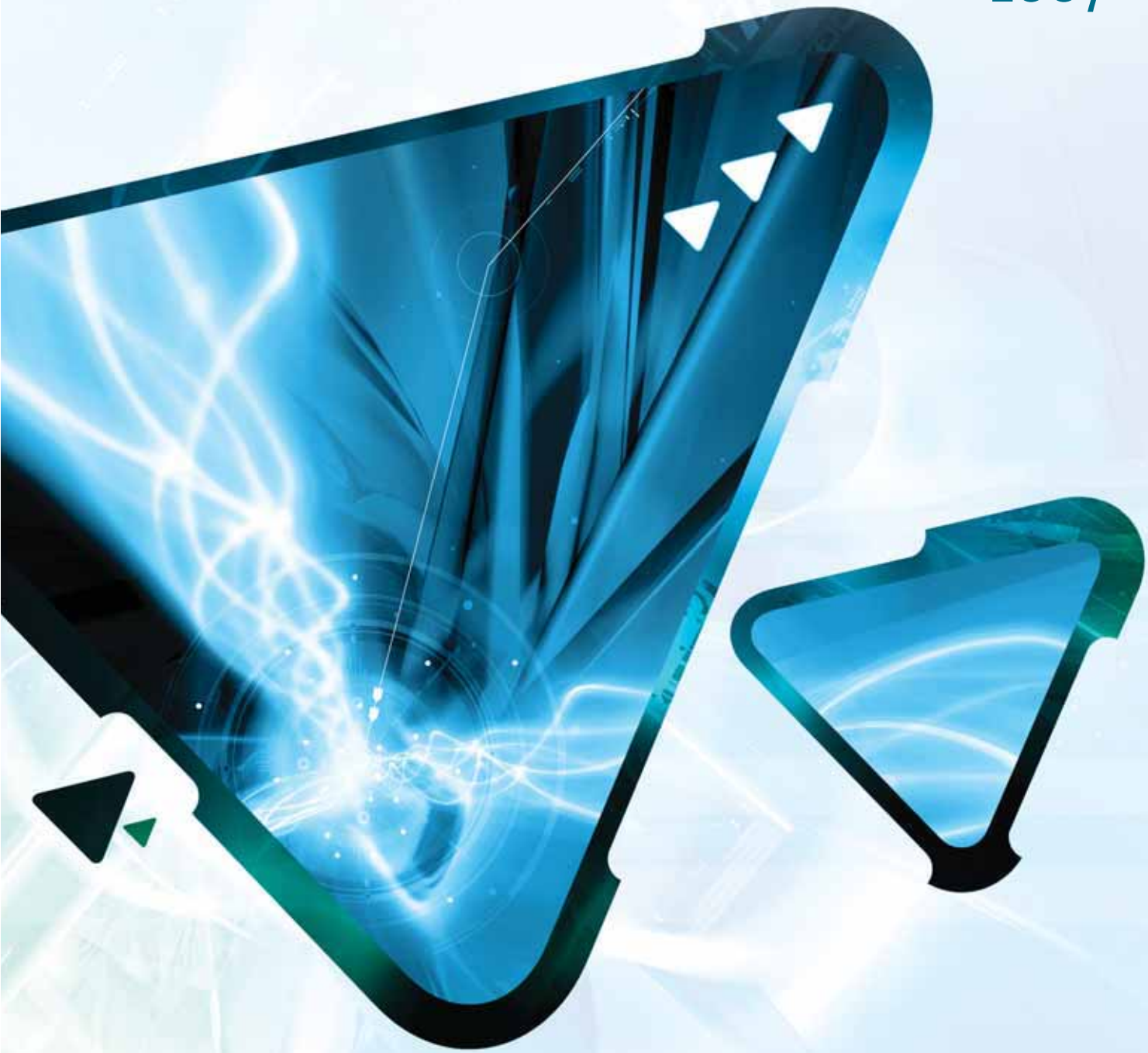
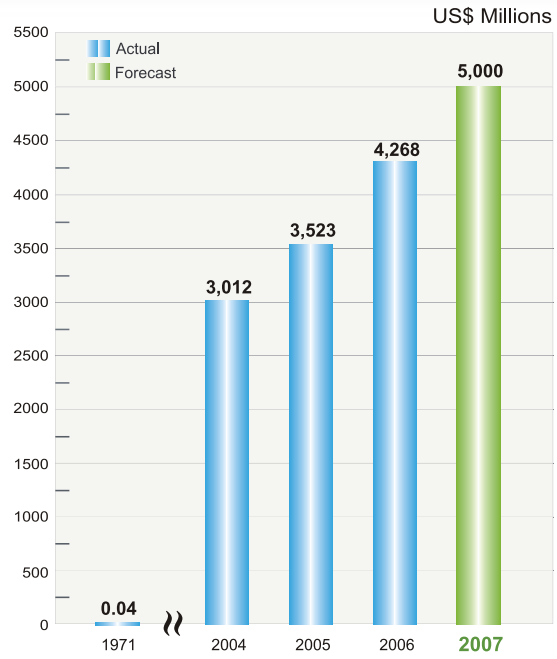
Delphi Series
DC/DC Converters

2007





Company Profile

Overview

Delta Group, founded in 1971, with 2006 group revenue over $4.2 billion US dollars, is a world leader in power systems technologies and manufacturing. For the past 15 years, we have been assisting Fortune 500 companies achieve their business objectives by providing state-of-the-art, quality, and cost efficient power supply solutions to meet their ever demanding applications.

Our vision of supplying high quality, cost effective products has earned Delta the respect and trust of our worldwide customer base. Through strong partnerships with our customers, our on-going commitment to quality improvement, and continuous investments into our core competencies, Delta continues to provide the best-in-class products and support to our customers.

Financial Strength

Delta's Power Systems, with sales revenues of over $2.0 billion US dollars, is a world leader in power systems technology and manufacturing. Our continuous growth and financial stability ensure our ability to cope with market fluctuations, sustain future growth and ensure a stable supply chain for our customer base.

Manufacturing

Delta has one of the world's largest and most automated manufacturing operations in the power supply industry. Our worldwide manufacturing facilities located in China and Thailand possess a total production capacity exceeding 10 million power supplies per month. This high volume production ensures Delta not only has the capabilities to meet the ever increasing production demands of our customers, but our highly competitive cost base coupled with our favorable purchasing position guarantees a competitive cost advantage to our customers as well.

Quality

Delta has always and shall remain committed to meeting or exceeding the daunting quality and reliability standards set forth to us by our customers. We conduct strict quality reviews and reliability testing at each phase of the product design stage, as well as have implement Statistical Process Control into each production process. Our manufacturing facilities are certified to ISO9001, ISO14001, TL9000, QS9000, and OHSAS18001.

Based on our outstanding performance in quality and reliability, we have received numerous vendor awards from our major customers. Our continuous progress in Total Quality Control and our Zero Defects Programs have made Delta a highly valued supplier to our customer base.

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Empowering. Solutions...
Delta's Standard DC/DC Converter offerings have got it all.

www.delta.com.tw/dcdc

Isolated DC/DC Converters

Form	Product		Vin	Vout / Power	1.0V	1.2V	1.5V	1.8V	2.5V	3.3V	5V	12V	15V	28V
1"x1"	S36SE	SMD, TH; 4:1 input	18~75V	17W										
	S48SP	SMD, TH	36~75V	35W										
2"x1"	S24SA	SMD, TH	18~36V	36W										
	S36SA	SMD	18~60V	25W										
	S48SA	SMD, TH	36~75V	36W										
2"x1.6"	L36SA	Through-Hole; 4:1 input	18~75V	50W										
SB*	V48SR	SMD, TH	36~75V	66W										
EB*	E24SR	SMD, TH	18~36V	66W										
	E36SR	SMD, TH; 4:1 input	18~75V	75W										
	E48SR	SMD, TH	36~75V	84W										
	E48SH	SMD, TH	36~75V	120W										
QB*	Q48SP	ATCA; Through-Hole	36~75V	216W										
	Q48SL	Metal Plate	36~75V	120W										
	Q48DV	Single Board, dual output	36~75V	35W										
	Q48DW	Single Board, dual output	36~75V	45W										
	Q48DR	Single Board, dual output	36~75V	100W										
	Q48DB	Bipolar dual output	36~75V	65W										
HB*	H48SL	Metal Plate	36~75V	240W										
	H48SV	Metal Plate	36~75V	150W										
	H48SA	Metal Plate	36~75V	400W										
	H24SN	Through-Hole	18~36V	350W										
	H48SN	Through-Hole	36~75V	350W										
FB*	F24SA	Metal Plate	18~36V	700W										
	F48SA	Metal Plate	36~75V	700W										

* SB= Sixteenth Brick, EB= Eighth Brick, QB= Quarter Brick, HB= Half Brick, FB= Full Brick.

DC/DC Bus Converters

Form	Product		Vin	Vout Power	9.6V	12V
EB*	E48SB	Through-Hole	38~55V	240W		
QB*	Q48SB	Through-Hole	42~53V	240W		
	Q48SB	Through-Hole	42~53V	300W		
	Q48SB	Through-Hole	38~55V	500W		

*EB = Eighth Brick, QB = Quarter Brick

Non-Isolated Point of Load

Key Features	POL Series	Vin	Vout	Iout
Molded Package SMD / SIP format	IPM04S	3~5.5V	0.8~3.3V	10A
	IPM12S	8~14V	0.8~5.0V	8A
	IPM04C	3~5.5V	0.8~3.3V	6A
	IPM12C	8~14V	0.8~5.0V	4A
	IPM24S (0A0) (0B0) (0C0)	8~36V 11~36V 20 ~36V	1.2~2.5V 3.3~6.5V 8 ~15V	3A
Voltage Tracking SMD / SIP format Voltage and resistor-based trim	DNT	2.4~5.5V 8.3~14V	0.75~3.3V 0.75~5.5V	3A/5A
	DNS	2.8~5.5V 8.3~14V	0.75~3.3V 0.75~5.0V	6A
	DNM	2.8~5.5V 8.3~14V	0.75~3.3V 0.75~5.0V	10A
	DNL	2.8~5.5V 8.3~14V	0.75~3.3V 0.75~5.0V	16A
	DNK	6.0~14V	0.8~5.0V	30A
Vertical or horizontal mounted through-hole package Voltage-based and resistor-based trim	NC06	10.2~13.8V	0.9V~5.0V	6A
	NC15 / NC20	10.2~13.8V	0.9V~5.0V	15A/20A
	NC30 / NC40	10.2~13.8V	0.9V~5.0V	30A/40A
	NC60	11.04~12.6V	0.9V~5.0V	60A
	NE06/NE10	3.0~13.8V	0.59V~5.1V	6A/10A
	NE20	4.5~13.8V	0.59V~5.1V	20A
	ND50	10.2~13.8V	0.9V~3.63V	50A

Filter Modules

Delphi Filter	Input Voltage (max.)	Current Rating (max.)	Package
FL75L05 A	75V	5A	Through-Hole
FL75L07 A	75V	7A	SMD
FL75L10 A	75V	10A	Through-Hole
FL75L20 A	75V	20A	Through-Hole

1"x1" Up to 35 Watts

S36SE / S48SP

Features

- *High efficiency*
- *Size:27.9mm x 24.4mm (1.10"x 0.96") S36SE*
  33.0mm x 24.4mm (1.30"x 0.96") S48SP
- *Industry standard 2" x 1" pinout*
- *Low profile: 8.5mm (0.34")*
- *SMD and through-hole versions*
- *Fixed frequency operation*
- *2:1 input voltage range; 4:1 (18V~75V) for S36SE*
- *Input UVLO, OVP (S48SP)*
- *Output OCP, OVP and OTP*
- *Monotonic startup into normal and pre-bias loads*
- *Output voltage trim ±10%*
- *2250V Isolation and basic Insolation*
- *ISO 9001, TL 9000, ISO 14001, QS9000, OHSAS18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

This 1x1 sized product family is a pin-for-pin replacement for the popular industry-standard 1x2 sized products in half the footprint and provides up to 35 watts of power or up to 10A of output current. These feature-rich 1x1 converters deliver outstanding and industry-leading electrical and thermal performance, which translate into more board space for our customer's space constrained applications. S48SP provides the highest output power and current and S36SE provides the highest input voltage range among similar sized product in the market. Both through-hole and surface-mount pins are available.

Model List

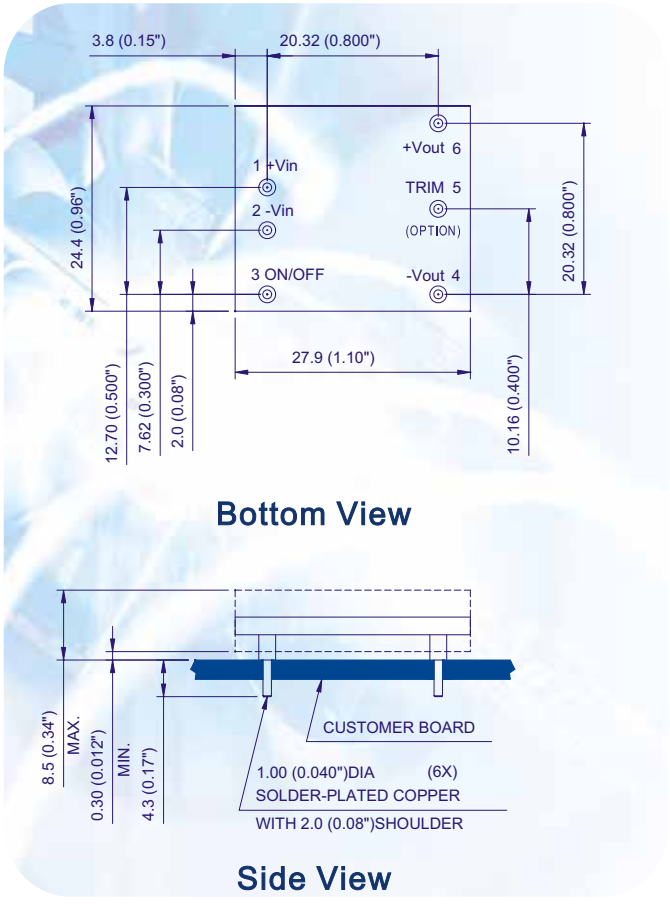
Model Name	Vin	Vout	Iout	Eff@100%load
S36SE3R305NRFB	18V~75V	3.3V	5A	86.5%
S36SE05003NRFB	18V~75V	5.0V	3A	83.0%
S36SE12001NRFB	18V~75V	12V	1.3A	87.0%
S48SP3R310NRFB	36V~75V	3.3V	10A	90.0%
S48SP05007NRFB	36V~75V	5.0V	7A	90.0%
S48SP12003NRFB	36V~75V	12V	3A	90.0%
S48SP15002NRFB	36V~75V	15V	2A	90.0%

Part Number Options (last 4 digits)

N	On/Off logic	N*=Negative, P=Positive, E=No remote on/off control pin
R	Pin Type/Length	R*=0.170",N=0.145", K=0.110", M=SMD
F	RoHS code	F= RoHS 6/6 (lead free)
B	Option code	A= No trim pin, B*= With trim pin
		R= With trim pin & OCP140% (Only for S36SE12001)

*Default

Mechanical Drawing (S36SE)



2"x1" Up to 36 Watts

S24SA / S36SA / S48SA

Features

- *High efficiency*
- *Size: 47.2mm x 29.5mm (1.86" x 1.16")*
- *Industry standard pin out*
- *Low profile: 8.5mm (0.33") max*
- *SMD and through-hole versions*
- *Fixed frequency operation*
- *2:1 input voltage range; 18V~ 60V input range for S36SA*
- *Input UVLO, OVP, Output OCP, OVP and OTP*
- *No minimum load required*
- *1500V isolation and basic insulation (2250V for S24SA)*
- *ISO 9001, TL9000, ISO 14001, QS9000, OHSAS18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, CE mark*

The S24SA/S36SA/S48SA product family provides up to 36 watts of power or up to 12A of output current in an industry standard footprint and pinout. These feature-rich 36W 1x2 converters deliver outstanding and industry-leading electrical and thermal performance, which translate into more board space for our customer's space constrained applications. Both through-hole and surface-mount pins are available.

Model List

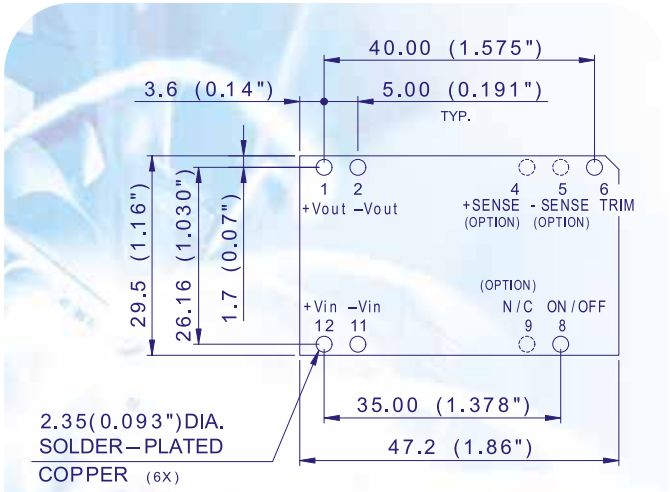
Model Name	Vin	Vout	Iout	Eff@100%load
S24SA1R212NRFA	18V~36V	1.2V	12A	85.5%
S24SA1R512NRFA	18V~36V	1.5V	12A	87.0%
S24SA1R812NRFA	18V~36V	1.8V	12A	87.5%
S24SA2R510NRFA	18V~36V	2.5V	10A	88.5%
S24SA3R310NRFA	18V~36V	3.3V	10A	90.0%
S24SA05006NRFA	18V~36V	5.0V	6.6A	90.0%
S24SA12003NRFA	18V~36V	12V	3A	89.5%
S36SA3R308NRFA	18V~60V	3.3V	8A	88.5%
S48SA1R212NRFA	36V~75V	1.2V	12A	84.0%
S48SA1R512NRFA	36V~75V	1.5V	12A	88.0%
S48SA1R812NRFA	36V~75V	1.8V	12A	88.0%
S48SA2R510NRFA	36V~75V	2.5V	10A	88.5%
S48SA3R310NRFA	36V~75V	3.3V	10A	90.5%
S48SA05006NRFA	36V~75V	5.0V	6.6A	90.5%
S48SA12003NRFB	36V~75V	12V	3A	90.0%

Part Number Options (last 4 digits)

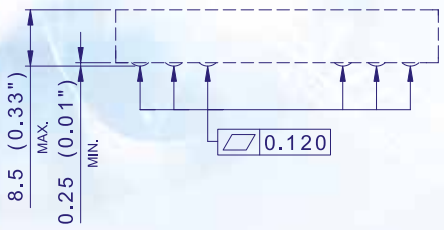
N	On/Off logic	N*=Negative, P=Positive
R	Pin Type	R*=SMD, T=Through Hole (S36SA has R type only)
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	S36SA A*=Standard functions
S24SA A*= 6 pins, no sense, B=8 pins, with sense		
S48SA A*= 9 pins, no sense, B=6 pins, no sense, C=9 pins, with sense (12V has option B only)		

*Default

Mechanical Drawing(S48SA)



Bottom View



Side View

2"x1.6" Up to 50 Watts

L36SA

Features

- *High efficiency*
- *Size: 49.6mm x 39.4mm (1.95"x1.55")*
- *Industry standard 2 x 1.6 form factor and pin out*
- *Low profile: 8.9mm (0.35") max*
- *SMD and through-hole versions*
- *Fixed frequency operation*
- *4:1 input voltage range*
- *Input UVLO, Output OCP, OVP and OTP (auto-restart)*
- *Monotonic startup into normal and pre-bias loads*
- *No minimum load required*
- *2250V isolation and basic insulation*
- *ISO 9001, TL9000, ISO 14001, QS9000, OHSAS18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The L36SA product family provides up to 50 watts of power or up to 15A of output current in the popular industry standard 1.6x2 footprint and pinout. This feature-rich 1.6x2 converter delivers outstanding and industry-leading electrical and thermal performance. The L36SA series provides the highest output power and current and the highest input voltage range among similar sized products.

Model List

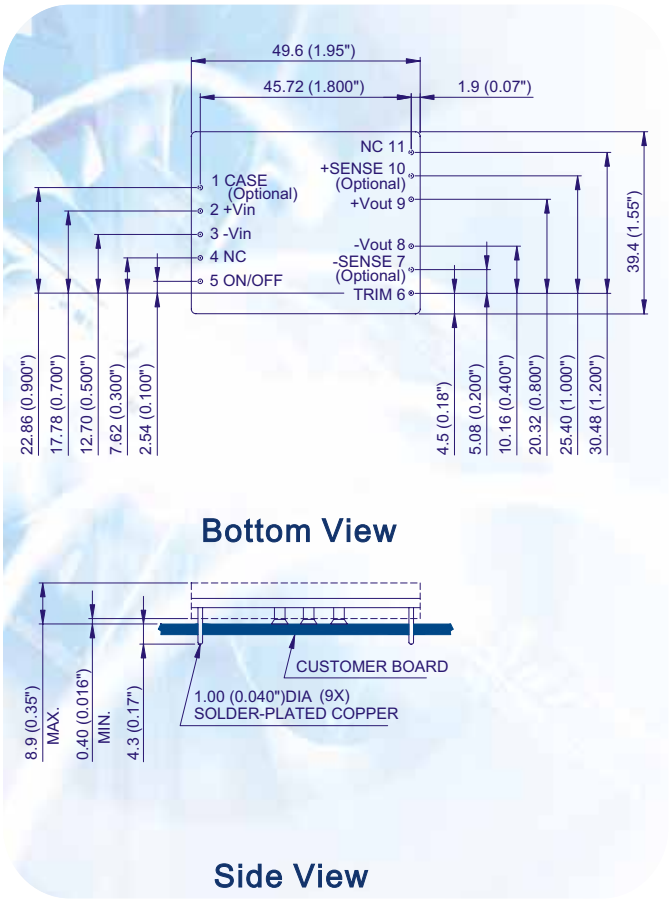
Model Name	Vin	Vout	Iout	Eff@100%load
L36SA3R315NRFA	18V~75V	3.3V	15A	88.0%
L36SA05010NRFA	18V~75V	5.0V	10A	89.0%
L36SA12004NRFA	18V~75V	12V	4A	87.5%

Part Number Options (last 4 digits)

N	On/Off logic	N*=NegativeP=Positive
R	Pin Length	R=0.170"
F	RoHS code	F= RoHS 6/6 (lead free)
A	Option code	A*= Standard functions, B= With sense pin

*Default

Mechanical Drawing (L36SA)



Sixteenth Brick Up to 66 Watts

V48SR

Features

- *High efficiency*
- *Size:33.0mm x 22.9mm x 9.5mm (1.30" x 0.90" x 0.37")*
- *Industry standard 1/16 brick form factor and pin out*
- *SMD and through-hole versions*
- *Fixed frequency operation*
- *Input UVLO, OVP*
- *Output OTP, OCP, and OVP (default is auto-restart)*
- *Output voltage trim -20%, +10%*
- *Monotonic startup into normal and pre-bias loads*
- *No minimum load required*
- *2250V Isolation and basic Insolation*
  ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001
- *certified manufacturing facility*
  UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark

The V48SR product family provides up to 66 watts of power or up to 25A of output current in the industry standard sixteenth brick footprint and pinout. This feature-rich V48SR sixteenth brick converter delivers outstanding and industry-leading electrical and thermal performance. The V48SR series provides the highest power and current density among similar sixteenth brick products. Both through-hole and surface-mount pins are available.

Model List

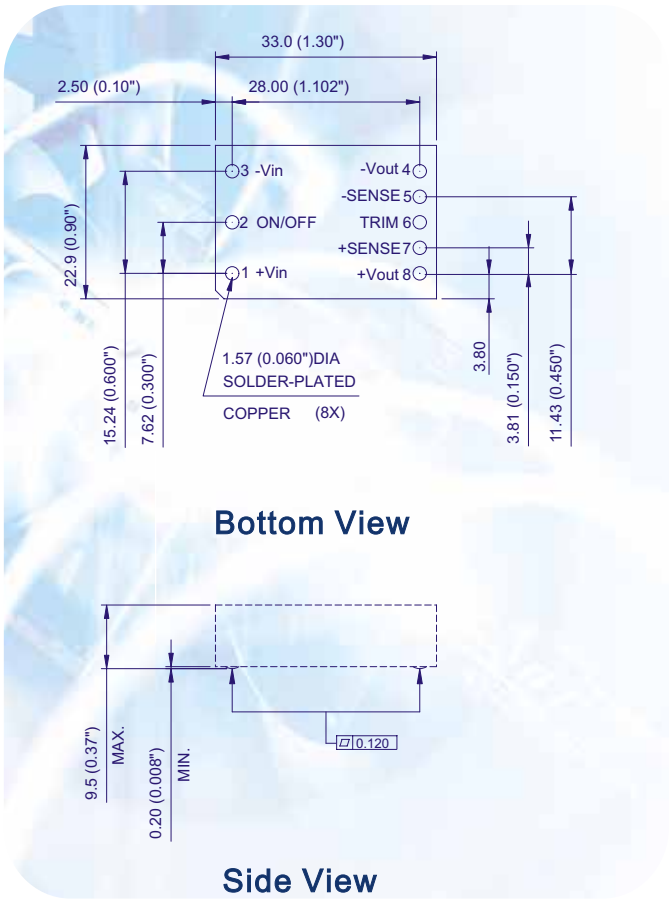
Model Name	Vin	Vout	Iout	Eff@100%load
V48SR1R225NRFA	36V~75V	1.2V	25A	84.0%
V48SR1R525NRFA	36V~75V	1.5V	25A	85.0%
V48SR1R825NRFA	36V~75V	1.8V	25A	87.0%
V48SR2R520NRFA	36V~75V	2.5V	20A	89.0%
V48SR3R320NRFA	36V~75V	3.3V	20A	90.5%
V48SR05013NRFA	36V~75V	5.0V	13A	91.0%
V48SR12005NRFA	36V~75V	12V	5.5A	91.0%
V48SR15004NRFA	36V~75V	15V	4.4A	91.0%

Part Number Options (last 4 digits)

N	On/Off logic	N*= Negative,P= Positive
R	Pin Type/Length	R*=0.170",N=0.145", K=0.110", M=SMD
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A=Standard fuctions

*Default

Mechanical Drawing (V48SR)



Eighth Brick Up to 84 Watts

E24SR/ E36SR/ E48SR

Features

- *High efficiency*
- *Size: 58.4mm x 22.8mm x 8.4mm (2.30" x 0.90" x 0.33") (E48SR)*
- *Industry standard 1/8 brick form factor and pin out*
- *SMD and through-hole versions*
- *Fixed frequency operation*
- *Input UVLO, output OCP, OVP and OTP*
- *Monotonic startup into normal and pre-bias loads*
- *No minimum load required*
- *2250V isolation and basic insulation*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The E24SR/E36SR/E48SR product family provides up to 84 watts of power or up to 25A of output current in the industry standard eighth brick footprint and pinout. This feature-rich E24SR/E36SR/E48SR eighth brick converter delivers outstanding and industry-leading electrical and thermal performance while provides very cost effective high reliability solutions. Both through-hole and surface-mount pins are available.

Model List

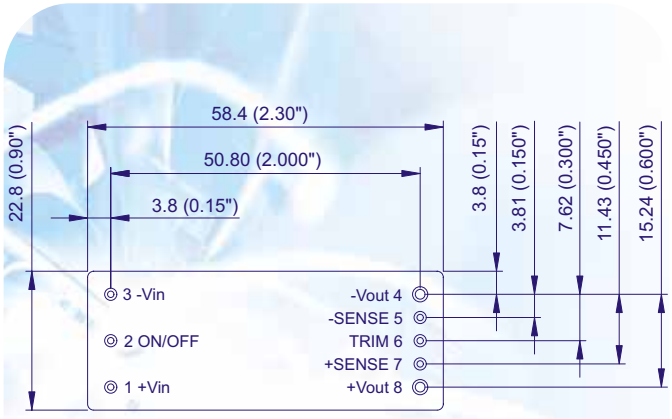
Model Name	Vin	Vout	Iout	Eff@100%load
E24SR3R320NRFA	18V~36V	3.3V	20A	90.0%
E24SR05012NRFA	18V~36V	5.0V	12A	90.5%
E24SR06508NRFA	18V~36V	6.5V	8A	90.5%
E24SR12005NRFA	18V~36V	12V	5A	90.5%
E36SR3R320NRFA	18V~75V	3.3V	20A	89.5%
E36SR05015NRFA	18V~75V	5.0V	15A	89.0%
E48SR1R225NRFA	36V~75V	1.2V	25A	88.0%
E48SR1R525NRFA	36V~75V	1.5V	25A	89.5%
E48SR1R825NRFA	36V~75V	1.8V	25A	90.5%
E48SR2R520NRFA	36V~75V	2.5V	20A	89.0%
E48SR3R320NRFA	36V~75V	3.3V	20A	90.5%
E48SR05012NRFA	36V~75V	5.0V	12A	91.5%
E48SR12005NRFA	36V~75V	12V	5A	92.0%
E48SR12006NRFA	36V~75V	12V	6A	92.5%
E48SR12007NRFA	36V~75V	12V	7A	92.0%
E48SR15004NRFA	36V~75V	15V	4A	92.0%

Part Number Options (last 4 digits)

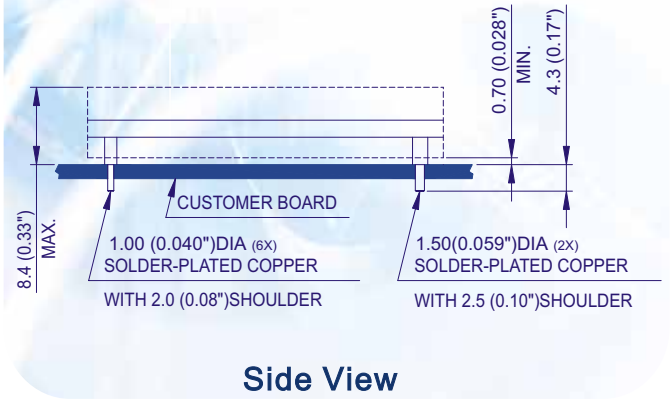
N	On/Off logic	N*=Negative,P=Positive
R	Pin Type/Length	R*=0.170",N=0.145", K=0.110",M=SMD
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A= Standard functions

*Default. E36SR series only offer NRFA and there is no other option

Mechanical Drawing (E48SR)



Bottom View



Side View

Eighth Brick Up to 120 Watts

E48SH

Features

- *High efficiency*
- *Size: 58.4mm x 22.8mm x 9.5mm (2.30"x 0.90"x 0.37")*
- *Industry standard 1/8 brick form factor and pin out*
- *SMD and through-hole versions*
- *Fixed frequency operation*
- *Input UVLO, Output OTP, OCP, and OVP*
- *2:1 input voltage range*
- *Monotonic startup into normal and pre-bias loads*
- *No minimum load required*
- *2250V Isolation and basic Insolation*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The E48SH product family provides up to 120 watts of power or up to 50A of output current in the industry standard eighth brick footprint and pinout. This feature-rich E48SH eighth brick converter delivers outstanding and industry-leading electrical and thermal performance. The E48SH series provides one of the highest output power and current among similar eighth brick products. Both through-hole and surface-mount pins are available.

Model List

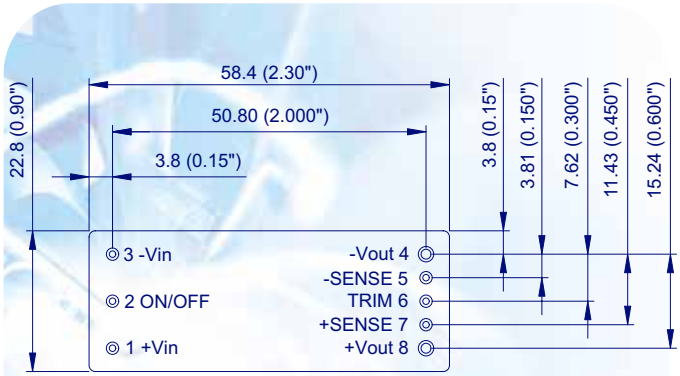
Model Name	Vin	Vout	Iout	Eff@100%load
E48SH1R250NRFA	36V~75V	1.2V	50A	86.5%
E48SH1R540NRFA	36V~75V	1.5V	40A	89.0%
E48SH1R840NRFA	36V~75V	1.8V	40A	90.0%
E48SH2R535NRFA	36V~75V	2.5V	35A	89.5%
E48SH3R330NRFA	36V~75V	3.3V	30A	92.0%
E48SH05020NRFA	36V~75V	5.0V	20A	90.0%
E48SH12010NRFA	36V~75V	12V	10A	93.5%

Part Number Options (last 4 digits)

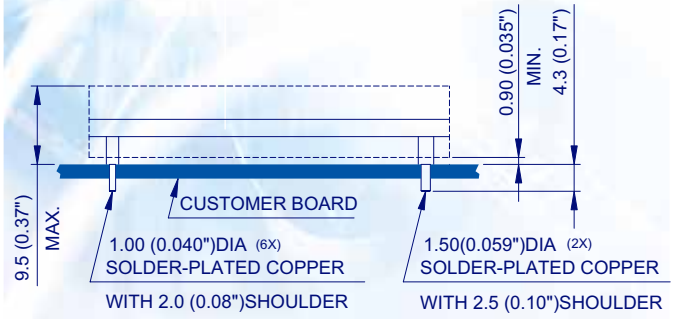
N	On/Off logic	N*=Negative,P=Positive
R	Pin Type/Length	R*=0.170", N=0.145", K=0.110", M=SMD
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A*=Standard functions with output OCL
		B=Standard functions, with output OCP
		(Available for 1.2V, 1.8V and 2.5V)
		H=With heatspreader

*Default

Mechanical Drawing (E48SH)



Bottom View



Side View

Quarter Brick Single output

Q48SP

Features

- *Industry standard quarter brick footprint*
- *Size:57.9mm x 36.8mm x 10.8mm (2.28" x 1.45" x 0.43") (w/o heatspreader)*
  57.9mm x 36.8mm x 12.7mm (2.28" x 1.45" x 0.50") (with heatspreader)
- *Fixed frequency operation*
- *Input UVLO, output OCP, OVP, OTP*
- *Monotonic startup into normal and pre-bias load*
- *No minimum load required*
- *Wide output trim range:-20% ~ +10%*
- *2250V Isolation and basic insulation*
- *ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The Delphi open frame, single board quarter brick product family provides up to 18A of output current in an industry standard footprint and pinout. Both open frame single board and with built-in heat spreader versions are available.

Model List

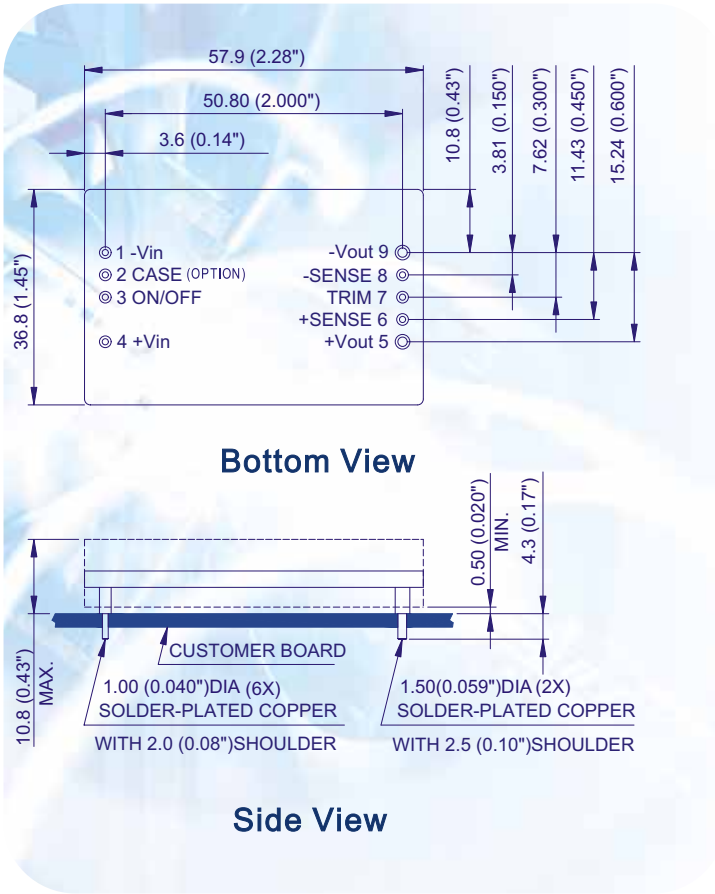
Model Name	Vin	Vout	Iout	Eff@100%load
Q48SP12017NRFA	36V~75V	12V	18A	92.5%

Part Number Options (last 4 digits)

N	On/Off logic	N*= Negative,P= Positive
R	Pin Type/Length	R*=0.170",N=0.145",K=0.110"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A*=Standard functions, with case pin
		B= Without case pin
		H= With heatspreader and case pin

*Default

Mechanical Drawing (Q48SP)



Quarter Brick Single output

Q48SL

Features

- *Industry standard quarter brick footprint*
- *Standard footprint: 57.9mm x 36.8mm x 12.7mm (2.28"x1.45" x0.50")*
- *Fixed frequency operation*
- *Metal baseplate*
- *Input UVLO, output OCP,OVP, OTP*
- *No minimum load required*
- *1500V Isolation and basic insulation*
- *ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The Delphi Q48SL quarter brick single output product family provides up to 35A of output current in an industry standard footprint and pinout. The Q48SL series comes with built-in heat spreader for your thermally challenged applications.

Model List

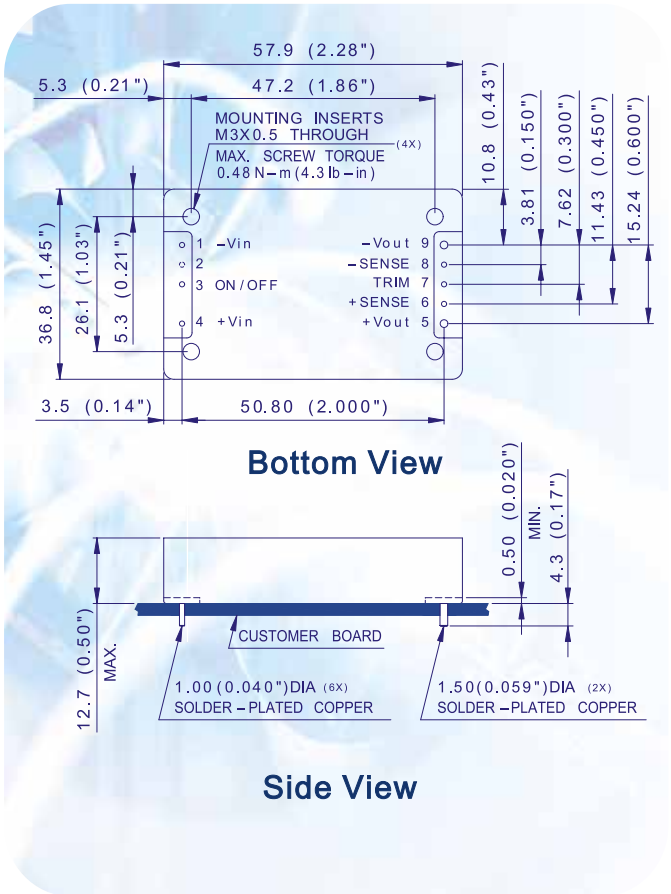
Model Name	Vin	Vout	Iout	Eff@100%load
Q48SL1R535NRFA	36V~75V	1.5V	35A	85.0%
Q48SL1R835NRFA	36V~75V	1.8V	35A	87.0%
Q48SL2R535NRFA	36V~75V	2.5V	35A	89.0%
Q48SL3R330NRFA	36V~75V	3.3V	30A	91.0%
Q48SL05020NRFA	36V~75V	5.0V	20A	90.0%
Q48SL12010NRFA	36V~75V	12V	10A	91.0%

Part Number Options (last 4 digits)

N	On/Off logic	N*=Negative, P=Positive
R	Pin Length	R*=0.170", N=0.145", K=0.110"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A=Standard functions

*Default

Mechanical Drawing (Q48SL)



Quarter Brick Dual output

Q48DV / Q48DW

Features

- *Industry standard footprint and pinout*
- *Size: 57.9mm x 36.8mm x 8.5mm (2.28" x 1.45" x 0.33")*
- *Fixed frequency operation*
- *Flexible output current allocation on each output*
- *Low voltage output (O/P 1) starts up first*
- *Input UVLO, output OCP, OVP, OTP*
- *Basic insulation*
- *No minimum load required*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified and CE mark*

The Delphi Q48DV and Q48DW quarter brick dual output product family provides up to 45 watts of power in an industry standard footprint and pinout. Q48DV and Q48DW provide two positive outputs and each output can optionally start up first.

Model List

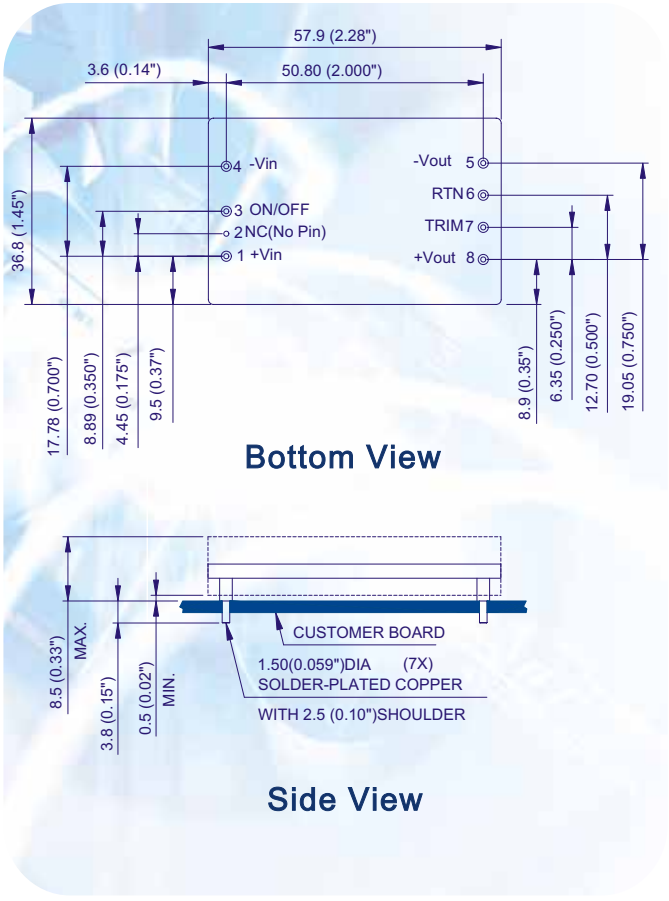
Model Name	Vin	Output#1	Output#2	Eff@100%load
Q48DV1R533NRFA	36V~75V	1.5V/10A	3.3V/10A	86.0%
Q48DW3R312NRFA	36V~75V	1.2V/13A	3.3V/8A	85.3%
Q48DW3R315NRFA	36V~75V	1.5V/12A	3.3V/8A	85.3%
Q48DW3R318NRFA	36V~75V	1.8V/10A	3.3V/8A	86.5%

Part Number Options (last 4 digits)

N	On/Off logic	*N=Negative, P=Positive
R	Pin Type/Length	*R=0.150", N=0.145", K=0.110"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A= Standard functions

*Default

Mechanical Drawing (Q48DV/DW)



Quarter Brick Dual output

Q48DR / Q48DB

Features

- *Industry standard footprint and pinout*
- *Size: 57.9mm x 36.8mm x 8.5mm (2.28" x 1.45" x 0.33")*
- *Fixed frequency operation*
- *Input UVLO, output OCP, OVP, OTP*
- *Independent two output channels (Q48DR)*
- *No minimum load required*
- *Basic insulation*
- *ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The Delphi quarter brick dual output product family provides up to 100 watts of power in an industry standard footprint and pinout. Q48DR provide two positive outputs while Q48DB provides bipolar dual outputs (one positive and one negative). Also, the two outputs of Q48DR are completely independent of each other with optional second trim.

Model List

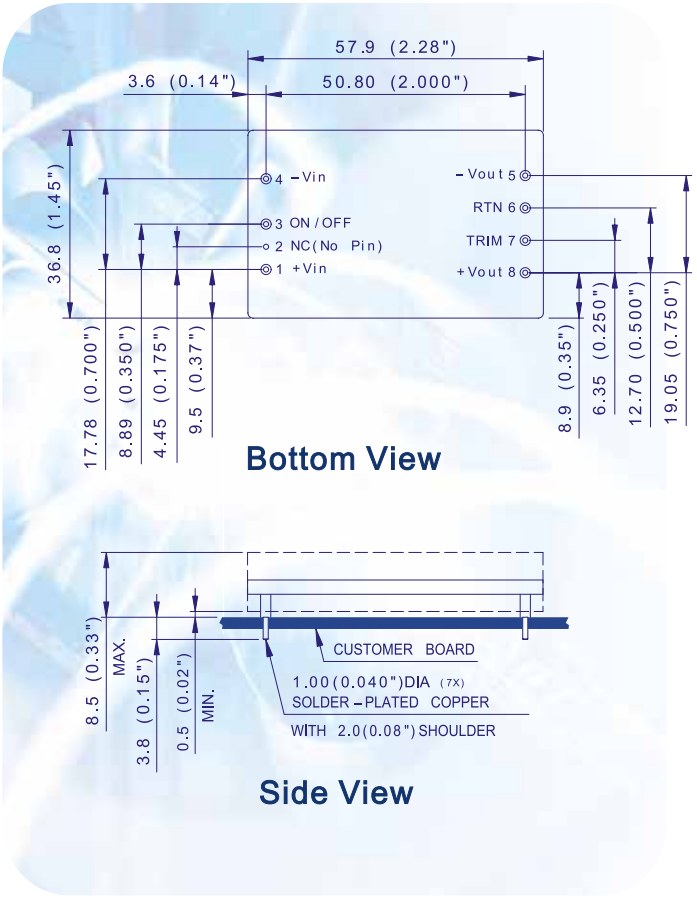
Model Name	Vin	Output#1	Output#2	Eff@100%load
Q48DR1R533NRFA	36V~75V	1.5V/15A	3.3V/15A	87.5%
Q48DR1R833NRFA	36V~75V	1.8V/15A	3.3V/15A	88.0%
Q48DR2R533NRFA	36V~75V	2.5V/15A	3.3V/15A	88.0%
Q48DR3R350NRFA	36V~75V	3.3V/15A	5.0V/10A	88.5%
Q48DB12003NRFA	36V~75V	12V/2.7A	-12V/2.7A	90.0%

Part Number Options (last 4 digits)

N	On/Off logic	N*=NegativeP=Positive
R	Pin Length	R*=0.170" (Q48DR),or R*=0.150" (Q48DB)
		N=0.145", K=0.110"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A*=Standard functions (Q48DB)

Default. Q48DR, A=Standard functions, B= With second trim pin

Mechanical Drawing (Q48DB)



Half Brick

H48SL / H48SV

Features

- *High efficiency*
- *Size: 57.9mm x 61.0mm (2.28" x 2.40")*
- *Industry standard pin out*
- *Fixed frequency operation*
- *Metal baseplate*
- *Input UVLO, output OCP, OVP, OTP*
- *Basic insulation*
- *No minimum load required*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified and CE mark*

The Delphi half brick product family provides up to 80A of output current in an industry standard footprint and pinout. Both open frame single board and with built-in heat spreader versions are available.

Model List

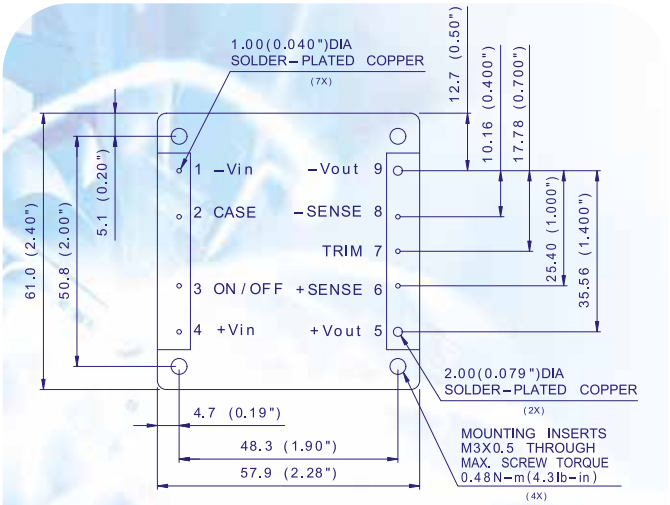
Model Name	Vin	Vout	Iout	Eff@100%load
H48SL1R560NRFA	36V~75V	1.5V	60A	84.0%
H48SL1R860NRFA	36V~75V	1.8V	60A	85.0%
H48SL2R560NRFA	36V~75V	2.5V	60A	88.0%
H48SL3R360NRFA	36V~75V	3.3V	60A	89.0%
H48SL05040NRFA	36V~75V	5.0V	40A	90.5%
H48SL12020NRFA	36V~75V	12V	20A	91.0%
H48SV3R310NRFA	36V~75V	3.3V	10A	89.5%
H48SV3R320NRFA	36V~75V	3.3V	20A	90.0%
H48SV3R330NRFA	36V~75V	3.3V	30A	90.5%
H48SV3R340NRFA	36V~75V	3.3V	40A	89.5%
H48SV05010NRFA	36V~75V	5.0V	10A	88.5%
H48SV05020NRFA	36V~75V	5.0V	20A	90.0%
H48SV05030NRFB	36V~75V	5.0V	30A	90.5%

Part Number Options (last 4 digits)

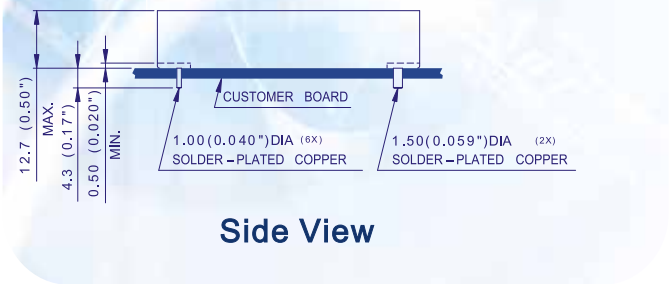
N	On/Off logic	N*=Negative, P=Positive
R	Pin Length	R*=0.170",N=0.145", K=0.110"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A= Standard functions (Except 5V/30A)

*Default

Mechanical Drawing (H48SL)



Bottom View



Side View

Half Brick & Full Brick

H48SA

Features

- *High efficiency*
- *Size: 58.4mm x 61.0mm (2.30" x 2.40")*
- *Industry standard pin out*
- *Single board construction*
- *Fixed frequency operation*
- *Input UVLO, output OCP, OVP, OTP*
- *2250 Isolation and basic insulation*
- *No minimum load required*
- *Wide range trim range: -40%, 10%*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified and CE mark*

The Delphi H48SA series provides up to 400 watts of power or 33A of output current in an industry standard footprint. With creative design technology and optimization of component placement, these converters possess outstanding electrical and thermal performance, as well as extremely high reliability under highly stressful operating conditions. The Delphi Series converters meet all safety requirements with basic insulation and it features a wide output trim range. Typical efficiency of the 12V, 400W module is better than 94% and all modules are fully protected from abnormal input/output voltage, current and temperature conditions.

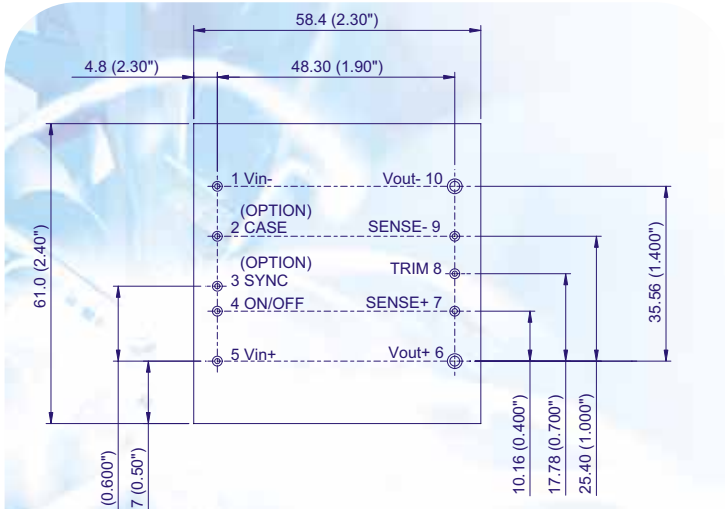
Model List

Model Name	Vin	Vout	Iout	Eff@100%load
H48SA12033NRFA	36V~75V	12V	33A	93.5%

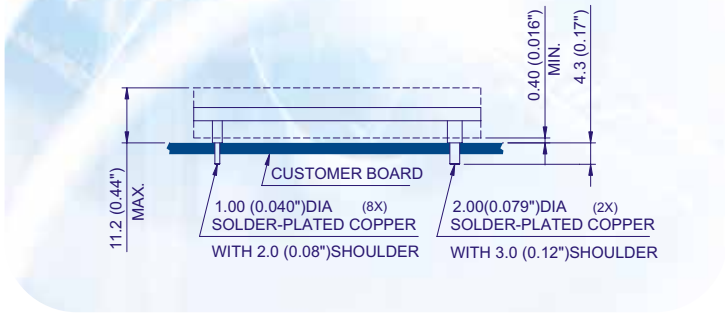
Part Number Options (last 4 digits)

N	On/Off logic	N=Negative
R	Pin Length	R=0.170"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A=Standard functions

Mechanical Drawing (H48SA)



Bottom View



Side View

Half Brick & Full Brick

H24SN/H48SN/F24SA/F48SA

Features

- *High efficiency*
- *Standard half brick and full brick footprint*
- *Industry standard pin out*
- *2:1 input voltage range*
- *Fixed frequency operation*
- *Metal baseplate*
- *Input UVLO, output OCP, OVP & OTP*
- *No minimum load required*
- *2250V Isolation and basic Insolation*
- *Auxiliary bias power (F48SA)*
- *Paralleling (current sharing) (F48SA)*
- *ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The Delphi H24SN/H48SN/F24SA/F48SA series provides up to 700 watts of power in full brick and up to 350 watts in half brick sized power modules for RF amplifier applications.

Model List

Model Name	Vin	Vout	Iout	Eff@100%load
H24SN28012NRFA	18V~36V	28V	12.5A	90.5%
H48SN28012NRFA	36V~75V	28V	12.5A	91.0%
F24SA28025PRFA	18V~36V	28V	25A	90.5%
F48SA28025PRFA	36V~75V	28V	25A	91.5%

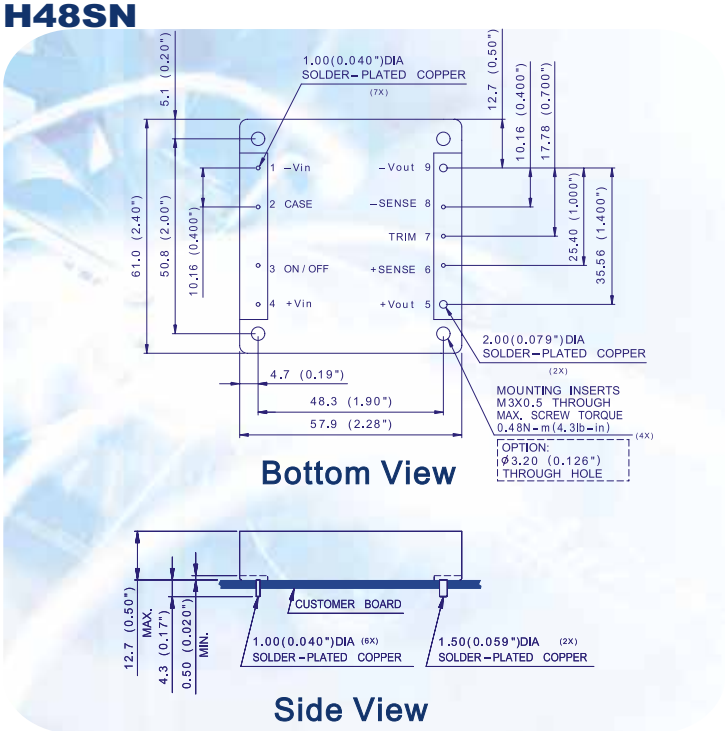
Part Number Options (last 4 digits)

N	On/Off logic	N*=Negative, P=Positive
R	Pin Length	R*=0.170", N=0.145", K=0.110"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A*=Standard functions
		B=No thread in heatsink mounting hole

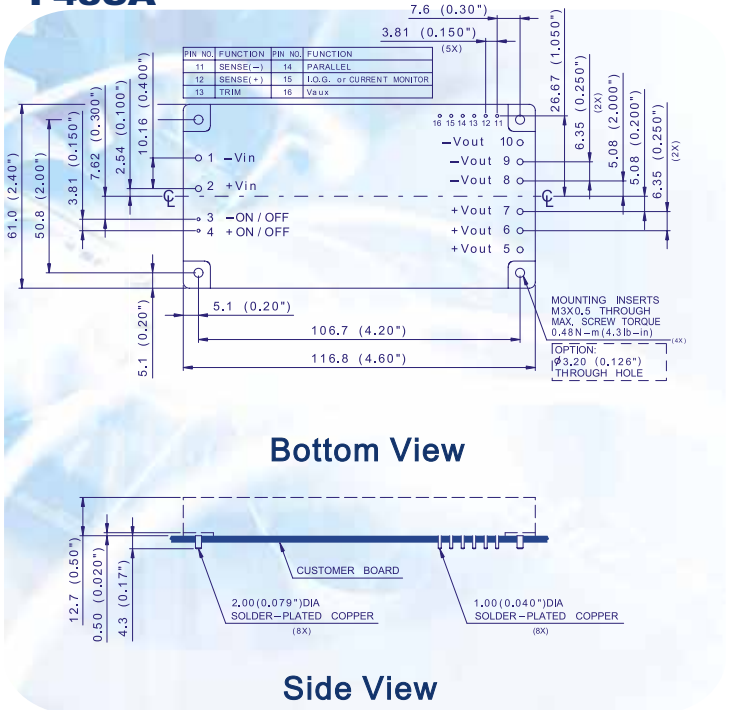
*Default

Mechanical Drawing

H48SN



F48SA



Bus Converter

E48SB / Q48SB

Features

- *High efficiency*
- *Industry standard footprint and pin out*
- *Fixed frequency operation*
- *Input UVLO, OVP, output OCP and OTP*
- *Parallelable for high output power*
- *2250V isolation*
- *Basic insulation*
- *Monotonic startup*
- *No minimum load required*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified and CE mark*

The Q48SB and E48SB product families support intermediate bus architectures and power multiple downstream non-isolated point-of-load (POL) converters. Both series operate from a nominal 48V input and provides up to 550W of power in an industry standard footprint and pinout. These bus converters deliver outstanding and industry-leading electrical and thermal performance while provide very cost effective high reliability solutions.

Model List

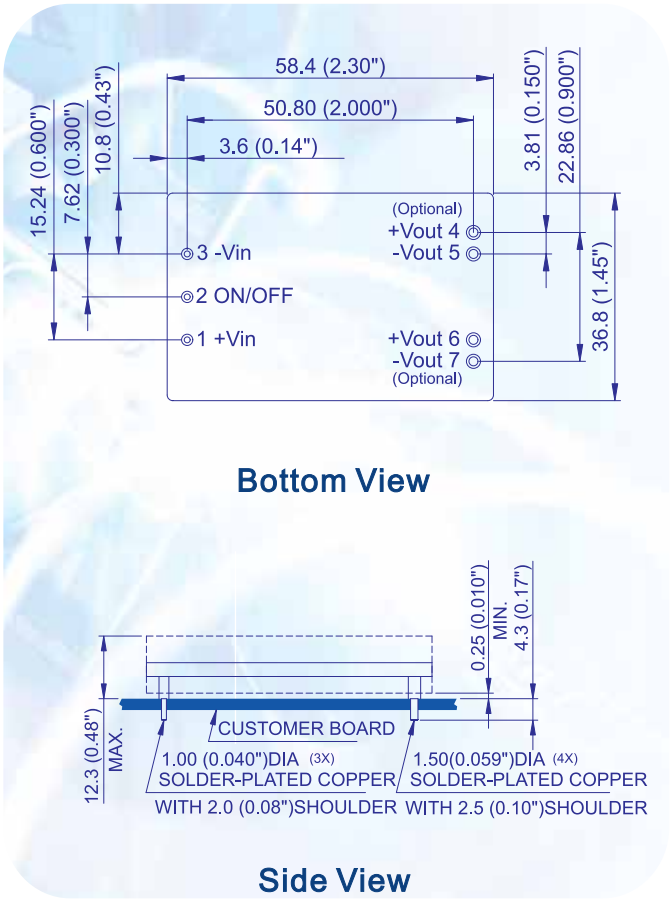
Model Name	Vin	Vout	Iout	Eff@100%load
E48SB9R625NRFA	38V~55V	9.6V	25A	96.5%
E48SB12020NRFA	38V~55V	12V	20A	96.3%
Q48SB10828NRFA	36V~60V	9.6V	31A	95.5%
Q48SB12020NRFA	42V~53V	12V	20A	96.0%
Q48SB12025NRFA	42V~53V	12V	25A	96.0%
Q48SB9R650NRFA	38V~55V	9.6V	55A	96.8%
Q48SB12040NRFA	38V~55V	12V	40A	96.5%

Part Number Options (last 4 digits)

N	On/Off logic	N*=Negative, P=Positive
R	Pin Length	R*=0.170", N=0.145", K=0.110",
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	E48SB, A*=OCP, OTP hiccup, B=OCP, OTP latch-up
Q48SB 240W,	A* =Standard functions, H= With heatspreader	
Q48SB 300W,	A* =Standard functions, H= With heatspreader	
Q48SB 500W,	A* =4 output pins, no heatspreader	
	H =4 output pins, with heatspreader	

*Default

Mechanical Drawing (Q48SB/500W)



Non-Isolated Point of Load

DNT/DNS/DNM/DNL/DNK

Features

- *High efficiency*
- *Small size and low profile*
- *Industry standard footprint and pin out*
- *Pre-bias startup*
- *Output voltage tracking (Except DNT)*
- *No minimum load required*
- *Voltage and resistor-based trim*
- *Output voltage programmable from 0.75V to 3.3V and from 0.75V to 5V via external resistors*
- *Input UVLO, output OTP, OCP*
- *Remote ON/OFF*
- *Remote sense(DNM, DNL& DNK series)*
- *ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The DNT, DNS, DNM, DNL and DNK families of non-isolated DC/DC converters offer 3A to 30A of current in an industry standard form factor and pinout. They operate from a very wide input voltage range and have a programmable wide output voltage range by using external resistors to provide very convenient and extremely cost effective point-of load solutions. The whole series also has a flexible, programmable tracking and sequencing feature, which provides a variety of startup voltages as well as sequencing and tracking between power modules. These converters are available in a surface mount or SIP package.

Part Number Options (last 3 digits)

N	On/Off logic	N*=Negative, P=Positive
F	RoHS code	F=RoHS 6/6 (lead free)
D	Option code	D*=Standard functions (DOSA compliant)
		A*=Standard functions (For DNT and DNK only)

*Default

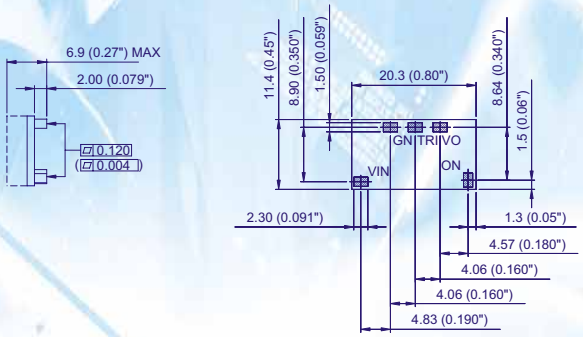
Model List

Model Name	Package	Vin	Vout	Iout	Eff@100%load
DNT04S0A0S03NFA	SMD	2.4V~5.5V	0.75V~3.3V	3A	94.0%
DNT04S0A0R03NFA	SIP	2.4V~5.5V	0.75V~3.3V	3A	93.0%
DNT04S0A0S05NFA	SMD	2.4V~5.5V	0.75V~3.3V	5A	94.0%
DNT04S0A0R05NFA	SIP	2.4V~5.5V	0.75V~3.3V	5A	93.0%
DNS04S0A0S06NFD	SMD	2.8V~5.5V	0.75V~3.3V	6A	94.0%
DNS04S0A0R06NFD	SIP	2.8V~5.5V	0.75V~3.3V	6A	94.0%
DNM04S0A0S10NFD	SMD	2.8V~5.5V	0.75V~3.3V	10A	96.0%
DNM04S0A0R10NFD	SIP	2.8V~5.5V	0.75V~3.3V	10A	96.0%
DNL04S0A0S16NFD	SMD	2.8V~5.5V	0.75V~3.3V	16A	95.0%
DNL04S0A0R16NFD	SIP	2.8V~5.5V	0.75V~3.3V	16A	95.0%
DNT12S0A0S03NFA	SMD	8.3V~14V	0.75V~5.5V	3A	92.5%
DNT12S0A0R03NFA	SIP	8.3V~14V	0.75V~5.5V	3A	92.5%
DNT12S0A0S05NFA	SMD	8.3V~14V	0.75V~5.5V	5A	92.0%
DNT12S0A0R05NFA	SIP	8.3V~14V	0.75V~5.5V	5A	91.0%
DNS10S0A0S06NFD	SMD	8.3V~14V	0.75V~5.0V	6A	89.5%
DNS10S0A0R06NFD	SIP	8.3V~14V	0.75V~5.0V	6A	89.5%
DNM10S0A0S10NFD	SMD	8.3V~14V	0.75V~5.0V	10A	93.0%
DNM10S0A0R10NFD	SIP	8.3V~14V	0.75V~5.0V	10A	93.0%
DNL10S0A0S16NFD	SMD	8.3V~14V	0.75V~5.0V	16A	91.5%
DNL10S0A0R16NFD	SIP	8.3V~14V	0.75V~5.0V	16A	92.0%
DNK12S0A0R30NFA	SIP	6.0V~14V	0.8V~5.0V	30A	93.3%

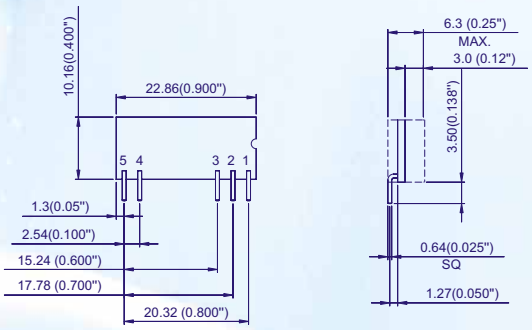
Mechanical Drawing

DNT

SMD Package

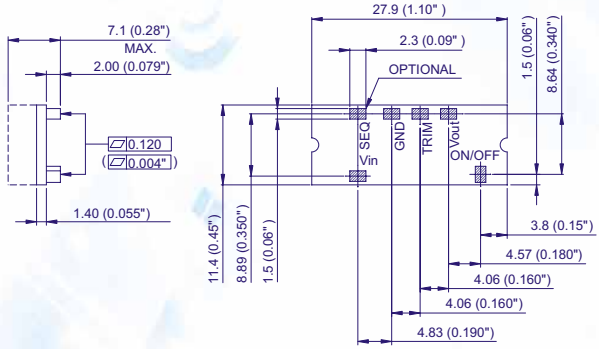


SIP Package

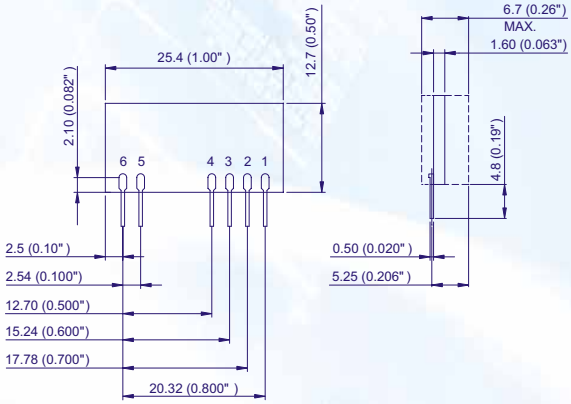


PIN#	Function
1	Vout
2	TRIM
3	GND
4	SEQ
5	Vin
6	ON/OFF

SMD Package



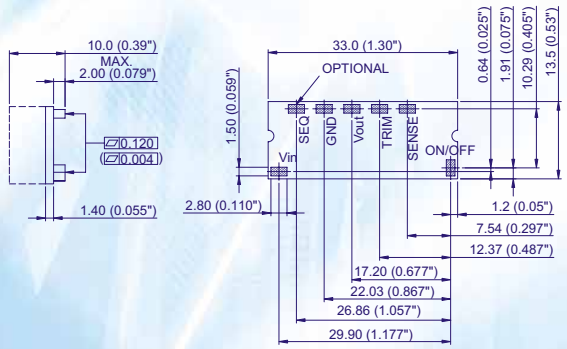
SIP Package



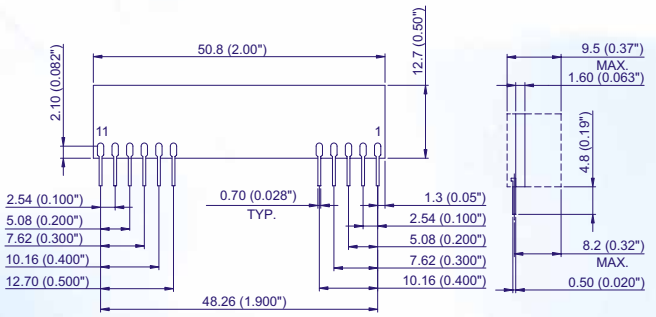
PIN#	Function
1	Vout
2	TRIM
3	GND
4	SEQ
5	Vin
6	ON/OFF

DNL/M

SMD Package



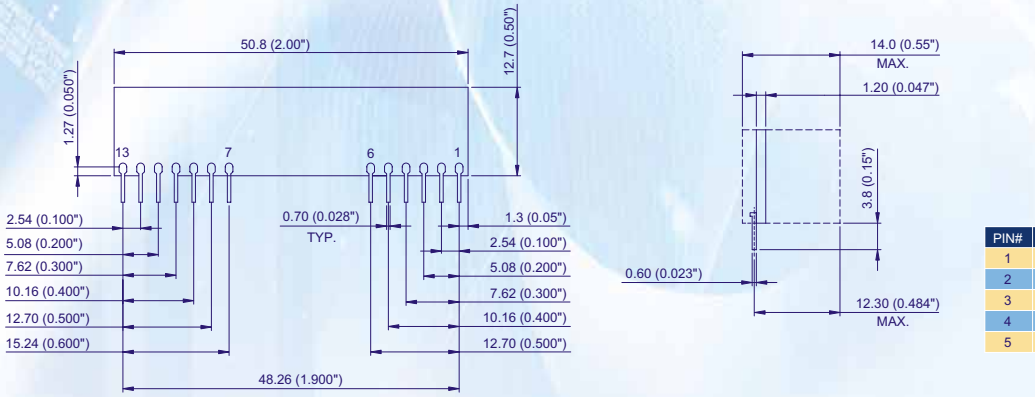
SIP Package



PIN#	Function
1	Vout
2	Vout
3	Vout SENSE
4	Vout
5	GND
6	GND
7	Vin
8	Vin
9	TRACK
10	TRIM
11	ON/OFF

DNK

SIP Package



PIN#	Function	PIN#	Function	PIN#	Function
1	Vout	6	GND	11	SEQ
2	Vout	7	SHARE	12	TRIM
3	SENSE(+)	8	GND	13	ON/OFF
4	Vout	9	Vin		
5	GND	10	Vin		

Non-Isolated Point of Load

NC 6A ~ 60A

Features

- *High efficiency*
- *Voltage and resistor-based trim*
- *No minimum load required*
- *Output voltage programmable from 0.9Vdc to 5.0Vdc via external resistors*
- *Fixed frequency operation*
- *Input UVLO, output OCP, SCP (NC6A / 15A / 20A)*
- *Input UVLO, output OVP, OTP, OCP, SCP (NC30A~60A)*
- *Power good signal*
- *Remote ON/OFF (default: positive)*
- *Remote sense (NC30A~60A)*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified and CE mark*

The Delphi NC series 12V input POL product family provides output current of 6A to 60A in a vertical or horizontal mounted through-hole package. The output can be resistor-trimmed from 0.9Vdc to 5.0Vdc. It provides a very cost effective point of load solutions.

Model List

Model Name	Package	Vin	Vout	Iout	Eff@100%load
NC12S0A0V06PNFA	Vertical	10.2V~13.8V	0.9V~5.0V	6A	91.0%
NC12S0A0H06PNFA	Horizontal	10.2V~13.8V	0.9V~5.0V	6A	91.0%
NC12S0A0V15PNFA	Vertical	10.2V~13.8V	0.9V~5.0V	15A	91.0%
NC12S0A0H15PNFA	Horizontal	10.2V~13.8V	0.9V~5.0V	15A	91.0%
NC12S0A0V20PNFA	Vertical	10.2V~13.8V	0.9V~5.0V	20A	91.0%
NC12S0A0H20PNFA	Horizontal	10.2V~13.8V	0.9V~5.0V	20A	91.0%
NC12S0A0V30PNFA	Vertical	10.2V~13.8V	0.9V~5.0V	30A	94.0%
NC12S0A0H30PNFA	Horizontal	10.2V~13.8V	0.9V~5.0V	30A	94.0%
NC12S0A0V40PNFA	Vertical	10.2V~13.8V	0.9V~5.0V	40A	92.0%
NC12S0A0H40PNFA	Horizontal	10.2V~13.8V	0.9V~5.0V	40A	92.0%
NC12S0A0V60PNFB	Vertical	11.04V~12.6V	0.9V~5.0V	60A	92.0%

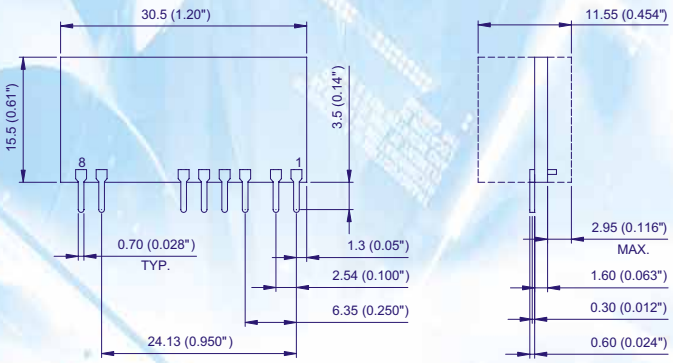
Part Number Options (last 4 digits)

P	On/Off logic	P*=Positive, N=Negative,
N	Pin Length	N=0.14"
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A=Standard functions
		B=With current sharing (Only for NC30/40/60A)

*Default

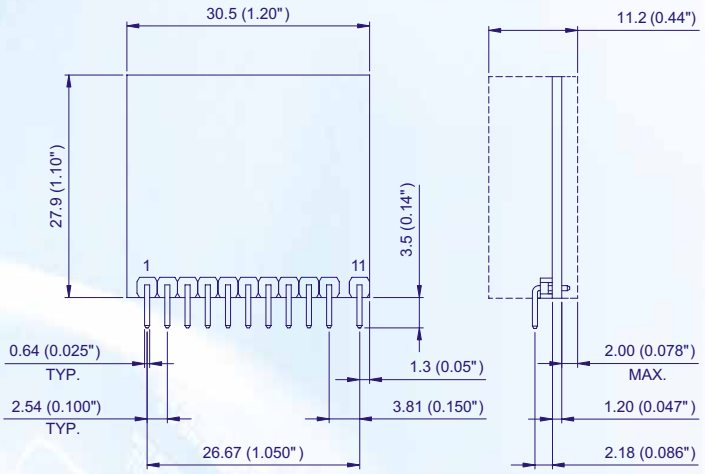
Mechanical Drawing

NC6A



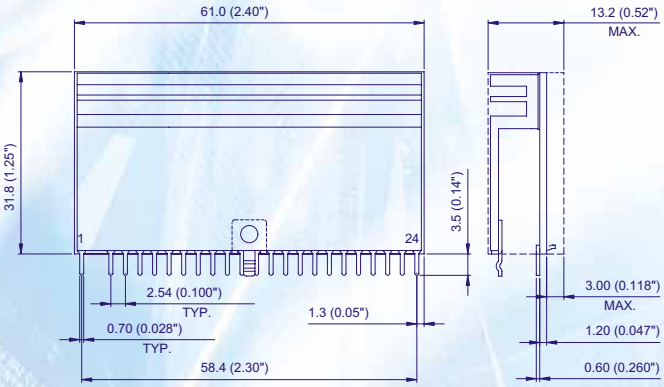
PIN#	FUNCTION	PIN#	FUNCTION
1	Vout	5	OUTPUT ENABLE
2	TRIM	6	Vin
3	GND	7	MECHANICAL SUPPORT
4	POWER GOOD	8	MECHANICAL SUPPORT

NC15A / 20A



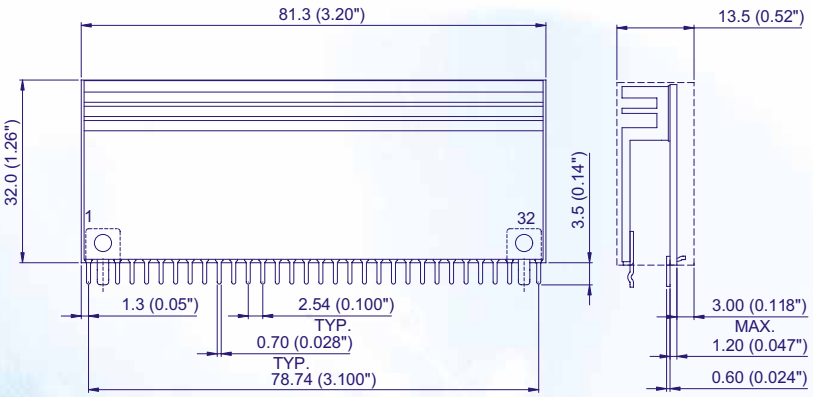
PIN#	FUNCTION	PIN#	FUNCTION
1	Vout	7	GND
2	Vout	8	GND
3	Vout	9	RESERVED
4	TRIM	10	Vin
5	ENABLE	11	Vin
6	POWER GOOD		

NC30A / 40A



PIN#	FUNCTION	PIN#	FUNCTION	PIN#	FUNCTION	PIN#	FUNCTION
1	TRIM	7	GND	13	12Vin	19	GND
2	KEY	8	GND	14	12Vin	20	Vout
3	GND	9	ENABLE	15	Vout	21	GND
4	PWRGD	10	-SENSE	16	Vout	22	Vout
5	NC	11	+SENSE	17	GND	23	GND
6	I-SHARE	12	12Vin	18	Vout	24	Vout

NC60A



PIN#	FUNCTION	PIN#	FUNCTION	PIN#	FUNCTION	PIN#	FUNCTION
1	+RS	9	OUTEN	17	GND	25	GND
2	KEY	10	-SENSE	18	Vout	26	Vout
3	GND	11	+SENSE	19	GND	27	GND
4	PWRGD	12	$12Vi_n$	20	Vout	28	Vout
5	NC	13	$12Vi_n$	21	GND	29	GND
6	I-SHARE	14	$12Vi_n$	22	Vout	30	Vout
7	VSS	15	Vout	23	GND	31	GND
8	VSS	16	Vout	24	Vout	32	Vout

Non-Isolated Point of Load

ND/ NE

Features

- *High efficiency*
- *Wide input range (NE Series)*
- *No minimum load required*
- *Output voltage programmable via external resistors*
- *Fixed frequency operation*
- *Input UVLO, output OCP, SCP (NE6A / 10A / 20A)*
- *Input UVLO, output OTP, OCP, SCP (ND50A)*
- *Power good output signal*
- *Remote ON/OFF (default: positive)*
- *Output voltage sense*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified and CE mark*

The Delphi ND/NE product family is the second generation, very cost effective non-isolated point-of-load(POL) DC/DC power modules for datacom/networking/IT applications and it will help to cut the module size by 35% to 50% compared to the first generation NC series POL modules. The ND/NE product family provides 6A to 60A of output current in a vertically or horizontally mounted through-hole package and the output can be resistor-trimmed from 0.9Vdc to 3.63Vdc for ND50A and from 0.59Vdc to 5.1Vdc for NE6A/10A/NE20A.With creative design technology and optimization of component placement, these converters possess outstanding electrical and thermal performance, as well as extremely high reliability under highly stressful operating conditions.

Part Number Options (last 4 digits)

P	On/Off logic	P*=Positive,
N	Pin Length	N*=0.150"(NE6A/10A/20A) or N*=0.140"(ND50A)
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A=Standard functions

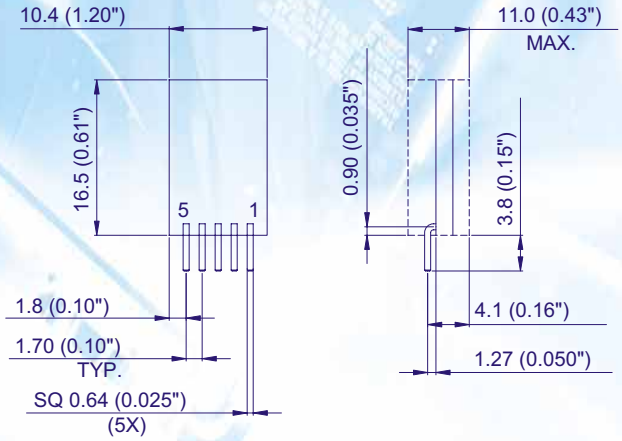
*Default

Model List

Model Name	Package	Vin	Vout	Iout	Eff@100%load
NE12S0A0V06PNFA	Vertical	3.0V~13.8V	0.59V~5.1V	6A	94.5%
NE12S0A0H06PNFA	Horizontal	3.0V~13.8V	0.59V~5.1V	6A	94.5%
NE12S0A0V10PNFA	Vertical	3.0V~13.8V	0.59V~5.1V	10A	94.0%
NE12S0A0H10PNFA	Horizontal	3.0V~13.8V	0.59V~5.1V	10A	94.0%
NE12S0A0V20PNFA	Vertical	4.5V~13.8V	0.9V~5.0V	20A	94.0%
NE12S0A0H20PNFA	Horizontal	4.5V~13.8V	0.9V~5.0V	20A	94.0%
ND12S0A0V50PNFA	Vertical	10.2V~13.8V	0.9V~3.63V	50A	93.0%

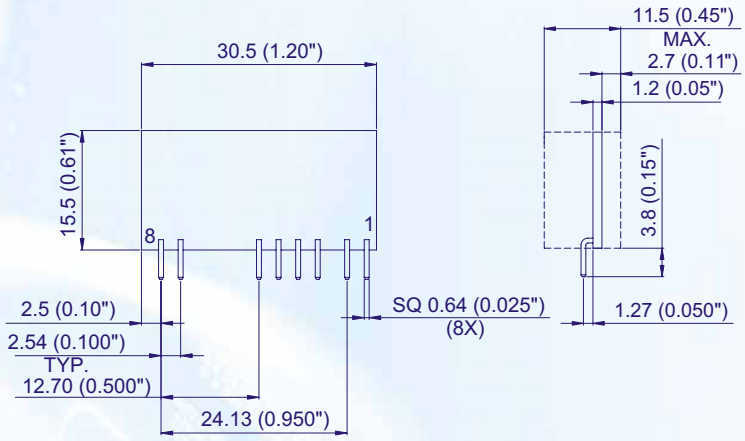
Mechanical Drawing

NE6A/10A



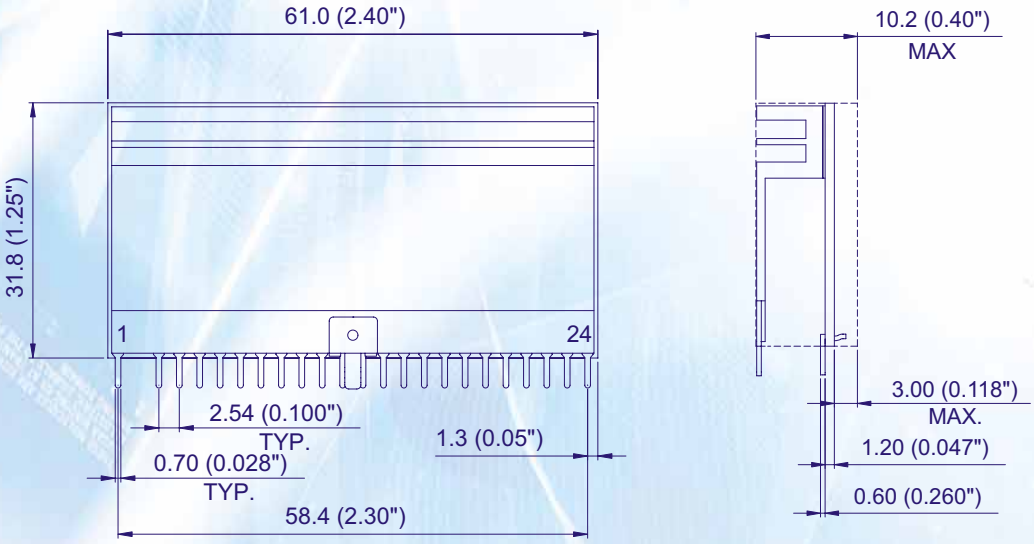
PIN#	FUNCTION	PIN#	FUNCTION
1	Enable	4	Vout
2	Vin	5	PG/Trim
3	Common/RTN		

NE20A



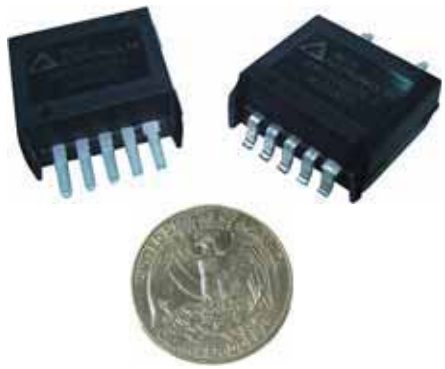
PIN#	FUNCTION	PIN#	FUNCTION
1	Vout	5	Enable
2	Trim	6	Vin
3	Ground	7	Sense(+)
4	Power Good	8	Sense(-)

ND50A



PIN#	FUNCTION	PIN#	FUNCTION	PIN#	FUNCTION	PIN#	FUNCTION
1	TRIM	7	GND	13	Vin	19	GND
2	KEY	8	GND	14	Vin	20	Vout
3	GND	9	ON/OFF	15	Vout	21	GND
4	PWRGD	10	-SENSE	16	Vout	22	Vout
5	NC	11	+SENSE	17	GND	23	GND
6	SHARE	12	Vin	18	Vout	24	Vout

Non-Isolated Point of Load



IPM-S / IPM-C / IPM24S

Features

- *High efficiency*
- *Small size and low profile:17.8mm x 15.0mm x 7.8mm (0.70" x 0.59" x 0.31")*
- *Monotonic startup into normal and pre-biased load (IPM-S / IPM-C)*
- *Input UVLO, output OCP*
- *Output short circuit protection*
- *Industry standard footprint and pin out*
- *Remote ON/OFF*
- *Fixed frequency operation*
- *Copper pad to provide excellent thermal performance*
- *ISO 9001, TL9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified and CE mark*

The IPM non-isolated, fully integrated Point-of-Load (POL) power modules provides up to 10A of output current or 40W of output power in an industry standard, compact, IC-like, molded package. It is highly integrated and does not require external components to provide the point-of-load function. These converters possess outstanding electrical and thermal performance, as well as extremely high reliability under highly stressful operating conditions. The IPM product family is available in both SMD and SIP packages.

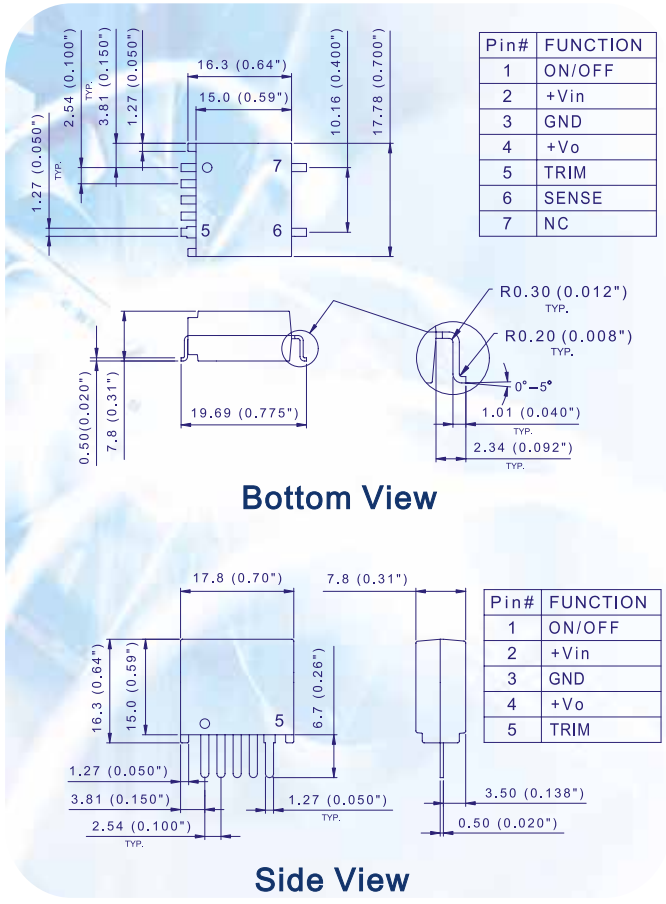
Model List

Model Name	Package	Vin	Vout	Iout	Eff@100%load
IPM04S0A0S10FA	SMD	3V~5.5V	0.8V~3.3V	10A	94%
IPM04S0A0R10FA	SIP	3V~5.5V	0.8V~3.3V	10A	94%
IPM12S0A0S08FA	SMD	8V~14V	0.8V~5V	8A	93%
IPM12S0A0R08FA	SIP	8V~14V	0.8V~5V	8A	93%
IPM04C0A0S06FA	SMD	3V~5.5V	0.8V~3.3V	6A	93%
IPM04C0A0R06FA	SIP	3V~5.5V	0.8V~3.3V	6A	93%
IPM12C0A0S04FA	SMD	8V~14V	0.8V~5V	4A	91%
IPM12C0A0R04FA	SIP	8V~14V	0.8V~5V	4A	91%
IPM24S0A0S03FA	SMD	8V~36V	1.2V~2.5V	3A	85%@12Vin
IPM24S0A0R03FA	SIP	8V~36V	1.2V~2.5V	3A	85%@12Vin
IPM24S0B0S03FA	SMD	11V~36V	3.3V~6.5V	3A	91%@12Vin
IPM24S0B0R03FA	SIP	11V~36V	3.3V~6.5V	3A	91%@12Vin
IPM24S0C0S03FA	SMD	20V~36V	8.0V~15V	3A	95%@20Vin
IPM24S0C0R03FA	SIP	20V~36V	8.0V~15V	3A	95%@20Vin

Part Number Options (last 3 digits)

R	Package	S=SMD, R=SIP
F	RoHS code	F=RoHS 6/6 (lead free)
A	Option code	A=Standard functions

Mechanical Drawing



Filter Modules

5A / 7A / 10A / 20A

Features

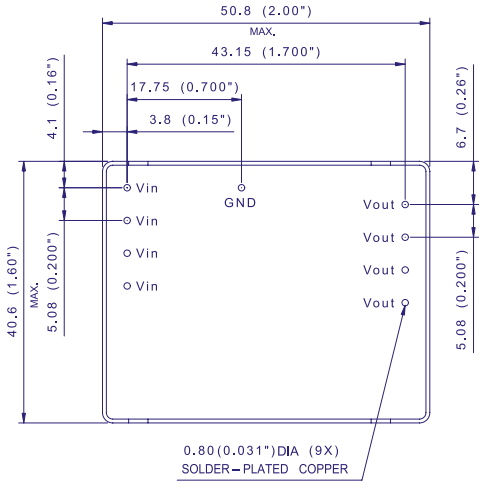
- *RoHS Compliant*
- *Industry standard footprint and pin out*
- *SMD pin (7A only)*
- *Optimized for use with high frequency board mounted DC/DC converters*
- *Printed-circuit board mountable*
- *ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility*
- *UL/cUL 60950 Recognized, TUV (EN60950) certified, and CE mark*

The Delphi FL75 series filter modules are designed to reduce the conducted common-mode and differential-mode noise on input or output lines of high-frequency switching power supplies and has a maximum current rating of 5A, 7A, 10A, and 20A in an industry standard form factor and pinout.

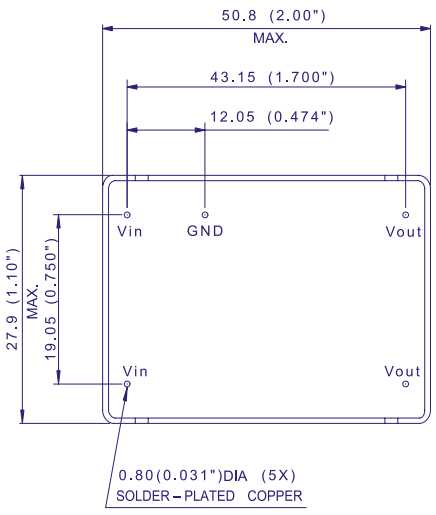
Model List

Model Name	Vin(max.)	Current Rating (max.)	Package	Size(metric)	Size(English unit)
FL75L05 A	75V	5A	Through-Hole	25.4 x 25.4 x 10.2 mm	1.0" x 1.0" x 0.4"
FL75L07 A	75V	7A	SMD	25.4 x 25.4 x 12.0 mm	1.0" x 1.0" x 0.47"
FL75L10 A	75V	10A	Through-Hole	50.8 x 27.9 x 12.5 mm	2.0" x 1.1" x 0.5"
FL75L20 A	75V	20A	Through-Hole	50.8 x 40.6 x 12.7 mm	2.0" x 1.5" x 0.5"

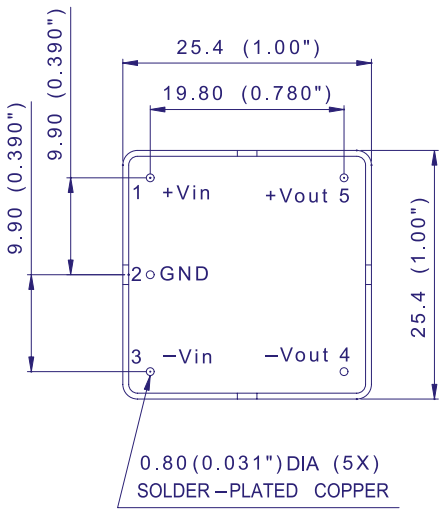
Mechanical Drawing



Filter 20A



Filter 10A



Filter 5A

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