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Fujitsu’s power management ICs—providing refined high reliability and performance. Ready to meet a wide range of needs with our comprehensive lineup.

The requirements for today’s electronic devices are ever smaller size, higher capabilities, and lower power consumption. Fujitsu offers a wide range of power management ICs that feature low-power consumption, low-voltage operation, high precision, and multiple channels. A wide range of products is available to meet your diverse needs, including low-voltage operation, multi-channel, high-efficiency, built-in FET regulator ICs, low-power consumption, high-precision voltage detection reset ICs, and low-temperature-resistant power-switching ICs.

Power management ICs

AC/DC converter
- MB3759
- MB3769A

General-purpose DC/DC converter
- MB3800
- MB3809
- MB3817
- MB3885
- MB3775
- MB3872
- MB3878
- MB3821
- MB3882

DC/DC converter with SW FET
- MB3889
- MB389A106
- MB389A104
- MB389A112
- MB389C011
- MB389C011A

DC/DC converter for DSC/camcorders
- MB39C011A
- MB39C014
- MB39C015

For rechargeable batteries
- MB39A106
- MB39A104
- MB39A112
- MB39A108
- MB3825A
- MB3883
- MB3881
- MB39A115
- MB39A123

Monitoring of power supply voltage
- MB3759
- MB3769A
- MB3775
- MB3872
- MB3878
- MB3882
- MB3889
- MB3885
- MB39A104
- MB39A112
- MB39A115
- MB39A123

Monitoring of power supply voltage with SW FET
- MB39A106
- MB39A104
- MB39A112
- MB39A108
- MB3825A
- MB3883
- MB3881
- MB39A115
- MB39A123

Power management switch
- MB3841
- MB3842
- MB3845

DC/DC converter (for running on batteries)
- AC adaptor (line regulator)
- Flash memory
- Memory card

Digital TVs

Printers

Recorders

IP telephones

Notebook PC

DSC/Camcorder

Color viewfinder portion
- Backlight

Lens portion
- A/F
- ZOOM

Cameras portion
- CCD

VTR portion
- Drum capstan

Camcorder

Digital still camera

Microcomputer monitoring

System power supply

General-purpose DC/DC converter

Overall power management ICs

AC/DC converter

General-purpose DC/DC converter

DC/DC converter with SW FET

DC/DC converter for DSC/camcorders

For rechargeable batteries

Monitoring of power supply voltage

Power management switch

Digital TVs/Recorders/Printers/IP telephones

DSC/Camcorder

Color viewfinder portion
- Backlight

Lens portion
- A/F
- ZOOM

Camera portion
- CCD

VTR portion
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RoHS Compliance Information of Lead (Pb) Free version
The LSI products of Fujitsu with “E1” are compliant with RoHS Directive, and has observed the standard of lead, cadmium, mercury, Hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE). The product that conforms to this standard is added “E1” at the end of the part number.
We provide evaluation boards to allow evaluation of devices.

**Example: MB39C015 evaluation board**

**Example: MB39C015 connection diagram**

**Example: MB39C014 evaluation board**

**Example: MB39C014 connection diagram**

---

**Lineup of power management ICs**

### AC/DC converter

<table>
<thead>
<tr>
<th>Model</th>
<th>Oscillation frequency (maximum)</th>
<th>Power supply voltage</th>
<th>Maximum output current</th>
<th>Package</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB3759</td>
<td>300kHz</td>
<td>7V to 32V</td>
<td>200mA</td>
<td>SOP16</td>
<td>TL494</td>
</tr>
<tr>
<td>MB3769A</td>
<td>700kHz</td>
<td>12V to 18V</td>
<td>100mA peak 600mA</td>
<td>SOP16</td>
<td>Power MOS FET</td>
</tr>
</tbody>
</table>

Used in a range of power supplies for products such as computers, printers, VCRs, and circuit boards for upright pinball machines (used in pachinko parlors).

### General-purpose DC/DC converter

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of channels</th>
<th>Oscillation frequency (maximum)</th>
<th>Power supply voltage</th>
<th>Reference voltage accuracy</th>
<th>Package</th>
<th>Shop up</th>
<th>Shop down</th>
<th>Chopper method</th>
<th>FET compatible</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB3800</td>
<td>1ch</td>
<td>1MHz</td>
<td>1.8V to 15V</td>
<td>±4%</td>
<td>SOP8, SSOP8, TSSOP16</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Not available</td>
</tr>
<tr>
<td>MB3817</td>
<td>1ch</td>
<td>500kHz</td>
<td>2.5V to 18V</td>
<td>±2%</td>
<td>SSOP16</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Not available</td>
</tr>
<tr>
<td>MB3885</td>
<td>1ch</td>
<td>500kHz</td>
<td>5.5V to 18V</td>
<td>±1%</td>
<td>SSOP20</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB3775</td>
<td>2ch</td>
<td>500kHz</td>
<td>3.6V to 18V</td>
<td>±1.5%</td>
<td>SOP16, SSOP16</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Not available</td>
</tr>
<tr>
<td>MB3778</td>
<td>2ch</td>
<td>500kHz</td>
<td>3.6V to 18V</td>
<td>±2%</td>
<td>SOP16, SSOP16</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Not available</td>
</tr>
<tr>
<td>MB3821</td>
<td>2ch</td>
<td>500kHz</td>
<td>4.5V to 30V</td>
<td>±2%</td>
<td>SSOP24</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB3882</td>
<td>2ch</td>
<td>500kHz</td>
<td>5.5V to 18V</td>
<td>±1%</td>
<td>SSOP24</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB3889</td>
<td>2ch</td>
<td>500kHz</td>
<td>5.5V to 18V</td>
<td>±1%</td>
<td>TSSOP30</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB39A06</td>
<td>2ch</td>
<td>500kHz</td>
<td>6.5V to 18V</td>
<td>±1%</td>
<td>TSSOP30</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB39A116</td>
<td>2ch</td>
<td>500kHz</td>
<td>6.5V to 18V</td>
<td>±1%</td>
<td>TSSOP30</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB39A104</td>
<td>2ch</td>
<td>1.5MHz</td>
<td>7V to 19V</td>
<td>±1%</td>
<td>SSOP24</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB39C015</td>
<td>2ch</td>
<td>2MHz</td>
<td>4.5V to 17V</td>
<td>±1%</td>
<td>SSOP16</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB39C011A</td>
<td>2ch</td>
<td>2MHz</td>
<td>4.5V to 17V</td>
<td>±1%</td>
<td>TSSOP16</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB3782</td>
<td>3ch</td>
<td>500kHz</td>
<td>3.6V to 18V</td>
<td>±2%</td>
<td>SOP20</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Not available</td>
</tr>
<tr>
<td>MB39A112</td>
<td>3ch</td>
<td>2.6MHz</td>
<td>7V to 25V</td>
<td>±1%</td>
<td>TSSOP30</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>Available</td>
</tr>
</tbody>
</table>

Recommended:  Possible:  Not available:  Soft start function:  Open corrector:  Not available:  Open corrector:  Not available:  Open corrector:  Not available:  Individual channel control:  Soft start possible:  Used in a wide range of power supplies, such as those for LCD backlights, car navigation systems, games, audio systems, portable devices, etc.

### DC/DC Converters with Built-In Switching FET

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of channels</th>
<th>Oscillation frequency (maximum)</th>
<th>Power supply voltage</th>
<th>Reference voltage accuracy</th>
<th>Package</th>
<th>Shop up</th>
<th>Shop down</th>
<th>Chopper method</th>
<th>FET compatible</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB39C014</td>
<td>1ch</td>
<td>2MHz</td>
<td>2.5V (output voltage)</td>
<td>±4%</td>
<td>800mA (for SON10)</td>
<td>0.321</td>
<td>0.21i</td>
<td>SON10 BCC10</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>MB39C015</td>
<td>2ch</td>
<td>2MHz</td>
<td>2.5V (output voltage)</td>
<td>±4%</td>
<td>800mA (for QFN24)</td>
<td>0.321</td>
<td>0.21i</td>
<td>QFN24 BCC20 SSOP20</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Internal power supply suited to portable devices such as mobile phones, PDAs and DSCs, DVD players and hard disk drives.
### DC/DC converter for DSC/camcorders

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of channels</th>
<th>Oscillation frequency (maximum)</th>
<th>Power supply voltage (maximum)</th>
<th>Internal voltage (output)</th>
<th>Package</th>
<th>Step up</th>
<th>Step down</th>
<th>Step up/down</th>
<th>Inveter</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB3765A</td>
<td>4ch</td>
<td>1MHz</td>
<td>4.5V to 18V</td>
<td>±1%</td>
<td>LQFP48</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Not available</td>
</tr>
<tr>
<td>MB38A02</td>
<td>4ch</td>
<td>1.5MHz</td>
<td>2.5V to 11V</td>
<td>±1%</td>
<td>TSSOP30, BCC32</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A03</td>
<td>4ch</td>
<td>1.5MHz</td>
<td>1.7V to 11V</td>
<td>±1%</td>
<td>TSSOP30, BCC32</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A10</td>
<td>4ch</td>
<td>2MHz</td>
<td>2.5V to 11V</td>
<td>±1%</td>
<td>TSSOP38</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A08</td>
<td>5ch</td>
<td>2MHz</td>
<td>1.7V to 11V</td>
<td>±1%</td>
<td>TSSOP38, BCC32</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A11S</td>
<td>6ch</td>
<td>800kHz</td>
<td>2.5V to 12V</td>
<td>±1%</td>
<td>LQFP64</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Not available</td>
</tr>
<tr>
<td>MB38A23</td>
<td>6ch</td>
<td>1MHz</td>
<td>1.7V to 9V</td>
<td>±1%</td>
<td>LQFP48, BCC48</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A23S</td>
<td>6ch</td>
<td>1MHz</td>
<td>1.7V to 11V</td>
<td>±1%</td>
<td>LQFP48, BCC48++</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>–</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A31</td>
<td>8ch</td>
<td>800kHz</td>
<td>1.8V to 13V</td>
<td>±1%</td>
<td>LQFP64</td>
<td>–</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>Available</td>
</tr>
</tbody>
</table>

**Remarks**

- **Used in portable products such as digital still cameras and camcorders.**
- **Recommended O:** Possible with the addition of outside parts.

### Monitoring of power supply voltage

<table>
<thead>
<tr>
<th>Model</th>
<th>Function</th>
<th>Detection voltage</th>
<th>Power supply voltage</th>
<th>Package</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB3751</td>
<td>Voltage detector</td>
<td>1.2 V (reference voltage)</td>
<td>2.5V to 40V</td>
<td>SOP8</td>
<td>–</td>
</tr>
<tr>
<td>MB3771</td>
<td>Power supply voltage monitor</td>
<td>Voltages other than 4.2 V</td>
<td>3.5V to 18V</td>
<td>SOP8</td>
<td>–</td>
</tr>
<tr>
<td>MB3773</td>
<td>Power supply voltage monitor + watchdog timer</td>
<td>optionally available</td>
<td>3.5V to 16V</td>
<td>SOP8</td>
<td>–</td>
</tr>
<tr>
<td>MB379-XX</td>
<td>Power supply voltage monitor with dual-system watchdog timer</td>
<td>4.5V(-45), 4.2V(-42), 3.7V(-36), 3.0V(-30), 2.7V(-27), 2.5V(-25), 2.0V(-20), 1.8V(3A), 1.7V(3A), 1.5V(3A), 2.0V(1A), 2.4V(1A)</td>
<td>SOP8, SSOP8</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

**Used in portable products and various applications, including automobiles, hot water systems, copiers, VCRs, hard disk drives, general OA equipment, measuring instruments, and pacemakers/patient care machines.**

### For rechargeable batteries (for charging control)

<table>
<thead>
<tr>
<th>Model</th>
<th>Oscillation frequency (maximum)</th>
<th>Power supply voltage</th>
<th>Output voltage</th>
<th>Accuracy</th>
<th>Package</th>
<th>Method</th>
<th>FET compatible</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB38A32A</td>
<td>500kHz</td>
<td>3.6V to 18V</td>
<td>Optional</td>
<td>±0.5%</td>
<td>±1.0%</td>
<td>SSOP20</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>12.6V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37B</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>12.6V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37C</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>16.8V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37D</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>4.2V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37E</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>4.2V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37F</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>4.2V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37G</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>4.2V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
<tr>
<td>MB38A37H</td>
<td>500kHz</td>
<td>7V to 25V</td>
<td>4.2V</td>
<td>±0.8%</td>
<td>±1.0%</td>
<td>SSOP24</td>
<td>Stop down</td>
<td>Available</td>
</tr>
</tbody>
</table>

**Used in portable products that use Li-ion batteries, such as notebook computers.**

### Power management switches

<table>
<thead>
<tr>
<th>Model</th>
<th>Consumption current</th>
<th>On resistance</th>
<th>Drive current</th>
<th>Switch voltage</th>
<th>Package</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB38A41</td>
<td>0A(Sw OFF)</td>
<td>0.04Ω</td>
<td>2A(Max)</td>
<td>5.5V(Max)</td>
<td>SOP8</td>
<td>1 channel USB</td>
</tr>
<tr>
<td>MB38A42</td>
<td>0A(Sw OFF)</td>
<td>0.1Ω</td>
<td>0.6A(Max)</td>
<td>5.5V(Max)</td>
<td>SSOP20</td>
<td>2 channel USB</td>
</tr>
</tbody>
</table>

**Used in notebook computers with power management functions.**