

## DC-DC CONVERTERS

DELTA



### MAIN FEATURES

- Power range: 2 to 25W for current models; design capability up to 300W.
- SMD and thick film technology utilized to shrink size and enhance reliability
- Designed with derating to enhance reliability.
- High efficiency: 70% for 10W power models. 80% or above for higher power models.
- 100% burn-in.
- 200% computerized functional test before and after burn-in.
- 100% tested for dielectric withstand.
- MTBF: 500khrs typical.
- A wide range of standard products are provided. Semi-standard or OEM design are also acceptable.

# SPECIFICATIONS OF REPRESENTATIVE MODELS

DELTA PRODUCTS CORP

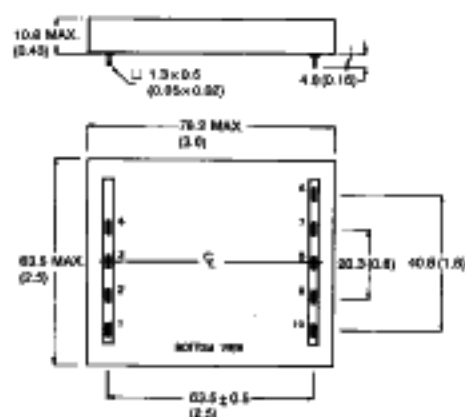
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## 25-30 Watts / 6-Sided Shielding

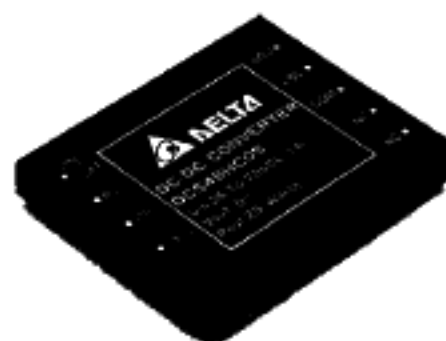
×1/8" (3.2mm)

Input voltage		Output voltage (VDC)	Output current (A)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
48	36-72	5	5	DCS48HC05	HC	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• Ceramic hybrid technology</li> <li>• Low profile</li> <li>• High power density</li> <li>• 6-sided shielding</li> <li>• High efficiency (&gt;80% typ)</li> <li>• 500 VDC isolation</li> </ul>
		12	2.5	DCS48HC12		
24	18-36	5	5	DCS24HC05		
		12	2.5	DCS24HC12		
12	10-20	5	5	DCS12HC05		

### Construction & Dimensions



UNIT: mm/(inch)

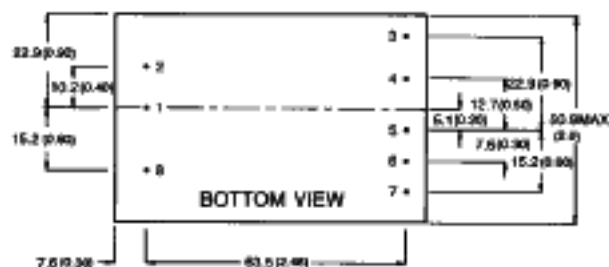
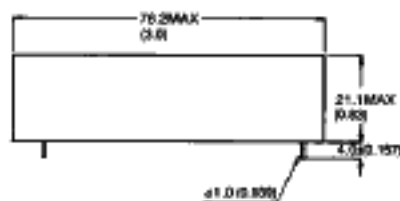


PIN	FUNCTION
1	REMOTE ON/OFF
2	N.C.
3	+Vin
4	-Vin
6	N.C.
7	N.C.
8	COM
9	Vo1
10	O/P ADJUST

## 20Watts/Wide Input Range

Input voltage		Output voltage (VDC)	Output current (A)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
12	9-18	5	4.0	DPS12J05	J	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• 2:1 wide input range</li> <li>• High efficiency</li> <li>• Short circuit protection</li> <li>• 500 VDC isolation</li> </ul>
		12	1.6	DPS12J12		
		15	1.3	DPS12J15		
24	18-36	5	4.0	DPS24J05		
		12	1.6	DPS24J12		
		15	1.3	DPS24J15		
48	36-72	5	4.0	DPS48J05		
		12	1.6	DPS48J12		
		15	1.3	DPS48J15		
12	9-18	± 5	2.0	DPD12J05		<ul style="list-style-type: none"> <li>• Dual regulated outputs</li> <li>• 2:1 wide input range</li> <li>• High efficiency</li> <li>• Short circuit protection</li> <li>• 500 VDC isolation</li> </ul>
		± 12	0.8	DPD12J12		
		± 15	0.65	DPD12J15		
24	18-36	± 5	2.0	DPD24J05		
		± 12	0.8	DPD24J12		
		± 15	0.65	DPD24J15		
48	36-72	± 5	2.0	DPD48J05		
		± 12	0.8	DPD48J12		
		± 15	0.65	DPD48J15		

### Construction & Dimensions



PIN	FUNCTION
1	+ Vin
2	- Vin
3	NC
4	NC
5	+ Vout
6	COM
7	- Vout
8	NC

UNIT: mm(inch)

## 6 Watts

Input voltage		Output voltage (VDC)	Output current (mA)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
5	4.75-5.25	5	800	DPS05L05	L	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• Metal case</li> <li>• 500 VDC isolation</li> </ul>
		12	500	DPS05L12		
		15	300	DPS05L15		
12	11.4-12.6	5	800	DPS12L05		
		12	500	DPS12L12		
		15	300	DPS12L15		
24	22.8-25.2	5	800	DPS24L05		
		12	500	DPS24L12		
		15	300	DPS24L15		
5	4.5-5.5	±12	200	DPD05L12		<ul style="list-style-type: none"> <li>• Dual unregulated outputs</li> <li>• Metal case</li> <li>• 500 VDC isolation</li> </ul>
		±15	150	DPD05L15		
12	10.8-13.2	±12	200	DPD12L12		
		±15	150	DPD12L15		
24	22.8-26.4	±12	200	DPD24L12		
		±15	150	DPD24L15		
48	36-72	5	800	DPS48L05		<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• 2:1 wide input range</li> <li>• Metal case</li> <li>• 500 VDC isolation</li> </ul>
		12	500	DPS48L12		
		15	400	DPS48L15		
		±12	250	DPD48L12		
		±15	200	DPD48L15		

## 5-6 Watts/6-Sided Shielding

Input voltage		Output voltage (VDC)	Output current (mA)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
5	4.6-5.5	5	1000	DPS0505A-1	A1	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• 6-sided shielding</li> <li>• 500 VDC isolation</li> </ul>
24	21.6-26.4	5	1000	DPS2405A-1		
5	4.75-5.25	±15	150	DPD0505A-1		
5	4.5-5.5	±12	230	DPD0506A-1		<ul style="list-style-type: none"> <li>• Dual regulated outputs</li> <li>• 6-sided shielding</li> <li>• 500 VDC isolation</li> </ul>

## 2-3 Watts/Wide Input Range

2010-01-01

Input voltage		Output voltage (VDC)	Output current (mA)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
5	4.5-5.5	5	300	DPS05T05	T	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• Wide input range</li> <li>• Short circuit protection</li> <li>• 500 VDC isolation</li> </ul>
		12	140	DPS05T12		
		15	100	DPS05T15		
12	9.4-18	5	300	DPS12T05		
		12	140	DPS12T12		
		15	100	DPS12T15		
24	20-30	5	300	DPS24T05		
		12	140	DPS24T12		
		15	100	DPS24T15		
48	36-72	5	500	DPS48T05		
		12	200	DPS48T12		
		15	200	DPS48T15		

## 2-3 Watts/Wide Input Range

2010-01-01

Input voltage		Output voltage (VDC)	Output current (mA)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
5	4.5-5.5	9	200	DPS05M09	M	<ul style="list-style-type: none"><li>• Single regulated output</li><li>• Wide input range</li><li>• Short circuit protection</li><li>• Remote control</li><li>• 2000 VAC isolation</li></ul>
12	9.4-16	9	200	DPS12M09		
5	4.5-5.5	9	200	DPS05S09	S	<ul style="list-style-type: none"><li>• Single regulated output</li><li>• Wide input range</li><li>• Short circuit protection</li><li>• Open type</li><li>• 2000 VAC isolation</li></ul>
12	9.4-16	9	200	DPS12S09		
		12	140	DPS12S12		
48	36-72	5	500	DPS48S05		
5	4.5-5.5	9	200	DPS05SE09	SE	<ul style="list-style-type: none"><li>• Enable/disable control for SE models</li></ul>
12	9.4-16	9	200	DPS12SE09		

## 2 Watts

2010-01-01

Input voltage		Output voltage (VDC)	Output current (mA)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
48	38-62	5	500	DPS4802A-1	A2	<ul style="list-style-type: none"> <li>• 500 VDC isolation</li> <li>• 5-sided metal case</li> </ul>
48	42-56	5	400	DPS4802C-1	A3	<ul style="list-style-type: none"> <li>• 500 VDC isolation</li> <li>• 6-sided shielding</li> </ul>
15	12-18	5	400	DUS1502A-1	A4	<ul style="list-style-type: none"> <li>• Non-isolation</li> <li>• 24 pin DIP package</li> </ul>
5	4.75-5.25	9	200	DPS0502B	A5	<ul style="list-style-type: none"> <li>• 500 VDC isolation</li> <li>• Single unregulated output</li> <li>• SIP package</li> </ul>

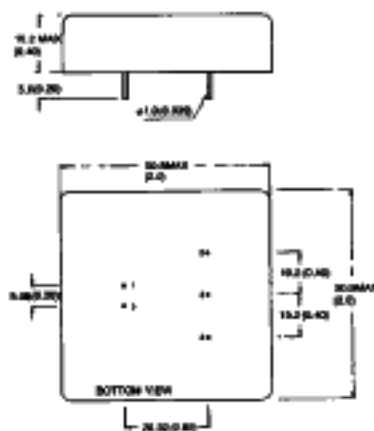
## 2 Watts DIP Package

Input voltage		Output voltage (VDC)	Output current (mA)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
5	4.75-5.25	5	220	DPS05RB05	RB	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• 10 mm (0.4 in.) low profile</li> <li>• 500 VDC isolation</li> <li>• Enable/disable control for RE model</li> </ul>
		9	200	DPS05RB09		
		12	160	DPS05RB12		
		15	100	DPS05RB15		
12	10.8-13.2	5	220	DPS12RB05		
		9	200	DPS12RB09		
		12	160	DPS12RB12		
		15	100	DPS12RB15		
12	11.4-12.6	9	200	DPS12RE09	RE	
5	4.75-5.25	5	220	DPS05C05	C	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• 2000 VDC isolation</li> </ul>
		12	160	DPS05C12		
		15	100	DPS05C15		
12	10.8-13.2	5	220	DPS12C05		
		12	160	DPS12C12		
		15	100	DPS12C15		

## 2 Watts DIP Package

Input voltage		Output voltage (VDC)	Output current (mA)	Model number	Package	Features
Nominal (VDC)	Range (VDC)					
5	4.75-5.25	5	220	DPS05R05	RS	<ul style="list-style-type: none"> <li>• Single regulated output</li> <li>• 500 VDC isolation</li> </ul>
		9	200	DPS05R09		
		12	160	DPS05R12		
		15	100	DPS05R15		
12	10.8-13.2	5	220	DPS12R05		
		9	200	DPS12R09		
		12	160	DPS12R12		
		15	100	DPS12R15		
5	4.75-5.25	± 12	60	DPD05R12	RD	<ul style="list-style-type: none"> <li>• Dual regulated outputs</li> <li>• 500 VDC isolation</li> </ul>
		± 15	40	DPD05R15		
12	10.8-13.2	± 5	80	DPD12R05		
		± 12	60	DPD12R12		
		± 15	40	DPD12R15		
5	4.75-5.25	9	200	DPS05U09	RS	<ul style="list-style-type: none"> <li>• Single unregulated output</li> <li>• 500 VDC isolation</li> </ul>
12	10.8-13.2	9	200	DPS12U09		

A1



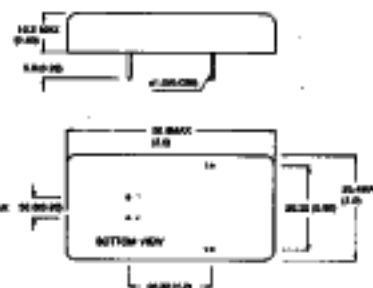
PN	SINGLE	DUAL
1	+ Vin	+ Vin
2	+ Vout	+ Vout
3	NO PIN	COM
4	- Vout	- Vout
5	- Vin	- Vin

A2



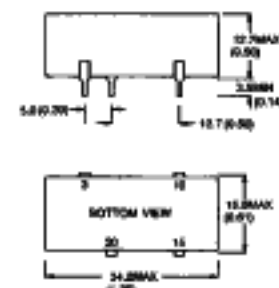
PN	FUNCTION
1	+ Vin
2	+ Vout
3	- Vout
4	- Vin

A3



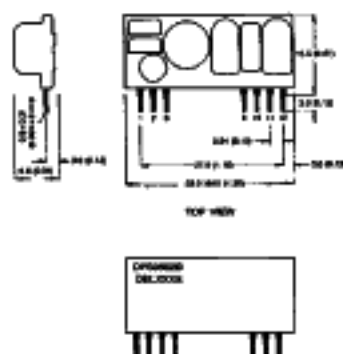
PN	FUNCTION
1	+ Vin
2	+ Vout
3	- Vout
4	- Vin

A4



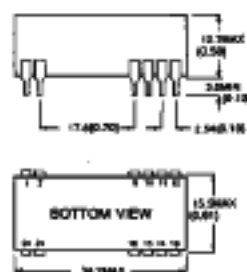
PN	FUNCTION
3	COM
10	+ Vin
15	NC
20	+ Vout

A5



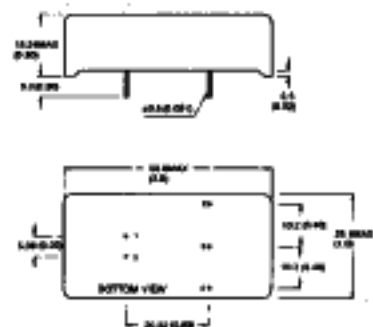
PN	SINGLE OUTPUT
1	+ INPUT
2	NC
3	NC
9	NC
10	- OUTPUT
11	+ OUTPUT
12	- INPUT

C



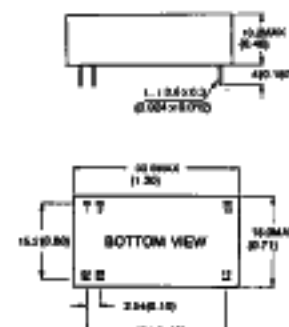
PN	FUNCTION
1, 2	+ Vin
8, 10	- Vout
11, 12	+ Vout
13-16	NC
23, 24	- Vin

L



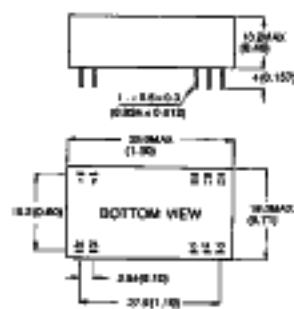
PN	SINGLE	DUAL
1	+ Vin	+ Vin
2	+ Vout	+ Vout
3	NO PIN	COM
4	- Vout	- Vout
5	- Vin	- Vin

M



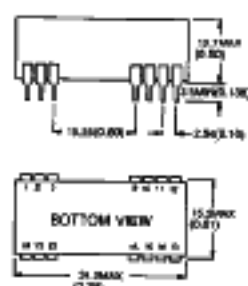
PN	FUNCTION
1	+ Vin
2	ENABLE
12	+ Vout
13	- Vout
23, 24	- Vin

RB



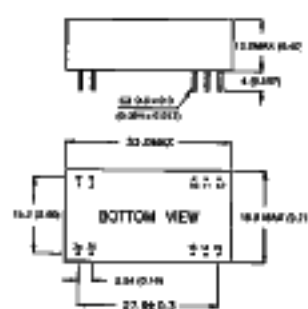
Pin	Function
1, 24	+ V <sub>in</sub>
2, 23	NC
10, 15	- V <sub>out</sub>
11, 14	+ V <sub>out</sub>
12, 13	- V <sub>in</sub>

RD



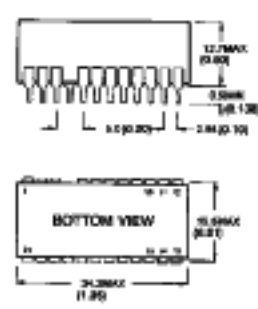
Pin	Function
1, 24	+ V <sub>in</sub>
2, 23	- V <sub>out</sub>
3, 22	COM
9, 16	NC
10, 15	COM
11, 14	+ V <sub>out</sub>
12, 13	- V <sub>in</sub>

RE



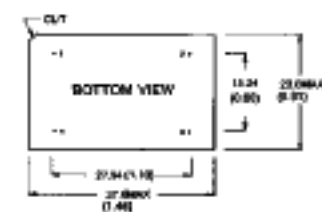
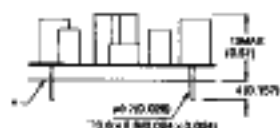
Pin	Function
1, 24	+ V <sub>in</sub>
23	NC
10, 15	- V <sub>out</sub>
11, 14	+ V <sub>out</sub>
12, 13	- V <sub>in</sub>
2	ENABLE

RS



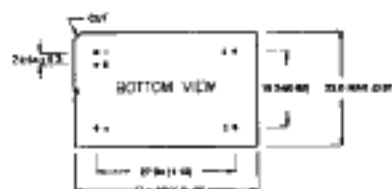
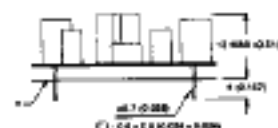
Pin	Function
1, 24	+ V <sub>in</sub>
10, 15	- V <sub>out</sub>
11, 14	+ V <sub>out</sub>
12, 13	- V <sub>in</sub>
OTHERS	NC

S



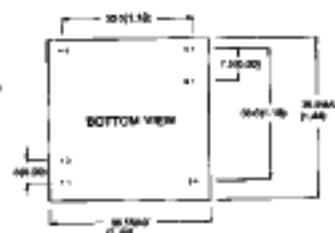
Pin	Function
1	+ V <sub>in</sub>
2	+ V <sub>out</sub>
3	- V <sub>out</sub>
4	- V <sub>in</sub>

SE



Pin	Function
1	+ V <sub>in</sub>
2	+ V <sub>out</sub>
3	- V <sub>out</sub>
4	- V <sub>in</sub>
5	ENABLE

T



Pin	Function
1	+ V <sub>in</sub>
2	- V <sub>in</sub>
3	NC
4	- V <sub>out</sub>
5	+ V <sub>out</sub>
6	NC

UNIT: mm/(inch)