GENERAL PURPOSE POWER MANAGEMENT
QUICK SELECTION GUIDE
Switching Regulators, LDOs, Power Modules, FET Drivers, Analog Controllers
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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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 VIN, low quiescent current (IQ) 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 VIN
- **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

BUCK REGULATORS

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>VIN  Range (V)</th>
<th>IOUT (max) (A)</th>
<th>VOUT Range (V)</th>
<th>IQ (typ) (µA)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Output</td>
<td>2.7V - 6V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISL9103A</td>
<td>500mA 2.4MHz Low IQ, Synchronous Buck Reg.</td>
<td>2.7 to 6.0</td>
<td>0.5</td>
<td>0.8 to VIN</td>
<td>25µA</td>
<td>2.4</td>
<td>95</td>
<td>6 Ld µTDFN</td>
</tr>
<tr>
<td>ISL9104A</td>
<td>500mA 4.3MHz Low IQ, Synchronous Buck Reg.</td>
<td>2.7 to 6.0</td>
<td>0.5</td>
<td>0.8 to VIN</td>
<td>20µA</td>
<td>4.3</td>
<td>93</td>
<td>6 Ld µTDFN</td>
</tr>
<tr>
<td>ISL9105</td>
<td>600mA Low Quiescent Current 1.6MHz Synchronous Buck Reg.</td>
<td>2.7 to 5.5</td>
<td>0.6</td>
<td>0.8 to VIN</td>
<td>25µA</td>
<td>1.6</td>
<td>96</td>
<td>8 Ld DFN</td>
</tr>
<tr>
<td>ISL9106</td>
<td>1.2A 1.6MHz Low IQ Synchronous Buck Reg.</td>
<td>2.7 to 5.5</td>
<td>1.2</td>
<td>0.8 to VIN</td>
<td>17µA</td>
<td>1.6</td>
<td>95</td>
<td>10 Ld DFN</td>
</tr>
<tr>
<td>ISL9107</td>
<td>1.5A 1.6MHz Low IQ Synchronous Buck Reg.</td>
<td>2.7 to 5.5</td>
<td>1.5</td>
<td>0.8 to VIN</td>
<td>17µA</td>
<td>1.6</td>
<td>95</td>
<td>8 Ld DFN</td>
</tr>
<tr>
<td>ISL9108</td>
<td>1.5A 1.6MHz Low IQ Synchronous Buck Reg.</td>
<td>2.7 to 5.5</td>
<td>1.5</td>
<td>0.8 to VIN</td>
<td>17µA</td>
<td>1.6</td>
<td>95</td>
<td>8 Ld DFN</td>
</tr>
<tr>
<td>ISL9109</td>
<td>RF PA 1.5A DC/DC Regulator</td>
<td>2.7 to 5.5</td>
<td>1.5</td>
<td>0.8 to VIN</td>
<td>4.3µA</td>
<td>1.6</td>
<td>95</td>
<td>8 Ld DFN</td>
</tr>
<tr>
<td>ISL80019/A</td>
<td>Compact Synchronous Buck Regulators</td>
<td>2.7 to 5.5</td>
<td>1.5</td>
<td>0.6 to VIN</td>
<td>35µA</td>
<td>2.3</td>
<td>95</td>
<td>8 Ld 2x2 TDFN</td>
</tr>
<tr>
<td>ISL8002/A</td>
<td>Compact Synchronous Buck Regulators</td>
<td>2.7 to 5.5</td>
<td>2</td>
<td>0.6 to VIN</td>
<td>35µA</td>
<td>2.3</td>
<td>95</td>
<td>8 Ld 2x2 TDFN</td>
</tr>
<tr>
<td>ISL8023/A</td>
<td>Compact Synchronous Buck Regulator</td>
<td>2.7 to 5.5</td>
<td>3</td>
<td>0.6 to 5.5</td>
<td>50µA</td>
<td>4</td>
<td>95</td>
<td>16 LD 3x3 TQFN</td>
</tr>
<tr>
<td>ISL80030/A</td>
<td>3A Synchronous Buck Converter in 2x2 DFN Package</td>
<td>2.7 to 5.5</td>
<td>3</td>
<td>0.6 to 5.5</td>
<td>10mA/10mA (A ver)</td>
<td>1/2 (A ver)</td>
<td>95</td>
<td>8 LD 2x2 DFN</td>
</tr>
<tr>
<td>ISL80031/A</td>
<td>3A Synchronous Buck Converter in 2x2 DFN Package</td>
<td>2.7 to 5.5</td>
<td>3</td>
<td>0.6 to 5.5</td>
<td>35µA</td>
<td>1/2 (A ver)</td>
<td>95</td>
<td>8 LD 2x2 DFN</td>
</tr>
<tr>
<td>ISL8024/A</td>
<td>Compact Synchronous Buck Regulator</td>
<td>2.7 to 5.5</td>
<td>4</td>
<td>0.6 to 5.5</td>
<td>50µA</td>
<td>4</td>
<td>95</td>
<td>16 LD 3x3 TQFN</td>
</tr>
<tr>
<td>ISL8025/A</td>
<td>Compact Synchronous Buck Regulator</td>
<td>2.7 to 5.5</td>
<td>5</td>
<td>0.6 to VIN</td>
<td>50µA</td>
<td>5</td>
<td>95</td>
<td>16 LD 3x3 TQFN</td>
</tr>
<tr>
<td>ISL8016</td>
<td>6A Low Quiescent Current High Efficiency Synchronous Buck Regulator</td>
<td>2.7 to 5.5</td>
<td>6</td>
<td>0.6 to 5.5</td>
<td>70µA</td>
<td>4</td>
<td>97</td>
<td>20 LD 3x4 QFN</td>
</tr>
<tr>
<td>ISL8018</td>
<td>8A Low Quiescent Current High Efficiency Synchronous Buck Regulator</td>
<td>2.7 to 5.5</td>
<td>8</td>
<td>0.6 to 5.5</td>
<td>70µA</td>
<td>4</td>
<td>97</td>
<td>20 LD QFN</td>
</tr>
</tbody>
</table>
# Integrated FET Switching Regulators

## Buck Regulators (Continued)

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>$V_{IN}$ Range (V)</th>
<th>$I_{OUT}$ (max) (A)</th>
<th>$V_{OUT}$ Range (V)</th>
<th>$I_{Q}$ (typ)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL85412</td>
<td>Wide $V_{IN}$ 150mA Synchronous Buck Regulator</td>
<td>3.5 to 40</td>
<td>0.15</td>
<td>0.6 to 34</td>
<td>50µA</td>
<td>0.7</td>
<td>92</td>
<td>8 Ld 3x3 DFN</td>
</tr>
<tr>
<td>ISL85413</td>
<td>Wide $V_{IN}$ 300mA Synchronous Buck Regulator</td>
<td>3.5 to 40</td>
<td>0.3</td>
<td>0.6 to 34</td>
<td>50µA</td>
<td>0.7</td>
<td>92</td>
<td>8 Ld 3x3 DFN</td>
</tr>
<tr>
<td>ISL85415</td>
<td>Wide $V_{IN}$ 500mA Synchronous Buck Regulator</td>
<td>3 to 36</td>
<td>0.5</td>
<td>0.6 to $95%$ of $V_{IN}$</td>
<td>80µA</td>
<td>2</td>
<td>94</td>
<td>12 Ld 4x3 DFN</td>
</tr>
<tr>
<td>ISL85418</td>
<td>Wide $V_{IN}$ 800mA Synchronous Buck Regulator</td>
<td>3 to 40</td>
<td>0.8</td>
<td>0.6 to $95%$ of $V_{IN}$</td>
<td>80µA</td>
<td>2</td>
<td>96</td>
<td>12 Ld 4x3 DFN</td>
</tr>
<tr>
<td>ISL85410</td>
<td>Wide $V_{IN}$ 1A Synchronous Buck Regulator</td>
<td>3 to 40</td>
<td>1</td>
<td>0.6 to $95%$ of $V_{IN}$</td>
<td>80µA</td>
<td>2</td>
<td>96</td>
<td>12 Ld 4x3 DFN</td>
</tr>
<tr>
<td>ISL8502B</td>
<td>Compact Synchronous Buck Regulator</td>
<td>2.7 to 5.5</td>
<td>2</td>
<td>0.6 to $V_{IN}$</td>
<td>35µA</td>
<td>2</td>
<td>95</td>
<td>8 Ld 2x2 TDFN</td>
</tr>
<tr>
<td>ISL85003/A</td>
<td>Highly Efficient 3A Synchronous Buck Regulator</td>
<td>4.5 to 18</td>
<td>3</td>
<td>0.8 to 18</td>
<td>3.2mA</td>
<td>0.5</td>
<td>95</td>
<td>12 Ld 3x4 95DFN</td>
</tr>
</tbody>
</table>

## Buck Boost Regulators

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>$V_{IN}$ Range (V)</th>
<th>$I_{OUT}$ (max) (A)</th>
<th>$V_{OUT}$ Range (V)</th>
<th>$I_{Q}$ (typ)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL9110</td>
<td>1.2A High Efficiency Buck-Boost Regulators</td>
<td>1.8 to 5.5</td>
<td>1.2</td>
<td>1 to 5.2</td>
<td>35µA</td>
<td>2.5</td>
<td>95</td>
<td>12 Ld 3x3 DFN</td>
</tr>
<tr>
<td>ISL9112</td>
<td>1.2A High Efficiency Buck-Boost Regulators</td>
<td>1.8 to 5.5</td>
<td>1.2</td>
<td>1.9 to 5</td>
<td>35µA</td>
<td>2.5</td>
<td>95</td>
<td>12 Ld 3x3 DFN</td>
</tr>
<tr>
<td>ISL91107</td>
<td>High Efficiency Buck-Boost Regulator with 3.6A Switches</td>
<td>1.8 to 5.5</td>
<td>3.6</td>
<td>1 to 5.2</td>
<td>45µA</td>
<td>2.5</td>
<td>96</td>
<td>20 Ld 3x4 TQFN</td>
</tr>
<tr>
<td>ISL91110</td>
<td>High Efficiency Buck-Boost Regulator with 4.5A Switches</td>
<td>1.8 to 5.5</td>
<td>4.5</td>
<td>1 to 5.2</td>
<td>35µA</td>
<td>2.5</td>
<td>96</td>
<td>20 Ld 4x4 TQFN</td>
</tr>
</tbody>
</table>

## Boost Regulators

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>$V_{IN}$ Range (V)</th>
<th>$I_{OUT}$ (max) (A)</th>
<th>$V_{OUT}$ Range (V)</th>
<th>$I_{Q}$ (typ)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL9111/A</td>
<td>Low Input Voltage, High Efficiency Synchronous Boost Converter with 1A Switch</td>
<td>0.5 to 5.25</td>
<td>0.24</td>
<td>2.5 to 5.25</td>
<td>20µA</td>
<td>1.2</td>
<td>97</td>
<td>6 Ld 2.9x2.8 SOT</td>
</tr>
<tr>
<td>ISL97656</td>
<td>Integrated 4A Switch PWM Step-Up Regulator</td>
<td>2.3 to 6</td>
<td>1</td>
<td>1.1 to 24</td>
<td>700µA</td>
<td>1.2</td>
<td>90</td>
<td>10 Ld 3x3 DFN</td>
</tr>
<tr>
<td>ISL9113/A</td>
<td>Low Input Voltage and High Efficiency Synchronous Boost Converter</td>
<td>0.8 to 4.7</td>
<td>1.3</td>
<td>1 to 5.2</td>
<td>20µA</td>
<td>1.8</td>
<td>95</td>
<td>8 Ld 2x2 DFN</td>
</tr>
<tr>
<td>ISL97519/A</td>
<td>1% Output Accuracy 600kHz/1.2MHz PWM Step-Up Regulator</td>
<td>2.3 to 5.5</td>
<td>2</td>
<td>1.1 to 25</td>
<td>700µA</td>
<td>1.2</td>
<td>90</td>
<td>8 Ld 3x4.9 MSOP</td>
</tr>
</tbody>
</table>

## Digital Integrated FET Regulators

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>$V_{IN}$ Range (V)</th>
<th>$I_{OUT}$ (max) (A)</th>
<th>$V_{OUT}$ Range (V)</th>
<th>$I_{Q}$ (typ)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL85003/A</td>
<td>Wide $V_{IN}$ Dual Standard Buck Regulator With 3/3A Continuous Output Current</td>
<td>4.5 to 28</td>
<td>3</td>
<td>0.8 to $V_{IN}$</td>
<td>1.2mA</td>
<td>2</td>
<td>92</td>
<td>28 Ld 4x4 TQFN</td>
</tr>
</tbody>
</table>

## Boost-Boost Regulators

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>$V_{IN}$ Range (V)</th>
<th>$I_{OUT}$ (max) (A)</th>
<th>$V_{OUT}$ Range (V)</th>
<th>$I_{Q}$ (typ)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL9305</td>
<td>3MHz Dual Step-Down Converters and Dual Low-Input LDOs</td>
<td>2.3 to 5.5</td>
<td>0.8</td>
<td>0.8 to 5.5</td>
<td>50µA</td>
<td>2.6</td>
<td>92</td>
<td>16 Ld 4x4 TQFN</td>
</tr>
<tr>
<td>ISL9305H</td>
<td>3MHz Dual 1.5A Step-Down Converters and Dual Low-Input LDOs</td>
<td>2.5 to 5.5</td>
<td>1.5</td>
<td>0.8 to 5.5</td>
<td>50µA</td>
<td>2.6</td>
<td>87</td>
<td>16 Ld 4x4 TQFN</td>
</tr>
<tr>
<td>ISL9307</td>
<td>3MHz Dual 1500mA Step-Down Converters and Dual Low-Input LDOs</td>
<td>2.5 to 5.5</td>
<td>1.5</td>
<td>0.9 to 3.3</td>
<td>50µA</td>
<td>2.6</td>
<td>92</td>
<td>16 Ld 4x4 TQFN</td>
</tr>
</tbody>
</table>

## Digital-Integrated FET Regulators

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>$V_{IN}$ Range (V)</th>
<th>$I_{OUT}$ (max) (A)</th>
<th>$V_{OUT}$ Range (V)</th>
<th>$I_{Q}$ (typ)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZL2102</td>
<td>6A Digital Integrated Synchronous Step-Down DC/DC Converter</td>
<td>4.5 to 14</td>
<td>6</td>
<td>0.54 to 5.5</td>
<td>15mA</td>
<td>1</td>
<td>90</td>
<td>36 Ld 6x6 QFN</td>
</tr>
<tr>
<td>ZL2106</td>
<td>6A Digital-DC Synchronous Step-Down DC/DC Converter</td>
<td>4.5 to 14</td>
<td>6</td>
<td>0.54 to 5.5</td>
<td>11mA</td>
<td>1</td>
<td>87</td>
<td>36 Ld 6x6 QFN</td>
</tr>
</tbody>
</table>

## Boost Regulators

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>$V_{IN}$ Range (V)</th>
<th>$I_{OUT}$ (max) (A)</th>
<th>$V_{OUT}$ Range (V)</th>
<th>$I_{Q}$ (typ)</th>
<th>Switching Freq max (MHz)</th>
<th>Peak Efficiency (%)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL98012</td>
<td>Standard Boost Regulator</td>
<td>1.8 to 13.2</td>
<td>0.6</td>
<td>4.5 to 17</td>
<td>1.4mA</td>
<td>670kHz</td>
<td>92</td>
<td>10 Ld 3x4.9 MSOP</td>
</tr>
</tbody>
</table>

---

**Note:** The table above provides a comprehensive overview of various integrated FET switching regulators, including buck, buck-boost, and boost converters, along with their specifications such as input voltage range, output current, switching frequency, efficiency, and package type. The data is compiled for easy selection and comparison based on specific application requirements.
**Intersil’s Advantages**

**Low Drop-Out**
Smaller dropout voltage yields possible low power consumption and maximizes the efficiency.

**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.

**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**

<table>
<thead>
<tr>
<th>Device</th>
<th>$V_{IN}$ (V)</th>
<th>$V_{OUT}$ (V)</th>
<th>$I_{OUT}$ max (A)</th>
<th>PSRR @1kHz (dB)</th>
<th>Split Input</th>
<th>Fixed Vout Option</th>
<th>Dropout (mV)</th>
<th>Acc.</th>
<th>Iq</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL80505</td>
<td>1.8 – 6</td>
<td>0.8 – 5.5</td>
<td>0.5</td>
<td>50</td>
<td>No</td>
<td>No</td>
<td>45</td>
<td>1.80%</td>
<td>2.2mA</td>
<td>8 LD 3x3 DFN</td>
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<td>ISL80510</td>
<td>2.2 – 6</td>
<td>0.8 – 5.5</td>
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<td>48</td>
<td>No</td>
<td>No</td>
<td>130</td>
<td>1.80%</td>
<td>2.2mA</td>
<td>8 LD 3x3 DFN</td>
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<td>ISL80101</td>
<td>2.2 – 6</td>
<td>0.8 – 5</td>
<td>1</td>
<td>58</td>
<td>No</td>
<td>Yes</td>
<td>130</td>
<td>1.80%</td>
<td>3.0mA</td>
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<td>ISL80101A</td>
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<td>0.8 – 5</td>
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<td>No</td>
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<td>90</td>
<td>1.80%</td>
<td>3.0mA</td>
<td>10 LD 3X3 DFN</td>
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<td>ISL80102</td>
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<td>0.8 – 5</td>
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<td>7.5mA</td>
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<td>ISL80103</td>
<td>2.2 – 6</td>
<td>0.8 – 5</td>
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<td>No</td>
<td>Yes</td>
<td>120</td>
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<td>7.5mA</td>
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<td>ISL80111</td>
<td>1 – 3.6</td>
<td>0.8 – 3.3</td>
<td>1</td>
<td>80</td>
<td>Yes</td>
<td>No</td>
<td>27</td>
<td>1.60%</td>
<td>3.5mA</td>
<td>10 LD 3X3 DFN</td>
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<td>ISL80112</td>
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<td>0.8 – 3.3</td>
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<td>80</td>
<td>Yes</td>
<td>No</td>
<td>53</td>
<td>1.60%</td>
<td>3.5mA</td>
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<td>0.8 – 3.3</td>
<td>3</td>
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<td>Yes</td>
<td>No</td>
<td>75</td>
<td>1.60%</td>
<td>3.5mA</td>
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<td>ISL80136</td>
<td>6 – 40</td>
<td>2.5 – 12</td>
<td>0.05</td>
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<td>No</td>
<td>No</td>
<td>120</td>
<td>1.00%</td>
<td>18µA</td>
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<td>ISL80138</td>
<td>6 – 40</td>
<td>2.5 – 12</td>
<td>0.15</td>
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<td>No</td>
<td>No</td>
<td>295</td>
<td>1.0%</td>
<td>18µA</td>
<td>14 LD HTSSOP</td>
</tr>
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</table>

►For more information about Intersil LDOs, go to [www.intersil.com/ldos](http://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.

ANALOG POWER MODULES

<table>
<thead>
<tr>
<th>Device</th>
<th>Device Description</th>
<th>VIN Range (V)</th>
<th>VOUT Range (V)</th>
<th>Current Share</th>
<th>Multi-phase</th>
<th>PGOOD</th>
<th>Enable</th>
<th>Ambient Temp Range (°C)</th>
<th>Load Fault Protection</th>
<th>Peak Efficiency (%)</th>
<th>Package (mm)</th>
</tr>
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<tbody>
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<td>Up to 6V</td>
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<tr>
<td>ISL8203M</td>
<td>Dual 3A/Single 6A Step-Down DC/DC Power Module</td>
<td>2.85 to 6</td>
<td>0.8 to 5</td>
<td>Dual 3A or single 6A</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-40 to +85</td>
<td>Yes</td>
<td>95</td>
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<tr>
<td>ISL8204M*</td>
<td>High Efficiency DC/DC Power Module</td>
<td>1 to 20**</td>
<td>0.6 to 6</td>
<td>4</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<td>-40 to +85</td>
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<td>95</td>
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<td>ISL8206M*</td>
<td>Complete High Efficiency DC/DC Power Module</td>
<td>1 to 20**</td>
<td>0.6 to 6</td>
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<td>No</td>
<td>No</td>
<td>Yes</td>
<td>-40 to +85</td>
<td>Yes</td>
<td>95</td>
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<td>ISL8201M</td>
<td>10A, High Efficiency DC/DC Module</td>
<td>1 to 20**</td>
<td>0.6 to 5</td>
<td>10</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>-40 to +85</td>
<td>Yes</td>
<td>95</td>
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<tr>
<td>ISL8200AM</td>
<td>Complete Current Share 10A DC/DC Power Module</td>
<td>3 to 20</td>
<td>0.6 to 6</td>
<td>10</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-40 to +85</td>
<td>Yes</td>
<td>93</td>
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<tr>
<td>ISL8225M</td>
<td>Dual 15A/15A High Efficiency Power Module</td>
<td>4.5 to 20</td>
<td>0.6 to 7.5</td>
<td>Dual 15A or single 30A</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-40 to +125</td>
<td>Yes</td>
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<tr>
<td>ISL8240M</td>
<td>Dual 20A/Single 40A Step-Down Power Module</td>
<td>4.5 to 20</td>
<td>0.6 to 2.5</td>
<td>Dual 20A or single 40A</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-40 to +125</td>
<td>Yes</td>
<td>94</td>
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<td>Up to 80V</td>
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<td>ISL8216M</td>
<td>Complete High Voltage 80V, 4A DC/DC Power Module</td>
<td>10 to 80</td>
<td>2.5 to 30</td>
<td>4</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>-40 to +85</td>
<td>Yes</td>
<td>96</td>
</tr>
</tbody>
</table>

*Pin to pin compatible to the ISL8201M

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

*Pin to pin compatible to the ISL8201M

V_{PC}C: 4.5V to 14.4V
FET DRIVERS

Intersil’s large portfolio of driver products comprises half bridge, full bridge, 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

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

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

<table>
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<tr>
<th>Device</th>
<th>Description</th>
<th>Max Bootstrap Supply Voltage (V)</th>
<th>Max Bias Voltage (V)</th>
<th>Sourcing Current Capability (A)</th>
<th>Sinking Current Capability (A)</th>
<th>Turn-On Prop Delay (μs)</th>
<th>Turn-Off Prop Delay (μs)</th>
<th>Rise Time (μs)</th>
<th>Fall Time (μs)</th>
<th>Package</th>
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<tbody>
<tr>
<td>HIP4083</td>
<td>80V0.3A Peak Three Phase High Side Driver</td>
<td>95</td>
<td>15</td>
<td>0.24 (avg)</td>
<td>0.3 (avg)</td>
<td>65</td>
<td>60</td>
<td>35</td>
<td>30</td>
<td>16 Ld PDIP, 16 Ld SOIC</td>
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<tr>
<td>HIP4086</td>
<td>80V0.5A Peak Three Phase Driver with Integrated Charge Pump</td>
<td>95</td>
<td>15</td>
<td>0.5</td>
<td>1.1</td>
<td>65</td>
<td>75</td>
<td>20</td>
<td>10</td>
<td>24 Ld PDIP, 24 Ld SOIC</td>
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<tr>
<td>HIP4086A</td>
<td>80V0.5A Peak Three Phase Driver</td>
<td>95</td>
<td>15</td>
<td>0.5</td>
<td>1.1</td>
<td>65</td>
<td>75</td>
<td>20</td>
<td>10</td>
<td>24 Ld SOIC</td>
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### LOW-SIDE FET DRIVERS

<table>
<thead>
<tr>
<th>Device</th>
<th>Device Description</th>
<th># of Drivers</th>
<th>Input Supply Range (V)</th>
<th>Input Signal Range (V)</th>
<th>Output Signal Range (V)</th>
<th>Iₜ (mA)</th>
<th>Max Operating Frequency (MHz)</th>
<th>Peak Output IPK (A)</th>
<th>Rise Time (ns)</th>
<th>Fall Time (ns)</th>
<th>VBIAS (min) (V)</th>
<th>RON (Ω)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL89160, ISL89161, ISL89162, ISL89163, ISL89165, ISL89166, ISL89167, ISL89168</td>
<td>High Speed, Dual Channel, 6A, 4.5 to 16VOUT Power MOSFET Driver</td>
<td>2</td>
<td>+4.5 to +16</td>
<td>0 to VP</td>
<td>0 to +16</td>
<td>5</td>
<td>10</td>
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<td>20</td>
<td>4.5</td>
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<td>8 Ld EPSOIC, 8 Ld TDFN</td>
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<tr>
<td>ISL89367</td>
<td>High Speed, Dual Channel, 6A, MOSFET Driver With Programmable Rising and Falling Edge Delay Timers</td>
<td>2</td>
<td>+4.5 to +16</td>
<td>0 to VP</td>
<td>0 to +16</td>
<td>5</td>
<td>10</td>
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<td>20</td>
<td>20</td>
<td>4.5</td>
<td>2</td>
<td>16 Ld TDFN</td>
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<tr>
<td>ISL89410</td>
<td>High Speed, Dual Channel Power MOSFET Drivers</td>
<td>2</td>
<td>+4.5 to +18</td>
<td>0 to VP</td>
<td>0 to +18</td>
<td>4.5</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>13</td>
<td>4.5</td>
<td>4</td>
<td>8 Ld PDIP, 8 Ld SOIC</td>
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<tr>
<td>ISL89411</td>
<td>High Speed, Dual Channel Power MOSFET Drivers</td>
<td>2</td>
<td>+4.5 to +18</td>
<td>0 to VP</td>
<td>0 to +18</td>
<td>1</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>13</td>
<td>4.5</td>
<td>*</td>
<td>8 Ld PDIP, 8 Ld SOIC</td>
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<tr>
<td>ISL89412</td>
<td>High Speed, Dual Channel Power MOSFET Drivers</td>
<td>2</td>
<td>+4.5 to +18</td>
<td>0 to VP</td>
<td>0 to +18</td>
<td>2.5</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>13</td>
<td>4.5</td>
<td>*</td>
<td>8 Ld PDIP, 8 Ld SOIC</td>
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### DrMOS (DRIVER + FET)

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
<th>IOUT (max) (A)</th>
<th>VBIAS (V)</th>
<th>Vth (min) (V)</th>
<th>Vth (max) (V)</th>
<th>PWM Level</th>
<th>Switching Freq. (max)</th>
<th>Temp Range</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL99140</td>
<td>40A DrMOS Power Module with Integrated Diode Emulation and Thermal Warning Output</td>
<td>40</td>
<td>4.75 to 5.25</td>
<td>4.5</td>
<td>18</td>
<td>3.3V 3-State, 5V 2-State</td>
<td>2 MHz</td>
<td>-40 to 85</td>
<td>40 Ld QFN</td>
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</tbody>
</table>
**ANALOG CONTROLLERS**

**SINGLE OUTPUT BUCK CONTROLLERS**

<table>
<thead>
<tr>
<th>Device</th>
<th>Device Descriptions</th>
<th>VIN (min) (V)</th>
<th>VIN (max) (V)</th>
<th>VOUT (min) (V)</th>
<th>VOUT (max) (V)</th>
<th>IOUT (max) (A)</th>
<th>VBIAS (min) (V)</th>
<th>I (typ) (mA)</th>
<th>Package</th>
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<tbody>
<tr>
<td>ISL6406</td>
<td>Single Synchronous Buck PWM Controller</td>
<td>3.3</td>
<td>5</td>
<td>0.8</td>
<td>5</td>
<td>20</td>
<td>3.3</td>
<td>5</td>
<td>7 mA 9.8 mA 16 Ld QFN, 16 Ld SOIC, 16 Ld TSSOP</td>
</tr>
<tr>
<td>ISL6439/A</td>
<td>Single Sync Buck PWM Controller for Broadband Gateway Applications</td>
<td>3.3</td>
<td>5</td>
<td>0.8</td>
<td>5</td>
<td>20</td>
<td>3.3</td>
<td>5</td>
<td>6.1 mA 6.9 mA 16 Ld QFN, 14 Ld SOIC</td>
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<tr>
<td>ISL6526/A</td>
<td>Single Synchronous Buck PWM Controller</td>
<td>2.5</td>
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<td>5</td>
<td>V IN</td>
<td>3.3</td>
<td>5</td>
<td>6.1 mA 6.9 mA 16 Ld QFN, 14 Ld SOIC</td>
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<tr>
<td>ISL6341/A/B/C</td>
<td>5V or 12V Single Synchronous Buck PWM Controller</td>
<td>1.5</td>
<td>12</td>
<td>0.8</td>
<td>12</td>
<td>30</td>
<td>4.5</td>
<td>14.4</td>
<td>6.4 mA 7 mA 10 Ld TDFN</td>
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<tr>
<td>ISL6535</td>
<td>Synchronous Buck PWM Controller</td>
<td>1.2</td>
<td>12</td>
<td>0.6</td>
<td>5</td>
<td>30</td>
<td>8</td>
<td>12</td>
<td>51 mA 16 Ld QFN, 16 Ld SOIC</td>
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<tr>
<td>ISL6104</td>
<td>Synchronous Buck PWM Controller</td>
<td>1.2</td>
<td>12</td>
<td>0.6</td>
<td>5</td>
<td>30</td>
<td>7.6</td>
<td>15.4</td>
<td>51 mA 14 Ld SOIC, 16 Ld QFN</td>
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<tr>
<td>ISL6105/A/B</td>
<td>+5V or +12V Single-Phase Synchronous Buck Converter PWM Controller with Integrated MOSFET Gate Drivers</td>
<td>1</td>
<td>12</td>
<td>0.6</td>
<td>5</td>
<td>25</td>
<td>4.9</td>
<td>14.4</td>
<td>3.2 mA 8 Ld SOIC, 10 Ld QFN</td>
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<tr>
<td>ISL6118</td>
<td>3.3V to 20V Single-Phase PWM Controller with Integrated 2A/4A MOSFET Drivers</td>
<td>3.3</td>
<td>20</td>
<td>0.6</td>
<td>20</td>
<td>30</td>
<td>2.9</td>
<td>5.6</td>
<td>16 Ld QFN</td>
</tr>
<tr>
<td>ISL6269/A/B</td>
<td>High-Performance Notebook PWM Controller with Bias Regulator and Audio-Frequency Clamp</td>
<td>7</td>
<td>25</td>
<td>0.6</td>
<td>3.3</td>
<td>25</td>
<td>2</td>
<td>2 mA</td>
<td>16 Ld QFN</td>
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<tr>
<td>ISL6287</td>
<td>PWM DC/DC Voltage Regulator Controller</td>
<td>3.3</td>
<td>25</td>
<td>0.5</td>
<td>3.3</td>
<td>30</td>
<td>4.75</td>
<td>5.25</td>
<td>1 µA 1.1 mA 16 Ld µTOFN</td>
</tr>
<tr>
<td>ISL62871, ISL62873, ISL62875</td>
<td>PWM DC/DC Controller With VID Inputs For Portable GPU Core-Voltage Regulator</td>
<td>3.3</td>
<td>25</td>
<td>0.5</td>
<td>3.3</td>
<td>30</td>
<td>4.75</td>
<td>5.25</td>
<td>1 µA 1.1 mA 16 Ld µTOFN</td>
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<tr>
<td>ISL6106</td>
<td>Wide VIN, 7V to 25V, Single-Phase PWM Controller with Integrated MOSFET Drivers</td>
<td>7</td>
<td>25</td>
<td>0.6</td>
<td>3.3</td>
<td>12</td>
<td>5</td>
<td>5</td>
<td>2 mA 2.2 mA 16 Ld QFN</td>
</tr>
<tr>
<td>ISL65870/A/B</td>
<td>PWM DC/DC Controller with VID Inputs for Portable GPU Core-Voltage Regulator</td>
<td>3.3</td>
<td>25</td>
<td>0.5</td>
<td>5</td>
<td>30</td>
<td>4.75</td>
<td>5.25</td>
<td>1 µA 1.2 mA 16 Ld µTOFN</td>
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<tr>
<td>ISL65873</td>
<td>Buck PWM Controller with Internal Compensation and External Reference Tracking</td>
<td>3.3</td>
<td>25</td>
<td>0.5</td>
<td>3.3</td>
<td>30</td>
<td>4.75</td>
<td>5.25</td>
<td>1 µA 1.2 mA 16 Ld µTOFN</td>
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<tr>
<td>ISL6420B</td>
<td>Advanced Single Synchronous Buck PWM Controller</td>
<td>4.5</td>
<td>28</td>
<td>0.6</td>
<td>27.5</td>
<td>20</td>
<td>5</td>
<td>5</td>
<td>1.4 mA 2 mA 20 Ld QFN, 20 Ld QSOP</td>
</tr>
<tr>
<td>ISL8130</td>
<td>Advanced Single Universal PWM Controller</td>
<td>4.5</td>
<td>28</td>
<td>0.6</td>
<td>25.2</td>
<td>30</td>
<td>4.5</td>
<td>28</td>
<td>2 mA 20 Ld QFN, 20 Ld QSOP</td>
</tr>
<tr>
<td>ISL8115</td>
<td>High Voltage Synchronous Buck PWM Controller with Integrated Gate Driver and Current Sharing Capability</td>
<td>2.97</td>
<td>36</td>
<td>0.6</td>
<td>5.5</td>
<td>30</td>
<td>2.97</td>
<td>5.5</td>
<td>- 10 mA 24 Ld 4x4 QFN</td>
</tr>
<tr>
<td>ISL8117</td>
<td>Synchronous Step-down PWM Controller</td>
<td>4.5</td>
<td>60</td>
<td>0.6</td>
<td>54</td>
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<td>5.5</td>
<td>- 2.5 mA 16 Ld 4x4 QFN, 16 Ld HTSSOP</td>
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<tr>
<td>ISL8107</td>
<td>Single-Phase PWM Controller with Wide (9V-75V) VIN Range</td>
<td>9</td>
<td>75</td>
<td>1.2</td>
<td>75</td>
<td>10</td>
<td>9</td>
<td>75</td>
<td>- 2 mA 16 Ld QFN</td>
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**MULTIPLE OUTPUT CONTROLLERS**

<table>
<thead>
<tr>
<th>Device</th>
<th># of Outputs</th>
<th>Device Description</th>
<th>VIN (min) (V)</th>
<th>VIN (max) (V)</th>
<th>VOUT (min) (V)</th>
<th>VOUT (max) (V)</th>
<th>IOUT (max) (A)</th>
<th>Switching Frequency (kHz)</th>
<th>Bias Voltage (VCC)</th>
<th>Package</th>
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<tbody>
<tr>
<td>ISL6446/A</td>
<td>3</td>
<td>Dual (180 Out-of-Phase) PWM and Linear Controller</td>
<td>4.5</td>
<td>24</td>
<td>0.6</td>
<td>24</td>
<td>25</td>
<td>100kHz to 2.5MHz</td>
<td>5 V</td>
<td>24 Ld QSOP</td>
</tr>
<tr>
<td>ISL9440</td>
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<td>Triple, 180 Out-of-Phase, Step-Down PWM and Single Linear Controller</td>
<td>4.5</td>
<td>24</td>
<td>0.8</td>
<td>24</td>
<td>20</td>
<td>300</td>
<td>5 V</td>
<td>32 Ld QFN</td>
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<tr>
<td>ISL9440A</td>
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<td>Triple, 180 Out-of-Phase, Step-Down PWM and Single Linear Controller</td>
<td>4.5</td>
<td>24</td>
<td>0.8</td>
<td>24</td>
<td>20</td>
<td>600</td>
<td>5 V</td>
<td>32 Ld QFN</td>
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<tr>
<td>ISL9440B</td>
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<td>Triple Step-Down PWM and Single Linear Controller with Programmable Soft-Start</td>
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<td>24</td>
<td>0.8</td>
<td>24</td>
<td>0.8</td>
<td>300</td>
<td>5 V</td>
<td>32 Ld QFN</td>
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<td>ISL9440C</td>
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<td>0.8</td>
<td>24</td>
<td>20</td>
<td>600</td>
<td>5 V</td>
<td>32 Ld QFN</td>
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<tr>
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<td>0.8</td>
<td>24</td>
<td>20</td>
<td>300</td>
<td>5 V</td>
<td>32 Ld QFN</td>
</tr>
<tr>
<td>ISL9443</td>
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<td>Triple, 180 Out-of-Phase, Synchronous Step-Down PWM Controller</td>
<td>4.5</td>
<td>26</td>
<td>0.7</td>
<td>26</td>
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<td>200 to 1200</td>
<td>5 V</td>
<td>32 Ld QFN</td>
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<tr>
<td>ISL9444</td>
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<td>4.5</td>
<td>26</td>
<td>0.7</td>
<td>26</td>
<td>20</td>
<td>200 to 1200</td>
<td>5 V</td>
<td>40Ld QFN</td>
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**MULTIPHASE CONTROLLERS (GENERAL PURPOSE)**

<table>
<thead>
<tr>
<th>Device</th>
<th>Device Description</th>
<th>VIN (min) (V)</th>
<th>VIN (max) (V)</th>
<th>VOUT (min) (V)</th>
<th>VOUT (max) (V)</th>
<th>IOUT (max) (A)</th>
<th>VBIAS (V)</th>
<th>Max # of Outputs</th>
<th>Max # of Phases</th>
<th>VID</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL8120</td>
<td>Dual In-Phase Buck PWM Controller with Integrated Drivers</td>
<td>2.97</td>
<td>22</td>
<td>0.6</td>
<td>19.8</td>
<td>60</td>
<td>3</td>
<td>5.6</td>
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<tr>
<td>ISL8121</td>
<td>3V to 20V, Two-Phase Buck PWM Controller with Int. 4A MOSFET Drivers</td>
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<td>20</td>
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<td>13.2</td>
<td>60</td>
<td>4.9</td>
<td>5.5</td>
<td>1</td>
<td>2</td>
<td>No VID</td>
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<td>ISL8126</td>
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<td>26.5</td>
<td>0.6</td>
<td>23.85</td>
<td>60</td>
<td>2.97</td>
<td>5.60</td>
<td>2</td>
<td>2</td>
<td>No VID</td>
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<tr>
<td>ISL6558</td>
<td>Multi-Purpose Precision Multiphase PWM Controller with Optional Active Voltage Positioning</td>
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<td>12</td>
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<td>4.75</td>
<td>5.25</td>
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<td>4</td>
<td>No VID</td>
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</tbody>
</table>
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
Founded .................................1967
Headquarters.............. San Jose, CA
President, CEO....... Necip Sayiner
Employees.........................1,100
NASDAQ Listing.............ISIL
Market Cap.....................$2 billion
FY 2014 Sales.......... $562.6 million
U.S. Patents .................1,000+

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ISO14001:2004
ISO9001:2008
QML

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1964: First SCIC RadHard IC
1984: First BiMOS Op Amp
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1986: First PC multi-phase Vcore
2001: First encapsulated digital power module
2013: First ChargeMode™ full digital control loop
2015: PMIC enables first credit card-sized motherboard

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Quality
Company-wide zero defect mindset
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Built-in reliability philosophy with supplier partnerships with industry leaders
Top ratings from customers on quality
Worldwide dedicated quality support

Failure Analysis
Worldwide failure analysis support with over a combined 150 years of experience
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