld µTQFN
ISL6420B	Advanced Single Synchronous Buck PWM Controller	4.5	28	0.6	27.5	20	5 V	5 V	1.4 mA	2 mA	20 Ld QFN, 20 Ld QSOP
ISL8130	Advanced Single Universal PWM Controller	4.5	28	0.6	25.2	30	4.5 V	28 V	-	2 mA	20 Ld QFN, 20 Ld QSOP
36V Input											
ISL8115	High Voltage Synchronous Buck PWM Controller with Integrated Gate Driver and Current Sharing Capability	2.97	36	0.6	5.5	30	2.97 V	5.5 V	-	10 mA	24 Ld 4x4 QFN
>60V Input											
ISL8117	Synchronous Step-down PWM Controller	4.5	60	0.6	54	20	4.5 V	5.5 V	-	2.5 mA	16 Ld 4x4 QFN, 16 Ld HTSSOP
ISL8107	Single-Phase PWM Controller with Wide (9V-75V) V _{IN} Range	9	75	1.2	75	10	9 V	75 V	-	2 mA	16 Ld QFN

MULTIPLE OUTPUT CONTROLLERS

Device	# of Outputs	Device Description	V _{IN} (min) (V)	V _{IN} (max) (V)	V _{OUT} (min) (V)	V _{OUT1} (max) (V)	I _{OUT1} (max) (A)	Switching Frequency (kHz)	Bias Voltage (V _{CC})	Package
ISL6446/A	3	Dual (180 Out-of-Phase) PWM and Linear Controller	4.5	24	0.6	24	25	100kHz to 2.5MHz	5 V	24 Ld QSOP
ISL9440		Triple, 180 Out-of-Phase, Step-Down PWM and Single Linear Controller	4.5	24	0.8	24	20	300	5 V	32 Ld QFN
ISL9440A		Triple, 180 Out-of-Phase, Step-Down PWM and Single Linear Controller	4.5	24	0.8	24	20	600	5 V	32 Ld QFN
ISL9440B		Triple Step-Down PWM and Single Linear Controller with Programmable Soft-Start	4.5	24	0.8	24	0.8	300	5 V	32 Ld QFN
ISL9440C		Triple Step-Down PWM and Single Linear Controller with Programmable Soft-Start	4.5	24	0.8	24	20	600	5 V	32 Ld QFN
ISL9441		Triple, 180 Out-of-Phase, Step-Down PWM and Single Linear Controller	4.5	24	0.8	24	20	300	5 V	32 Ld QFN
ISL9443		Triple, 180 Out-of-Phase, Synchronous Step-Down PWM Controller	4.5	26	0.7	26	20	200 to 1200	5 V	32 Ld QFN
ISL9444		Triple, 180 Out-of-Phase, Synchronous Step-Down PWM Controller	4.5	26	0.7	26	20	200 to 1200	5 V	40Ld QFN

MULTIPHASE CONTROLLERS (GENERAL PURPOSE)

Device	Device Description	V _{IN} (min) (V)	V _{IN} (max) (V)	V _{OUT} (min) (V)	V _{OUT} (max) (V)	I _{OUT} (max) (A)	V _{BIAS} (V)	Max # of Outputs	Max # of Phases	VID	Package
ISL8120	Dual/n-Phase Buck PWM Controller with Integrated Drivers	2.97	22	0.6	19.8	60	3 to 5.6	2	2	No VID	32 Ld QFN
ISL8121	3V to 20V, Two-Phase Buck PWM Controller with Int. 4A MOSFET Drivers	3	20	0.6	13.2	60	4.9 to 5.5	1	2	No VID	24 Ld QFN
ISL8126	Dual/n-Phase Buck PWM Controller with Integrated Drivers	3	26.5	0.6	23.85	60	2.97 to 5.60	2	2	No VID	32 Ld QFN
ISL6558	Multi-Purpose Precision Multiphase PWM Controller with Optional Active Voltage Positioning	4.75	12	0.8	5	120	4.75 to 5.25	1	4	No VID	16 Ld SOIC, 20 Ld QFN

Intersil formed in August 1999 when we acquired the semiconductor business of Harris Corporation which held product portfolios and intellectual property from RCA and GE Solid State.

QUICK FACTS

Founded1967
 Headquarters..... San Jose, CA
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 Employees.....1,100
 NASDAQ Listing..... ISIL
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 FY 2014 Sales..... \$562.6 million
 U.S. Patents1,000+

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 ISO14001:2004
 ISO9001:2008
 QML

INTERSIL'S HERITAGE OF INNOVATION



WORLD-CLASS QUALITY AND FAILURE ANALYSIS SUPPORT

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 Built-in reliability philosophy with supplier partnerships with industry leaders
 Top ratings from customers on quality
 Worldwide dedicated quality support

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 Extensive in-house capability utilizing state-of-the-art imaging equipment and highly integrated electrical and physical fault isolation techniques and equipment
 Design edit capability for quick design verification

