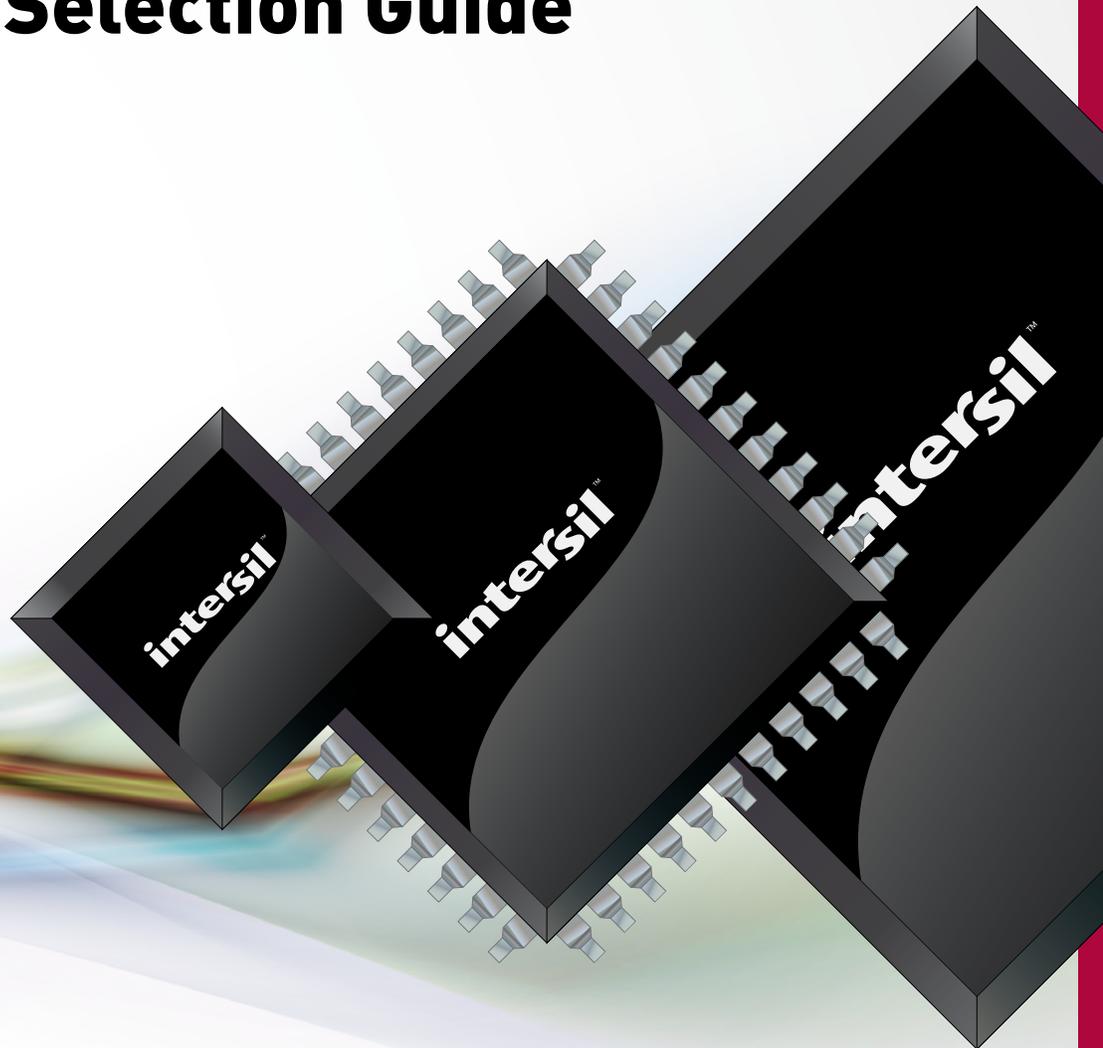


SELECTION
GUIDE

POWER MANAGEMENT PRODUCTS

Quick Selection Guide

2014 Rev 1

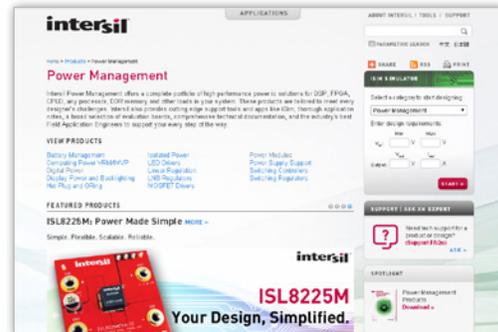


Intersil Power Management Solutions

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For a complete list of Intersil's power management products, please visit intersil.com/power



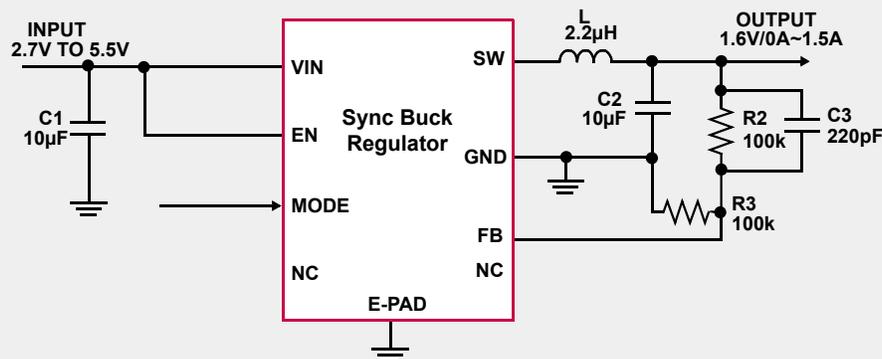
Integrated FET Switching Regulators



Integrated FET Switching Regulators

► Typical Application

Intersil's large variety of switching regulators are easy to use and have great power conversion efficiency.



BUCK REGULATORS

Device	Device Description	V _{IN} Range (V)	I _{OUT} (max) (A)	V _{OUT} Range (V)	I _Q (typ)	Switching Freq (MHz)	Package	Eval Kit
Single Output								
2.7V - 5.5V								
ISL80019/A	Sync Buck Regulator	2.7 - 5.5	1.5	0.6 - V _{IN}	35μA	2.3	8 Ld 2x2 TDFN	✓
ISL8002/A	Sync Buck Regulator	2.7 - 5.5	2	0.6 - V _{IN}	35μA	2.3	8 Ld 2x2 TDFN	✓
ISL8023/A	Sync Buck Regulator	2.7 - 5.5	3	0.6 - 5.5	50μA	4	16 Ld 3x3 TQFN	✓
ISL8024/A	Sync Buck Regulator	2.7 - 5.5	4	0.6 - 5.5	50μA	4	16 Ld 3x3 TQFN	✓
ISL8025/A	Sync Buck Regulator	2.7 - 5.5	5	0.6 - V _{IN}	50μA	2.4	16 Ld 3x3 TQFN	✓
ISL8016	Sync Buck Regulator	2.7 - 5.5	6	0.6 - 5.5	70μA	4	20 Ld 3x4 QFN	✓
3V - 18V								
ISL85003	Sync Buck Regulator	3 - 18	3	0.8 - 12	2mA	0.6	12 Ld 4x3 DFN	✓
3V - 36V								
ISL85415	Sync Buck Regulator	3 - 36	0.5	0.6 - 95% of V _{IN}	80μA	2	12 Ld 4x3 DFN	✓
ISL85418	Sync Buck Regulator, Wide V _{IN}	3 - 36	0.8	0.6 - 95% of V _{IN}	80μA	2	12 Ld 4x3 DFN	✓
ISL85410	Sync Buck Regulator, Wide V _{IN}	3 - 36	1	0.6 - 95% of V _{IN}	80μA	2	12 Ld 4x3 DFN	✓
40V								
ISL8540	Standard Buck Regulator	9 - 40	2	1.21 - 35	60μA	0.6	20 Ld 6.5x6.4 HTSSOP	✓
60V								
ISL8560	Standard Buck Regulator	9 - 60	2	1.21 - 55	60μA	0.6	20 Ld 6x6 QFN	✓
Dual Output								
2.7V - 5.5V								
ISL8088	Dual Sync Buck Regulator, Pin Compatible with LTC3407-2	2.75 - 5.5	0.8	0.6 - 5.5	30μA	2.25	10 Ld 3x3 DFN	✓
ISL8022	Dual Sync Buck Regulator	2.8 - 5.5	2.0 / 1.7	0.6 - 5.5	40μA	2.25	12 Ld 4x3 DFN	✓
ISL8033/A	Dual Sync Buck Regulator	2.85 - 6	3 / 3	0.8 - 6	15mA	1/2.5 (A ver)	24 Ld 4x4 QFN	✓
ISL8036/A	Dual Sync Buck Regulator	2.85 - 6	3 / 3	0.8 - 6	15mA	1	24 Ld 4x4 QFN	✓
3V - 28V								
ISL85033	Dual Standard Buck Regulator, Wide V _{IN}	4.5 - 28	3	0.8 - 28	1.2mA	2	28 Ld 4x4 TQFN	✓
Quad Output								
2.5V - 5.5V								
ISL9305	Dual Buck Regulator and Dual LDO with I ² C	2.3 - 5.5	0.8	0.8 - 5.5	50μA	2.6	16 Ld 4x4 TQFN	✓
ISL9305H	Dual Buck Regulator and Dual LDO with I ² C	2.5 - 5.5	1.5	0.8 - 5.5	50μA	2.6	16 Ld 4x4 TQFN	✓
ISL9307	Dual Buck Regulator and Dual LDO	2.5 - 5.5	1.5	0.9 - 3.3	50μA	2.6	16 Ld 4x4 TQFN	✓

BUCK-BOOST REGULATORS

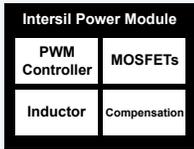
Device	Device Description	V _{IN} Range (V)	I _{SW} (max) (A)	V _{OUT} Range (V)	I _Q (typ)	Switching Freq (MHz)	Package	Eval Kit
Single Output								
1.8V - 5.5V								
ISL9110/A	Sync Buck-Boost Regulator	1.8 - 5.5	2	1 - 5.2	35μA	2.5	12 Ld 3x3 DFN, 20 Bump WLCSP (A ver)	✓
ISL9112	Sync Buck-Boost Regulator with I ² C	1.8 - 5.5	2	1.9 - 5	35μA	2.5	12 Ld 3x3 DFN	✓
ISL91108	Sync Buck-Boost Regulator	1.8 - 5.5	3.7	1 - 5.2	27.5μA	2.6	20 Bump WLCSP	✓
ISL91110	Sync Buck-Boost Regulator	1.8 - 5.5	4	1 - 5.2	35μA	2.5	20 Bump WLCSP	✓

BOOST REGULATORS

Device	Device Description	V _{IN} Range (V)	I _{SW} (max) (A)	V _{OUT} Range (V)	I _Q (typ)	Switching Freq (MHz)	Package	Eval Kit
Single Output								
5.5V								
ISL97701	Standard Boost Regulator with Integrated Schottky and Input Disconnect Switch	2.3 - 5.5	0.5	4.3 - 28	900μA	1	10 Ld 3x3 DFN	✓
ISL9111/A	Sync Boost Regulator, Low Input Voltage	0.5 - 5.25	0.8	2.5 - 5.25	20μA	1.2	6 Ld 2.9x2.8 SOT	✓
ISL9113	Sync Boost Regulator, Low Input Voltage	0.8 - 4.7	1.1	1 - 5.2	20μA	1.8	8 Ld 2x2 DFN, 6 Bump WLCSP	✓
ISL97519/A	Standard Boost Regulator	2.3 - 5.5	1.5	1.1 - 25		1.2	8 Ld 3x4.9 MSOP	✓
ISL97516	Standard Boost Regulator	2.3 - 5.5	1.7	1.1 - 25	700μA	1.2	8 Ld 3x4.9 MSOP	✓
ISL91117	Sync Boost Converter with Output Disconnect	1.8 - 4.8	3.5	Up to 5.2	35μA	2.5	20 Bump WLCSP	✓
ISL97656	Standard Boost Regulator	2.3 - 6	3.8	1.1 - 24	700μA	1.2	10 Ld 3x3 DFN	✓
12V								
ISL98012	Standard Boost Regulator	1.8 - 13.2	1	4.5 - 17	1.4mA	670 kHz	10 Ld 3x4.9 MSOP	✓

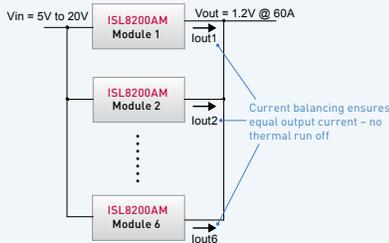
Intersil's Analog Power Module Benefits

1 Simple



Full integration means less complexity and more ease of design

2 Functional

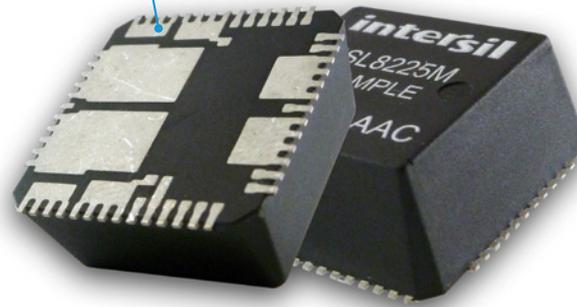
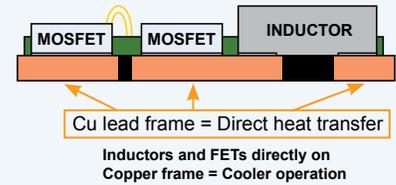


Versatile features such as soft-start, fault protection and parallel module multi-phasing

3 Rugged

- Thermal molding compound allows for even heat distribution
- Large copper pads transfer heat efficiently
- Operates at full load across wide temperature range
- Leaded package allows pin access

Optimized Thermal Packaging



4 Dense

Power output up to **100W** in a single package

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)	Eval Kit
Up to 20V													
ISL8204M*	High Efficiency DC/DC Power Module	1 - 20**	0.6 - 6	4	No	No	No	Yes	-40 to +85	Yes	95	15 Ld QFN (15 x 15 x 3.5)	✓
ISL8206M*	Complete High Efficiency DC/DC Power Module	1 - 20**	0.6 - 6	6	No	No	No	Yes	-40 to +85	Yes	95	15 Ld QFN (15 x 15 x 3.5)	✓
ISL8201M	10A, High Efficiency DC/DC Module	1 - 20**	0.6 - 5	10	No	No	No	Yes	-40 to +85	Yes	95	15 Ld QFN (15 x 15 x 3.5)	✓
ISL8200AM	Complete Current Share 10A DC/DC Power Module	4.5 - 20	0.6 - 6	10	Yes	Yes	Yes	Yes	-40 to +85	Yes	93	23 Ld QFN (15 x 15 x 2.2)	✓
ISL8225M	Dual 15A/15A High Efficiency Power Module	4.5 - 20	0.6 - 6	Dual 15A or single 30A	Yes	Yes	Yes	Yes	-40 to +125	Yes	94	26 Ld QFN (17 x 17 x 7.5)	✓
ISL8240M	Dual 20A/Single 40A Step-Down Power Module	4.5 - 20	0.6 - 2.5	Dual 20A or single 40A	Yes	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 - 80	2.5 - 30	4	No	No	Yes	Yes	-40 to +85	Yes	96	22 Ld HDA (15 x 15 x 3.6)	✓

*Pin to pin compatible to the ISL8201M

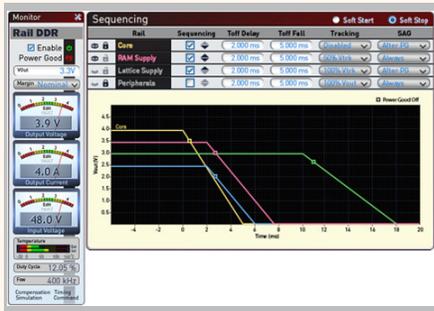
** P_{VCC}: 4.5V to 14.4V

Intersil's Digital Power Module Benefits

1

Quick

- Easy-to-Use GUI Software: PowerNavigator™
 - Drag and drop system design
 - Click and drag sequencing
 - Command tool library
 - Pre-loaded common configurations for FPGAs



See page 6 for more detail.



3

Simple

- Built-in Auto-compensation
 - Provides optimal dynamic performance to minimize the output voltage variation during transient events
- Adjustable Output Voltage via PMBus Command
 - Simplifies the design and saves cost by reducing number of module types. Easy to do voltage tracking via PMBus.
- Thermally Enhanced HDA Package (ZL9006M, ZL9010M)
 - Allows low cost automated assembly using standard surface mount equipment

2

Flexible

- PMBus Monitoring/Configurability
 - Works with other PMBus device with common protocol

DIGITAL 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)	Eval Kit
ZL9006M	Digital DC/DC PMBus 6A Power Module	4.5 - 13.2	0.6 - 3.6	6	Yes				-40 to +85		95	32 Ld HDA MODULE (17.2mm x 11.45mm x 2.5mm)	✓
ZL9010M	Digital DC/DC PMBus 10A Power Module	4.5 - 13.2	0.6 - 3.6	10	Yes				-40 to +85		95	32 Ld HDA MODULE (17.2mm x 11.45mm x 2.5mm)	✓
ZL9101M	Digital DC/DC PMBus 12A Module	4.5 - 13.2	0.54 - 3.6	12	Yes	Yes	Yes	Yes	-40 to +85	Yes	95	21 Ld QFN (15 x 15 x 3.5)	✓
ZL9117M**	Digital DC/DC PMBus 17A Module	4.5 - 13.2	0.54 - 3.6	17	Yes	Yes	Yes	Yes	-40 to +85	Yes	95	21 Ld QFN (15 x 15 x 3.5)	✓
ISL8270M	Digital DC/DC PMBus 25A Module	4.5 - 14	0.54 - 5.5	25	Yes	Yes	Yes	Yes	-40 to +85	Yes	96	40 Ld HDA MODULE (17 x 19 x 3.55)	✓
ISL8271M	Digital DC/DC PMBus 33A Module	4.5 - 14	0.54 - 5.5	33	Yes	Yes	Yes	Yes	-40 to +85	Yes	96	40 Ld HDA MODULE (17 x 19 x 3.55)	✓

**Pin to pin compatible to ZL9101M

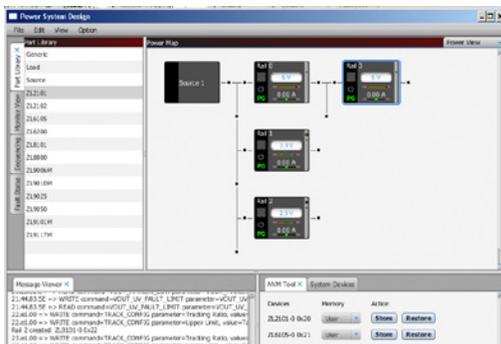
Digital Power

DIGITAL INTEGRATED FET REGULATOR

Device	Device Description	V _{IN} Range (V)	V _{OUT} Range (V)	I _{OUT} (max) (A)	I _Q (mA)	Switching Frequency (MHz)	Peak Efficiency (%)	Integrated MOSFET	Integrated Power Management	Package	Eval Kit
ZL2102	6A Digital Synchronous Step-Down DC/DC Converter with Auto Compensation	4.5 - 14	0.54 - 5.5	6	11	0.2 to 1.0	91	Yes	Yes	36 Ld QFN	✓

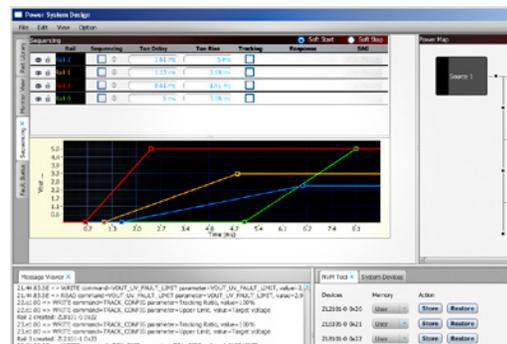
Easy-to-Use GUI Software: PowerNavigator

Intersil's PowerNavigator™ software allows simple configuration and monitoring of multiple Digital-DC devices using a PC with a USB interface. The PowerNavigator software makes it easy to change all features and functions of your digital power supply design using a simple graphical user interface.



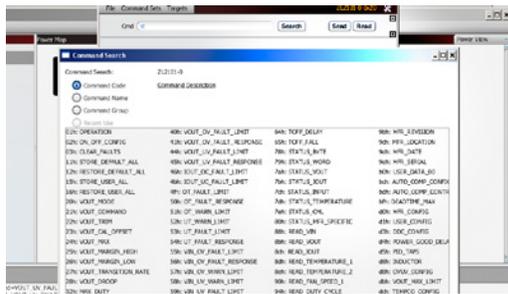
Hardware-free Mode

- Ability to design and architect power systems without hardware



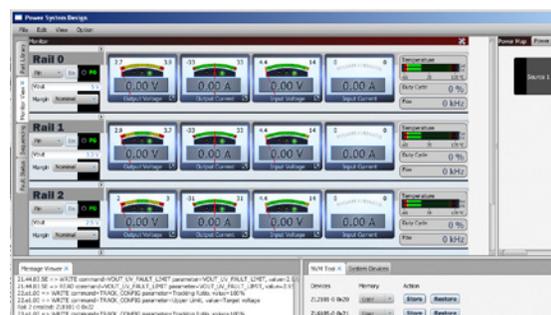
Visual Sequencing

- Ability to sequence up and down multiple rails through drag and drop



Command Line Tool

- Programming of any PMBus command via a simple command line interface



Graphical Monitoring

- Easy to read displays to monitor an entire system on one page



Get Free Software
Download at
intersil.com/powernavigator

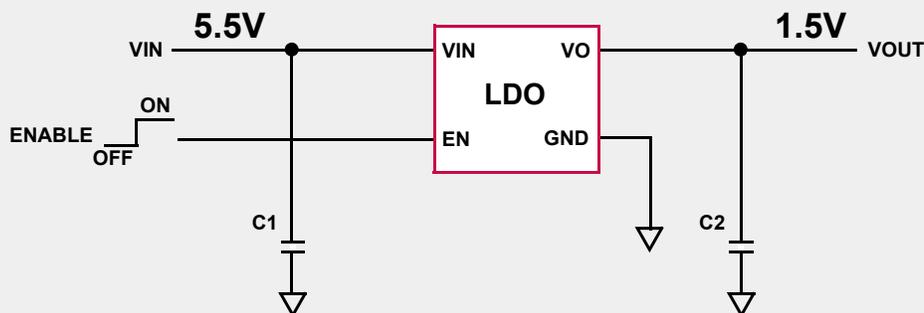


New Digital Power Knowledge Base
Watch and learn at
intersil.com/DigiPowerTraining

LDO/Linear Regulators

► Typical Application

Intersil LDOs are great for generating low current, well-regulated outputs and require very few external components.



LDO

Device	Device Description	V _{IN} Range (V)	V _{OUT} Range (V)	O/P Volt Accuracy (%)	I _{OUT1} (max)	I _{OUT2} (max)	PSRR @ 1kHz (dB)	I _Q (typ)	Typical Drop-Out Voltage (mV)	Enable/ Shut-down	Package	Eval Kit
Up to 6.5V												
ISL9003A	Low Noise LDO with Low I _Q , High PSRR	2.3 - 6.5	1.5 - 3.3	±1.8	150mA		90	29µA	200 @ 150mA	Yes	5 Ld SC-70, 6 Ld µTDFN	✓
ISL9012	Dual LDO with Low Noise, Low I _Q , and High PSRR	2.3 - 6.5	1.5 - 3.3	±1.8	150mA	300mA	70	45µA	250 @ 300mA	Yes	10 Ld DFN	
ISL9016	150mA Dual LDO with Low Noise, High PSRR, and Low I _Q	1.8 - 6.5	1.2 - 3.3	±1.8	150mA	150mA	80	49µA	250 @ 150mA	Yes	6 Ld µTDFN	✓
ISL9021A	250mA Single LDO with Low I _Q , Low Noise and High PSRR LDO	1.5 - 5.5	0.9 - 3.3	±1.8	250mA		60	35µA	150 @ 250mA	Yes	4 Ball WLCSOP, 6 Ld µTDFN	✓
ISL9000A	Dual LDO with Low Noise, Very High PSRR, and Low I _Q	2.3 - 6.5	1.5 - 3.3	±1.8	300mA	300mA	90	40µA	250 @ 300mA	Yes	10 Ld DFN	✓
ISL9001A	LDO with Low I _{SUPPLY} , High PSRR	2.3 - 6.5	1.5 - 3.3	±1.8	300mA		90	25µA	250 @ 300mA	Yes	8 Ld DFN	✓
ISL9014A	Dual LDO with Low Noise, Low I _Q , and High PSRR	2.3 - 6.5	1.5 - 3.3	±1.8	300mA	300mA	70	45µA	250 @ 300mA	Yes	10 Ld DFN	✓
ISL9007	High Current LDO with Low I _Q and High PSRR	2.3 - 6.5	1.5 - 3.3	±1.8	400mA		75	50µA	250 @ 400mA	Yes	8 Ld MSOP	✓
ISL80101	High Performance 1A LDO	2.2 - 6.0	0.8 - 5.0	±1.8	1A		58	3mA	130 @ 1A	Yes	10 Ld DFN	✓
ISL80101-ADJ	High Performance Adjustable V _{OUT} 1A LDO	2.2 - 6.0	0.8 - 5.0	±1.8	1A		58	3mA	130 @ 1A	Yes	10 Ld DFN	✓
ISL80101A	High Performance Adjustable V _{OUT} 1A LDO with Programmable Current Limiting	2.2 - 6.0	0.8 - 5.0	±2.0	1A		48	3mA	212 @ 1A	Yes	10 Ld DFN	✓
ISL80111	Ultra Low Dropout 1A Low Input Voltage NMOS LDO	1 - 3.6	0.8 - 3.6	±1.6	1A		80	3.5mA	27	Yes	10 Ld DFN	✓
ISL80121-5	Fixed 5V Output 1A LDO with Programmable Current Limiting	2.2 - 6.0	0.8 - 5.0	±1.8	1A		40	3mA	130 @ 1A	Yes	10 Ld DFN	✓
ISL80102	High Performance 2A LDO	2.2 - 6.0	0.8 - 5.0	±1.8	2A		55	7.5mA	81 @ 2A	Yes	10 Ld DFN	✓
ISL80112	Ultra Low Dropout 2A Low Input Voltage NMOS LDOs	1 - 3.6	0.8 - 3.6	±1.6	2A		80	3.5mA	53	Yes	10 Ld DFN	✓
ISL80103	High Performance 3A LDO	2.2 - 6.0	0.8 - 5.0	±1.8	3A		55	7.5mA	120 @ 3A	Yes	10 Ld DFN	✓
ISL80113	Ultra Low Dropout 3A Low Input Voltage NMOS LDO	1 - 3.6	0.8 - 3.6	±1.6	3A		80	3.5mA	75	Yes	10 Ld DFN	✓
Up to 40V												
ISL80136	40V, Low Quiescent Current, 50mA Linear Regulator	6 - 40	2.5 - 12	±1	50mA		58	18µA	120	Yes	8 Ld EPSOIC	✓
ISL80138	40V, Low Quiescent Current, 150mA Linear Regulator	6 - 40	2.5 - 12	±1	150mA		66 @ 100Hz	18µA	295 @ 150mA	Yes	14 Ld HTSSOP	✓



Intersil Main Offices

Visit www.intersil.com for a complete list of sales representatives and distributors.

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