



SKYWORKS[®]
BREAKTHROUGH SIMPLICITY

Applications

- White LED drivers
- Smartphones
- Tablets
- Digital still cameras
- Digital video cameras
- LED flash lights

Features

- V_{IN} range: 2.5 to 5.5 V
- High efficiency
- High accuracy
- Common cathode and common anode solutions
- Charge pump, synchronous inductive boost, and super capacitor solutions
- Comprehensive integrated safety features
- Simple GPIO, I²C, AS²Cwire™, or S²Cwire™ control
- Small solution size with minimal external components
- WLCSP and leaded package options
- -40 °C to +85 °C temperature range
- Skyworks Green™ packaging

LED Camera Flash Drivers

Skyworks' power, lighting, and display product portfolio includes industry-leading, light emitting diode (LED) camera flash driver solutions which enable longer battery life and deliver enhanced picture quality for smartphones, tablets, cameras, and other portable devices. These products are ideal for camera flash applications where low noise, low profile, image quality, system safety, and efficiency are critical. Skyworks offers a broad range of flash drivers from lower current charge, pump-based architectures to high current, synchronous inductive boost solutions to super capacitor-based products to address a wide range of single and dual LED camera flash applications.

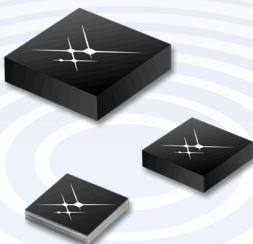
Skyworks' products simplify designs, reducing component count, and decreasing overall solution size for original equipment manufacturers (OEMs). Additionally, Skyworks' flash drivers come with a full complement of built-in safety features ensuring system robustness to multiple fault conditions.

Our LED camera flash driver products leverage the extensive design knowledge, technical leadership, manufacturing expertise, and superior quality of Skyworks.

The devices use simple GPIO control, industry-standard inter-integrated circuit (I²C) serial digital input, or either Skyworks' patented Advanced Simple Serial Control™ (AS²Cwire™) single wire serial interface, or Simple Serial Control™ (S²Cwire™) serial digital interface to manage flash events and configure flash driver settings.

An application engineering team is available to assist you and with your design efforts. Application notes and block diagrams are accessible on Skyworks' Web site: www.skyworksinc.com.

Please refer to our Web site for Gerber files, which are available for some serial boost camera LED flash driver products.



Product Specifications

Electrical specification tables for our broad offering of serial boost camera LED flash driver and Charge Pump™ camera LED flash driver products are provided in Tables 1 and 2 below.

Table 1. Charge Pump™ Camera LED Flash Drivers























Part Number	Flash I _{OUT} Total (mA)	Movie Mode I _{OUT} Total (mA)	LED Channels	Min. V _{IN}	Max. V _{IN}	Max. V _{OUT}	Peak Efficiency (%)	Interface	Typ. I _Q (μA)	Max. Shutdown Current (μA)	Package (mm)
 AAT3175	300	N/A	4	2.7	5.5	N/A	95	S ² Cwire™	300	1	TDFN33 12L 3 x 3 x 0.75
 AAT3112	500	200	2	2.7	5.0	5.0	85	Enable	26	1	QFN33 16L 3 x 3 x 0.85
 AAT3176	500	100	1	2.7	5.5	5.5	93	S ² Cwire™	500	1	TDFN 10L 2.2 x 2.2 x 0.75
 AAT3176A	500	100	1	2.7	5.5	5.5	93	S ² Cwire™	500	1	TDFN 10L 2.2 x 2.2 x 0.75
 AAT3170	600	200	2	2.7	5.5	4.9	90	AS ² Cwire™	300	1	TDFN33 12L 3 x 3 x 0.75
 AAT3172	600	100	2	2.7	5.5	4.9	93	AS ² Cwire™	300	1	TDFN33 12L 3 x 3 x 0.75
 AAT3171	800	200	1	2.7	5.5	N/A	92	S ² Cwire™	300	1	TDFN33 12L 3 x 3 x 0.75
 AAT3174	800	200	1	2.7	5.5	N/A	92	S ² Cwire™	300	1	TDFN33 12L 3 x 3 x 0.75
 AAT3177	800	200	1	2.7	5.5	N/A	91	S ² Cwire™	300	1	TDFN 12L 3 x 3 x 0.75
 AAT3177A	800	200	1	2.7	5.5	N/A	91	S ² Cwire™	N/A	1	TDFN33 12L 3 x 3 x 0.75

Table 2. Serial Boost Camera LED Flash Drivers

Part Number	Flash I _{OUT} Total (mA)	Movie Mode I _{OUT} Total (mA)	LED Channels	Min. V _{IN}	Max. V _{IN}	Max. V _{OUT}	Peak Efficiency (%)	Interface	Typ. I _Q (μA)	Max. Shutdown Current (μA)	Package (mm)
 AAT1270	1000	137	2	2.7	5.5	5.5	85	S ² Cwire™	230	1	STDFN33 14L 3 x 3 x 0.55
 AAT1271	1500	206	2	2.7	5.5	5.5	85	AS ² Cwire™	230	1	TDFN33 14L 3 x 3 x 0.75
 AAT1272	1500	206	2	2.7	5.5	5.5	85	I ² C	230	1	TDFN 14L 3 x 3 x 0.75
 AAT1274	1500	206	1	2.7	5.5	5.5	88	AS ² Cwire™	230	1	TDFN33 14L 3 x 3 x 0.75
 AAT1277	1500	100	2	2.7	5.5	5.5	85	Enable	230	1	WLCSP-18
 AAT1278	1500	206	1	2.7	5.5	5.5	88	AS ² Cwire™	230	1	WLCSP 12 2.235 x 1.535 x 0.63
 AAT1282	2000	274	2	2.7	5.5	N/A	80	I ² C	570	1	TDFN33 14L 3 x 3 x 0.75
 AAT1290	1500	206	1	2.7	5.5	5.5	85	AS ² Cwire™	230	1	TDFN33 14L 3 x 3 x 0.75
 SKY81279	1500	143	1	2.7	5.5	5.5	88	AS ² Cwire™	230	1	TDFN23 14L 2 x 3 x 0.75
 SKY81290	1500	143	1	2.7	5.5	5.5	88	AS ² Cwire™	230	1	TDFN 14L 3 x 3 x 0.75 TDFN 14L 3 x 2 x 0.75
 SKY81292	1800	200	1	2.5	5.5	5.5	90	I ² C	75	1	WLCSP 16B 2 x 2 x 0.445

 Skyworks' Green™ products are compliant to all applicable materials legislation and are halogen-free. For additional information, please refer to Skyworks Definition of Green™, document number SQ04-0074. New products indicated in **blue, bold** are continually being introduced at Skyworks.

Reference Materials

Application Notes

For additional information, please refer to the following application notes.

The S²Cwire™ Serial Digital Interface in Real-time Systems, document number 202737

AAT1270/AAT1271: Programming LED Current During Flash Operation, document number 202373

Block Diagrams

Please visit http://www.skyworksinc.com/BlockDiagrams_Power_Management.aspx for a complete library of Skyworks' power management block diagrams.

You can also visit <http://www.skyworksinc.com> for the full list of Skyworks' block diagrams representing our broad product portfolio.

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For the latest information, please visit our Web site at www.skyworksinc.com, contact your local sales office, or email us at sales@skyworksinc.com.



- Sales Offices
- ◆ Design Centers
- ★ Manufacturing

www.skyworksinc.com

USA

Headquarters: Massachusetts

Skyworks Solutions, Inc.
20 Sylvan Road
Woburn, MA 01801
Telephone: (781) 376-3000
Fax: (781) 376-3100
sales@skyworksinc.com

California

Skyworks Solutions, Inc.
5221 California Avenue
Irvine, CA 92617
Telephone: (949) 231-3000
Fax: (949) 231-3206
sales@skyworksinc.com

Skyworks Solutions, Inc.
3230 Scott Boulevard
Santa Clara, CA 95054
Telephone: (408) 330-1400
Fax: (408) 737-4611
sales@skyworksinc.com

Maryland

Skyworks Solutions, Inc.
5520 Adamstown Road
Adamstown, MD 21710
Telephone: (301) 695-9400
Fax: (301) 695-7065
transtech@skyworksinc.com

EUROPE

France

Skyworks Solutions, Inc.
60 rue Saint André des Arts
Bâtiment D
75006 Paris
France
Telephone: +33 1 43548540
Fax: +33 1 43540005
irene.pfeiffer@skyworksinc.com

United Kingdom

Skyworks Solutions, Ltd.
South Building
Walden Court
Parsonage Lane
Bishops Stortford
Hertfordshire CM23 5DB
United Kingdom
Telephone: +44 7585 964479
Fax: +44 01279 464201
daniel.godsiff@skyworksinc.com

Finland

Skyworks Solutions, Inc.
Keilaranta 16 (5th Floor)
FIN-02150 Espoo
Finland
Telephone: +358 9251 07131
Fax: +358 9 2510 7129
tommi.hiillos@skyworksinc.com

ASIA • PACIFIC

China

Skyworks Solutions, Inc.
Room 2901-02, Chong Hing
Finance Center
No. 288 Nanjing Road (W)
Shanghai 200003 China PRC
Telephone: +86 21 23066230
ext. 60167
Fax: +86 21 33663398
elaine.zhao@skyworksinc.com

Skyworks Solutions, Inc.
Room 2701, 27/F Tower 3
Kerry Plaza
No. 1 Zhongxinsi Road
Futian District
Shenzhen 518048 China PRC
Telephone: +86 755 8828 8399
Fax: +86 755 8828 8358
jesse.li@skyworksinc.com

Skyworks Solutions, Inc.
Suite 1315, Tower B, COFCO Plaza, No. 8
Jianguomennei Avenue
Dongcheng District
Beijing 100005 China PRC
Telephone: +8610 652 60859
ext. 61602
Fax: +8610 652 61358
abby.huang@skyworksinc.com

Japan

Skyworks Solutions Co., Ltd.
Tokyo Opera City Tower 36F
3-20-2 Nishi-Shinjuku
Shinjuku-ku
Tokyo, 163-1436
Japan
Telephone: +81 3 5308 5180
Fax: +81 3 5308 5190
ahihiro.karikomi@skyworksinc.com

Korea

Skyworks Solutions, Inc.
12th Floor West Wing Posco Center
892 Daechi 4-Dong, Kangnam-Gu
Seoul, Korea 135-777
Telephone: +82 2 3490 3800
Fax: +82 2 553 5459
juhee.lee@skyworksinc.com

Singapore

Skyworks Global Pte Ltd.
10 Ang Mo Kio Street 65
#05-15/16 Techpoint
Singapore 569059
Telephone: +65 64031971
Fax: +65 64031931
yuenfong.choong@skyworksinc.com

Taiwan

Skyworks Solutions, Inc.
4 F, #198, Section 2
Tun Hwa S. Road
Taipei 106, Taiwan ROC
Telephone: +8862 5559 8992
Fax: +8662 2735 6508
joanna.wu@skyworksinc.com

Skyworks Solutions, Inc.

20 Sylvan Road, Woburn, MA 01801
USA: (781) 376-3000 • Asia: 886 2 2735 0399
Europe: 33 (0)1 43548540 • Fax: (781) 376-3100
Email: sales@skyworksinc.com • www.skyworksinc.com

