

HAHN flyback converters with the following characteristics:

- Construction to DIN EN 61 558, DIN EN 60 950
- Operational frequency 10 –500 kHz
- Increased creeping distance 12 mm possible

Insulating material classification

- E/ 120 °C
- B/ 130 °C (optional)
- F/ 155 °C (optional)
- UL 9 –V0 (optional)
- 100 % unleaded

100 % piece inspections

- Inductivity
- Turns ratio
- Winding direction
- Voltage resistance (50 Hz/ 1 s)

Switch Mode Power Supplies with HAHN flyback converters – can be employed for lower and middle range capacities with the structural size quantities EF 12.6 to EF 30.0. Through the use of high-quality of core materials it is possible to reach working frequencies up to the MHz-area.

Considerable know-how and specialist experience in transformer technology for open, encapsulated, impregnated or vacuum encapsulated converters are guarantees for HAHN quality and optimum customer benefit.

Current developments in electronic components involve ever shorter research and development time periods and every greater manufacturing reliability.

HAHN has the opportunity of optimally developing flyback converters for well known manufacturers of regulator controllers, e. g. Power Integration, Infineon, Philips or ON Semiconductor as customer-specific components. These were all rapid-, economic- and high quality problem solutions from HAHN.

Frame size	Output Power*	Packaging unit
EF 12.6/4	up to 5 W	300 pieces
EF 16/5	up to 9 W	176 pieces
EF 20/6	up to 20 W	176 pieces
EF 25/7	up to 45 W	60 pieces
EF 30/7	up to 70 W	48 pieces

* dependent on input voltage range and switch governor type

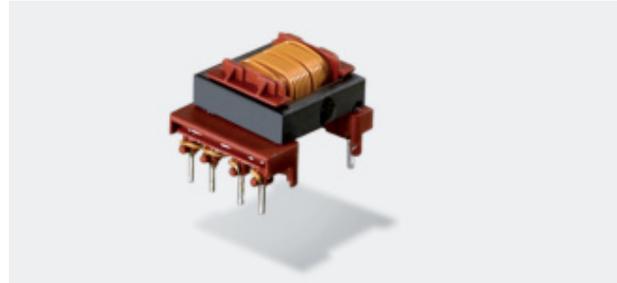


Flyback converters for Switch Mode Power Supplies

EF16/5

Output Power: 5–7 W

Report of passed Glow-Wire-Test	DIN EN 60335-1, clause 30.2.3.1 and 30.2.3.2	102961/84814
	UL 1446	E237745



- according to REACH regulation

- according to RoHS regulation

Further certifications / approvals on request!



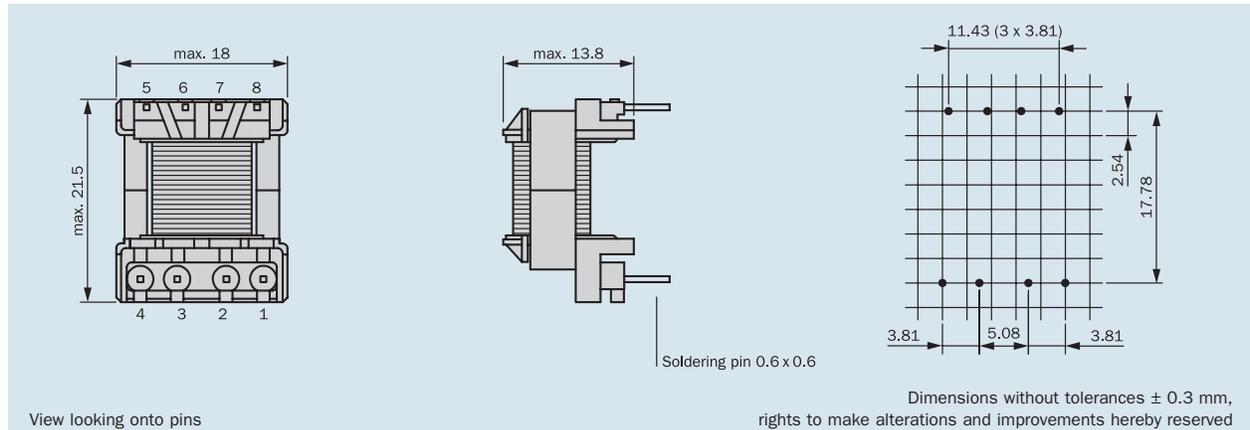
Technical Specifications

- Construction to DIN EN 61 558, DIN EN 60 950
- Creeping distance 8 mm min.
- 100% unleaded
- UL listed materials
- Insulating material classification B (130 °C)
- Two outputs for connection in parallel or in series^(*)

100 % piece inspection

- Inductance
- Turns ratio
- Winding direction
- Voltage resistance (50 Hz/1 s)

Connecting pins



Connection scheme (only connected pins are present)



5 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-II® Product family TNY 264	V 50100*	85 – 265	5 – 8	3	830	1 – 4	3	830	2 – 3
	V 50101*	85 – 265	5 – 8	9	280	1 – 4	9	280	2 – 3
	V 50102*	85 – 265	5 – 8	12	210	1 – 4	12	210	2 – 3
	V 50103*	85 – 265	5 – 8	15	170	1 – 4	15	170	2 – 3

* Two outputs for connection in parallel or in series

5 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-II® Product family TNY 266	V 50104	85 – 265	5 – 8	12	390	1 – 2	3.3	100	3 – 4
	V 50105	85 – 265	5 – 8	24	195	1 – 2	3.3	100	3 – 4
	V 50106	85 – 265	5 – 8	12	375	1 – 2	5	100	3 – 4
	V 50107	85 – 265	5 – 8	24	187	1 – 2	5	100	3 – 4



7 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-III® Product family TNY 276	V 50110*	85 – 265	5 – 8	3	1170	1 – 4	3	1170	2 – 3
	V 50111*	85 – 265	5 – 8	9	390	1 – 4	9	390	2 – 3
	V 50112*	85 – 265	5 – 8	12	290	1 – 4	12	290	2 – 3
	V 50113*	85 – 265	5 – 8	15	230	1 – 4	15	230	2 – 3

* Two outputs for connection in parallel or in series

7 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-III® Product family TNY 276	V 50114	85 – 265	5 – 8	12	555	1 – 2	3.3	100	3 – 4
	V 50115	85 – 265	5 – 8	24	277	1 – 2	3.3	100	3 – 4
	V 50116	85 – 265	5 – 8	12	540	1 – 2	5	100	3 – 4
	V 50117	85 – 265	5 – 8	24	270	1 – 2	5	100	3 – 4

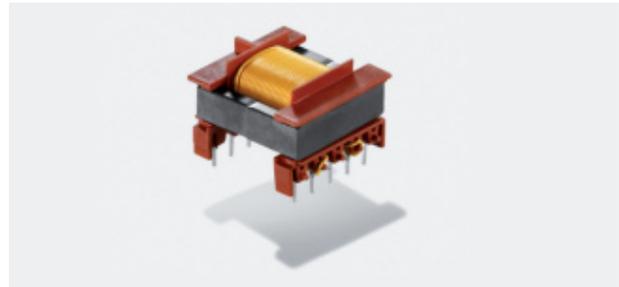


Flyback converters for Switch Mode Power Supplies

EF 20/6

Output Power: 8–16 W

Report of passed Glow-Wire-Test	DIN EN 60335-1, clause 30.2.3.1 and 30.2.3.2	102961/84814
	UL 1446	E237745



- according to REACH regulation
- according to RoHS regulation

Further certifications / approvals on request!



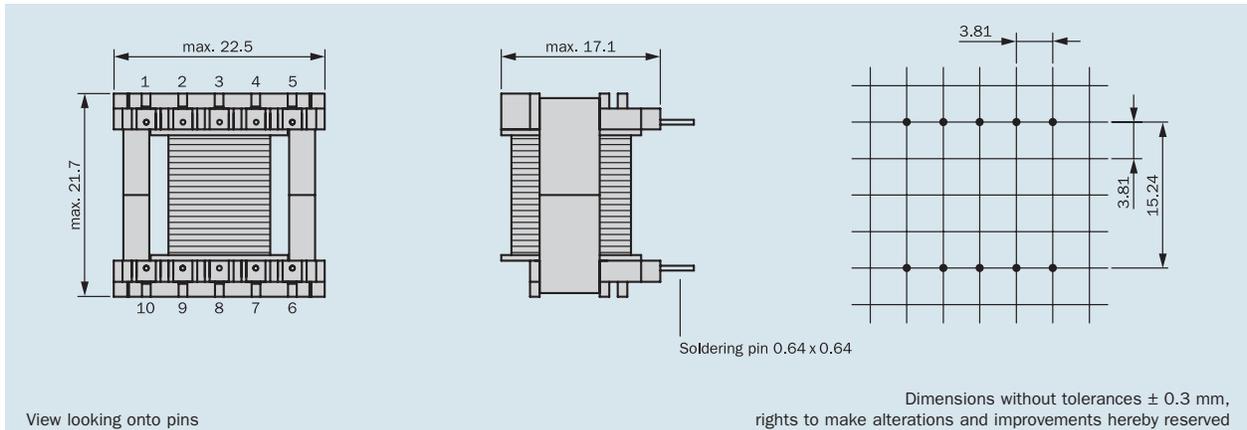
Technical Specifications

- Construction to DIN EN 61 558, DIN EN 60 950
- Creeping distance 4 mm min.
- 100 % unleaded
- UL listed materials
- Insulating material classification E (120°C)
- Two outputs for connection in parallel or in series^(*)

100 % piece inspection

- Inductance
- Turns ratio
- Winding direction
- Voltage resistance (50 Hz/1 s)

Connecting pins



Connection scheme (only connected pins are present)



8 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-II® Product Family TNY 267	V 50200*	85 – 265	1 – 5	3	1330	6 – 10	3	1330	7 – 9
	V 50201*	85 – 265	1 – 5	9	440	6 – 10	9	440	7 – 9
	V 50202*	85 – 265	1 – 5	12	330	6 – 10	12	330	7 – 9
	V 50203*	85 – 265	1 – 5	15	270	6 – 10	15	270	7 – 9

* Two outputs for connection in parallel or in series

8 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-II® Product Family TNY 267	V 50204	85 – 265	1 – 5	12	640	6 – 7	3.3	100	9 – 10
	V 50205	85 – 265	1 – 5	24	320	6 – 7	3.3	100	9 – 10
	V 50206	85 – 265	1 – 5	12	625	6 – 7	5	100	9 – 10
	V 50207	85 – 265	1 – 5	24	312	6 – 7	5	100	9 – 10



16 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-III® Product Family TNY 279	V 50210*	85 – 265	1 – 5	3	2670	6 – 10	3	2670	7 – 9
	V 50211*	85 – 265	1 – 5	9	890	6 – 10	9	890	7 – 9
	V 50212*	85 – 265	1 – 5	12	670	6 – 10	12	670	7 – 9
	V 50213*	85 – 265	1 – 5	15	530	6 – 10	15	530	7 – 9

* Two outputs for connection in parallel or in series

16 W	Order No.	Primary voltage V	Connecting pins prim.	Secondary voltage IV	Current sec. I mA	Connecting pins sec. I	Secondary voltage II V	Current sec. II mA	Connecting pins sec. II
TinySwitch-III® Product Family TNY 278	V 50214	85 – 265	1 – 5	12	1300	6 – 7	3.3	100	9 – 10
	V 50215	85 – 265	1 – 5	24	650	6 – 7	3.3	100	9 – 10
	V 50216	85 – 265	1 – 5	12	1290	6 – 7	5	100	9 – 10
	V 50217	85 – 265	1 – 5	24	645	6 – 7	5	100	9 – 10

8 mm creeping distance

Report of passed Glow-Wire-Test	DIN EN 60335-1, clause 30.2.3.1 and 30.2.3.2	102961/84814
	UL 1446	E237745

Individual version!

All Flyback converters are produced according to customer specifications.

- according to REACH regulation
- according to RoHS regulation

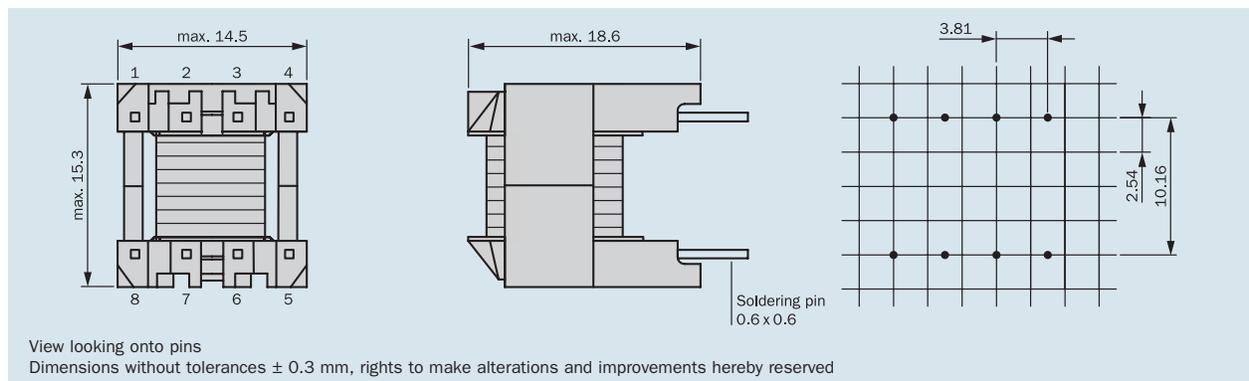
Further certifications / approvals on request!

Current developments in electronic components involve ever shorter research and development time periods and every greater manufacturing reliability.

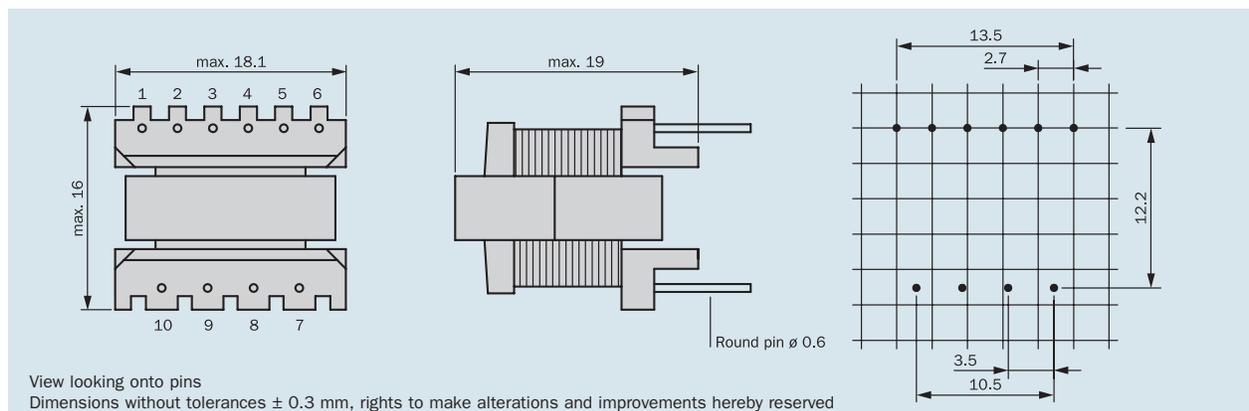
HAHN has the opportunity of optimally developing flyback converters for well known manufacturers of regulator controllers, e.g. Power Integration, Infinion, Philips or ON Semiconductor as customer-specific components. These were all rapid-, economic- and high quality problem solutions from HAHN.



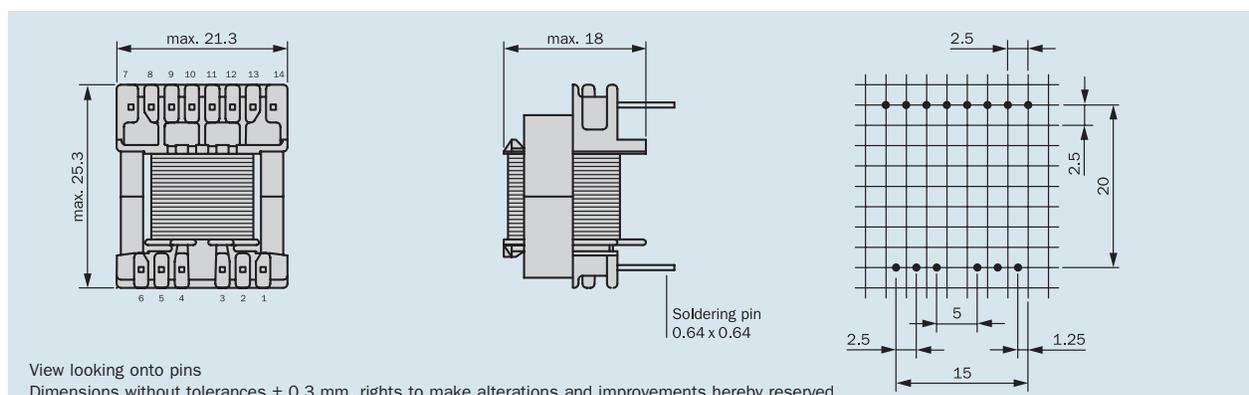
Connecting pins version EF 13/6



Connecting pins version EF 16/5



Connecting pins version EF 20/6



Report of passed Glow-Wire-Test	DIN EN 60335-1, clause 30.2.3.1 and 30.2.3.2	102961/84814
	UL 1446	E237745

Individual version!

All Flyback converters are produced according to customer specifications.

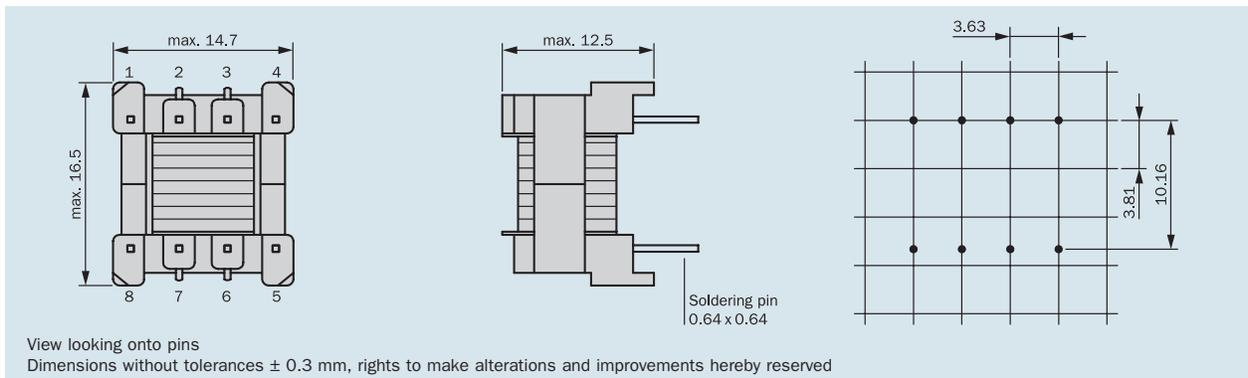
- according to REACH regulation
- according to RoHS regulation

Further certifications / approvals on request!

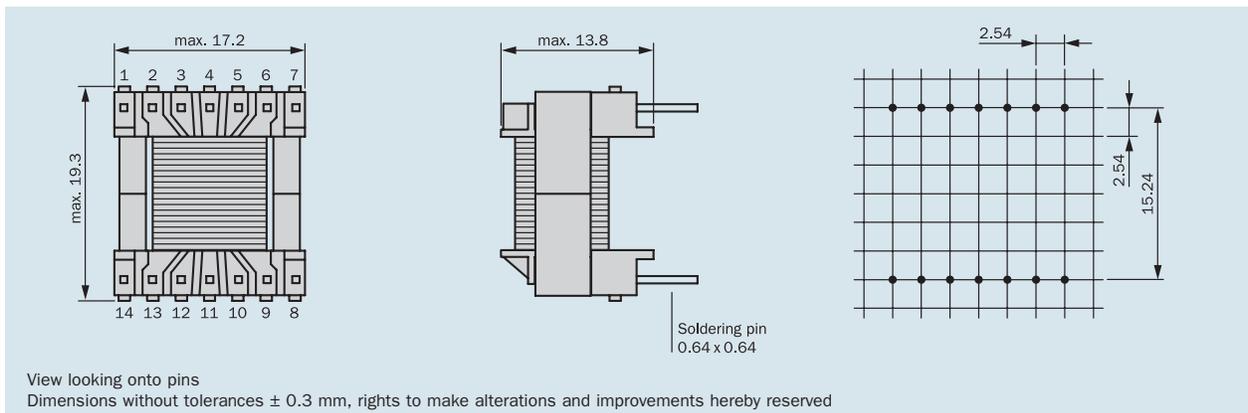
Current developments in electronic components involve ever shorter research and development time periods and every greater manufacturing reliability.

HAHN has the opportunity of optimally developing flyback converters for well known manufacturers of regulator controllers, e.g. Power Integration, Infinion, Philips or ON Semiconductor as customer-specific components. These were all rapid-, economic- and high quality problem solutions from HAHN.

Connecting pins version EF 12/4



Connecting pins version EF 16/5



Connecting pins version EF 25/7

