FEATURES :

- 10 Watt DIL Package
- 4:1 Wide Input Voltage
- 100% Burned In
- High Efficiency To 85%
- Customized Solutions Available
- UL94V-0 Package Material
- Operating Temperature:-40℃ TO +82℃
- 3 Years Warranty
- Medical EMC Standard of EMI EN 55011:2009 + A1:2010 (CLASS A) Approved.
- Medical EMC Standard of EMS EN 60601-1-2:2015 Approved.
- Medical/Industry/ITE Application
- I/O Isolation 5000VACrms With Reinforced Insulation , Rated For 250VAC Working Voltage

YUAN DEAN SCIENTIFIC

DC-DC Converter

68DW10-M SERIES

10Watt 5KVac Isolated

4 : 1 Input Voltage Range

Single & Dual Output

DIL

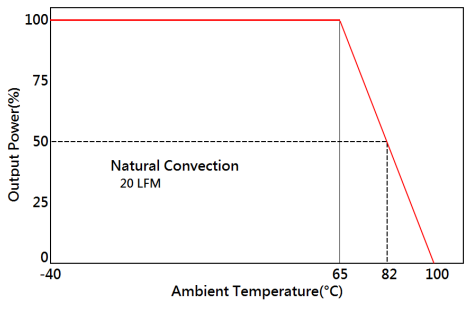
Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Input Voltage	Input Current (mA TYP)		Output Voltage	Output Current	Efficiency	Capacitor load
	Vdc	No Load	Full Load	Vdc	Full Load (mA)	%TYP	uF MAX
68DW10-24S03RM	9-36	7	414	3.3	2500	83	4700
68DW10-24S05RM	9-36	7	496	5	2000	84	2500
68DW10-24S12RM	9-36	7	496	12	833	84	430
68DW10-24S15RM	9-36	7	499	15	670	84	270
68DW10-24D05RM	9-36	7	496	±5	±1000	84	±1250
68DW10-24D12RM	9-36	7	494	±12	±420	85	±220
68DW10-24D15RM	9-36	7	500	±15	±340	85	±135
68DW10-48S03RM	18-75	4	207	3.3	2500	83	4700
68DW10-48S05RM	18-75	4	248	5	2000	84	2500
68DW10-48S12RM	18-75	4	248	12	833	84	430
68DW10-48S15RM	18-75	4	249	15	670	84	270
68DW10-48D05RM	18-75	4	248	±5	±1000	84	±1250
68DW10-48D12RM	18-75	4	247	±12	±420	85	±220
68DW10-48D15RM	18-75	4	250	±15	±340	85	±135

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Types				4:1	
Filter			PI Network		
Protection	Fuse Recommended				
Start up Time	Constant resistive load		15		ms
Remote ON/OFF	DC-DC ON (Referred to –Vin pin)	0	Open	1.2	Vdc
	DC-DC OFF	2.2		12	Vdc

Temperature Derating Graph



www.yds.com.tw
TEL：886-6-3842899 FAX：886-6-3843288
E-MAIL：ydsweb@yds.com.tw
Rev:1.2 2020/12/02

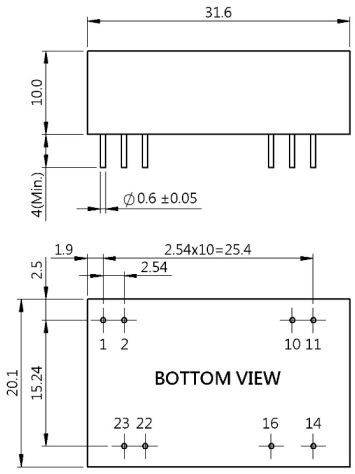
Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Full load @Vin(nom.)			±2	%
Short Circuit Protection	Hiccup, automatic Recovery				
Line Regulation				±0.5	%
Load Regulation	Single Dual(Balance Load)			±0.5 ±0.5	%
Cross Regulation	Dual (25% To 100% Load)			±5	%
Ripple & Noise	Output:3-15V TYPES BW=DC To 20MHz			100	mVp-p
	Output > 15V TYPES BW=DC To 20MHz			1% of Vout	mVp-p
Transient response setting time	25% load step change		350		us
External Trim Adj. Range				±10	%

General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Voltage	I/P to O/P Reinforced insulation for 250VAC working voltage			5000	Vac
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency			300		KHz
Operating Temperature	Refer to temperature derating graph (with derating)	-40		82	℃
Storage Temperature		-55		125	℃
Case Temperature				+95	℃
Humidity	Non Condensing	5		95	%
Cooling	Natural Convection (20LFM)				
Case material	Plastic				
MTBF	MIL-HDBK-217F@25℃	900000			Hours
Weight			13.5		g
Dimensions			31.6x20.1x10.0		mm

Dimensions



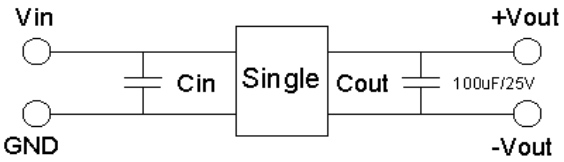
Unit：mm
Tolerance：XX.X ±0.5，XX.XX ±0.25

Part Number

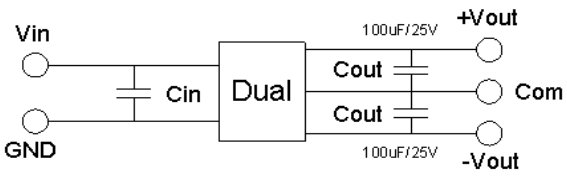
68DW10 - 24 S 03 R M
A B C D E F

A: Series
B: Input Voltage
C: Single Output(D),Dual(D)
D: Output Voltage
E: Regulated (R)
F: Medical Application

Recommended Test Circuit



24V&48V:Cin 10uF,100V



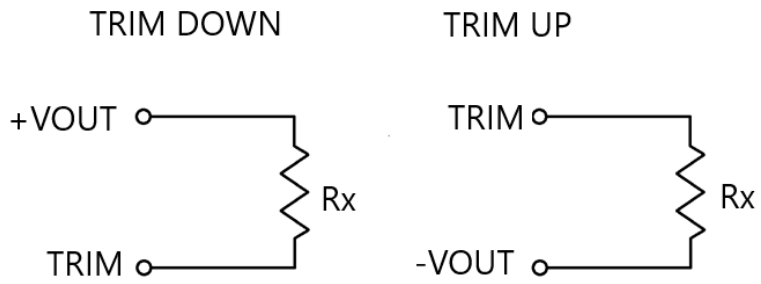
24V & 48V :Cin 10uF,100V

PIN Assignment

Pin	1	2	10	11	14	16	22	23
Single	Remote ON/OFF	-Vin	Trim	No pin	+Vout	-Vout	+Vin	+Vin
Dual	Remote ON/OFF	-Vin	Trim	-Vout	+Vout	Com	+Vin	+Vin

External Output Trimming

Output can be externally trimmed by using the method shown below.



68DW10-XXS03RM											
Trim	Vout=	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rx=	152.44KΩ	70.36KΩ	43.01KΩ	29.33KΩ	21.12KΩ	15.65KΩ	11.74KΩ	8.808KΩ	6.53KΩ	4.7KΩ
Trim	Vout=	Vo*101%	Vo*102%	Vo*103%	Vo*104%	Vo*105%	Vo*106%	Vo*107%	Vo*108%	Vo*109%	Vo*110%
up	Rx=	87.75KΩ	39.33KΩ	23.18KΩ	15.11KΩ	10.27KΩ	7.04KΩ	4.74KΩ	3.007KΩ	1.66KΩ	0.59KΩ
68DW10-XXS05RM											
Trim	Vout=	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rx=	229.9KΩ	102.4KΩ	59.9KΩ	38.65KΩ	25.9KΩ	17.4KΩ	11.33KΩ	6.775KΩ	3.23KΩ	0.4KΩ
Trim	Vout=	Vo*101%	Vo*102%	Vo*103%	Vo*104%	Vo*105%	Vo*106%	Vo*107%	Vo*108%	Vo*109%	Vo*110%
up	Rx=	235KΩ	107.5KΩ	65KΩ	43.75KΩ	31KΩ	22.5KΩ	16.43KΩ	11.875KΩ	8.33KΩ	5.5KΩ
68DW10-XXS12RM											
Trim	Vout=	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rx=	946.72KΩ	455.16KΩ	291.31KΩ	209.38KΩ	160.22KΩ	127.45KΩ	104.05KΩ	86.49KΩ	72.84KΩ	61.91KΩ
Trim	Vout=	Vo*101%	Vo*102%	Vo*103%	Vo*104%	Vo*105%	Vo*106%	Vo*107%	Vo*108%	Vo*109%	Vo*110%
up	Rx=	232.88KΩ	104.44KΩ	61.63KΩ	40.22KΩ	27.38KΩ	18.81KΩ	12.7KΩ	8.11KΩ	4.54KΩ	1.69KΩ
68DW10-XXS15RM											
Trim	Vout=	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rx=	1332.4KΩ	644.9KΩ	415.73KΩ	301.15KΩ	232.4KΩ	186.57KΩ	153.83KΩ	129.275KΩ	110.18KΩ	94.9KΩ
Trim	Vout=	Vo*101%	Vo*102%	Vo*103%	Vo*104%	Vo*105%	Vo*106%	Vo*107%	Vo*108%	Vo*109%	Vo*110%
up	Rx=	248.9KΩ	111.4KΩ	65.57KΩ	42.65KΩ	28.9KΩ	19.73KΩ	13.19KΩ	8.275KΩ	4.46KΩ	1.4KΩ
68DW10-XXD05RM											
Trim	Vout=	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rx=	1483.13KΩ	722.56KΩ	469.04KΩ	342.28KΩ	266.23KΩ	215.52KΩ	179.3KΩ	152.14KΩ	131.01KΩ	114.11KΩ
Trim	Vout=	Vo*101%	Vo*102%	Vo*103%	Vo*104%	Vo*105%	Vo*106%	Vo*107%	Vo*108%	Vo*109%	Vo*110%
up	Rx=	258.87KΩ	119.44KΩ	72.96KΩ	49.72KΩ	35.77KΩ	26.48KΩ	19.84KΩ	14.86KΩ	10.99KΩ	7.89KΩ
68DW10-XXD12RM											
Trim	Vout=	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rx=	1146.29KΩ	514.29KΩ	303.63KΩ	198.3KΩ	135.1KΩ	92.96KΩ	62.87KΩ	40.3KΩ	22.74KΩ	8.7KΩ
Trim	Vout=	Vo*101%	Vo*102%	Vo*103%	Vo*104%	Vo*105%	Vo*106%	Vo*107%	Vo*108%	Vo*109%	Vo*110%
up	Rx=	1315.01KΩ	612.01KΩ	377.67KΩ	260.5KΩ	190.2KΩ	143.34KΩ	109.86KΩ	84.75KΩ	65.22KΩ	49.6KΩ
68DW10-XXD15RM											
Trim	Vout=	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rx=	1354.11KΩ	605.56KΩ	356.04KΩ	231.28KΩ	156.42KΩ	106.52KΩ	70.87KΩ	44.14KΩ	23.35KΩ	6.71KΩ
Trim	Vout=	Vo*101%	Vo*102%	Vo*103%	Vo*104%	Vo*105%	Vo*106%	Vo*107%	Vo*108%	Vo*109%	Vo*110%
up	Rx=	1692.89KΩ	791.44KΩ	490.96KΩ	340.72KΩ	250.58KΩ	190.48KΩ	147.56KΩ	115.36KΩ	90.32KΩ	70.29KΩ