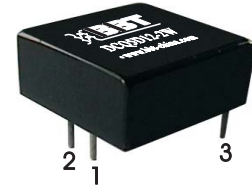


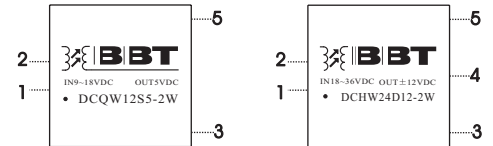
★ Features

The DCQW converter series have very excellent isolation characteristic. The small size DIP-package and light weight allows easy handling by pick-and-place Machines. They are ideally suited for heavy electrical machine interface or medical electrical equipment interface, such as Multi-parameter Patient Monitor etc.

- ◆ DIP-Package: 1x1 Inch
- ◆ International Standard Pinout
- ◆ Wide Input: 4.5~9; 9~18; 18~36; 36~72VDC
- ◆ Input Voltage range : 2:1
- ◆ I/O-Isolation : >1500VDC (60 second /0.5mA)
- ◆ Single output: 3.3/5/6/7/8/9/12/15(VDC)
- ◆ Dual output(±): 3.3/5/6/7/8/9/12/15(VDC)
- ◆ Output Voltage Accuracy : $V_{out} \pm 2\%$
- ◆ Switching Frequency: 300KHZ
- ◆ Line voltage regulation: 1.25%/1% of Vin
- ◆ Load voltage regulation: 8% load=20%~100%
- ◆ Ripple & Noise (20MHz): 100mVp-p, Max
- ◆ Temperature coefficient : $\pm 0.02\%/1^\circ\text{C}$
- ◆ Operation temperature: $-25^\circ\text{C} \sim +85^\circ\text{C}$
- ◆ Output Power: 1W; 2W; 3W; 4W; 5W
- ◆ Short Circuit Protection
- ◆ Efficiency: 75%(Min)
- ◆ MTBF up to 1.0 Million hours(25°C)



★ Pin Assignment



Single Output

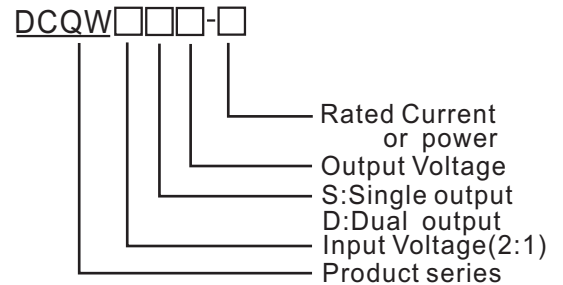
Dual Output

PIN	Single	Dual
1	Vin+	Vin+
2	Vin-	Vin-
3	Vo1	Vo1
4	NC	GND
5	GND	Vo2

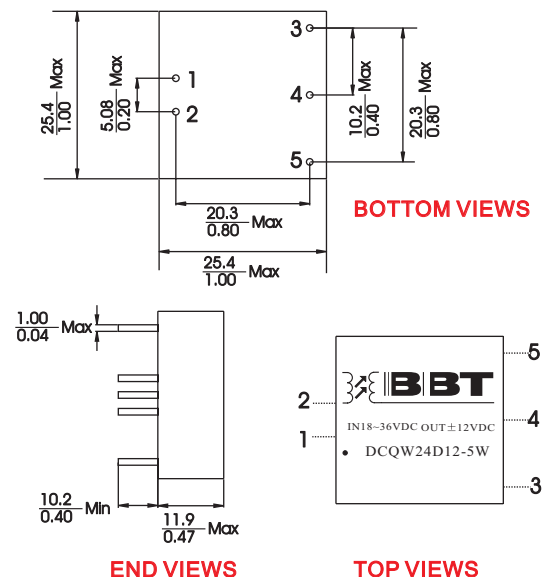
★ Product Program

Part Number	Input(V) 2:1	Output		Efficiency %(MIN)
		Vout(V)	Iout(Max)	
DCQW5S3.3-2W	4.5~9	3.3	606mA	72
DCQW12D5-4W	9~18	+/-5	+/-400mA	76
DCQW24D12-5W	18~36	+/-12	+/-208mA	79
DCQW48S15-5W	36~72	15	333mA	78
Models				
Vin=4.5~9VDC		DCQW12D12-4W	DCQW48D12-5W	
DCQW5S3.3-2W		DCQW12D15-4W	DCQW48D15-5W	
DCQW5S5-2W	Vin=18~36VDC		Vin=9~18VDC	
DCQW5S8-2W		DCQW24S3.3-4W	DCQW12S3.3-5W	
DCQW5S9-2W		DCQW24S5-4W	DCQW12S5-5W	
DCQW5S12-2W		DCQW24S8-4W	DCQW12S8-5W	
DCQW5S15-2W		DCQW24S9-4W	DCQW12S9-5W	
DCQW5D3.3-2W		DCQW24S12-4W	DCQW12S12-5W	
DCQW5D5-2W		DCQW24S15-4W	DCQW12S15-5W	
DCQW5D8-2W		DCQW24D3.3-4W	DCQW12D3.3-5W	
DCQW5D9-2W		DCQW24D5-4W	DCQW12D5-5W	
DCQW5D12-2W		DCQW24D8-4W	DCQW12D8-5W	
DCQW5D15-2W		DCQW24D9-4W	DCQW12D9-5W	
Vin=9~18VDC		DCQW24D12-4W	DCQW12D12-5W	
DCQW12S3.3-4W		DCQW24D15-4W	DCQW12D15-5W	
DCQW12S5-4W	Vin=36~72VDC		Vin=18~36VDC	
DCQW12S8-4W		DCQW48S3.3-4W	DCQW24S5-5W	
DCQW12S9-4W		DCQW48S5-4W	DCQW24S8-5W	
DCQW12S12-4W		DCQW48S8-4W	DCQW24S9-5W	
DCQW12S15-4W		DCQW48S9-4W	DCQW24S12-5W	
DCQW12D3.3-4W		DCQW48S12-4W	DCQW24S15-5W	
DCQW12D5-4W		DCQW48S15-4W	DCQW24D5-5W	
DCQW12D8-4W		DCQW48D3.3-4W	DCQW24D8-5W	

★ Model Select Guide



★ Dimensions: (mm / Inch)



Other specifications please enquire



★ Features

The DCRW-DG converter series have very excellent isolation characteristic. It provide separate isolate output. The small size DIP-package and light weight allows easy handling by pick-and-place Machines. They are ideally suited for heavy electrical machine interface or medical electrical equipment interface.

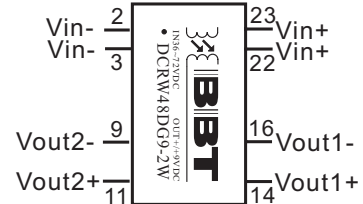


- ◆ DIP-Package: DIP24
- ◆ International Standard Pinout
- ◆ Wide Input: 9~18; 18~36; 36~72VDC
- ◆ Input Voltage range : 2:1
- ◆ I/O-Isolation : >1500VDC (10 second /0.5mA)
- ◆ O/O-Isolation : >1500VDC (10 second /0.5mA)
- ◆ Dual output: 3V/3.3V/5V/8V/9V/12V/15V
- ◆ Output Voltage Accuracy : Vout ± 2%
- ◆ Switching Frequency: 300KHZ
- ◆ Line voltage regulation: 1.25%/1% of Vin
- ◆ Load voltage regulation: 8% load=20%~100%
- ◆ Ripple & Noise (20MHz): 100mVp-p, Max
- ◆ Temperature coefficient : ± 0.02%/1°C
- ◆ Operation temperature: -25°C~+85°C
- ◆ Output Power: 1W; 2W; 3W
- ◆ Short Circuit Protection
- ◆ Efficiency: 75% (Min)
- ◆ MTBF up to 1.0 Million hours (25°C)

★ Product Program

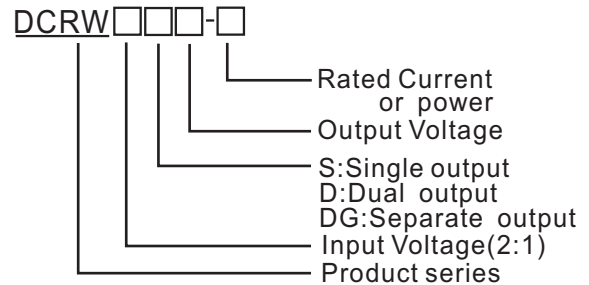
Part Number	Input(V)	Separate Output		Efficiency %(MIN)
		V1/I1	V2/I2	
DCRW12DG5-1W	9~18	5V/100mA	5V/100mA	72
DCRW12DG5-2W	9~18	5V/200mA	5V/200mA	75
DCRW12DG5-3W	9~18	5V/300mA	5V/300mA	78
DCRW24DG5-1W	18~36	5V/100mA	5V/100mA	72
DCRW24DG5-2W	18~36	5V/200mA	5V/200mA	75
DCRW24DG5-3W	18~36	5V/300mA	5V/300mA	78
DCRW48DG5-1W	36~72	5V/100mA	5V/100mA	72
DCRW48DG5-2W	36~72	5V/200mA	5V/200mA	75
DCRW48DG5-3W	36~72	5V/300mA	5V/300mA	78
DCRW12DG9-1W	9~18	9V/56mA	9V/56mA	72
DCRW12DG9-2W	9~18	9V/120mA	9V/120mA	75
DCRW12DG9-3W	9~18	9V/166mA	9V/166mA	78
DCRW24DG9-1W	18~36	9V/56mA	9V/56mA	72
DCRW24DG9-2W	18~36	9V/120mA	9V/120mA	75
DCRW24DG9-3W	18~36	9V/166mA	9V/166mA	78
DCRW48DG9-1W	36~72	9V/56mA	9V/56mA	72
DCRW48DG9-2W	36~72	9V/120mA	9V/120mA	75
DCRW48DG9-3W	36~72	9V/166mA	9V/166mA	78
DCRW12DG12-1W	9~18	12V/42mA	12V/42mA	72
DCRW12DG12-2W	9~18	12V/84mA	12V/84mA	75
DCRW12DG12-3W	9~18	12V/125mA	12V/125mA	78
DCRW24DG12-1W	18~36	12V/42mA	12V/42mA	72
DCRW24DG12-2W	18~36	12V/84mA	12V/84mA	75
DCRW24DG12-3W	18~36	12V/125mA	12V/125mA	78
DCRW48DG12-1W	36~72	12V/42mA	12V/42mA	72
DCRW48DG12-2W	36~72	12V/84mA	12V/84mA	75
DCRW48DG12-3W	36~72	12V/125mA	12V/125mA	78

★ Pin Assignment

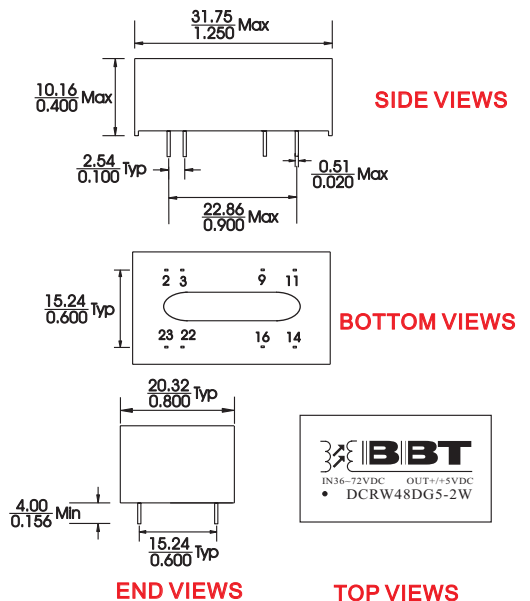


PIN	Sep-Dual
2	Vin-
3	Vin-
9	Vout2-
11	Vout2+
14	Vout1+
16	Vout1-
22	Vin+
23	Vin+

★ Model Select Guide



★ Dimensions: (mm / Inch)



Other specifications please enquire



★ Features

The DCRW converter series have very excellent isolation characteristic. The small size DIP-package and light weight allows easy handling by pick-and-place Machines. They are ideally suited for heavy electrical machine interface or medical electrical equipment interface, such as Multi-parameter Patient Monitor etc.



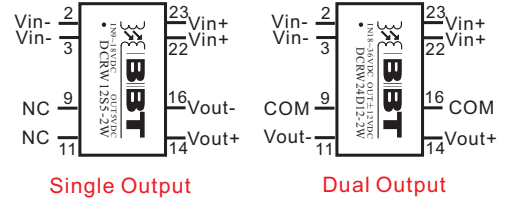
- ◆ DIP-Package: DIP24
- ◆ International Standard Pinout
- ◆ Wide Input: 4.5~9; 9~18; 18~36; 36~72VDC
- ◆ Input Voltage range : 2:1
- ◆ I/O-Isolation : >1500VDC(60 second /0.5mA)
- ◆ Single output: 3.3/5/6/7/8/9/12/15(VDC)
- ◆ Dual output(±): 3.3/5/6/7/8/9/12/15(VDC)
- ◆ Output Voltage Accuracy : Vout ± 2%
- ◆ Switching Frequency: 300KHZ
- ◆ Line voltage regulation: 1.25%/1% of Vin
- ◆ Load voltage regulation: 8% load=20%~100%
- ◆ Ripple & Noise (20MHz): 100mVp-p, Max
- ◆ Temperature coefficient : ± 0.02%/1°C
- ◆ Operation temperature: -25°C~+85°C
- ◆ Output Power: 1W; 2W; 3W
- ◆ Short Circuit Protection
- ◆ Efficiency: 75%(Min)
- ◆ MTBF up to 1.0 Million hours(25°C)

★ Product Program

Part Number	Input(V) 2:1	Output		Efficiency %(MIN)
		Vout(V)	Iout(Max)	
DCRW5S3.3-2W	4.5~9	3.3	606mA	72
DCRW12D5V-2W	9~18	±5	±200mA	76
DCRW24D12-2W	18~36	±12	±83mA	79
DCRW48S15-2W	36~72	15	133mA	78
Models				
Vin=4.5~9VDC		DCRW12D12-2W	DCRW48D12-2W	
DCRW5S3.3-2W		DCRW12D15-2W	DCRW48D15-2W	
DCRW5S5-2W	Vin=18~36VDC		Vin=9~18VDC	
DCRW5S8-2W		DCRW24S3.3-2W	DCRW12S3.3-3W	
DCRW5S9-2W		DCRW24S5-2W	DCRW12S5-3W	
DCRW5S12-2W		DCRW24S8-2W	DCRW12S8-3W	
DCRW5S15-2W		DCRW24S9-2W	DCRW12S9-3W	
DCRW5D3.3-2W		DCRW24S12-2W	DCRW12S12-3W	
DCRW5D5-2W		DCRW24S15-2W	DCRW12S15-3W	
DCRW5D8-2W		DCRW24D3.3-2W	DCRW12D3.3-3W	
DCRW5D9-2W		DCRW24D5-2W	DCRW12D5-3W	
DCRW5D12-2W		DCRW24D8-2W	DCRW12D8-3W	
DCRW5D15-2W		DCRW24D9-2W	DCRW12D9-3W	
Vin=9~18VDC		DCRW24D12-2W	DCRW12D12-3W	
DCRW12S3.3-2W		DCRW24D15-2W	DCRW12D15-3W	
DCRW12S5-2W	Vin=36~72VDC		Vin=18~36VDC	
DCRW12S8-2W		DCRW48S3.3-2W	DCRW24S5-3W	
DCRW12S9-2W		DCRW48S5-2W	DCRW24S8-3W	
DCRW12S12-2W		DCRW48S8-2W	DCRW24S9-3W	
DCRW12S15-2W		DCRW48S9-2W	DCRW24S12-3W	
DCRW12D3.3-2W		DCRW48S12-2W	DCRW24S15-3W	
DCRW12D5-2W		DCRW48S15-2W	DCRW24D5-3W	
DCRW12D8-2W		DCRW48D3.3-2W	DCRW24D8-3W	
DCRW12D9-2W		DCRW48D5-2W	DCRW24D9-3W	
DCRW12D12-2W		DCRW48D8-2W	DCRW24D12-3W	
DCRW12D15-2W		DCRW48D9-2W	DCRW24D15-3W	

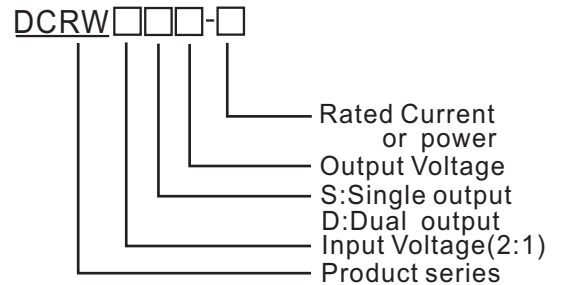
Other specifications please enquire

★ Pin Assignment

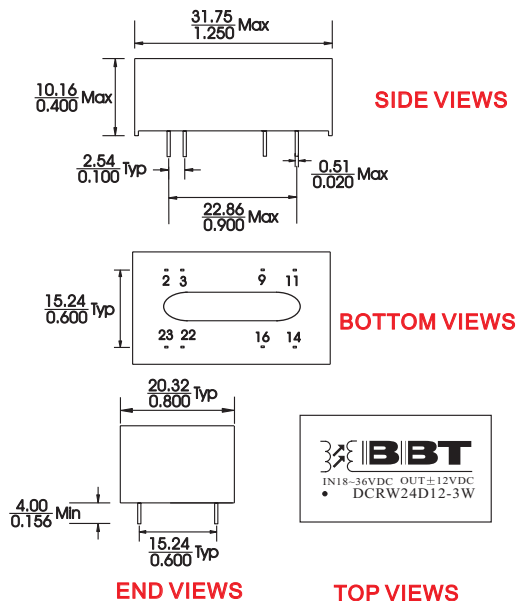


PIN	Single	Dual
2	- Vin	- Vin
3	- Vin	- Vin
9	NC	Common
11	NC	- Vout
14	+ Vout	+ Vout
16	- Vout	Common
22	Vin+	Vin+
23	Vin+	Vin+

★ Model Select Guide



★ Dimensions: (mm / inch)



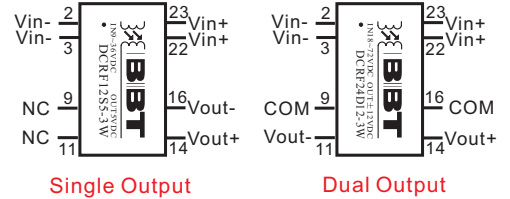
★ Features

The DCRF converter series have very excellent isolation characteristic. The small size DIP-package and light weight allows easy handling by pick-and-place Machines. They are ideally suited for heavy electrical machine interface or medical electrical equipment interface, such as Multi-parameter Patient Monitor etc.

- ◆DIP-Package:DIP24
- ◆International Standard Pinout
- ◆Wide Input: 9~36VDC;18~72VDC
- ◆Input Voltage range :4:1
- ◆I/O-Isolation :>1500VDC(60 second /0.5mA)
- ◆Single output: 3.3/5/6/7/8/9/12/15(VDC)
- ◆Dual output(±): 3.3/5/6/7/8/9/12/15(VDC)
- ◆Output Voltage Accuracy :Vout ± 2%
- ◆Switching Frequency:300KHZ
- ◆Line voltage regulation:1.25%/1% of Vin
- ◆Load voltage regulation:8% load=20%~100%
- ◆Ripple & Noise (20MHz):100mVp-p,Max
- ◆Temperature coefficient : ± 0.02%/1°C
- ◆Operation temperature:-25°C~+85°C
- ◆Output Power: 1W;2W;3W;4W
- ◆Short Circuit Protection
- ◆Efficiency:75%(Min)
- ◆MTBF up to 1.0 Million hours(25°C)



★ Pin Assignment

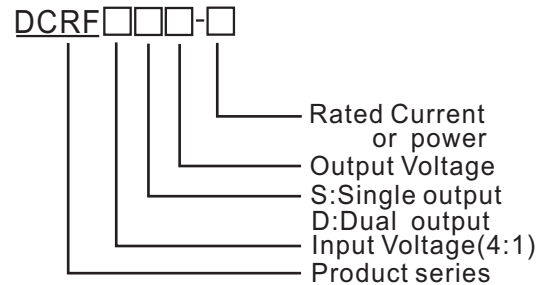


PIN	Single	Dual
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	Vin+	Vin+
23	Vin+	Vin+

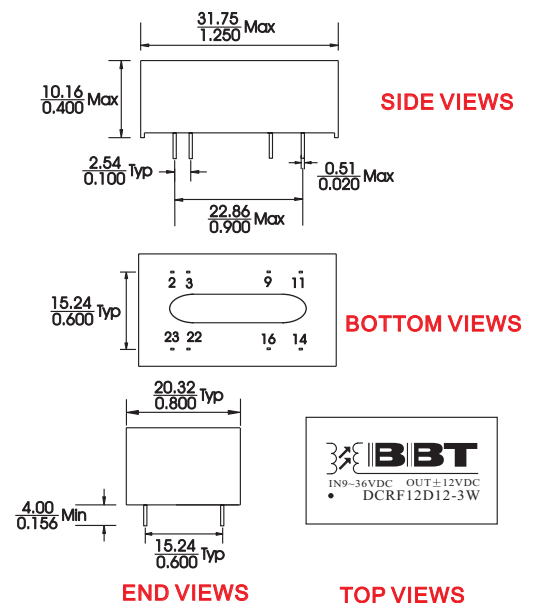
★ Product Program

Part Number	Input(V) 4:1	Output		Efficiency %(Min)
		Vout(V)	Iout(Max)	
DCRF12S3.3-3W	9~36	3.3	910mA	75
DCRF12S5-3W	9~36	5	600mA	75
DCRF12S8-3W	9~36	8	375mA	76
DCRF12S9-3W	9~36	9	333mA	76
DCRF12S12-3W	9~36	12	250mA	76
DCRF12S15-3W	9~36	15	200mA	77
DCRF12D5-3W	9~36	±5	±300mA	78
DCRF12D8-3W	9~36	±8	±188mA	78
DCRF12D9-3W	9~36	±9	±167mA	78
DCRF12D12-3W	9~36	±12	±125mA	80
DCRF12D15-3W	9~36	±15	±100mA	80
DCRF24S3.3-3W	18~72	3.3	910mA	75
DCRF24S5-3W	18~72	5	600mA	75
DCRF24S8-3W	18~72	8	375mA	76
DCRF24S9-3W	18~72	9	333mA	76
DCRF24S12-3W	18~72	12	250mA	79
DCRF24S15-3W	18~72	15	200mA	77
DCRF24D5-3W	18~72	±5	±300mA	80
DCRF24D8-3W	18~72	±8	±188mA	80
DCRF24D9-3W	18~72	±9	±167mA	79
DCRF24D12-3W	18~72	±12	±125mA	80
DCRF24D15-3W	18~72	±15	±100mA	81

★ Model Select Guide



★ Dimensions: (mm / inch)



Other specifications please enquire



★ Features

The DCHW converter series have very excellent isolation characteristic. The small size DIP-package and light weight allows easy handling by pick-and-place Machines. They are ideally suited for heavy electrical machine interface or medical electrical equipment interface, such as Multi-parameter Patient Monitor etc.

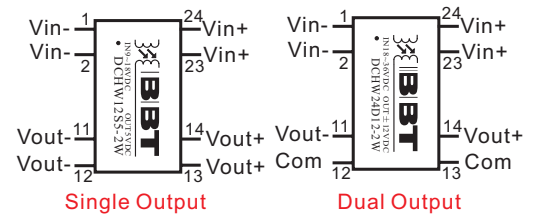


- ◆ DIP-Package: DIP24
- ◆ International Standard Pinout
- ◆ Wide Input: 4.5~9; 9~18; 18~36; 36~72VDC
- ◆ Input Voltage range : 2:1
- ◆ I/O-Isolation : >1500VDC(60 second /0.5mA)
- ◆ Single output: 3.3/5/6/7/8/9/12/15(VDC)
- ◆ Dual output(±): 3.3/5/6/7/8/9/12/15(VDC)
- ◆ Output Voltage Accuracy : Vout ± 2%
- ◆ Switching Frequency: 300KHZ
- ◆ Line voltage regulation: 1.25%/1% of Vin
- ◆ Load voltage regulation: 8% load=20%~100%
- ◆ Ripple & Noise (20MHz): 100mVp-p, Max
- ◆ Temperature coefficient : ± 0.02%/1°C
- ◆ Operation temperature: -25°C ~ +85°C
- ◆ Output Power: 1W; 2W; 3W
- ◆ Short Circuit Protection
- ◆ Efficiency: 75%(Min)
- ◆ MTBF up to 1.0 Million hours(25°C)

★ Product Program

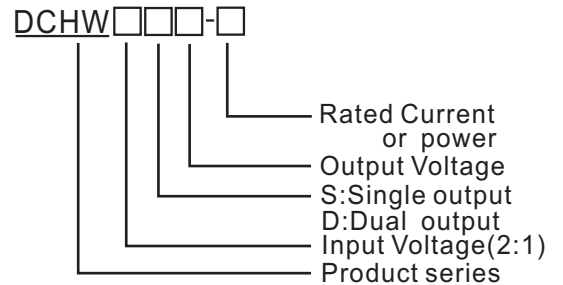
Part Number	Input(V) 2:1	Output		Efficiency %(MIN)
		Vout(V)	Iout(Max)	
DCHW5S3.3-2W	4.5~9	3.3	606mA	72
DCHW12D5V-2W	9~18	+/-5	+/-200mA	76
DCHW24D12-2W	18~36	+/-12	+/-83mA	79
DCHW48S15-2W	36~72	15	133mA	78
Models				
Vin=4.5~9VDC	DCHW12D12-2W	DCHW48D12-2W		
DCHW5S3.3-2W	DCHW12D15-2W	DCHW48D15-2W		
DCHW5S5-2W	Vin=18~36VDC	Vin=9~18VDC		
DCHW5S8-2W	DCHW24S3.3-2W	DCHW12S3.3-3W		
DCHW5S9-2W	DCHW24S5-2W	DCHW12S5-3W		
DCHW5S12-2W	DCHW24S8-2W	DCHW12S8-3W		
DCHW5S15-2W	DCHW24S9-2W	DCHW12S9-3W		
DCHW5D3.3-2W	DCHW24S12-2W	DCHW12S12-3W		
DCHW5D5-2W	DCHW24S15-2W	DCHW12S15-3W		
DCHW5D8-2W	DCHW24D3.3-2W	DCHW12D3.3-3W		
DCHW5D9-2W	DCHW24D5-2W	DCHW12D5-3W		
DCHW5D12-2W	DCHW24D8-2W	DCHW12D8-3W		
DCHW5D15-2W	DCHW24D9-2W	DCHW12D9-3W		
Vin=9~18VDC	DCHW24D12-2W	DCHW12D12-3W		
DCHW12S3.3-2W	DCHW24D15-2W	DCHW12D15-3W		
DCHW12S5-2W	Vin=36~72VDC	Vin=18~36VDC		
DCHW12S8-2W	DCHW48S3.3-2W	DCHW24S5-3W		
DCHW12S9-2W	DCHW48S5-2W	DCHW24S8-3W		
DCHW12S12-2W	DCHW48S8-2W	DCHW24S9-3W		
DCHW12S15-2W	DCHW48S9-2W	DCHW24S12-3W		
DCHW12D3.3-2W	DCHW48S12-2W	DCHW24S15-3W		
DCHW12D5-2W	DCHW48S15-2W	DCHW24D5-3W		
DCHW12D8-2W	DCHW48D3.3-2W	DCHW24D8-3W		
DCHW12D9-2W	DCHW48D5-2W	DCHW24D9-3W		
DCHW12D12-2W	DCHW48D8-2W	DCHW24D12-3W		
DCHW12D15-2W	DCHW48D9-2W	DCHW24D15-3W		

★ Pin Assignment

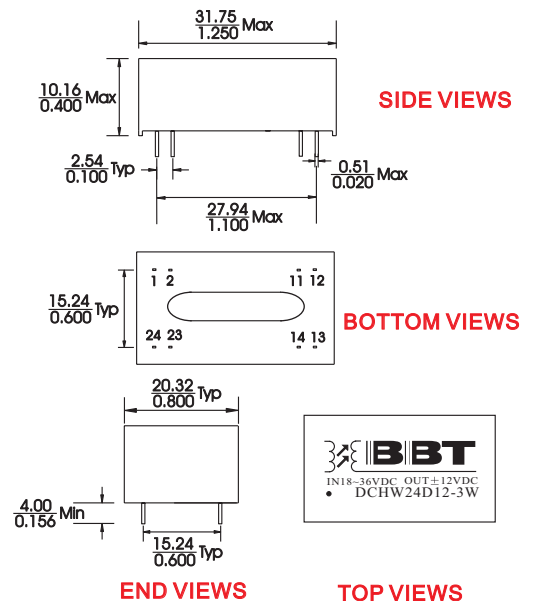


PIN	Single	Dual
1	Vin-	Vin-
2	Vin-	Vin-
11	Vout-	Vout-
12	Vout-	Common
13	Vout+	Common
14	Vout+	Vout+
23	Vin+	Vin+
24	Vin+	Vin+

★ Model Select Guide



★ Dimensions: (mm / inch)



Other specifications please enquire



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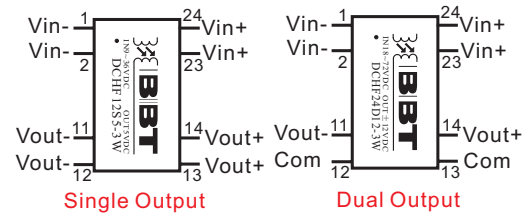
★ Features

The DCHF converter series have very excellent isolation characteristic. The small size DIP-package and light weight allows easy handling by pick-and-place Machines. They are ideally suited for heavy electrical machine interface or medical electrical equipment interface, such as Multi-parameter Patient Monitor etc.

- ◆DIP-Package:DIP24
- ◆International Standard Pinout
- ◆Wide Input: 9~36VDC;18~72VDC
- ◆Input Voltage range :4:1
- ◆I/O-Isolation :>1500VDC(60 second /0.5mA)
- ◆Single output: 3.3/5/6/7/8/9/12/15(VDC)
- ◆Dual output(±): 3.3/5/6/7/8/9/12/15(VDC)
- ◆Output Voltage Accuracy :Vout ± 2%
- ◆Switching Frequency:300KHZ
- ◆Line voltage regulation:1.25%/1% of Vin
- ◆Load voltage regulation:8% load=20%~100%
- ◆Ripple & Noise (20MHz):100mVp-p,Max
- ◆Temperature coefficient : ± 0.02%/1°C
- ◆Operation temperature:-25°C~+85°C
- ◆Output Power: 1W;2W;3W;4W
- ◆Short Circuit Protection
- ◆Efficiency:75%(Min)
- ◆MTBF up to 1.0 Million hours(25°C)



★ Pin Assignment

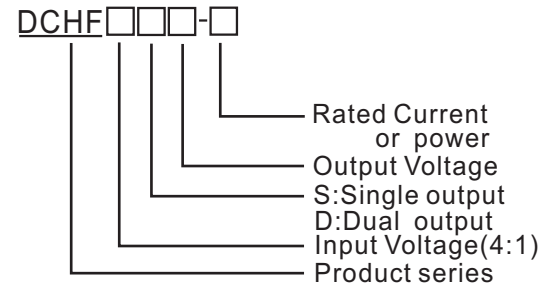


PIN	Single	Dual
1	Vin-	Vin-
2	Vin-	Vin-
11	Vout-	Vout-
12	Vout-	Common
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14	Vout+	Vout+
23	Vin+	Vin+
24	Vin+	Vin+

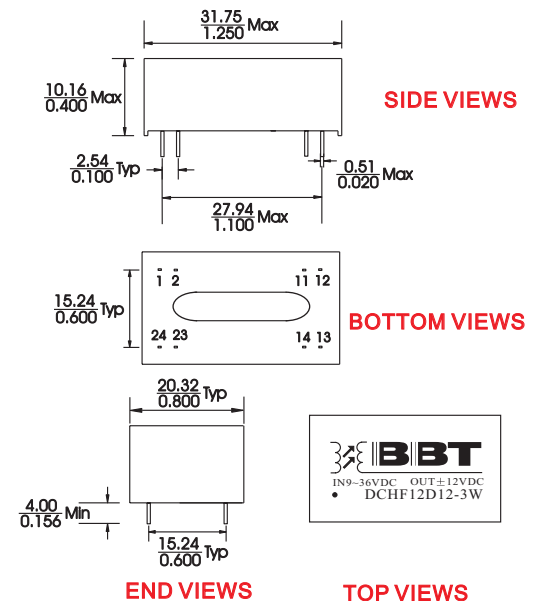
★ Product Program

Part Number	Input(V) 4:1	Output		Efficiency %(Min)
		Vout(V)	Iout(Max)	
DCHF12S3.3-3W	9~36	3.3	910mA	75
DCHF12S5-3W	9~36	5	600mA	75
DCHF12S8-3W	9~36	8	375mA	76
DCHF12S9-3W	9~36	9	333mA	76
DCHF12S12-3W	9~36	12	250mA	76
DCHF12S15-3W	9~36	15	200mA	77
DCHF12D5-3W	9~36	±5	±300mA	78
DCHF12D8-3W	9~36	±8	±188mA	78
DCHF12D9-3W	9~36	±9	±167mA	80
DCHF12D12-3W	9~36	±12	±125mA	80
DCHF12D15-3W	9~36	±15	±100mA	81
DCHF24S3.3-3W	18~72	3.3	910mA	75
DCHF24S5-3W	18~72	5	600mA	75
DCHF24S8-3W	18~72	8	375mA	77
DCHF24S9-3W	18~72	9	333mA	78
DCHF24S12-3W	18~72	12	250mA	78
DCHF24S15-3W	18~72	15	200mA	79
DCHF24D5-3W	18~72	±5	±300mA	78
DCHF24D8-3W	18~72	±8	±188mA	80
DCHF24D9-3W	18~72	±9	±167mA	80
DCHF24D12-3W	18~72	±12	±125mA	81
DCHF24D15-3W	18~72	±15	±100mA	81

★ Model Select Guide



★ Dimensions: (mm / Inch)



Other specifications please enquire

