Infrastructure Power Solution Expert

POWERGOOD

About POWERGOOD

Experts born for the power module

POWERGOOD provides AC/DC, DC/DC modules and related products with high reliability, high efficiency and high durability, which can be used in railway, industrial automation, medical, Aviation... In different fields, such as New York City Subway, ALSTOM, DB, SIEMENS... And other well-known companies in various fields around the world.

Quality first, Customer satisfaction

With the spirit of harmony, advancement, integrity and sharing, we insist on continuous improvement in quality and the concept of "There is no best, only better" to create value beyond customers' expectations with our professional ability and provide you with "good performance, ease of use, reliability and affordability" as a one-stop power supply solution.



Infrastructure's Applications

• Energy system Power station, water system, gas pipeline, and electricity grid.

• Telecommunication

Telephone, radio and television, internet, and local area / wide area networks.

• Defense

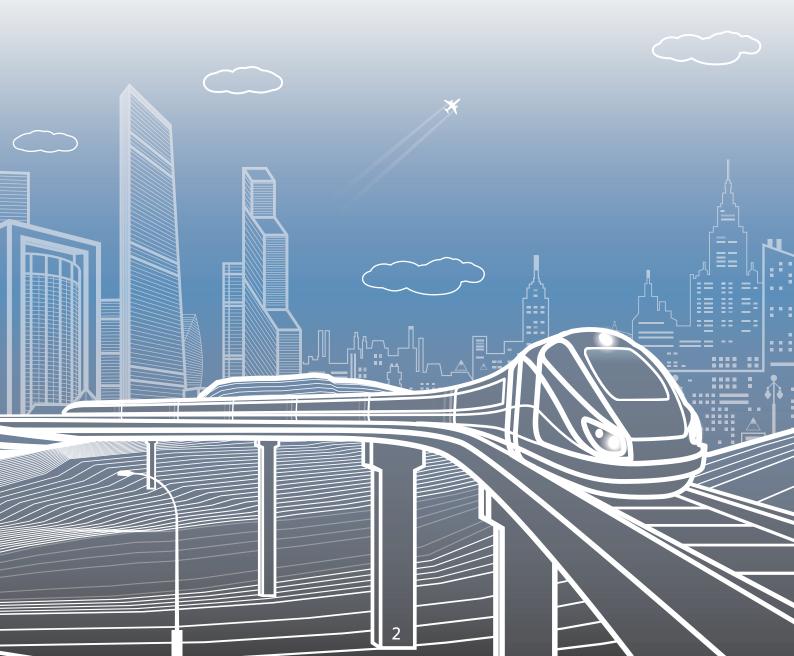
Miliary technology, national security, and internet firewall.

• Transportation

Airport, harbor, railway, and parking lot facilities.

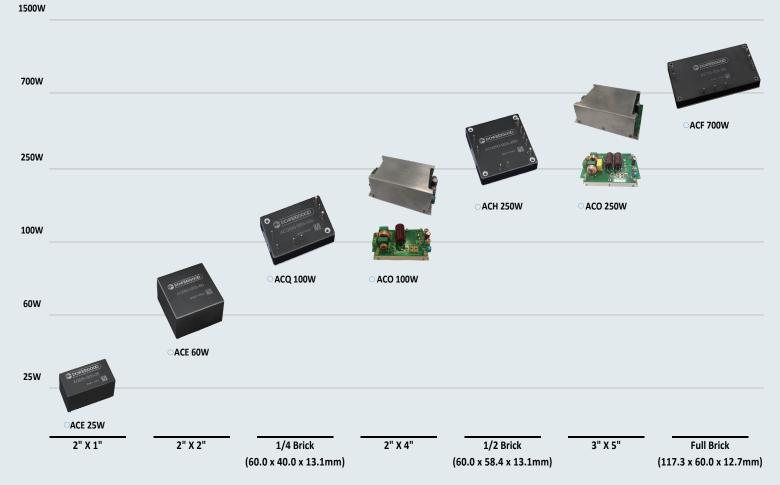
Medical care and precaution

Hospital, medical equipment, alarm system, and public warning system.



Infrastructure Application Product Line

AC/DC power modules for POWEROOD Infrastructure Application

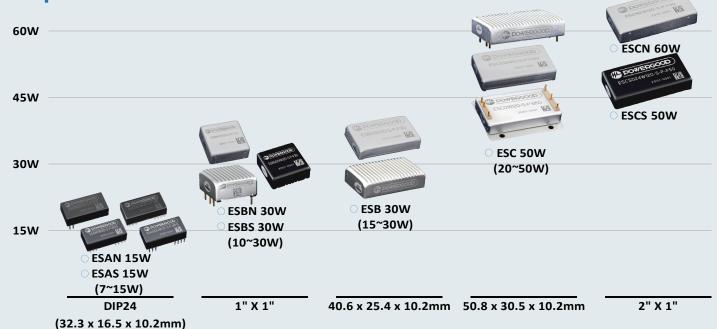


DC/DC Power Module for POWERGOOD Infrastructure Applications
- Low Power Regulated Series

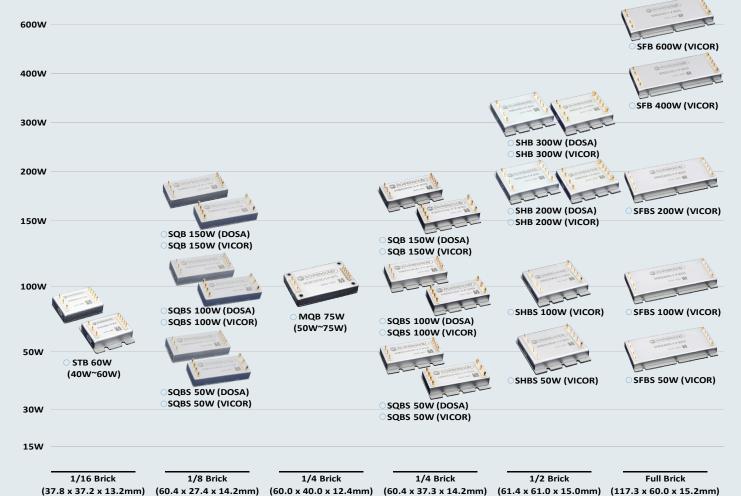


Infrastructure Application Product Line

DC/DC Power Module for POWERGOOD Infrastructure Applications – Encapsulated Series



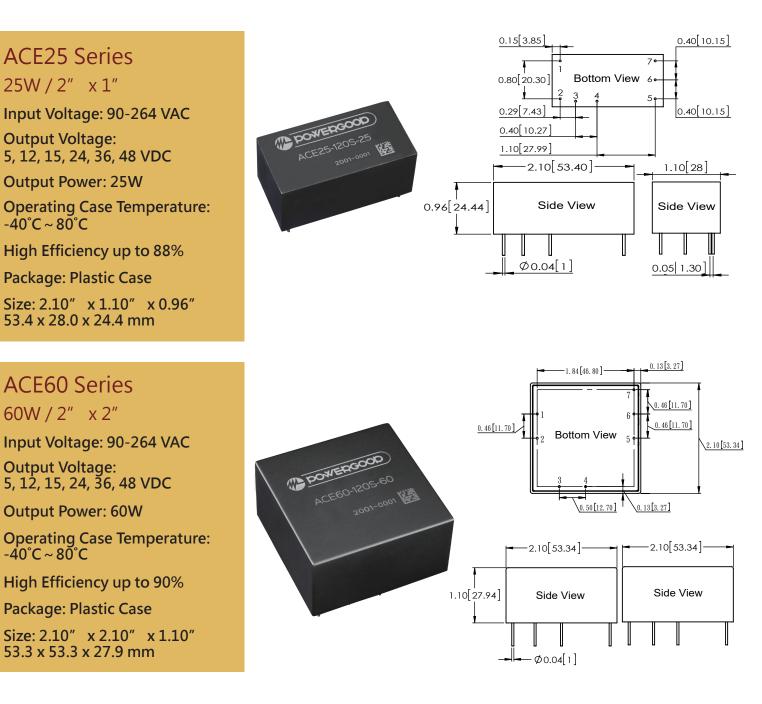
DC/DC Power Module for POWERGOOD Infrastructure Applications – Brick Series



AC/DC Encapsulated Series Product Feature

- •Built in EMI filter meets EN55032 Class B without external components
- •Maximum power density ratio
- Provides 2 times peak load capacity
- •Isolation voltage up to 4000 VAC
- Easy Hold-up time extension
- •Leakage current 100µA
- •Output voltage trim range of -10%, +10%
- •Fully protected: OCP / OVP / OTP / SCP

- Packaged for PCB plug-in
- •Design conforms to the standard EN55032 & CIRSS/ FCC class B
- •Design conforms to the standard IEC62368 EN62386 UL62368-1-1-1
- Design conforms to the standard iec60601-1 EN60601 UL60601-1-1
- Design conforms to the standard IEC60335 EN60335 UL60335-1-1-1



AC/DC Brick Series Product Feature

- •Ultra-thin design (0.5 inch) for brick type, with the world's largest power density ratio.
- •No life-span constrained Ceramic Capacitor inside
- •Built-in active power factor correction (PFC)
- •Output voltage trim range of -5%, +5%
- •Fully protected: OCP / OVP / OTP / SCP

ACQ100 Series

100W / 1/4 Brick

Input Voltage: 90-264 VAC

Output Voltage: 5, 12, 24, 28, 36, 48 VDC

Output Power: 100W

Operating Case Temperature: -40°C ~ 100°C

High Efficiency up to 91%

Package: Aluminum base with plastic case

Size: 2.36″ x 1.57″ x 0.50″ 60.0 x 40.0 x 12.7mm

ACH250 Series 250W / 1/2 Brick

Input Voltage: 90-264 VAC

Output Voltage: 12, 24, 28, 36, 48 VDC

Output Power: 250W

Operating Case Temperature: -40°C~100°C

High Efficiency up to 91%

Provide remote on/off function (optional)

Package: Aluminum base with plastic case

Size: 2.36" x 2.30" x 0.50" 60.0 x 58.4 x 12.7mm

ACF700 Series

700W / Full Brick

Input Voltage: 90-264 VAC

Output Voltage: 12, 24, 28, 36, 48 VDC

Output Power: 700W

Operating Case Temperature: -40°C~100°C

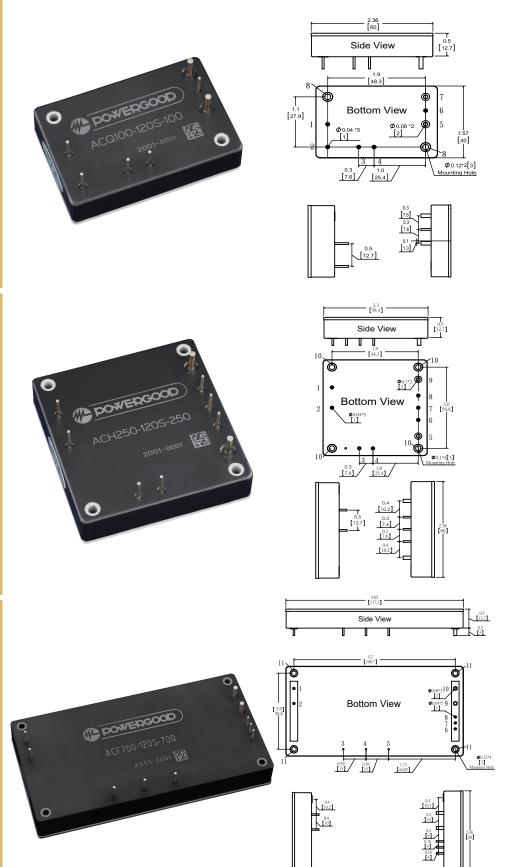
High Efficiency up to 90%

Package: Aluminum base with plastic case

Provide parallel function

Size: 4.62″ x 2.36″ x 0.50″ 117.3 x 60.0 x 12.7mm

- •No aluminum and tantalum electrolytic capacitor inside for high reliability
- Isolation voltage up to 3000 VAC
- •Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)



AC/DC PSU Series Product Feature

- •Built-in EMI filter meets EN55032 Class B without external components
- Built-in active power factor correction (PFC)
- Isolation voltage up to 3000 VAC
- •Output voltage trim range of -5%, +5%
- •Fully protected: OCP / OVP / OTP / SCP

ACO100 Series 100W / PSU

Input Voltage: 90-264 VAC

Output Voltage: 5, 12, 24, 28, 36, 48 VDC

Output Power: 100W

Operating Case Temperature: -40°C ~ 100°C

High Efficiency up to 91%

Package: Open Frame & Aluminum Case & Din Rail

Size: 4.00″ x 2.06″ x 1.57″ 101.6 x 52.4 x 40.0 mm

ACO250 Series

250W / PSU

Input Voltage: 90-264 VAC

Output Voltage: 12, 24, 28, 36, 48 VDC

Output Power: 250W

Operating Case Temperature: -40°C ~ 100°C

High Efficiency up to 91%

Package: Open Frame & Aluminum Case & Din Rail

Size: 5.00" x 3.03" x 1.57" 127.0 x 77.0 x 40.0 mm

ACO700 Series

700W / PSU

Input Voltage: 90-264 VAC

Output Voltage: 12, 24, 28, 36, 48 VDC

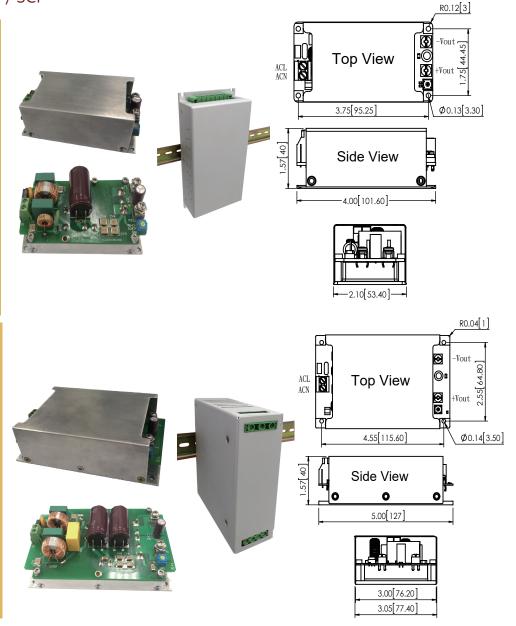
Output Power: 700W

Operating Case Temperature: -40°C ~ 100°C

High Efficiency up to 90%

Package: Open Frame & Aluminum Case & Din Rail

- •Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)
- •Open Frame & Aluminum case is optional
- Built-in heat sink
- •Terminal blocks for easy wiring and reliable operation





DC/DC U Series Product Feature

- Isolated regulated DC DC converter or unregulated available
- -40°C to +105°C operation without power derating (depending on model)
- Continuous short circuit protection

U1 Series

1W / SMD · SIP7

Input Voltage: 4.5-5.5, 10.8-13.2, 21.6-26.4 VDC

Output Voltage: 5 VDC

Output Power: 1W

Operating Case Temperature: -40°C~105°C

High Efficiency up to 81%

Package: Plastic Case

Size: 0.71" x 0.35" x 0.30" 18.0 x 9.0 x 6.6 mm

U3 Series **3W / SIP7**

2:1 / 4:1 Wide Input Voltage: 4.5-5.5, 9-36, 18-75 VDC

Output Voltage: 5, 12, 24 VDC

Output Voltage: 3W

Operating Case Temperature: -40°C~85°C

High Efficiency up to 82%

Package: Plastic Case

Size: 0.77" x 0.28" x 0.40" 19.5 x 7.1 x 10.2 mm

U6 Series 6W / SIP8

4:1 Wide Input Voltage: 9-36, 18-75 VDC

Output Voltage: 5, 12, 24 VDC

Output Power: 6W

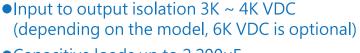
Operating Case Temperature: -40°C~100°C

High Efficiency up to 85%

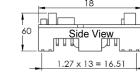
Package: Plastic Case

Size: 0.86" x 0.36" x 0.44" 21.8 x 9.2 x 11.1 mm

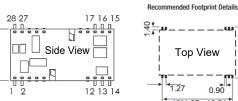


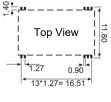


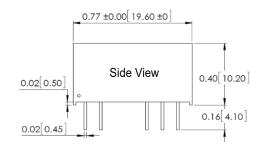
•Capacitive loads up to 2,200µF

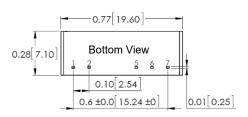


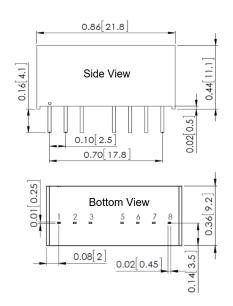
















DC/DC Encapsulated Series - E Product Feature

- Single / Dual Outputs
- Built-in EMI filter meets EN55032 Class B without external components
- •Saving up to 20% of the circuit board space
- •Wide Operating Temperature -45°C ~+115°C (Optional: -55°C ~+125°C)

ESB Series 15W~30W / 1.6" × 1"

2:1 / 4:1 Wide Input Voltage: 9-18, 9-36, 18-36, 18-75, 36-75 VDC

Output Voltage: 3.3, 5, 12, 15, 24, ±5, ±12, ±15, ±24 VDC

Output Power: 15W ~ 30W

Operating Case Temperature: -45°C ~ 115°C

High Efficiency up to 91%

Package: Flat & Heat sink embedded Size: 1.60" x 1.00" x <u>0.40" (0.50"</u>) 40.6 x 25.4 x <u>10.2 (12.7</u>)mm

ESC Series 20W~50W / 2" × 1.2"

2:1 / 4:1 Wide Input Voltage: 9-18, 9-36, 18-36, 18-75, 36-75, 40-160 VDC

Output Voltage: 3.3, 5, 12, 15, 24, ±12, ±15, ±24 VDC

Output Power: 20W ~ 50W

Operating Case Temperature: -45°C ~ 115°C

High Efficiency up to 90%

Package: Flat & Heat sink embedded

Size: 2.00" x 1.20" x <u>0.40" (0.50"</u>) 50.8 x 30.5 x <u>10.2 (12.7)</u> mm

ESC Series 20W~50W / 2" x 1.6"

4:1 Wide Input Voltage: 9-18, 9-36, 18-36, 18-75, 36-75, 40-160 VDC

Output Voltage: 3.3, 5, 12, 15, 24, ±12, ±15, ±24 VDC

Output Power: 20W ~ 50W

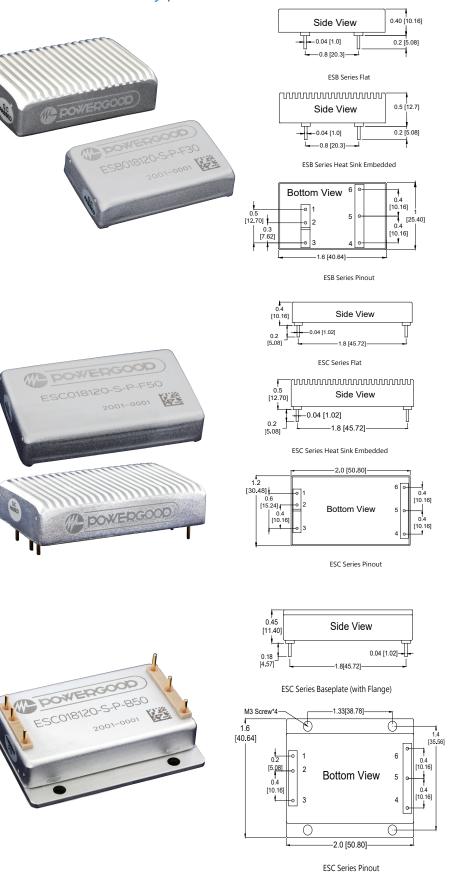
Operating Case Temperature: -45°C ~ 115°C

High Efficiency up to 90%

Package: 6 sides aluminum case with flange

Size: 2.00" x 1.60" x 0.45" 50.8 x 40.6 x 11.4 mm

- Isolation voltage up to 2000 VDC
- •No life-span constrained Ceramic Capacitor inside
- Industrial standard pins, metal shell design, easy to heat dissipation and EMI
- •Output voltage trim range of -10%, +10%
- Fully protected: OCP / OVP / OTP / SCP



DC/DC Encapsulated Series - N Product Feature

- Single / Dual Outputs
- •Built-in EMI filter meets EN55032 Class A without external components (Depends on different model)
- Isolation voltage up to 2000 VDC
- •No life-span constrained Ceramic Capacitor inside

ESAN Series 7W~15W / DIP24 - SMD24

2:1 / 4:1 Wide Input Voltage: 9-36, 18-36, 18-75, 36-75, 40-160 VDC Output Voltage: 3.3, 5, 12, 15, ±5, ±12, ±15 VDC

Output Power: 7W ~ 15W

Operating Case Temperature: -45° C ~ 85° C

High Efficiency up to 89%

Package: Metal Case & Plastic Case

Size: 1.27″ x 0.65″ x 0.40″ 32.3 x 16.5 x 10.2mm

ESBN Series 10W~20W/1" ×1"

2:1 / 4:1 Wide Input Voltage: 9-36, 18-36, 18-75, 36-75, 40-160 VDC Output Voltage: 3.3, 5, 12, 15, ±5, ±12, ±15 VDC Output Power: 10W ~ 20W

Operating Case Temperature: -45°C ~ 115°C

High Efficiency up to 90%

Package: Flat & Heat sink embedded

Size: 1.00" x 1.00" x <u>0.40" (0.50"</u>) 25.4 x 25.4 x <u>10.2 (12.7</u>)mm

ESCN Series 30W~60W / 2" x 1"

2:1 / 4:1 Wide Input Voltage: 9-36, 18-36, 18-75, 36-75, 40-160 VDC

Output Voltage: 3.3, 5, 12, 15, 24, ±12, ±15, ±24 VDC

Output Power: 30W ~ 60W

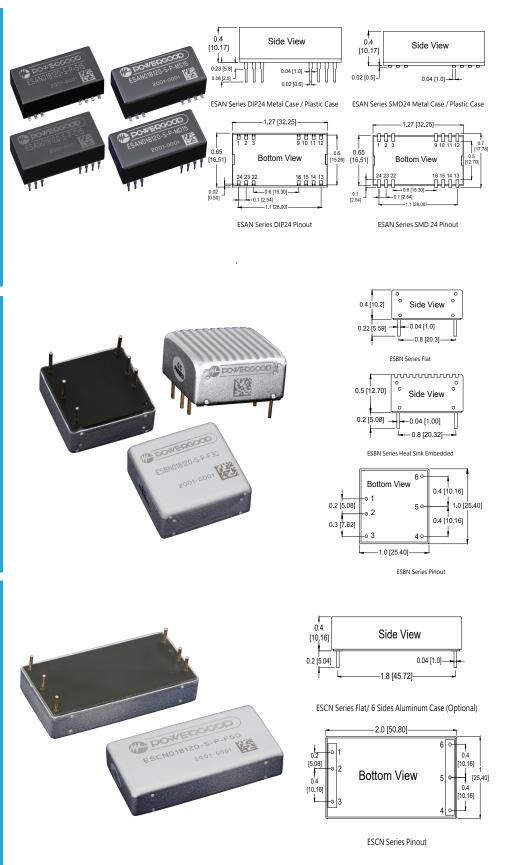
Operating Case Temperature: -45°C ~ 115°C

High Efficiency up to 90%

Package: Flat & 6-sided metal case is optional

Size: 2.00" x 1.00" x 0.40" 50.8 x 25.4 x 10.2mm

- Industrial standard pins, metal shell design, easy to heat dissipation and EMI
- •Maximum power density: up to 60 watts
- •Output voltage trim range of -10%, +10%
- •Fully protected: OCP / OVP / OTP / UVLO



DC/DC Encapsulated Series - S Product Feature

- Single / Dual Outputs
- Built in EMI filter meets EN55032 Class A without external components (Depends on different model)
- Isolation voltage up to 2000 VDC
- No life-span constrained Ceramic Capacitor inside

ESAS Series 15W / DIP24 - SMD24

4:1 Wide Input Voltage: 9-36, 18-75, 40-160 VDC

Output Voltage: 5, 12, 15, ±12, ±15 VDC

Output Power: 15W

Operating Case Temperature: -40°C~100°C

High Efficiency up to 88%

Package: Metal Case & **Plastic Case**

Size: 1.27" x 0.65" x 0.40" 32.3 x 16.5 x 10.2mm

ESBS Series 30W / 1" x 1"

4:1 Wide Input Voltage: 9-36, 18-75, 40-160 VDC

Output Voltage: 5, 12, 15, ±12, ±15 VDC

Output Power: 30W

Operating Case Temperature: -40°C~100°C

High Efficiency up to 88%

Package: Flat

Size: 1.00" x 1.00" x 0.40" 25.4 x 25.4 x 10.2mm

ESCS Series 50W / 2" x 1"

4:1 Wide Input Voltage: 9-36, 18-75, 40-180 VDC

Output Voltage: 5, 12, 15, ±12, ±15 VDC

Output Power: 50W

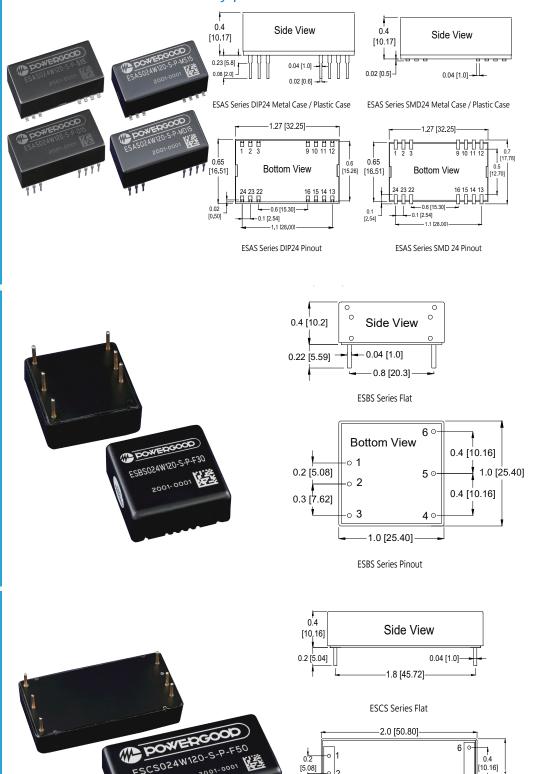
Operating Case Temperature: -40°C~100°C

High Efficiency up to 89%

Package: Flat

Size: 2.00" x 1.00" x 0.40" 50.8 x 25.4 x 10.2mm

- Industrial standard pins, metal shell design, easy to heat dissipation and EMI
- Fully SMT manufacturing, standard product, with good lead time, cost-effective
- Provide remote control of output voltage
- •Output voltage trim range of -10%, +10%
- Fully protected: OCP / OVP / OTP / UVLO



0.2

[5.08] 0.4

[10.16]



ESCS Series Pinout

Bottom View

[25.40]

[10.16]

5 0 0.4

4

DC/DC Brick Series – B Product Feature

- 2:1 / 4:1 / 8:1 / 12:1 Ultra-wide input voltage
- Single / Dual / Multi Outputs
- Built-in EMI filter
- Wide operating temperature -45°C ~+105°C (Optional: -55°C ~+125°C)
- Isolation voltage up to 2250 VDC
- No life-span constrained Ceramic Capacitor inside
- Provide remote control of output voltage

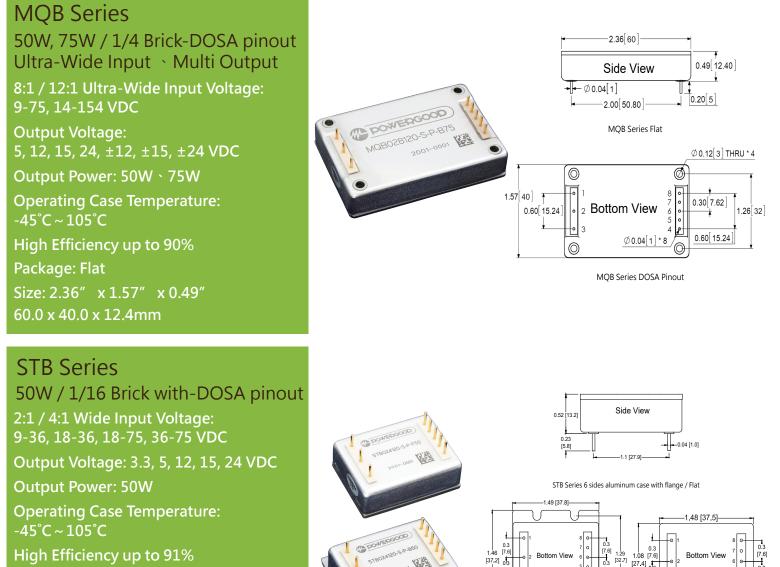
- Fully protected: OCP / OVP / OTP / UVLO
- The DOSA and VICOR pins are optional and can replace directly without any other additional components.
- Output voltage trim range of -10%, +10%
- Input voltage range up to 110 (40-180) Vin (continuous), with stronger anti input surge ability and higher reliability.

-0.65 [16.5]---

STB Series 6 sides aluminum case with flange

DOSA Pinout

STB Series Flat DOSA Pinout



Package: 6 sides aluminum case with flange & Flat

Size: 1.49" x 1.46" x 0.52" 37.8 x 37.2 x 13.2mm (With Flange)

Size: 1.48" x 1.08" x 0.52" 37.5 x 27.4 x 13.2mm (Flat)

DC/DC Brick Series – B Product Feature

SQB Series

100W~150W / 1/8 \ 1/4 Brick with DOSA
< VICOR pinout 2:1 / 4:1 Wide Input Voltage: 9-36, 18-36, 18-75, 40-180, 180-425 VDC

Output Voltage: 5, 12, 24, 28, 48 VDC

Output Power: 100W ~ 150W

Operating Case Temperature: -45°C~105°C

High Efficiency up to 92% Package: 6 sides aluminum case

(1/8 Brick Flat & 1/4 Brick with flange)

Size: 1/8 Brick - 2.38" x 1.08" x 0.56" 60.4 x 27.4 x14.2 mm 1/4 Brick - 2.38" x 1.47" x 0.56" 60.4 x 37.3 x 14.2 mm

SHB Series 200W~300W / 1/2 Brick

with DOSA < VICOR pinout 2:1 / 4:1 Wide Input Voltage: 9-36, 18-36, 18-75, 40-180,

180-425 VDC Output Voltage: 5, 12, 24, 28, 48 VDC Output Power: 200W ~ 300W

Operating Case Temperature: -45°C~105°C

High Efficiency up to 92% Package: 6 sides aluminum case

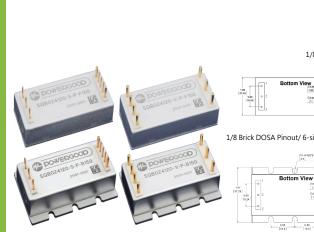
with flange Size: 2.42" x 2.40" x 0.59" 61.4 x 61.0 x 15.0 mm

SFB Series

400W~600W / Full Brick with VICOR pinout

2:1 / 4:1 Wide Input Voltage: 9-36, 18-36, 18-75, 40-180, 180-425 VDC Output Voltage: 12, 24, 28, 48 VDC Output Power: 400W ~ 600W **Operating Case Temperature:** -45°C~105°C High Efficiency up to 91% Package: 6 sides aluminum case

with flange Provide parallel function Size: 4.62" x 2.40" x 0.59" <u>117.3 x 61.0 x 15.0mm</u>

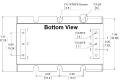


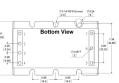


1/8 Brick & 1/4 Brick DOSA & Vicor Pinout



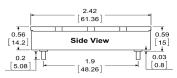
1/8 Brick DOSA Pinout/ 6-sided metal case 1/8 Brick VICOR Pinout/ 6-sided metal case



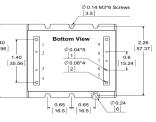


1/4 Brick DOSA Pinout/ 6-sided metal case 1/4 Brick VICOR Pinout/ 6-sided metal case

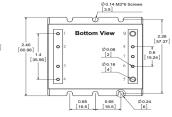




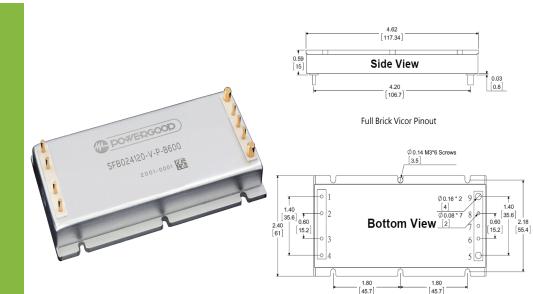
1/2 Brick DOSA & Vicor Pinout



1/2 Brick DOSA Pinout/ 6-sided metal case



1/2 Brick VICOR Pinout/ 6-sided metal case



DC/DC Brick Series – S Product Feature

- Built-in EMI filter
- Isolation voltage up to 2250 VDC
- •No life-span constrained Ceramic Capacitor inside
- Fully SMT manufacturing, Standard product, with good lead time, cost-effective
- •Output voltage trim range of -10%, +10%

SOBS Series

50W~100W / 1/8 \ 1/4 Brick with DOSA VICOR pinout

2:1 / 4:1 Wide Input Voltage: 9-36, 18-75, 40-180, 180-425 VDC Output Voltage: 5, 12, 24, 28, 48 VDC Output Power: 50~100W

Operating Case Temperature: -40°C ~ 100°C

High Efficiency up to 89%

Package: 6 sides aluminum case (1/8 Brick Flat & 1/4 Brick with flange)

1/8 Brick - 2.38" x 1.08" x 0.56" 60.4 x 27.4 x14.2 mm 2.38" x 1.47" x 0.56" 60.4 x 37.3 x 14.2 mm 1/4 Brick -

SHBS Series 50W~100W / 1/2 Brick with DOSA VICOR pinout 2:1 / 4:1 Wide Input Voltage:

9-36, 18-36, 18-75, 40-180, 180-425 VDC Output Voltage: 5, 12, 24, 28, 48 VDC Output Power: 50W ~ 100W **Operating Case Temperature:** -40°C~100°C High Efficiency up to 89% Package: 6 sides aluminum case with flange

Size: 2.42" x 2.40" x 0.59" 61.4 x 61.0 x 15.0mm

SFBS Series

50W~100W / Full Brick with VICOR pinout 2:1 / 4:1 Wide Input Voltage: 9-36, 18-36, 18-75, 40-180, 180-425 VDC

Output Voltage: 5, 12, 24, 28, 48 VDC

Output Power: 50W ~ 100W

Operating Case Temperature: -40°C~100°C

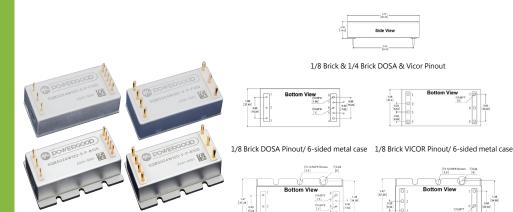
High Efficiency up to 89%

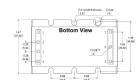
Package: 6 sides aluminum case with flange

Size: 4.62" x 2.40" x 0.59" 117.3 x 61.0 x 15.0mm



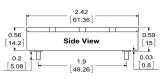
- •The DOSA and VICOR pins are optional, can replace directly without any other additional components.
- Input voltage range up to 110 (40-180) Vin (continuous), with stronger anti input surge ability and higher reliability. Input voltage range up to 300 (180-425) Vin, can be compatible with major brands input voltage range.



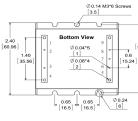


1/4 Brick DOSA Pinout/ 6-sided metal case 1/4 Brick VICOR Pinout/ 6-sided metal case

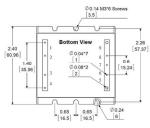




1/2 Brick DOSA & Vicor Pinout

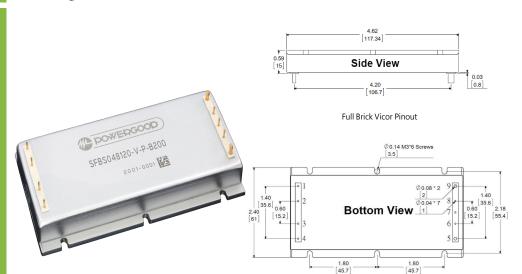


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1/2 Brick DOSA Pinout/ 6-sided metal case

1/2 Brick VICOR Pinout/ 6-sided metal case



1/8 Brick & 1/4 Brick DOSA & Vicor Pinout



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