



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

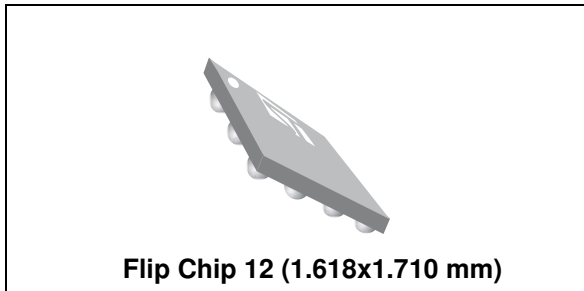
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



100 mA triple DC-DC converter for powering AMOLED displays

Data brief



Features

- Operating input voltage range from 2.9 V to 4.5 V
- 100 mA output current for step-up converters ($V_{IN} > 2.9$ V)
- 55 mA output current for auxiliary step-up converters ($V_{IN} > 2.9$ V)
- Step-up converter fixed at 4.6 V positive voltage
- Programmable negative voltage from - 0.8 V to - 4.6 V default -3.0 V
- Auxiliary step-up converter positive voltage programmable step from 6.6 V to 7.6 V default 7.0 V
- Soft-start with inrush current protection
- Overtemperature protection
- True-shutdown mode
- Short-circuit protection
- Package Flip Chip 12 bumps (1.618x1.710 mm), 0.4 mm pitch

Applications

- Active matrix OLED power supply in portable devices
- Cellular phones, multimedia players, camcorders and digital cameras

Description

The STOD32W is a triple DC-DC converter for AMOLED display panels. It integrates a step-up of 100 mA, inverting DC-DC converters and an auxiliary step-up converter. This device is particularly suitable for battery operated products, in which the major concern is the overall system efficiency. All three output voltages can be programmed by a dedicated pin, which implements S_{WIRE} protocol. The auxiliary step-up positive output voltage is also configured by an external pull-down resistor. Soft-start with controlled inrush current limit, thermal shutdown and short-circuit protection are integrated functions of the device.

Table 1. Device summary

Order code	Negative voltage	Auxiliary positive voltage	Package	Packaging
STOD32WJR	-0.8 to -4.6 V	6.6 to 7.6 V	Flip Chip 12 (1.618x1.710 mm)	5000 parts per reel

1 Application schematic

Figure 1. Application schematic

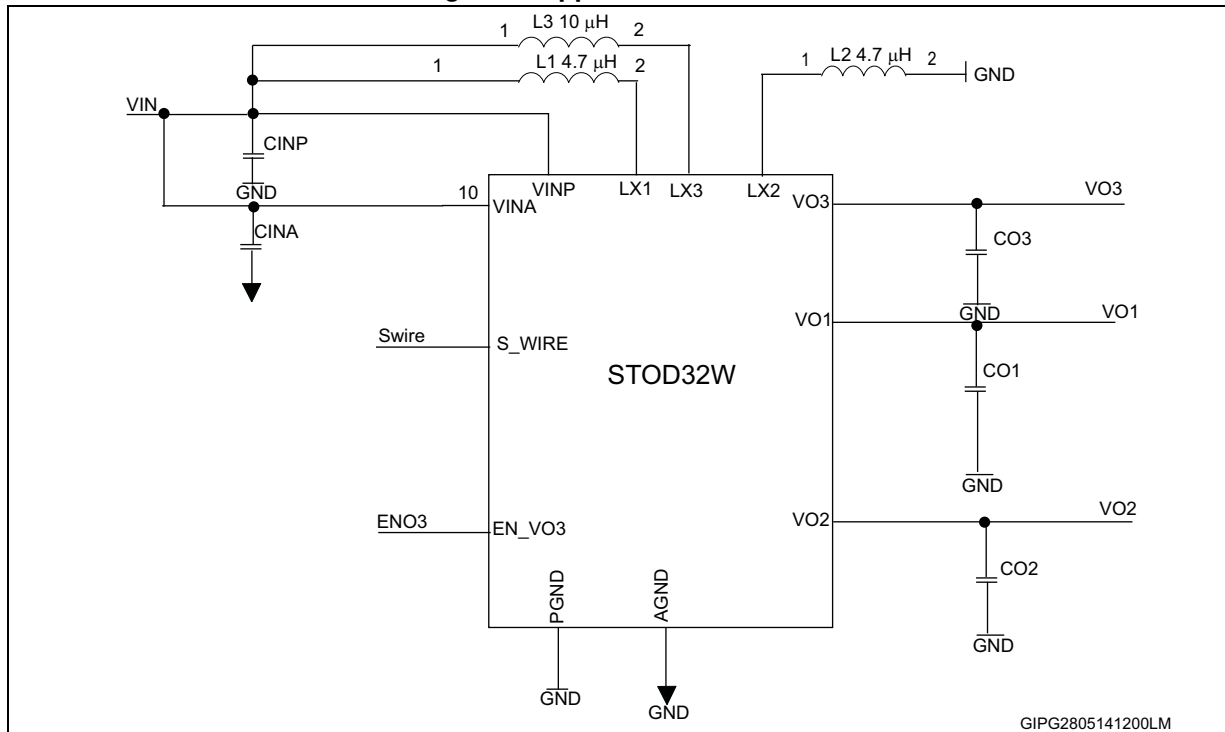


Table 2. Typical external components

Reference	Manufacturer	Part Number	Value	Size	Ratings
L1, L2, L3	TOKO	1239AS-H-100N=P2	10 μH	2520 1.2T	1.0 A 0.460 Ω
	CYNTEC	PITB20161T-100MDR		2016 1.0T	0.8 A 0.750 Ω
C1NP, C1NA, CO1, CO2, CO3	SEMCO	CL10A226MP8NUN CL05A106MP5NUN	22 μF 10 μF	1608 1005	X5R 10 V ±20%

Note: All the above components refer to the typical application performance characteristics. Operation of the device is not limited to the choice of these external components.

2 Package mechanical data

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK[®] packages, depending on their level of environmental compliance. ECOPACK[®] specifications, grade definitions and product status are available at: www.st.com. ECOPACK[®] is an ST trademark.

Figure 2. Flip Chip 12 (1.618x1.710 mm) drawings

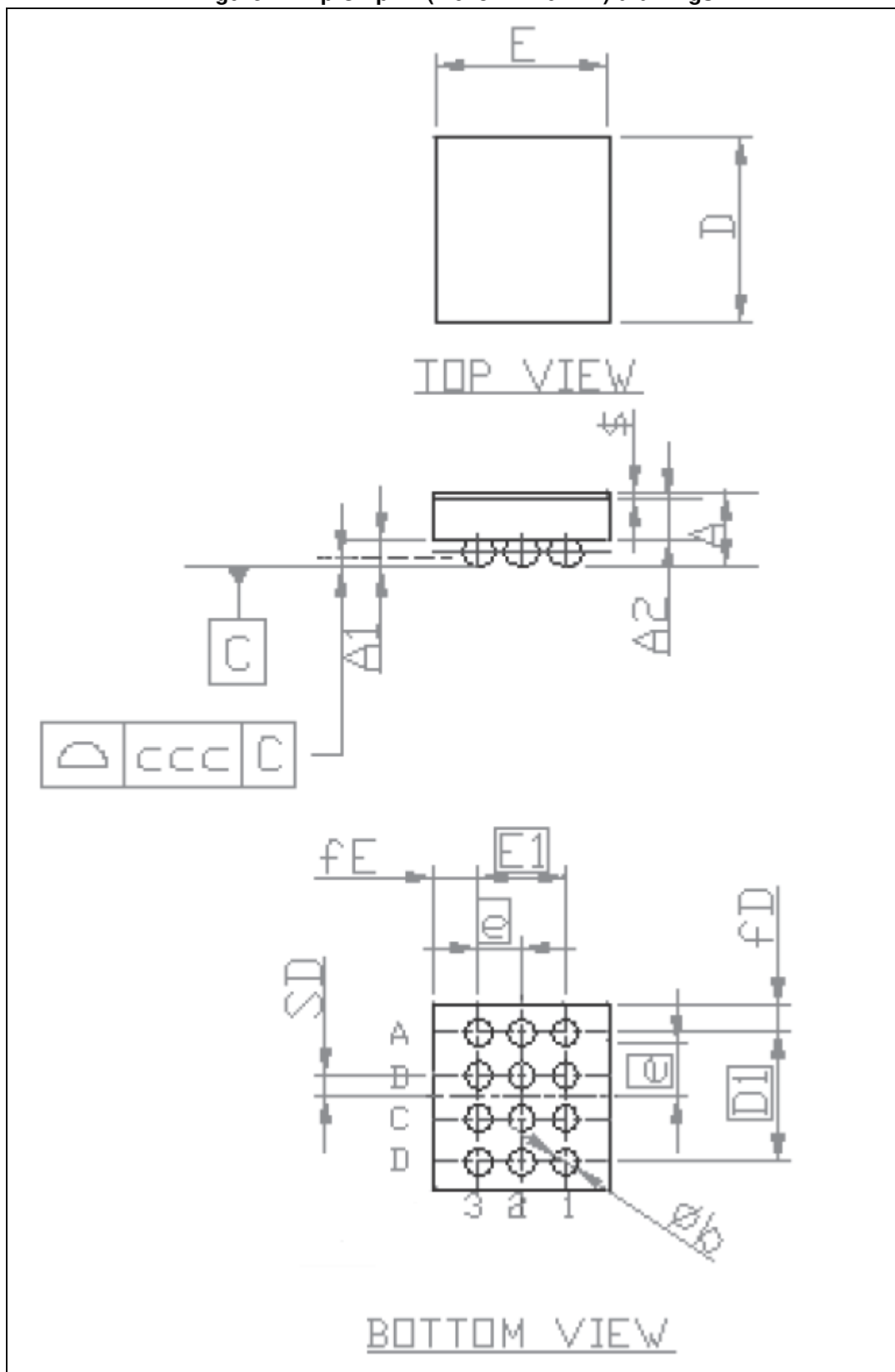
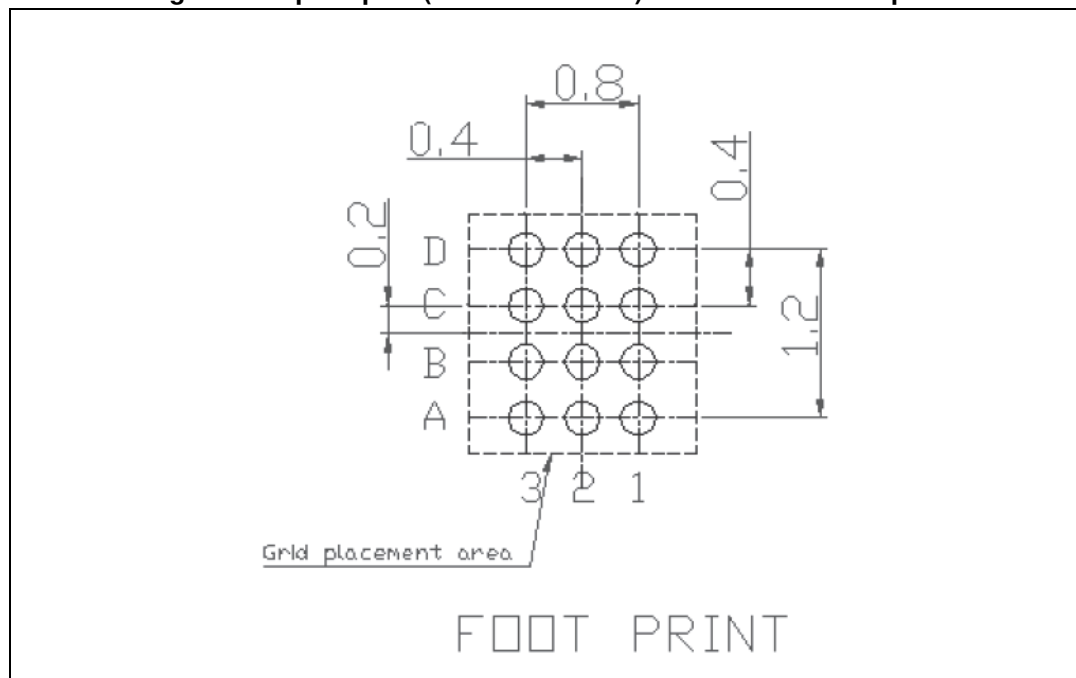


Table 3. Flip Chip 12 (1.618x1.710 mm) mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	0.49	0.55	0.61
A1	0.17	0.20	0.23
A2	0.27	0.30	0.33
b	0.23	0.26	0.29
D	1.68	1.71	1.74
D1		1.20	
E	1.588	1.618	1.648
E1		0.80	
e		0.40	
fD		0.255	
fE		0.409	
SD		0.20	
ccc		0.08	
\$		0.05	

Figure 3. Flip Chip 12 (1.618x1.710 mm) recommended footprint



Note: All dimensions are in mm.

3 Revision history

Table 4. Document revision history

Date	Revision	Changes
04-Jun-2014	1	Initial release.

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

ST PRODUCTS ARE NOT DESIGNED OR AUTHORIZED FOR USE IN: (A) SAFETY CRITICAL APPLICATIONS SUCH AS LIFE SUPPORTING, ACTIVE IMPLANTED DEVICES OR SYSTEMS WITH PRODUCT FUNCTIONAL SAFETY REQUIREMENTS; (B) AERONAUTIC APPLICATIONS; (C) AUTOMOTIVE APPLICATIONS OR ENVIRONMENTS, AND/OR (D) AEROSPACE APPLICATIONS OR ENVIRONMENTS. WHERE ST PRODUCTS ARE NOT DESIGNED FOR SUCH USE, THE PURCHASER SHALL USE PRODUCTS AT PURCHASER'S SOLE RISK, EVEN IF ST HAS BEEN INFORMED IN WRITING OF SUCH USAGE, UNLESS A PRODUCT IS EXPRESSLY DESIGNATED BY ST AS BEING INTENDED FOR "AUTOMOTIVE, AUTOMOTIVE SAFETY OR MEDICAL" INDUSTRY DOMAINS ACCORDING TO ST PRODUCT DESIGN SPECIFICATIONS. PRODUCTS FORMALLY ESCC, QML OR JAN QUALIFIED ARE DEEMED SUITABLE FOR USE IN AEROSPACE BY THE CORRESPONDING GOVERNMENTAL AGENCY.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2014 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com