

AC-DC switch mode power supply

Features

- Wide range input voltage
- MTBF > 400000 hours at 50 °C
- Lifetime 79000 hours at 50 °C
- Operating temperature range - 40 ÷ 85 °C
- Input fuse protection
- Output short circuit protection
- Low stand by power
- Compliance to: EN60950, EN55014-1, EN55014-2, EN60730-1, EN60730-2-9, EN61010-1, UL60950, CAN/CSA-C22.2 No. 60950-00
- Electrical test on 100 % production
- Protected with resin UL conform, RoHS compliant

Description

ST's power modules are highly integrated, high efficiency switch mode converters.

The SPAC265-3W isolated series delivers 3 W at 12 V from universal AC input. It is an immediate drop-in solution requiring no additional external circuitry.

The power supply modules are fully encapsulated offline board-mount devices suited for main and auxiliary power requirements in appliance, industrial and communication application.

The open frame version is intended to offer a low-cost version of ST's easy to use, compact size power modules.

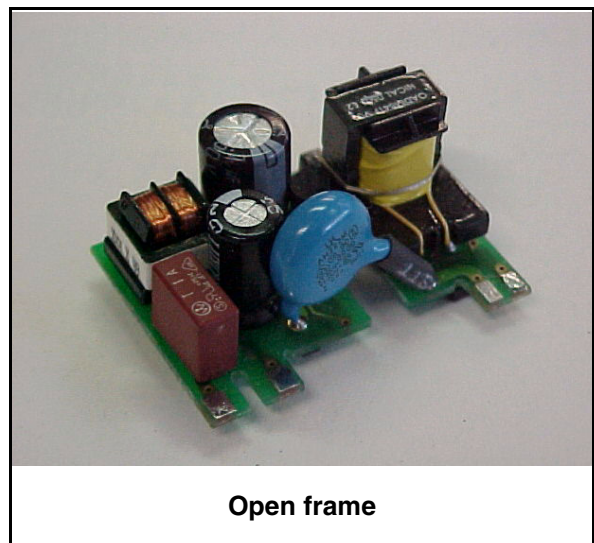
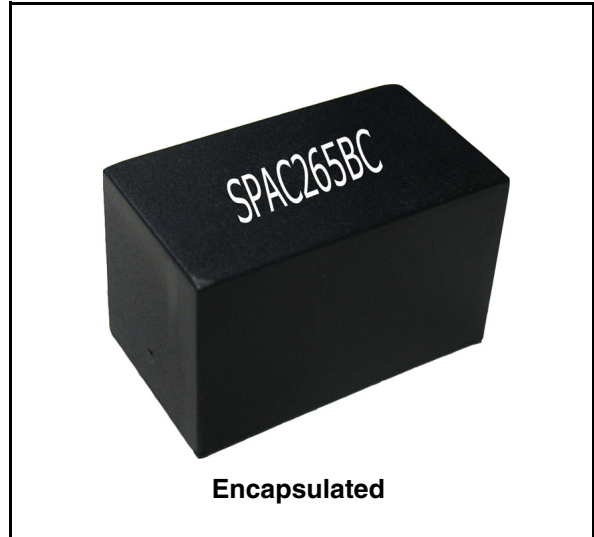


Table 1. Device summary

Order codes	Package
SPAC265BC12P0.30	Encapsulated
SPAC265FC12P0.30	Open frame

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1 Specifications

Table 2. Specifications
(Typical at 25 °C and after warm up unless otherwise specified)

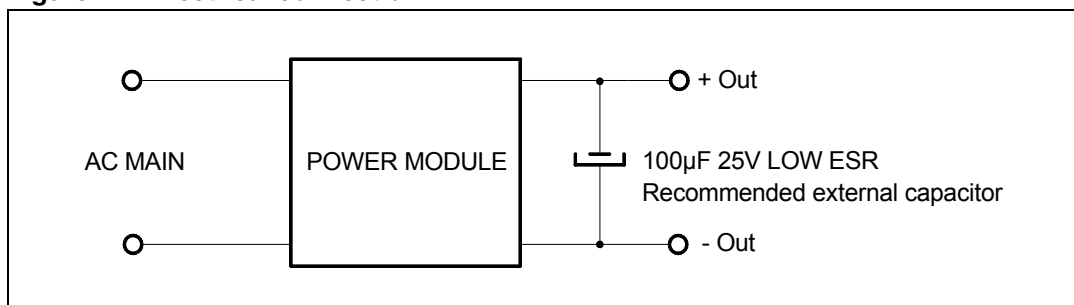
Symbol	Parameter	Test condition	Min	Typ	Max	Unit
V_i	Input voltage	Nominal voltage value	90		264	VAC
			120		370	VDC
W_o	Rated power				3	W
f_i	Input frequency range	AC input	47		440	Hz
I_C	Input current - full load	115 VAC			0.4	A
		230 VAC			0.2	
I_{INR}	Inrush current	Pulse < 10 ms				A
		115 VAC			5	
		250 VAC			10	
I_L	Leakage current	50 Hz, 230 VAC			20	μ A
V_O	Output voltage			12		V
V_{OA}	Output voltage accuracy	Full load			± 3	%
V_{OLI}	Line voltage regulation	Low to high line			± 1	%
V_{OLO}	Load voltage regulation	5 % to 10 % full load			± 6	%
I_O	Output current		0		250	mA
f_{SW}	Operating frequency	Self oscillating			300	kHz
E	Efficiency	Full load		80		%
V_{IS}	Isolation voltage	Input to output	3750			VAC
R_{IS}	Isolation resistance	Input to output	100			M Ω
I_{OSH}	Output short-circuit protection	Continuous automatic restart			1	A
T_{OP}	Operating temperature range	Free air convection	-40		85	°C
T_{STG}	Storage temperature range		-40		85	°C
R_H	Relative humidity	Operating conditions			95	%
MTFB	Mean time between failure	According to MIL-HDBK-217E + 50 °C full load	400			Khours
W_E	Weight	Encapsulated			25	g
		Open frame			12	

- Agency approvals
The charger is compliant with most popular safety and EMC requirements, including:
 - EN60950
 - EN55014-1
 - EN55014-2
 - EN60730-1
 - EN60730-2-9
 - EN61010-1
 - UL60950
 - CAN/CSA-C22.2 No. 60950-00

Caution: Module design is performed in accordance with above norms. According to current rules the open frame module can only be certified as part of the customer mother board.

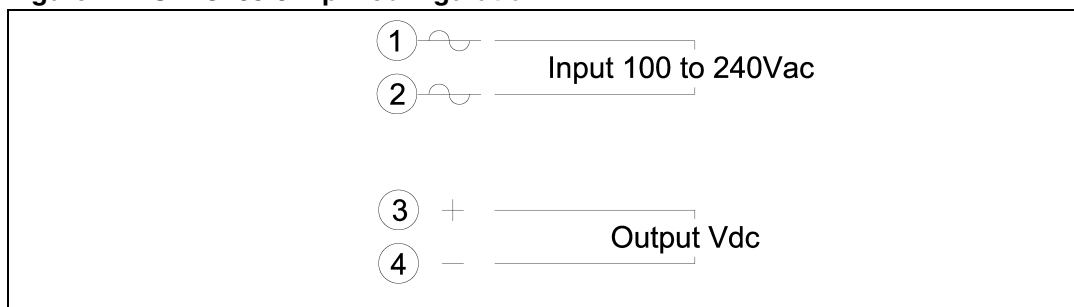
2 Electrical connection

Figure 1. Electrical connection



3 Connection diagram

Figure 2. SPAC265-3W pin configuration



4 Mechanical dimensions

In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a lead-free second level interconnect. The category of second level interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label. ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com

Mechanical dimensions L x W x H = 35 x 20 x 22 on molded box.

Figure 3. SPAC265BC12P0.30 mechanical data (dimensions in mm)

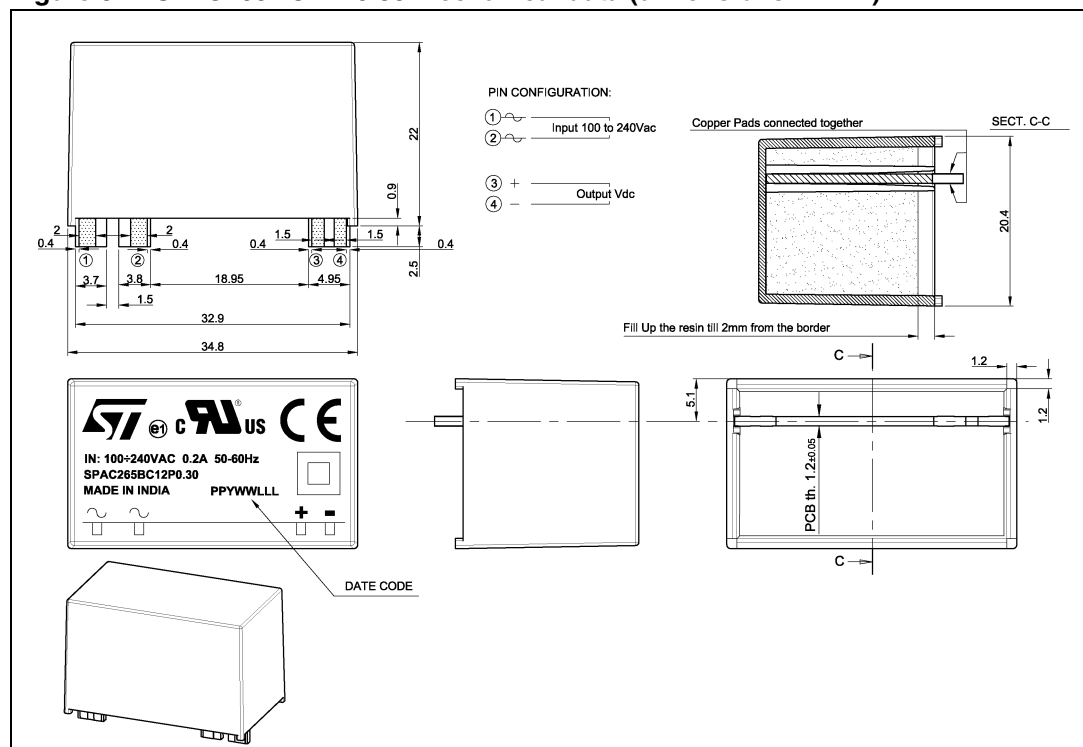
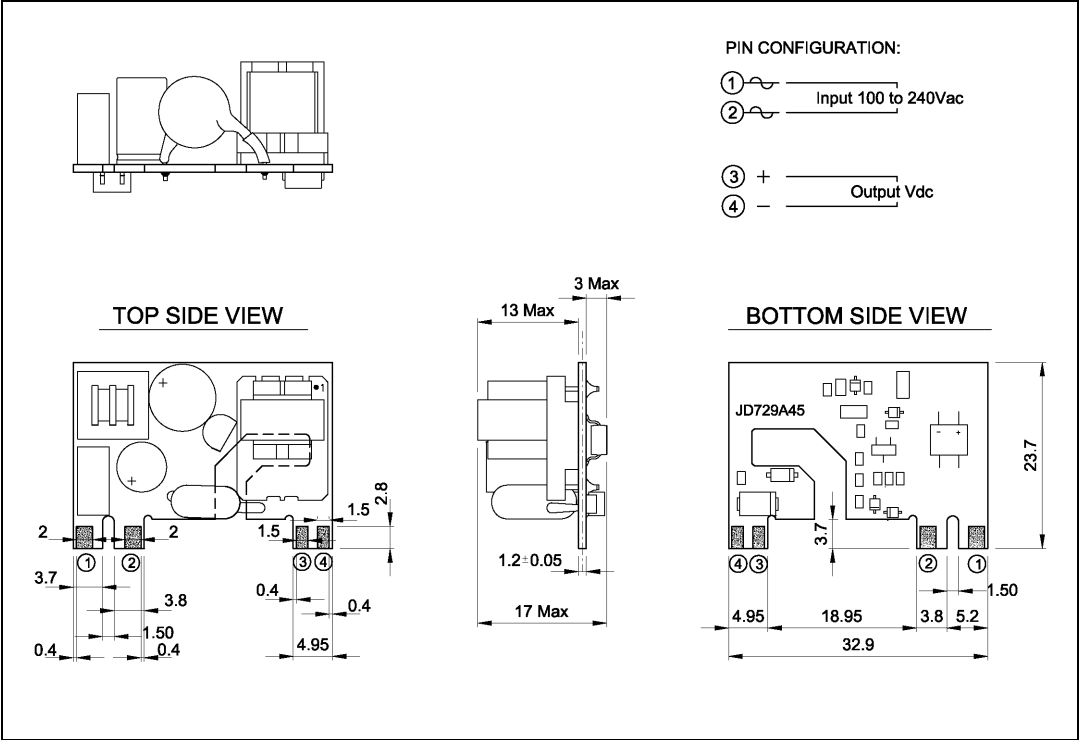


Figure 4. SPAC265FC12P0.30 mechanical data (dimensions in mm)



5 Ordering information scheme

Table 3. Ordering information scheme

	SPAC	265	X	Y	12	Z	0.35
AC-DC converter							
Max V _{AC} input							
F: Open frame	Package						
B: Encapsulated							
C: Comb	Connection						
Typ VDC output							
P: Plus	Output voltage polarity						
M: Minus							
Typ IDC output							

6 Revision history

Table 4. Document revision history

Date	Revision	Changes
11-Oct-2007	1	Initial release
17-Dec-2007	2	Updated: operating temperature range in cover page and Table 2 on page 3
17-Nov-2008	3	Updated: Cover page, Table 1 on page 1 , Table 2 on page 3 , Figure 3 on page 7

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