

### VIPer give a boost to your SMPS design



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## Where every mW counts

Today, power supply units require more sophisticated methods for improving performance while energy-saving regulations push for greater efficiency.

The VIPer series of high-voltage converters addresses this challenge by using either classic avalanche-rugged power transistor or the latest innovative GaN HEMT transistor. This series combine state-of-the-art PWM circuitry for control, offering a comprehensive set of features and built-in protections. SMPS designs featuring VIPer converters meet the most demanding energy-saving regulations and offer additional benefits such as high reliability, flexibility, and a reduced number of BOM components.v.

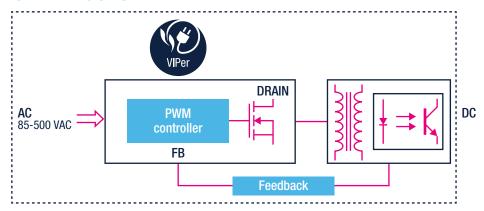
### **MAIN APPLICATIONS**

- Metering
- Lighting
- Home appliances
- Home automation
- Consumer and adapters
- Air conditioning

### **GET IT ALL WITH VIPER**

- Efficiency
- The easiest way to comply with the most stringent energy-saving regulation
- Reliability
  - Improves SMPS lifetime
  - Up to 1050 V avalanche-rugged power MOSFET enabling ultra-wide VAC input range
- Versatility
  - Compatible with the most common topologies and power ranges up to 100 W
  - Smart stand by architecture using VIPer zero power
- Cost-effectiveness
- Small, highly-integrated ICs reduce the number of external components required
- Up to 240 kHz switching frequency to reduce magnetic components size

### MAIN FUNCTIONAL BLOCKS



### **FAMILY PORTRAIT**

rollers	VIPer0P Zero-power mode		VIPer0P					
Different features for different controllers	VIPer series 1 Low VCC voltage	VIPer01/01B	VIPer11/11B		VIPer31			
or differ	VIPer series x22 Minimal BoM	VIPer122	VIPer222					
atures f	VIPer series 5 Quasi-resonant			VIPer25	VIPer35			
rent fe	VIPer series 6 Smart features	VIPer06 VIP	er16	VIPer26/VIPer2	26K(1050 V			
Diffe	VIPer series 7 Brown-out	VIP	er17	VIPer27	VIPer37			
	VIPer series 8 Peak power			VIPer28	VIPer38			
	VIPerGaN Highest frequency					VIPerGan50	VIPerGan65	VIPerGan100
	Flyback converter: 85-265 VAC	4-5 W	6-8 W	12 W	15-18 W	50 W	65, W	100 W
	Buck converter R <sub>DSon</sub> I <sub>DLIM</sub>	200 mA 27 Ω 450 mA	300 mA 15 Ω 620 mA	350 mA 7 Ω 700 mA	600 mA 3.5 Ω 1 A	470 mΩ 2.25 A	290 mΩ 3 A	270 mΩ 3.5 A

### **DIFFERENTIATORS - FIND THE PLUS FOR YOUR APPLICATION**

Quasi-resonant (up to 240 kHz)			VIPer series 5					VIPerGaN
Jittered frequency (30, 60 or 115/120 kHz)	VIPer0P	VIPer series 1		VIPer series 6	VIPer series 7	VIPer series 8	VIPer series x22	
Brown-out protection (settable)			VIPer series 5		VIPer series 7			VIPerGaN
Low input voltage (18 VDC)		VIPer series 1						
Extra power timer (peak power)						VIPer series 8		
Double-level OCP			VIPer series 5		VIPer series 7	VIPer series 8		
Feed forward compensation			VIPer series 5					VIPerGaN
Embedded E/A 3.3 V, 1.2 V (V*1 & V0P)	VIPer0P	VIPer series 1		VIPer series 6			VIPer series x22	
Floating E/A ground (for easy negative output setting)	VIPer0P							
Self-supply option (remove auxiliary winding)	VIPer0P	VIPer series 1		VIPer series 6			VIPer series x22	
Wide range $V_{\rm CC}$ (4.5 to 30 V)	VIPer0P	VIPer series 1					VIPer series x22	
V <sub>cc</sub> protection	VIPer0P	VIPer series 1		VIPer series 6			VIPer series x22	VIPerGaN
Flux runaway protection (for low start up peak current)	VIPer0P	VIPer series 1						
Zero power mode (ZPM)	VIPer0P							
Input OVP (overvoltage protection)		VIPer series 1						VIPerGaN
Output OVP (overvoltage protection)		VIPer series 1	VIPer series 5		VIPer series 7	VIPer series 8		VIPerGaN
Input UVP		VIPer series 1						
PWM current mode using optocoupler VIPer series one cycle-by-cycle OCP Light load management (Burst mode/PFM) Soft start up Thermal shutdown	VIPer0P 10 mW 4 mW (ZPM)	VIPer series 1	VIPer series 5	VIPer series 6	VIPer series 7	VIPer series 8	VIPer series x22	VIPerGaN 30 mW
Short-circuit protection Automatic restart after fault								

### **TOPOLOGIES - THE BEST FIT FOR THE MOST COMMON ARCHITECTURES**

Isolated flyback	Primary side regulation (PSR)	VIPer0P	VIPer series 1		VIPer series 6			VIPer series x22	
	Secondary side regulation (SSR)	VIPer0P	VIPer series 1	VIPer series 5	VIPer series 6	VIPer series 7	VIPer series 8	VIPer series x22	VIPerGaN
Non-isolated	Flyback/buck/ buck boost	VIPer0P	VIPer series 1		VIPer series 6			VIPer series x22	

### VIPer series

### **VIPerGaN: GaN HEMT power transistor**

VIPerGaN50W	VIPerGaN65W	erGaN65W VIPerGaN65D		VIPerGaN100WB					
50 W	65 W	65 W	100 W	100 W					
	700 V (800 V Tpulse < 1 μs)								
$R_{DSON}$ 470 m $\Omega$ $I_{DLIM}$ 2.25 mA	$\begin{array}{c} R_{DSON}  290 \; m\Omega \\ I_{DLIM}  3 \; A \end{array}$	$R_{DSON}$ 270 mΩ $I_{DLIM}$ 3 A	$\begin{array}{c} R_{DSON} \ 270 \ m\Omega \\ I_{DLIM} \ 3.5 \ A \end{array}$	$\begin{array}{c} R_{DSON} \ 270 \ m\Omega \\ I_{DLIM} \ 4.2 \ A \end{array}$					

### **RECOMMENDED FOR**

- Charger & adapters
- 5G/Comm infrastructure
- Appliances
- Aircon
- Consumer

### **DIFFERENTIATORS**

- Ultra-small QFN 5x6 package
- Pin-to-pin compatibility in the range 50 100 W
- Advanced QR controller + 650 V GaN HEMT
- Embedded HV start up generator
- Embedded full set of protections
- Up to 240 kHz switching frequency + jittering

- Less than 30 mW standby power consumption
- Multimode operation (QR, valley, skipping, frequency foldback, busrt mode)
- Higher power density
- Highest efficiency

### **VIPer0P: ZERO-POWER MODE**

VIPer0P
7 W
V <sub>BVDSS</sub> 800 V
$\begin{array}{c} \text{Max R}_{\text{DSON}} \ \text{20} \ \Omega \\ \text{I}_{\text{DLIM}} \ \text{400 mA} \end{array}$

### **RECOMMENDED FOR**

- Home appliances
- Small home appliances
- Home lighting
- Home automation
- Air conditioning

### **DIFFERENTIATORS**

- Fixed frequency with jittering lowers EMI, thus reducing the number of BOM components
- Zero-power mode (ZPM) allows smart turn ON and OFF using a button or an MCU
- Integrated error amplifier with 1.2 V reference and floating ground to enable direct feedback and simplify BoM for negative output
- Wide supply voltage range: 4.5 V to 30 V
- 4.5 V enables external supply from low voltage output (5 V)
- 30 V enables wide auxiliary voltage in case the transformer is used
- Pulse-skip protection to prevent flux runaway and the peak start current
- Topologies supported: flyback (PSR and SSR), buck, buck-boost

### **VIPer series 1: LOW STANDBY, LOW VCC VOLTAGE**

VIPer01/01B	VIPer11/11B	VIPer31	RECOMM
4 W	7 W	18 W	<ul><li>Home app</li><li>Small hor</li></ul>
	V <sub>BVDSS</sub> 800 V		<ul><li>Home light</li><li>Home aut</li></ul>
Max R <sub>DSON</sub> 30 Ω I <sub>DLIM</sub> 120/240/360 mA	Max R <sub>DSON</sub> 17 Ω $I_{DLIM}$ 370/480/590 mA	Max R <sub>DSON</sub> 3.5 Ω I <sub>DLIM</sub> 710/850/990 mA	<ul><li>Air condit</li><li>Metering</li></ul>

### **DIFFERENTIATORS**

- Fixed frequency with jittering lowers EMI, thus reducing the number of BOM components
- Disable pin to set the input or output OVP
- Integrated error amplifier with 1.2 V reference to enable direct feedback by resistor divider
- Input UVP (VIPer31)
- HV current source starts at 18 VDC (VIPer01), 26 VDC (VIPer11)

and 24VDC (VIPer31) input voltage

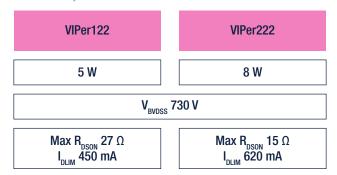
- Wide supply voltage range: 4.5 V to 30 V
  - 4.5 V enables external supply from low voltage output (5 V)

MENDED FOR

me appliances

- 30 V enables wide auxiliary voltage in case the transformer is used
- Pulse-skip protection to prevent flux runaway and the peak start current
- Topologie supported: flyback (PSR and SSR), buck, buck-boost

### **VIPER SERIES X22: MINIMAL BOM, 730 BVDSS**



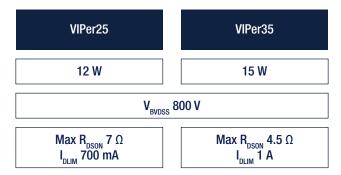
### **DIFFERENTIATORS**

- Fixed frequency with jittering reduces the EMI allowing the minimal bill of material
- Integrated error amplifier to allow direct feedback by resistor divider
- Topology supported: flyback (PSR and SSR), buck, and buck-boost

### **RECOMMENDED FOR**

- Home appliances
- Consumer goods
- Industrial
- Lighting

### **VIPER SERIES 5: QUASI-RESONANT OPERATION**



### **DIFFERENTIATORS**

- The quasi-resonant operation reduces switching losses and improves power conversion efficiency over a wide range of loads
- Quasi-resonant operations reduces EMI allowing to minimize the input filter size
- Feed forward compensation ensures a stable power capability for a wide input voltage
- Embedded protections: output OVP, short circuit/OLP, 2nd OCP, settable brownout
- Topology supported: isolated flyback- SSR

### **RECOMMENDED FOR**

- Consumer
- Adapters
- Air conditioning

### **VIPER SERIES 6: SMART FEATURES, HIGHEST ROBUSTNESS**

VIPer06	VIPer16	VIPer26 VIPer26K	
4 W	6 W	12 W	
	V <sub>BVDSS</sub> 800 V		
$\begin{array}{c} \text{Max R}_{\text{DSON}} \ 32 \ \Omega \\ \text{I}_{\text{DLIM}} \ 350 \ \text{mA} \end{array}$	$\begin{array}{c} \text{Max R}_{\text{DSON}} \text{ 24 } \Omega \\ \text{I}_{\text{DLIM}} \text{ 400 mA} \end{array}$	$\begin{array}{c} \text{Max R}_{\text{DSON}} \text{ 7 } \Omega \\ \text{I}_{\text{DLIM}} \text{ 700 mA} \end{array}$	

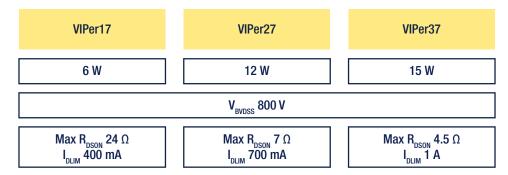
### **DIFFERENTIATORS**

- Fixed frequency with jittering reduces the EM, thus reducing the number of BOM components
- Integrated error amplifier enables direct feedback using a resistor divider
- No auxiliary winding costs
- Feedback disconnection protection
- Topologies supported: flyback (PSR and SSR), buck, and buck-boost
- 1050 V avalanche-rugged power MOSFET embedded (VIPer26K)

### **RECOMMENDED FOR**

- Home appliances
- Lighting
- Home automation
- 1-phase/3-phases industrial systems

### **VIPER SERIES 7: BROWNOUT**



### **DIFFERENTIATORS**

- Fixed frequency with jittering lowers EMI, thus reducing the number of required BOM and external components
- Brownout protection with configurable minimum input voltage
- Embedded protections: output OVP, short circuit/OLP, 2nd OCP
- Topology supported: isolated flyback-SSR

### **RECOMMENDED FOR**

- Adapters
- Lighting
- Industrial power supplies
- Air conditioning

### **VIPER SERIES 8: PEAK POWER**

VIPer28	VIPer38
12 W/20 W (peak)	15 W/25 W (peak)
V <sub>BVDS</sub>	ss 800 V
Max R <sub>DSON</sub> 7 Ω I <sub>DLIM</sub> 800 mA	Max R <sub>DSON</sub> 4.5 Ω I <sub>DLIM</sub> 1.15 A

### **DIFFERENTIATORS**

- Fixed frequency with jittering owers EMI, thus reducing the number of required BOM and external components
- Extra power timer (peak power) for improved response during load transient
- Embedded protections: output OVP, short circuit/OLP, 2nd OCP
- Topology supported: isolated flyback-SSR

### **RECOMMENDED FOR**

- Metering
- Lighting
- Consumer

# A plus for your applications

### A PLUS FOR METERING

### REQUIREMENTS

- Very high voltage robustness
- High immunity to electrical discharge
- Reduced noise in the communication hand
- Peak power for data transfer

### **RECOMMENDED:**

VIPer series 6

VIPer series 8

VIPer series 1

### **KEY BENEFITS FOR METERING**

- Three switching frequency options to avoid noise in the communication band
- Up to 1050 V avalanche-rugged power MOSFET allowing ultra-wide range input VAC to be covered
- Embedded error amplifier for direct feedback from output or primary regulation
- Settable timer for peak power capability

### **BEST-FIT TOPOLOGIES**



- Non-isolated converter
- hucl
- buck boost (negative output)
- flyback with direct output feedback



- Isolated flyback
  - · SSR with optocoupler
  - · Peak power

### A PLUS FOR LIGHTING

### **REQUIREMENTS**

- Low standby consumption
- · High efficiency
- Robustness
- Cost saving
- Reduced size

### **RECOMMENDED:**

VIPerGaN

VIPer0P

**VIPer series 1** 

VIPer series 5

VIPer series 6

### **KEY BENEFITS FOR LIGHTING**

- Energy-saving: 10 mW @ no load @ 230 Vac and 4 mW in ZPM @ 230 Vac
- Quasi-resonant for high efficiency
- 800 V avalanche-rugged power MOSFET allowing ultra-wide range input Vac to be covered
- · Reduced peak drain current during the start-up
- Smart and efficient buck led driver using the floating ground and low ref voltage
- Embedded error amplifier for direct feedback from output or primary regulation
- Operating temperature: -40 to +150°C
- Brownout with settable turn-ON and turn-OFF thresholds

### **BEST-FIT TOPOLOGIES**



- Non-isolated converter
- buck
- buck boost (negative output)
- flyback with direct output feedback



- SSR with optocoupler
- PSR by auxiliary winding
- · Quasi-resonant



### A PLUS FOR HOME APPLIANCES

### **REQUIREMENTS**

- Low standby power
- · High efficiency at light load
- · Small EMI input filter
- Ultra-wide input voltage
- Small size

### **RECOMMENDED:**

VIPerGaN
VIPerOP
VIPer series 1
VIPer series 6

VIPer series x22

### **KEY BENEFITS FOR HOME APPLIANCES**

- Frequency jittering reduces the EMI enabling small input filter
- Compliance with the most stringent energy saving regulations
- Zero-power mode enabling IC shut down and wake up using smart interface with MCU for touch button or remote control
- Ultra-wide range input Vac to be covered
- Self-supply for reduced part count
- Embedded error amplifier for direct feedback from output or primary regulation
- · Reduced peak drain current during the start up
- Wide supply voltage range: 4.5 to 30 V
  - 4.5 V enables external supply from low voltage output (5 V)
  - 30 V enables wide auxiliary voltage in case the transformer is used
  - · Very high switching frequency (240 kHz with VIPerGaN)
  - Highest efficiency

### **BEST-FIT TOPOLOGIES**



- Non-isolated converter
  - buck
  - buck boost (negative output)
  - flyback with direct output feedback



- Isolated flyback
  - · SSR with optocoupler
- · PSR by auxiliary winding

### A PLUS FOR HOME AUTOMATION

### **REQUIREMENTS**

- Small size
- Low standby power
- High efficiency at light load
- Small EMI input filter
- Reduced part count

### **RECOMMENDED:**

VIPer0P

VIPer series 1

VIPer series 6

### **KEY BENEFITS FOR HOME AUTOMATION**

- Energy saving: 10 mW @ no load @ 230 Vac, 4 mW in ZPM @ 230 Vac
- 800 V avalanche-rugged power MOSFET enabling ultra-wide range input Vac
- Embedded auto-restart protections
- Self-supply for reduced part count
- Embedded error amplifier for direct feedback from output or primary regulation
- Operating temperature: -40 to +150°C
- Remote control availability through ZPM function (only ViperOP)

### **BEST-FIT TOPOLOGIES**



- Non-isolated converter
  - buck
  - buck boost (negative output)
  - flyback with direct output feedback



- Isolated flyback
- · SSR with optocoupler
- PSR by auxiliary winding

### A PLUS FOR CONSUMER APPLICATIONS AND ADAPTERS

### **REQUIREMENTS**

- Low standby power
- High efficiency
- Reliability
- Cost saving
- · Minimized size and weight
- Robustness

### **RECOMMENDED:**

VIPerGaN

VIPer series 5

VIPer series 8

### VIPer series x22

### **KEY BENEFITS FOR CONSUMER AND ADAPTERS**

- Very high power density
- Light and small PCB
- Highest efficiency
- Very high switching frequency (240 kHz with VIPerGaN)
- Compliance with the more stringent energy saving regulations
- Advanced QR for highest efficiency
- Peak power capability for improved response during load transient
- Operating temperature: -40 to +150°C
- Brownout with settable turn-ON and turn-OFF thresholds

### BEST-FIT TOPOLOGIES



- Isolated flyback
  - · SSR with optocoupler
  - Peak power
  - · Quasi-resonant

### A PLUS FOR AIR CONDITIONING

### **REQUIREMENTS**

- Robustness & Reliability
- Low EMI
- High efficiency
- Ultra wide range input voltage
- Minimized size and BoM

### **RECOMMENDED:**

VIPerGaN
VIPerOP
VIPer35
VIPer37
VIPer31

### **KEY BENEFITS FOR AIR CONDITIONING**

- Embedded full set of protections
- Frequency Jittering for reduced EMI
- · Quasi Resonant for high efficiency and reduced EMI
- Remote control availability through ZPM function (only Viper0P)
- Energy efficiency meets the most stringent regulations
- Embedded auto-restart protections and thermal shutdown

### **BEST-FIT TOPOLOGIES**



- Isolated flyback
  - SSR with optocoupler
  - · PSR by auxiliary winding

## Evaluation boards

### Quasi-resonant flyback - GaN HEMT transistor from 50 W to 100 W at wide input voltage range-isolated

Order code	Part number	Short description	Vin	Vout/lout	Power
<b>EVLVIPGAN50WP</b>	VIPERGAN50W	QR isolated flyback converter USB PD, multimode operation, QFN 5x6 package	85-265 VAC	5-9-15 V@3 A; 20 V@2.25 A	50 W
EVLVIPGAN50WF	VIPERGAN50W	QR isolated SSR flyback converter, multimode operation, QFN 5x6 package	85-265 VAC	15 V@3.3 A	50 W
EVLVIPGAN65DF	VIPERGAN65D	QR isolated SSR flyback converter, multimode operation, SO14N package	80-265 VAC	24 V@2.7 A	65 W
<b>EVLVIPGAN65WP</b>	VIPERGAN65W	QR isolated flyback converter USB PD, multimode operation, QFN 5x6 package	85-265 VAC	5-9-15 V@3 A; 20 V@3.25 A	65 W
EVLVIPGAN100WP	VIPERGAN100W	QR isolated flyback converter USB PD, multimode operation, QFN 5x6 package	85-265 VAC	5-9-15 V@3 A; 20 V@5 A	100 W

### Non-Isolated, inductor-based topologies - Buck or buck-boost Up to lout 600 mA at wide and ultra-wide input voltage range

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ISA010V1	VIPER16LN	Non-isolated buck converter, 60 kHz, DIP7 package	85-500 Vac	12 V ±10%, 5 V ±4%, 150 mA	AN2872
STEVAL-ISA096V1	VIPER06XS	Non-isolated buck boost converter, 30 kHz, SS010 package	85-265 Vac	-12 V/150 mA	UM1470
STEVAL-ISA114V1	VIPER06XS	Non-isolated buck converter, 30 kHz, SSO10 package	80-265 Vac	5 V/160 mA	AN4273
STEVAL-ISA115V1	VIPER06XS	Non-isolated buck converter, 30 kHz, SSO10 package	85-265 Vac	12 V/150 mA	AN4260
STEVAL-ISA116V1	VIPER26LD	Non-isolated buck converter, 60 kHz, S016N package	85-265 Vac	16 V, 5 V/300 mA	AN4562
STEVAL-ISA119V1	VIPER16LD	Non-isolated buck converter, 60 kHz, S016N package	85-265 Vac	12, 5 V/150 mA	AN4345
STEVAL-ISA130V1	VIPER06XN	Non-isolated buck converter, 30 kHz, DIP7 package	85-375 Vac	12 V/140 mA	DN0009
STEVAL-ISA178V1	VIPER013XS	Non-isolated buck converter, jittered 30 kHz, SS010 package	85-265 Vac	5 V/200 mA	AN4858
STEVAL-ISA179V1	VIPER0PLD	Non-isolated buck converter, jittered 60 kHz, S016N package	85-265 Vac	15 V/150 mA	AN4857
STEVAL-ISA195V1	VIPER115XS	Nont-isolated buck converter, 30 kHz, SSO10 package	85-265 Vac	5 V/350 mA	AN5081
STEVAL-LL003V1	VIPER0PLD	Non-isolated buck converter, 60 kHZ, SO16N package	85-275 Vac	8 W/130 mA	AN5107
STEVAL-VP013B1B	VIPER013BLS	Non-isolated buck converter, jittered 60 kHz, SS010 package	60-300 Vac	5 V/100 mA	AN5396
STEVAL-VP12201B	VIPER122LS	Non-isolated buck converter, 60 kHz, SSO10 package	85-265 Vac	15 V/200 mA	AN5401
STEVAL-VP22201B	VIPER222XS	Non-isolated buck converter, 30 kHz, SSO10 package	85-265 Vac	5 V/360 mA	AN5401
STEVAL-VP26K01B	VIPER265KD	Non-isolated buck converter, 60 kHz, S016N package	90-600 Vac	15 V/100 mA	AN5380
STEVAL-VP319X1B	VIPERP319X	Non-isolated buck converter, 30 kHz, S016N package	85-265 Vac	5 V/600 mA	AN5521

### **Flyback**

### Up to 4.5 W at wide input voltage range - Non Isolated

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ISA112V1	VIPER06HN	Flyback, 115 kHz, DIP7 package	85-265 Vac	12 V/350 mA	AN4116
STEVAL-ISA113V1	VIPER06HS	Flyback, 115 kHz, SS010 package	85-265 Vac	12 V/350 mA	AN4164
STEVAL-ISA177V1	VIPER013LS	Flyback, 60 kHz, SS010 package	85-265 Vac	5 V/800 mA	AN4855

### Up to 4.5 W at wide input voltage range - Isolated

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ILL017V1	VIPER17HN	Flyback (LED driver), 115 kHz DIP7 package	220 ±20%	7 V/500 mA	AN2811
STEVAL-ISA134V1	VIPER06HN	Flyback, 115 kHz, DIP7 package	85-265 Vac	12 V/330 mA	AN4372
STEVAL-ISA135V1	VIPER06HS	Flyback, 115 kHz, SS010 package	85-265 Vac	12 V/330 mA	AN4404
STEVAL-ISA136V1	VIPER06HN	Flyback, 115 kHz, DIP7 package	85-265 Vac	5 V/600 mA	AN4410
STEVAL-ISA137V1	VIPER06HS	Flyback, 115 kHz, SS010 package	85-265 Vac	5 V/600 mA	AN4418
STEVAL-VP26K01F	VIPER267KD	Isolated triple output flyback converter, 60 kHz, S016N package	90 то 440 Vac	15 V at 0.55 Arms (0.7 A peak), 3.3 V at 200 mA, 5 V at 100 mA	AN5303
STEVAL-VP26K02F	VIPER267KD	Isolated double output flyback converter, 60 kHz, S016N package	85 то 500 Vac	12 V at 0.7 Arms (1 A peak), 6 V at 200 m	AN5374
STEVAL-VP26K03F	VIPER267KD	Isolated double output flyback converter, 60 kHz, S016N package	85 то 498 Vac	12 V at 0.7 Arms (1 A peak), 6 V at 200 mA	AN5375

### Up to 7 W at wide input voltage range - Non Isolated

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ISA071V2	VIPER16LN	Flyback (negative), 60 kHz, DIP7 package	85-265 Vac	-5 V/400 mA, +7 V/160 mA	UM0920
STEVAL-ISA118V1	VIPER16LN	Flyback, 60 kHz, DIP7 package	85-265 Vac	16 V/280 mA	AN3028
STEVAL-ISA129V1	VIPER16HN	Flyback,115 kHz, DIP7 package	85-265 Vac	16 V/280 mA	
STEVAL-ISA174V1	VIPER0PLD	Flyback, 60 kHz, S016N package, Zero-Power	85-265 Vac	7 V, -5 V 7 W	AN4836
STEVAL-ISA192V1	VIPER0PLD	Flyback, 60 kHz, S016N package, Zero-Power with Tactile switches and STM32L	85-265 Vac	-5 V/800 mA, +7 V/400 mA	AN4941
STEVAL-ISA196V1	VIPER114LS	Flyback, 60 kHz, S016N package	85-265 Vac	5 V/1.2 A	AN5072

### Up to 8 W at wide input voltage range - Isolated

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ISA062V1	VIPER17HN	Flyback (double out), 115 kHz, DIP7 package	85-265 Vac	5 V, 12 V/750 mA	AN2934
STEVAL-ISA117V1	VIPER16LN	Flyback, 60 kHz, DIP7 package	85-265 Vac	12 V/400 mA	AN4259
STEVAL-ISA124V1	VIPER17HN	Flyback (CC/CV charger), 115 kHz, DIP7 package	85-265 Vac	5 V/1 A	AN2840
STEVAL-ISA125V1	VIPER28LN	Flyback (PEAK Power), 60 kHz, DIP7 package	85-265 Vac	5 V/2.4 A	DB1985
STEVAL-ISA126V1	VIPER28HN	Flyback (PEAK Power), 115 kHz, DIP7 package	85-265 Vac	5 V/2.4 A	AN2950
STEVAL-ISA180V1	VIPER0PHD	Flyback, 60kHz, S016N package, Zero Power	85-265 Vac	12 V/0.5 A	AN4905
STEVAL-ISA181V1	VIPER0PHD	STM32L151C6, flyback, 120 kHz, S016N package, Zero Power, Remote control	85-265 Vac	12 V/0.5 A	AN4940
STEVAL-ISA197V1	VIPER114LS	Flyback (iso), 60 kHz, S016N package	85-265 Vac	12 V/0.65 A	AN5057
STEVAL-VP12201F	VIPER122LS	Flyback, 60 kHz, SS010 package	85-265 Vac	12 V/416 mA	AN5441

### Up to 12 W at wide input voltage range - Non Isolated

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ISA110V1	VIPER26LN	Flyback, 60 kHz, DIP7 package	85-265 Vac	12 V/1 A	AN4106
STEVAL-ISA111V1	VIPER26HN	Flyback, 115 kHz, DIP7 package	85-265 Vac	12 V/1 A	AN4165

### Up to 12 W at wide input voltage range - Isolated

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ISA081V1	VIPER26LN	Flyback (primary reg), 60 kHz, DIP7 package	85-265 Vac	12 V, 3.3 V/1 A	UM0984
STEVAL-ISA122V1	VIPER27HN	Flyback, 115 kHz, DIP7 package	85-265 Vac	5 V/2.2 A	AN3011
STEVAL-ISA162V1	VIPER25HD	Quasi-resonant flyback, 225 kHz frequency limit, S016N package	85-265 Vac	12 V/830 mA	AN4685
STEVAL-ISA175V1	VIPER26HD	Three outputs, flyback for Smart meter and Power Line Communication system	85-440 Vac	16 V/500 mA (700 mA pk) 5 V/100 mA, 3.3 V/200 mA	AN4878
STEVAL-ISA182V1	VIPER38HD	Flyback (PEAK Power),115 kHz, S016N package	85-132 Vac	12 V/0.7 A (2.5 A peak for 10 ms)	AN4924
STEVAL-VP26K01F	VIPER267KD	Flyback, 60 kHz, S016N package	85-440 Vac	15 V/550 mA (700 mA pk) 5 V/100 mA, 3.3 V/200 mA	AN5303
STEVAL-VP26K02F	VIPER267KD	Flyback, 60 kHz, S016N package	85-500 Vac	12 V/700 mA (1 A pk) 6 V/200 mA	AN5374
STEVAL-VP26K03F	VIPER267KD	Flyback (Primary reg.), 60 kHz, S016N package	85-500 <b>V</b> AC	12 V/700 mA (1 A pk) 6 V/200 mA	AN5375

### Up to 18 W at wide input voltage range - Isolated

Order code	Part number	Short description	Vin	Vout/lout	Document
STEVAL-ISA121V1	VIPER37LE	Flyback, 60 kHz, SDIP10 package	85-265 Vac	5 V, 3 A	AN4407
STEVAL-ISA140V1	VIPER37HE	Flyback, 60 kHz, SDIP10 package	85-265 Vac	12 V/1.2 A	AN4419
STEVAL-ISA153V1	VIPER38LE	Flyback (PEAK Power), 60 kHz, SDIP10 package	90-265 Vac	12 V/1.2 A peak 1.8 A	AN4479
STEVAL-ISA171V1	VIPER35HD	Quasi-resonant flyback, 225 kHz frequency limit, S016N package	85-265 Vac	12 V/1.25 A	AN4812
STEVAL-ISA191V1	VIPER37LE	Flyback double output, 60 kHz, SDIP10 package	85-265 Vac	5 V/1.2 A, 12 V/0.75 A	AN4830
STEVAL-ISA183V1	VIPER35LD	Quasi resonant triple output flyback, 136 kHz frequency limit	175-275 Vac	12 V/1 A, 15 V/0.2 A 5 V/0.2 A	AN5030
STEVAL-ISA184V1	VIPER37LD	Flyback double output, 60 kHz, SO16N package	85-265 Vac	5 V/1.2 A, 12 V/0.75 A	AN4830
STEVAL-VP318L1F	VIPER318LD	Flyback, 60 kHz, S016N package	85-265 Vac	15 V/1.2 A	AN5558
STEVAL-VP318L2F	VIPER318LD	Flyback (Primary reg.), 60 kHz, S016N package	90-265 Vac	15 V/1.2 A	AN5642

## Available online

### SURFACE-MOUNT AND THROUGH-HOLE PACKAGES



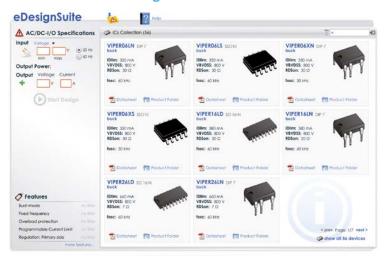








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