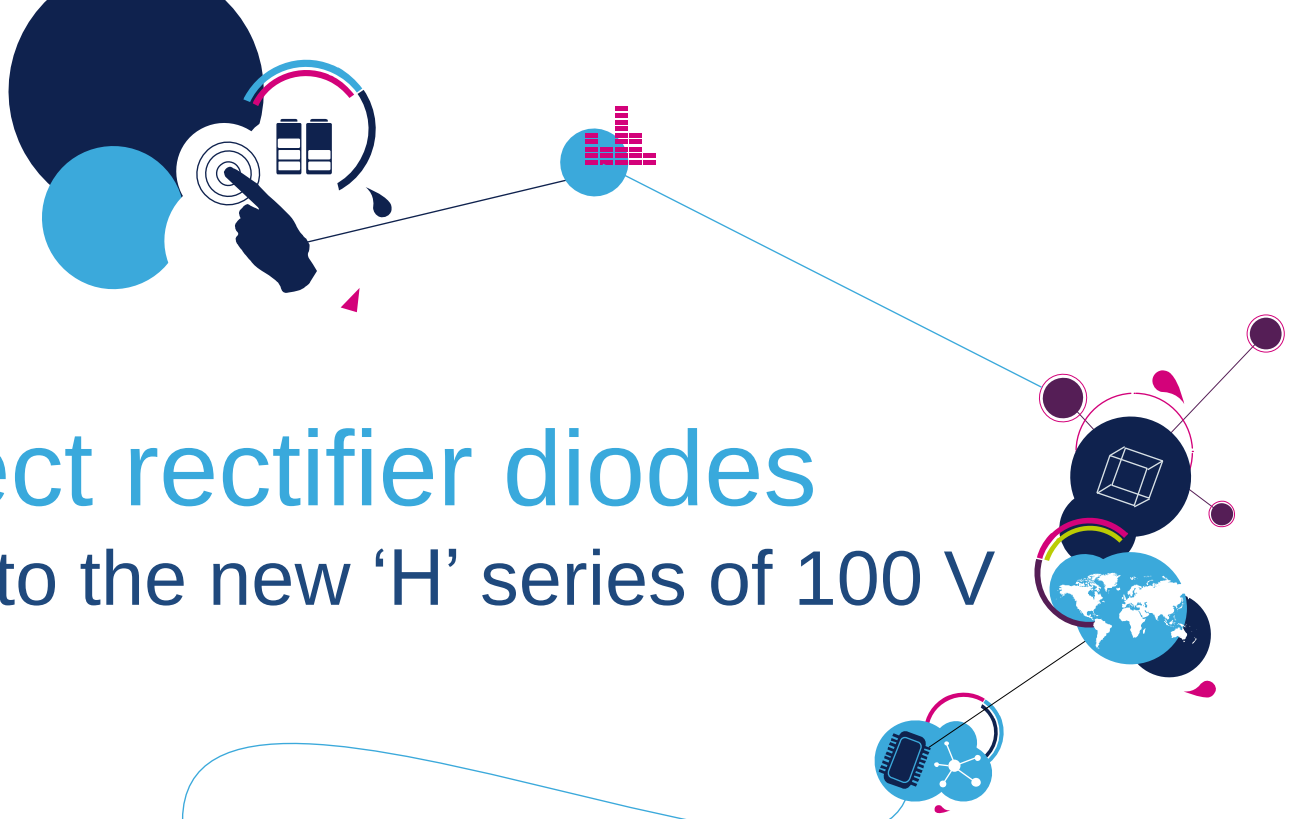

Field-effect rectifier diodes

Introduction to the new ‘H’ series of 100 V diodes

High-efficiency ST FERD series maximizes power integration

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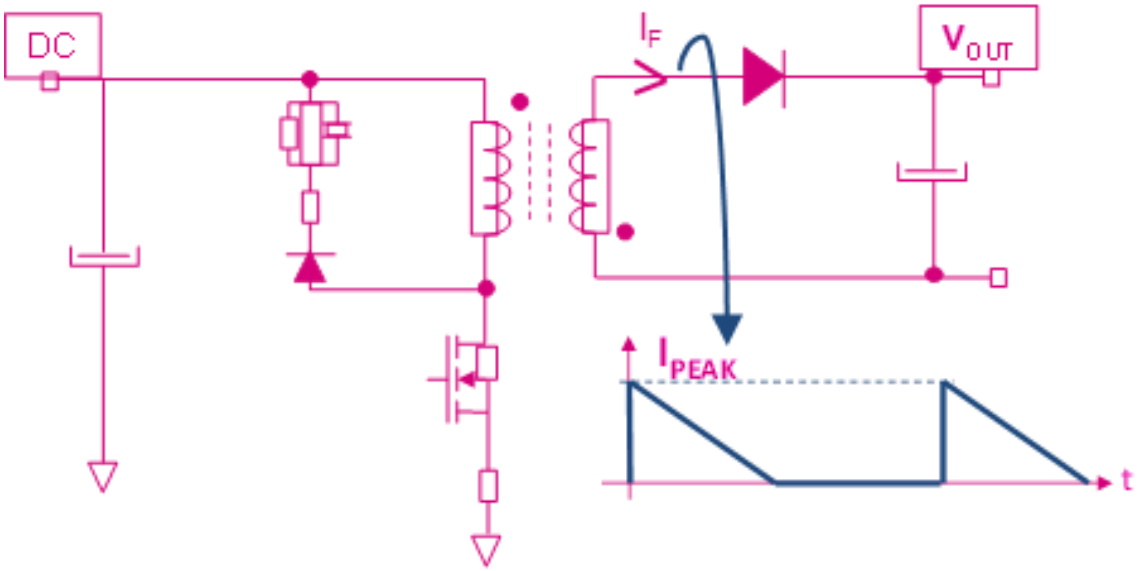
FERDxxH100S applications

Devices are designed for use in **power supplies** for**…**

- Notebook adapters and chargers
- DIN rail SMPS
- Industrial SMPS
- LED and street lighting PSUs
- Consumer and telecom DC/DC converters

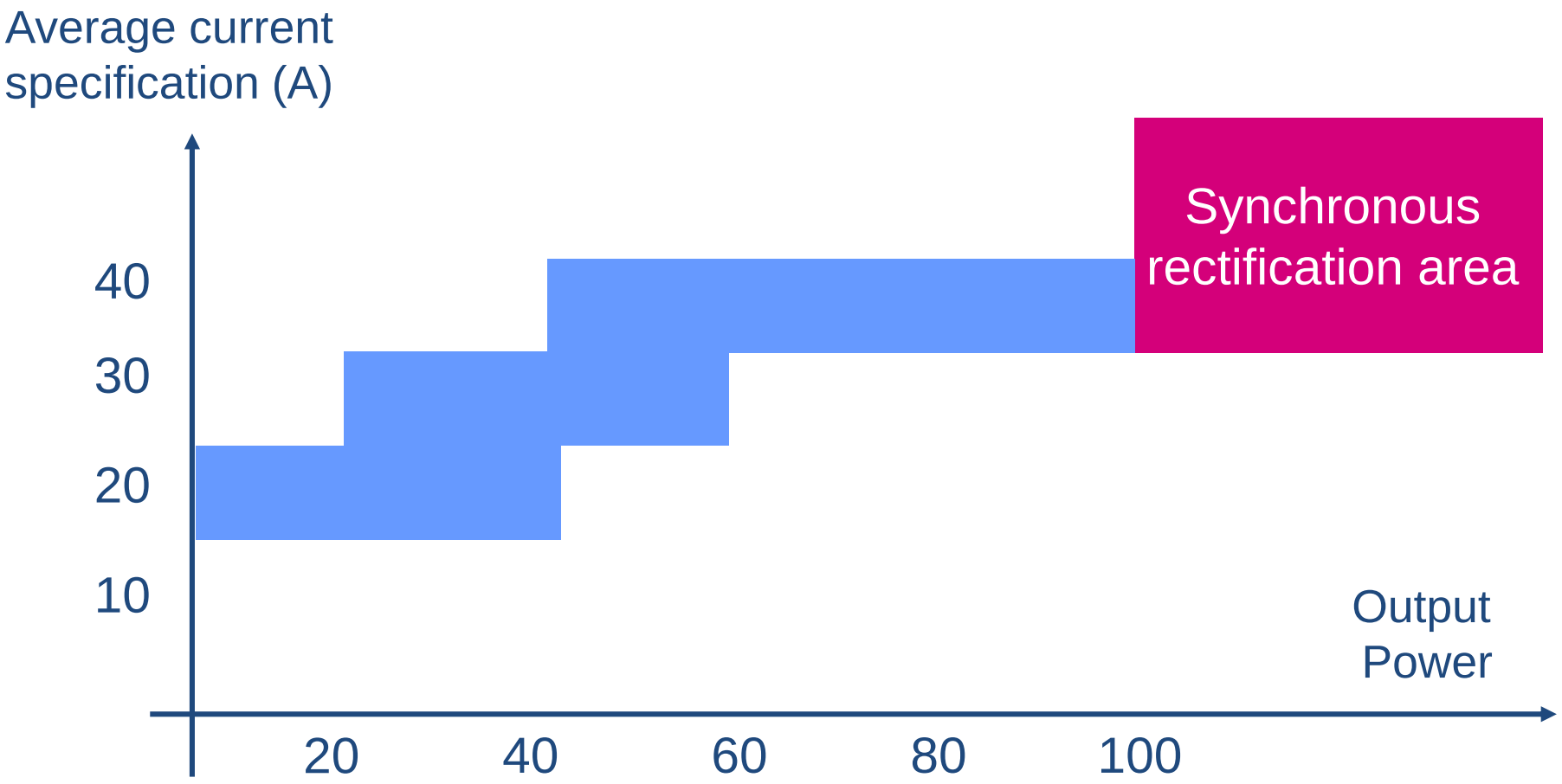
…based on **flyback topologies**.

FERDxxH100 for flyback topologies



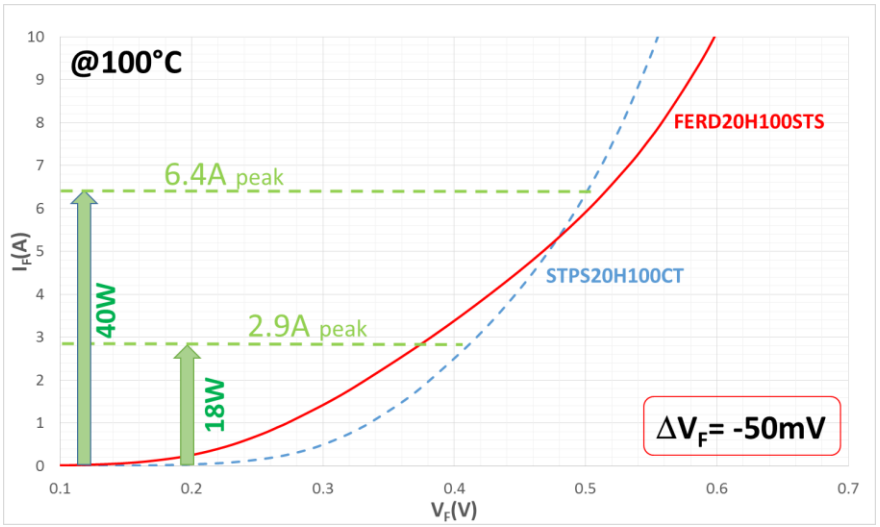
Flyback topology is well-known cost-effective topology generally used for low-power applications (< 100 W)

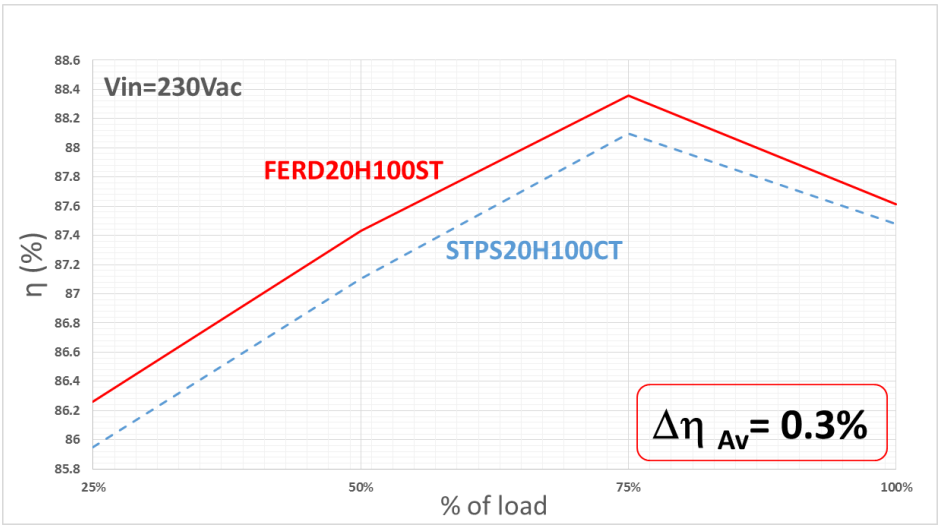
Diode current rating in Flyback converters



FERDxxH100S cover the needs of 20 to 60 W converters based on flyback topologies

FERD vs Schottky in 40W SMPS





FERD benefits:

- Gain on V_F (-50 mV)
- Gain on efficiency (+0.3%)

FERDxxH100 can advantageously replace
Schottky diodes in SMPS (better price or performance, or both)

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FERDxxH100 key features and benefits

New technology

- Based on ST's patented CMOS technology
- V_F/I_R trade-off optimized for flyback topologies
- Higher power density with smaller form factor possible (IPAK / DPAK packages with performance of TO-220 diode)

Low V_F

- Improved efficiency at light load
- Improved application reliability when operating at lower T_j

Low electrical dependency versus temperature

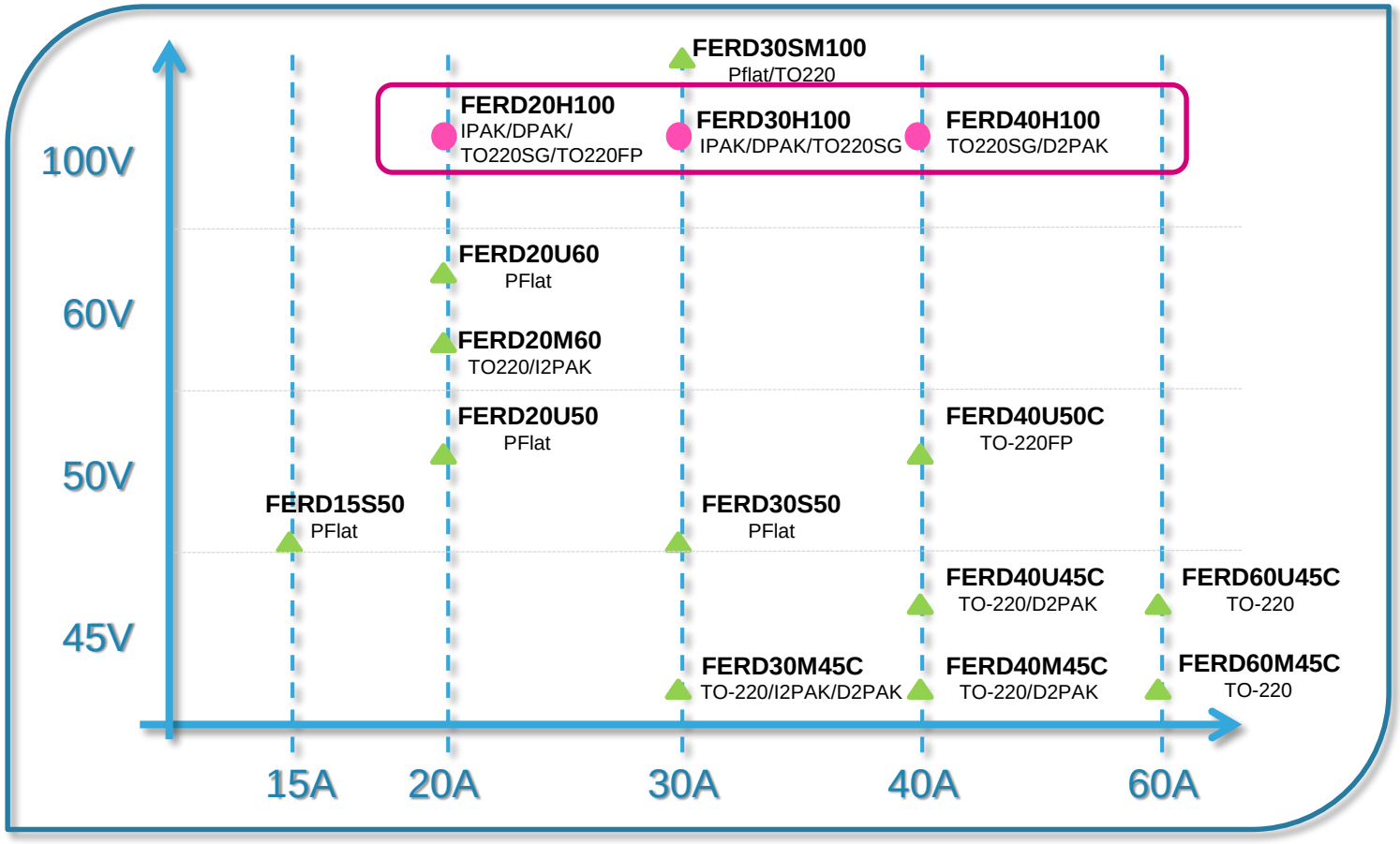
- Reduced risk of thermal runaway
- Able to be used in confined environments

Product range and terminology

FERD	xx	H	100	S	y	-TR
Field Effect Rectifier Diode	Average Forward Current (A)	H series	V_{RRM} 100 V	Single diode	Package type TS = TO-220AB B = DPAK H = IPAK FP = TO-220ABFP G = D²PAK	Packing

Part number	$I_{F(AV)}$	Power application	V_F [V] typ				I_R [mA] max	Package				
			I_0/10		I_0/4							
			25°C	125°C	25°C	125°C	Vr=100V 125°C	TO-220	TO-220FP	DPAK	D²PAK	IPAK
FERD20H100S	20 A	[10-40] W	0.370	0.315	0.455	0.450	16					
FERD30H100S	30 A	[20-60] W	0.390	0.350	0.440	0.415	16					
FERD40H100S	40 A	[40-90] W	0.380	0.325	0.465	0.455	24					

FERD portfolio



Thank you!

www.st.com/ferd for more

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