

heynen 

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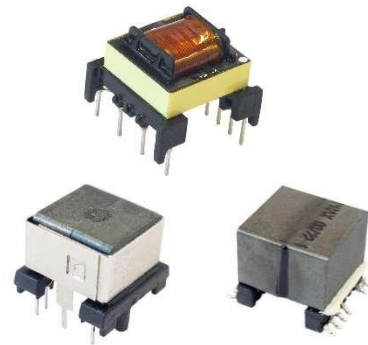


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Features

- For isolated auxiliary power supply. SiC and IGBT gate driver
- High isolation and Partial Discharge tested
- For industrial and automotive applications. AEC-Q200 qualified
- Fully automatic winding and soldering process
- Input voltage from 8-18V source
- Up to 3 isolated output voltages + auxiliary winding
- Low parasitic capacitance
- Rated power up to 7.5W
- SMD and THT products available
- Operating temperature: -40°C to 125°C



Electrical Specifications

PRAX Part Number	Rated Power	Turns ratio	Irms pri	S1	S2	S3	Format	Lpri	Lleak	I sat pri	DCR PRIM	DCR S1=S2=S3
	W		A	V/A	V/A	V/A		(uH)±10%	(uH)max	A _{Peak}	ΩMAX	ΩMAX
FT5W01	5	1:1:1:1	1.5	12/0.21	12/0.21	----	EF16 THT	19.6	1	3.5	0.17	0.2
FT7W02	7.5	1:1:1:1:1	2,6	12/0.21	12/0.21	12/0.21	EF16 THT	4.9	1	6.9	0.05	0.11
FT3W03	3	1:1:1:1:1	0.7	12/0.08	12/0.08	12/0.08	EP13 THT	55	1.5	1.3	0.5	0.7
FT3W04	3	1:1:1:1:1	0.5	12/0.06	12/0.06	12/0.06	EP13 SMD	55	1.5	1.3	1	1.3

Safety Specifications

PRAX Part Number	Working voltage (V peak)		Partial Discharge Extinction min (Vrms)		Creepage distance Min (mm)		Isolation (Vac) 1 minute	
	P/S	S/S	P/S	S/S	P/S	S/S	P/S	S/S
	FT5W01	1000	1000	1100	1100	8	5.5	2700
FT7W02	1000	1000	1100	1100	8	5.5	2700	2200
FT3W03	800	800	900	900	6	2.5	2200	1500
FT3W04	1000	1000	1100	1100	6	2.5	2700	1500

Notes

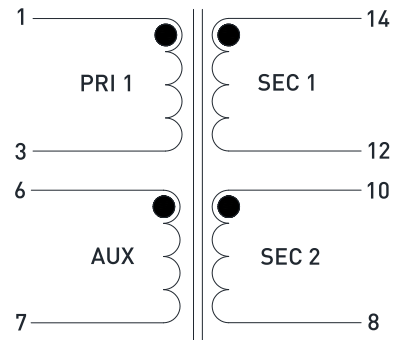
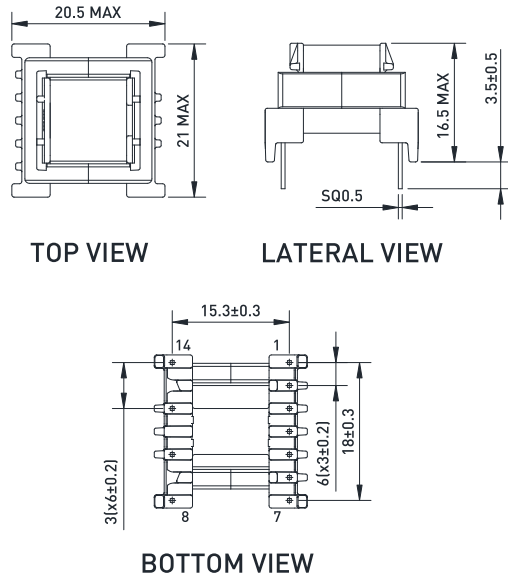
- 1- Electrical specifications at 25°C.
- 2- Operating temperature includes component self-heating.
- 3- Inductance and leakage inductance measured at 100kHz.
- 4- Leakage inductance is measured at primary with all other windings shortcircuited.
- 5- Saturation current (Isat) is based on a peak flux density of 250mT. Higher values might generate transformer saturation.
- 6- Isolation tested 100% in mass production. Test time: 2sec
- 7- Design for operating at the specified rated power and 100kHz switching frequency. See corresponding graphs for alternative output power and switching frequency.
- 8- Customized values are available upon request. Please [contact](mailto:info@prax-power.com) our sales department or send us an email at info@prax-power.com for any further information.

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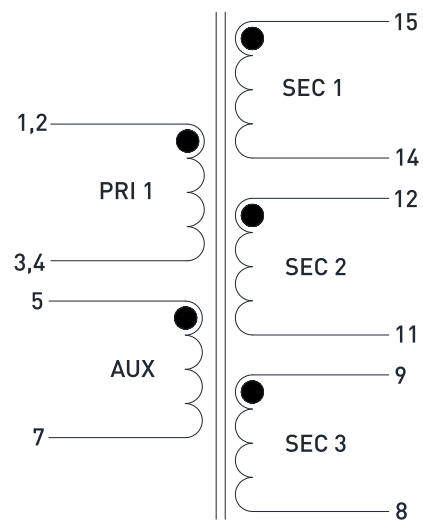
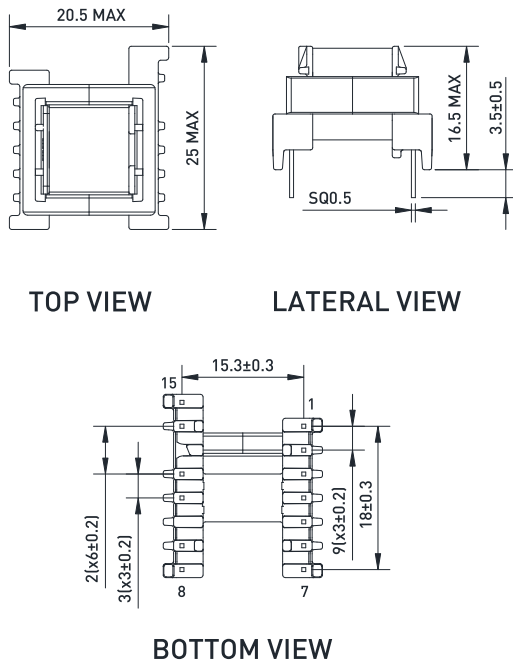
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Dimensions	Schematic
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FT5W01



FT7W02



Dot indicates pin 1
 All dimensions in mm
 General tolerances: ±0.2mm

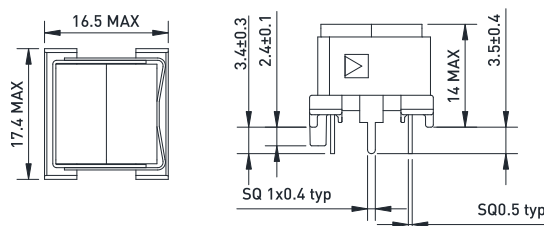
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Dimensions

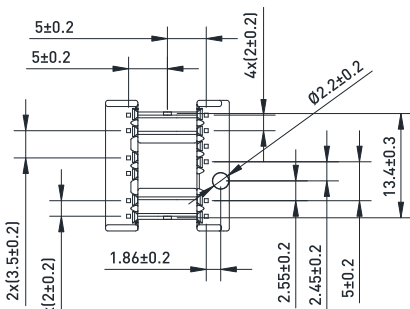
Schematic

FT3W03

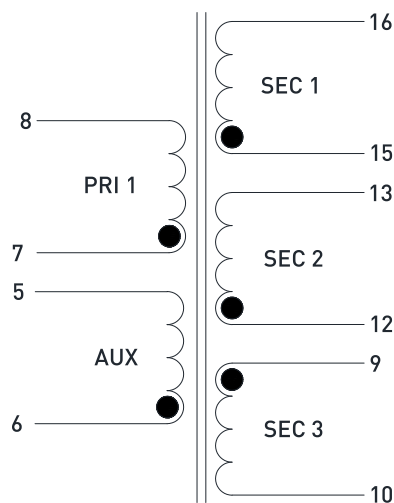


TOP VIEW

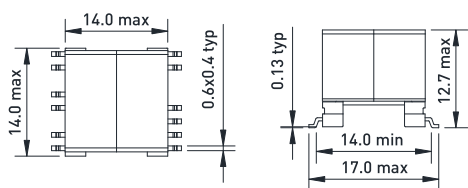
LATERAL VIEW



BOTTOM VIEW

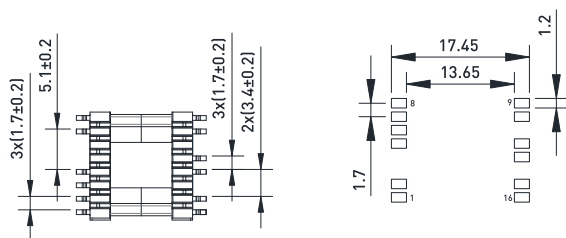


FT3W04



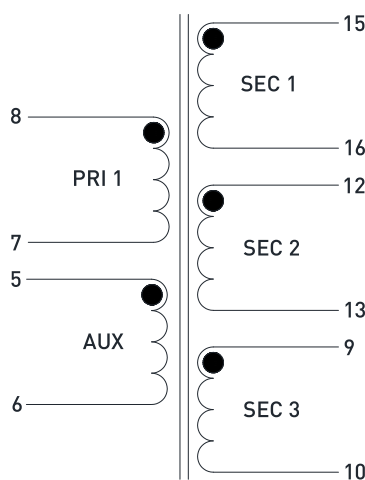
TOP VIEW

LATERAL VIEW



BOTTOM VIEW

Recommended PCB layout View in mounting direction



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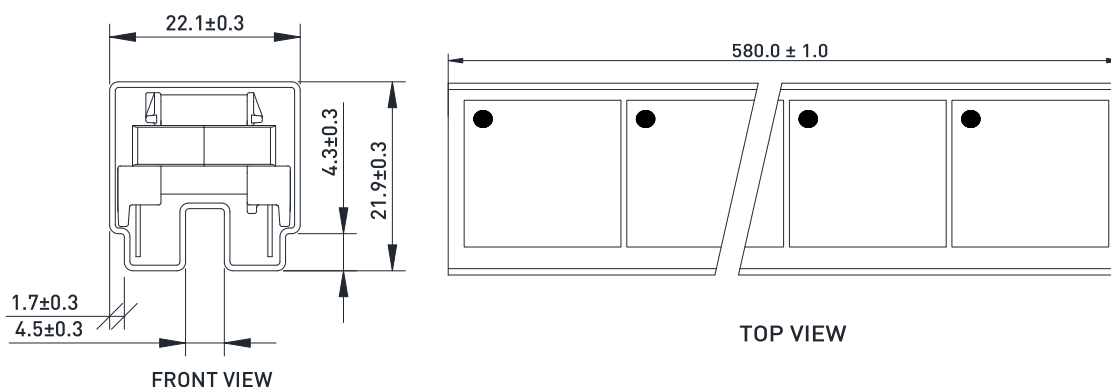
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Dot indicates pin 1
All dimensions in mm
General tolerances: ±0.2mm

Packaging

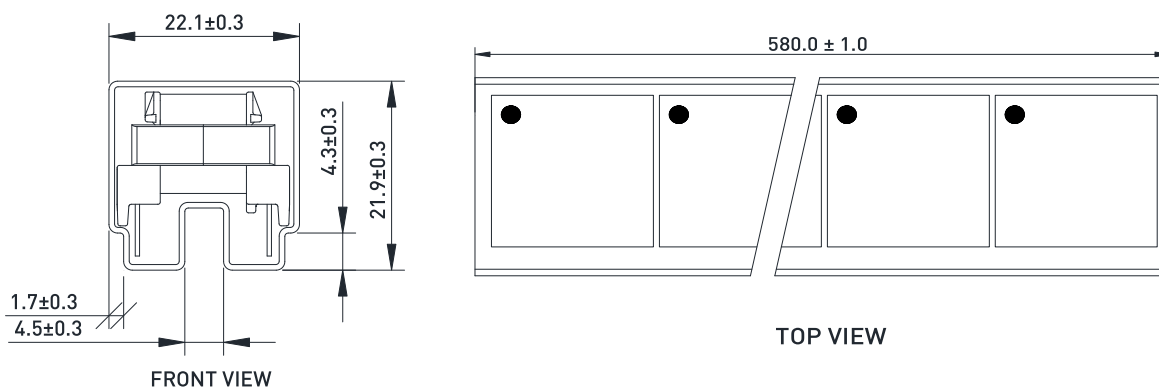
FT5W01

Delivery form	Tube
	Tube thickness: 0.60 ± 0.15 mm
	Weight per piece: 7.2g
	Pieces per tube: 27 pieces
	Pieces per box: 891pieces
	Material: Transparent PVC



FT7W02

Delivery form	Tube
	Tube thickness: 0.60 ± 0.15 mm
	Weight per piece: 8g
	Pieces per tube: 23 pieces
	Pieces per box: 759 pieces
	Material: Transparent PVC

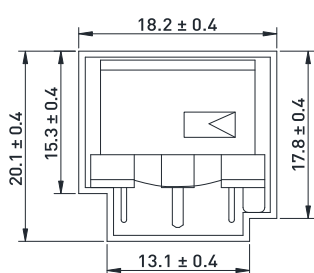


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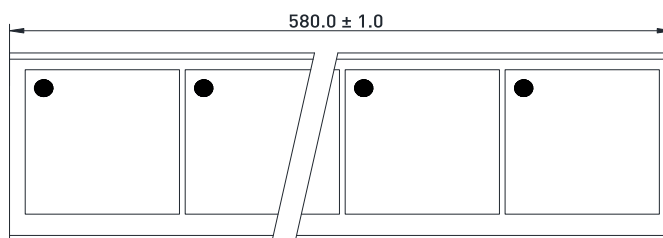
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FT3W03

Delivery form	Tube
	Tube thickness: 0.60 ± 0.15 mm
	Weight per piece: 8g
	Pieces per tube: 32 pieces
	Pieces per box 1664: pieces
	Material: Transparent PVC



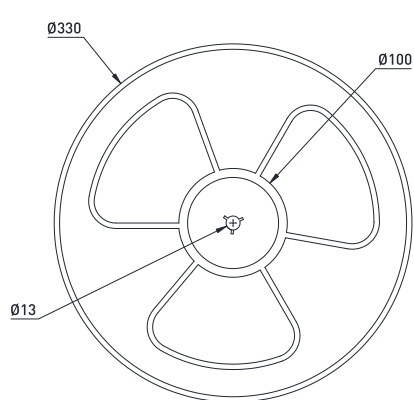
LATERAL VIEW



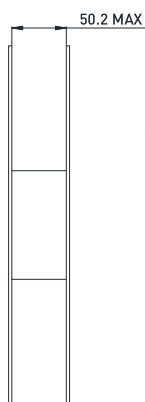
TOP VIEW

FT3W04

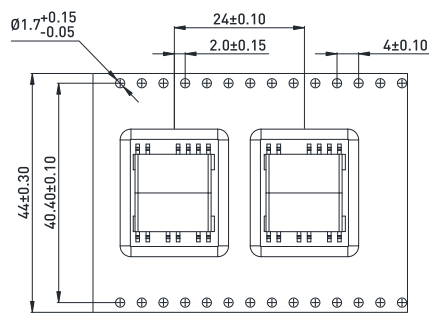
Delivery form	Tape & Reel
	Weight per piece: 6.1g
	Pieces per reel: 150 pieces
	Pieces per box: 750 pieces
	Packaging in T&R according EIA-481



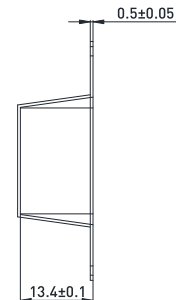
FRONT VIEW



LATERAL VIEW



FRONT VIEW



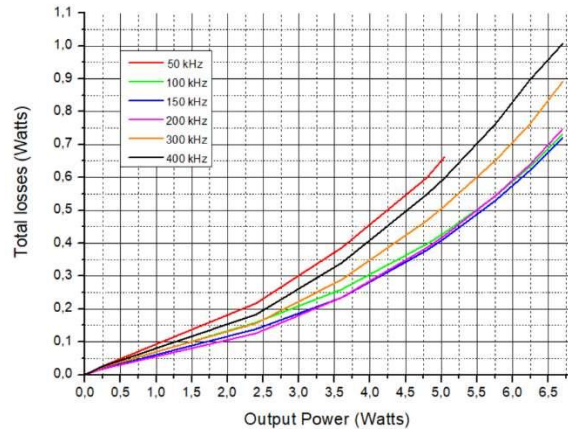
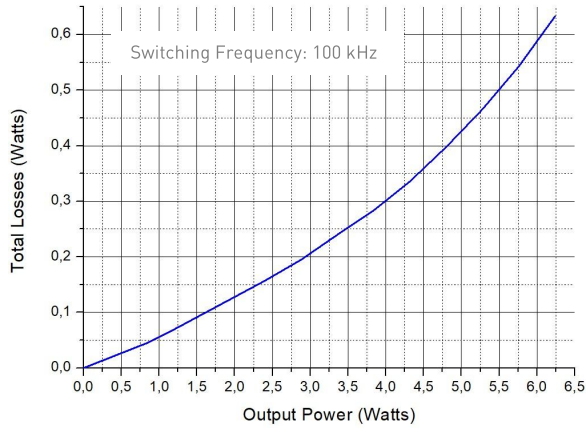
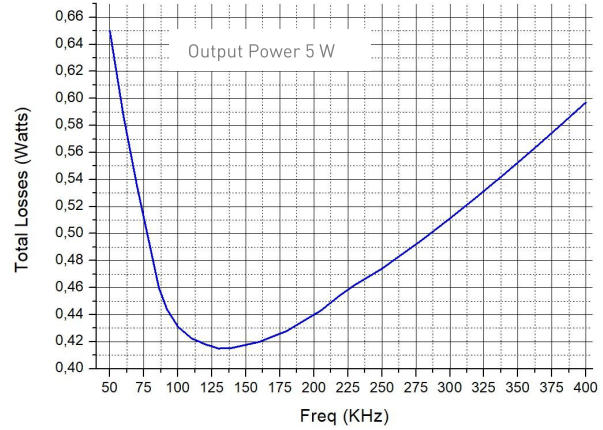
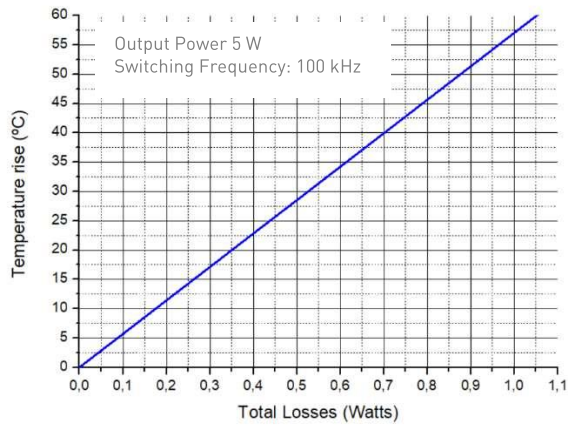
LATERAL VIEW

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Typical Loss and Temperature rise versus Output Power and Switching Frequency

FT5W01

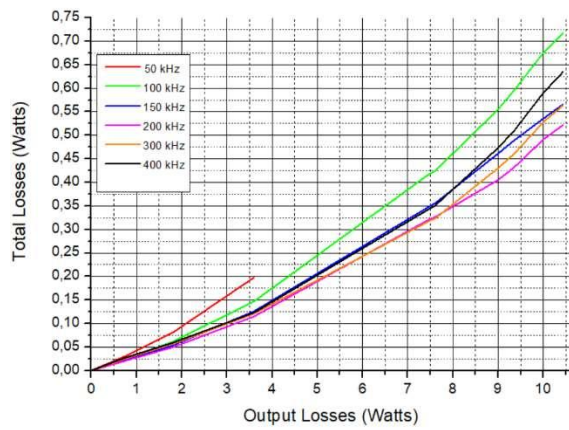
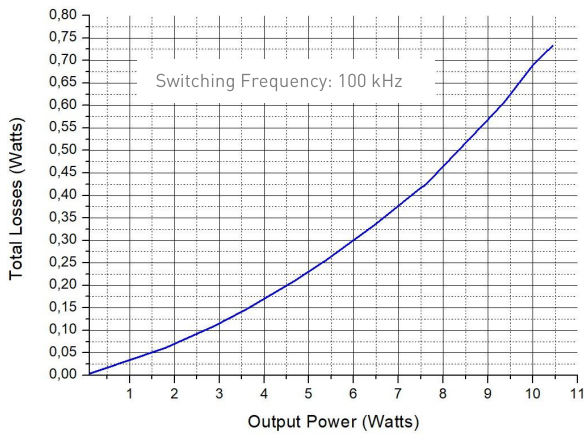
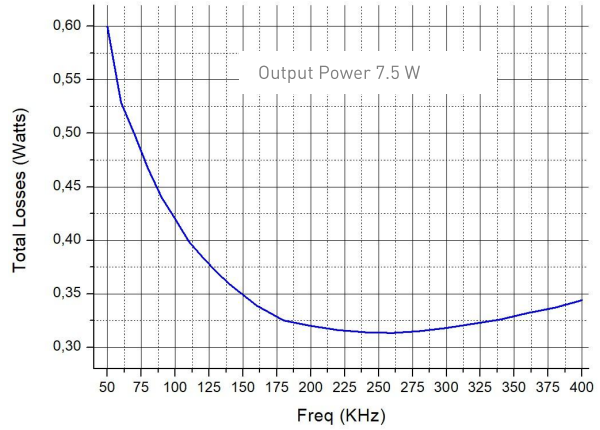
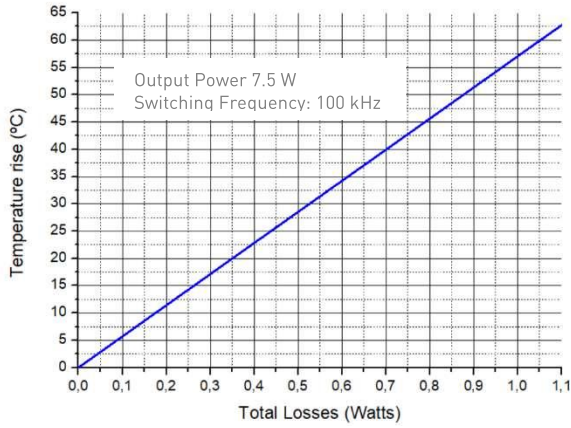


Max current in each secondary limited to 0.3 A. Overpassing that limit might generate excessive overheating.

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FT7W02

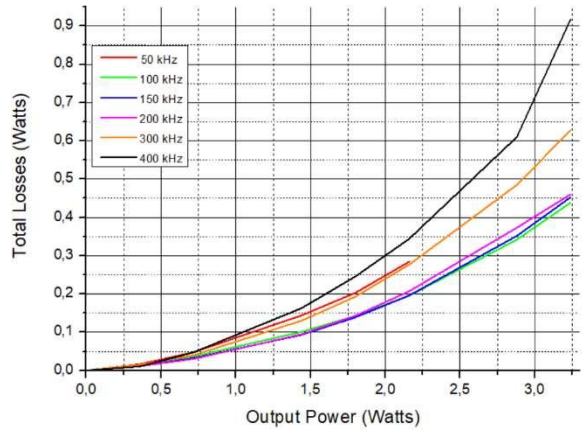
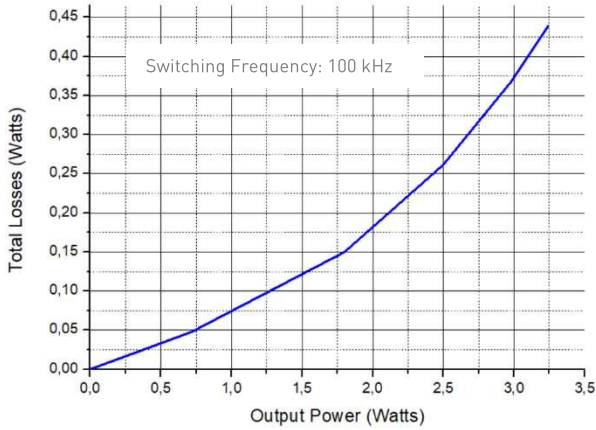
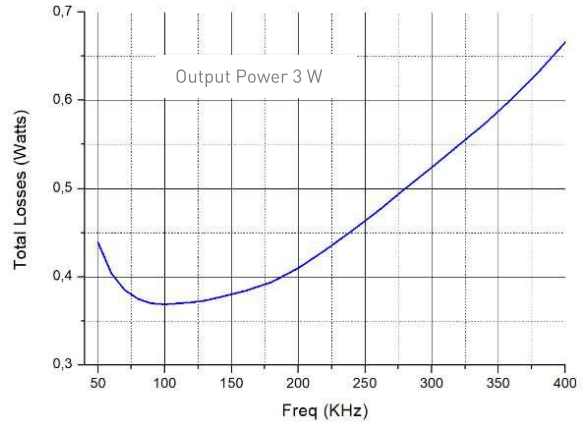
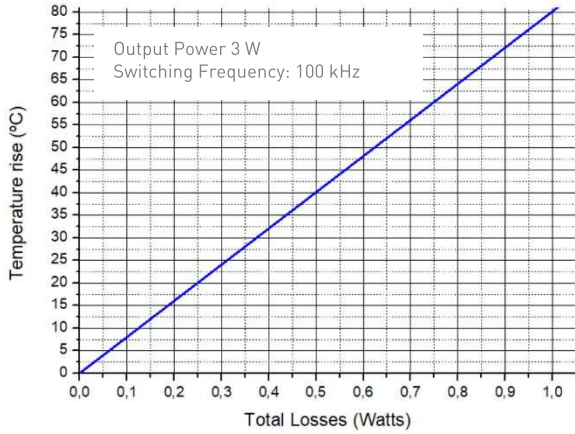


Max current in each secondary limited to 0.3 A. Overpassing that limit might generate excessive overheating.

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FT3W03

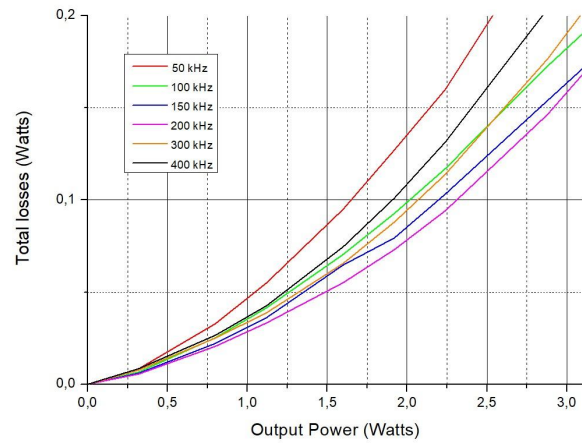
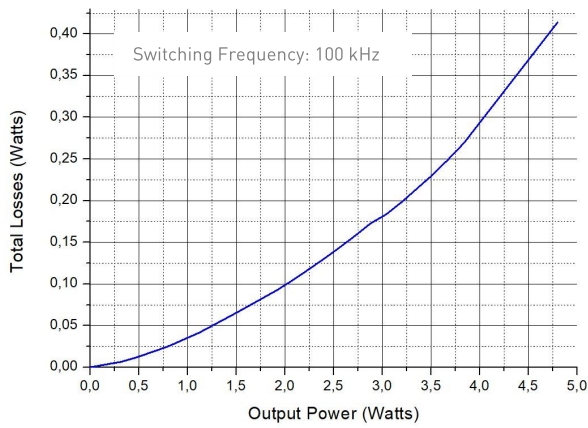
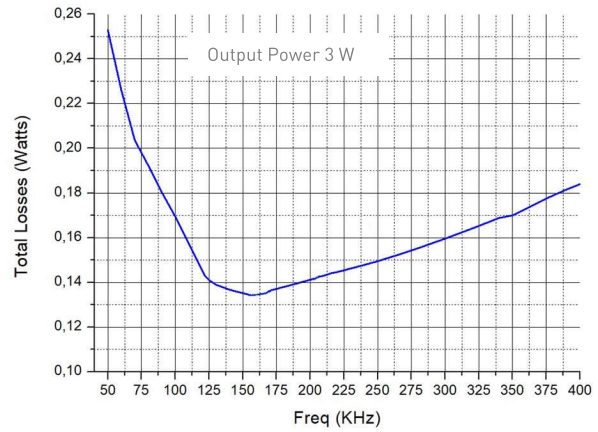
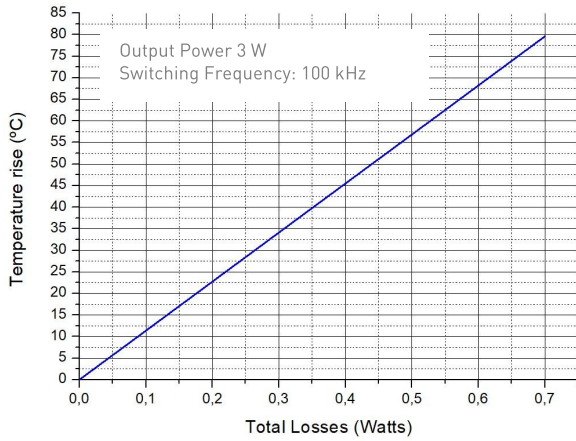


Max current in each secondary limited to 0.1 A. Overpassing that limit might generate excessive overheating.

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FT3W04



Max current in each secondary limited to 0.12 A. Overpassing that limit might generate excessive overheating.

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GUIDE FOR LOSSES AND TEMPERATURE RISE SIMULATION

This catalogue and its charts allow loss and temperature rise calculations based on the output power and switching frequency of the actual flyback power supply.

Use charts of Total Losses versus Switching Frequency and Total Losses versus Output Power to determine flyback transformer losses in the application.

Using Total Losses versus Temperature Rise chart, flyback transformer temperature in the application can be determined.

Chart is simulated based on natural convection at 25°C ambient, therefore if the application provides sufficient cooling system (i.e. heatsink or fan) over the flyback transformer, higher losses might be accepted without incurring in excessive transformer heat. PRAX recommends not to overheat transformer above defined operating temperature.

NOTE

All parameters and charts are based on accurate theoretical calculations. However, actual results might differ from those defined in this catalogue. PRAX strongly recommends validating product in final application before production.

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