



ODC40-**-SC **-W Series

40 Watt Ultra-Wide Input DC/DC Power Supply



8:1 Ultra Wide input range VDC (9~76 VDC)
Single and Dual Output Models Available
 Isolation 2250VDC
 Efficiency up to 91%
 Wide operating temperature from -40°C to +65°C
 No Minimum Load Required
 Over Current/Short Circuit/ Temperature Protection
 Remote On/Off
 Meets UL/IEC/EN 62368-1, UL and CE Pending
 EN55032:2015,2017
 Dual Output Models
 ODC40-22WC36: +/-12V
 ODC40-23WC36: +/-15V
 3 Year Warranty



		UNIT	ODC40-**-SC36-W	
INPUT	Nom Voltage (Range)	V	DC 36V (9~75)	
	Current Typ.	mA	8	
	Start up Voltage	Vdc	9	
	Under Voltage shutdown	Vdc	7.5	
	Voltage Surge	Vdc	Min. -0.7	Max. 100VDC

SINGLE OUTPUT MODELS			ODC40-05SC36-W	ODC40-12SC36-W	ODC40-15SC36-W	ODC40-24SC36-W	ODC40-48SC36-W	
OUTPUT	Nominal Voltage	VDC	5	12	15	24	48	
	Capacitive Load max.	uF	13,600	2,400	1,500	600	120	
	Current	A	8	3.33	2.67	1.67	.83	
	Total Pwr	W	40	40	40	40	40	
	Efficiency	%	90	91	91	91	91	
	Line Regulation	%	+/-0.2%	+/-0.2%	+/-0.2%	+/-0.2%	+/-0.2%	
	Load Regulation	%	+/-0.5%	+/-0.5%	+/-0.5%	+/-0.5%	+/-0.5%	
	Switching Frequency ¹	KHZ	185	230	230	230	185	
	Ripple Noise ²	mVp-p	100	150	150	150	200	
	OVER VOLTAGE PROTECTION	Vdc	6.2	15	18	30	60	
	Voltage adjustability	%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	
	Transient Response Settling Time.	µs	MIN		TYP		MAX	
					350		650	
				(25% Load Step Change)				
Transient Response Dev.	%	-5		+/-3		+5		
Output Power Protection	% of lout	MIN		TYP		MAX		
		115		150		185		
Cooling	Natural Convection							





DUAL OUTPUT MODELS			ODC40-22WC36-W		ODC40-23WC36-W	
OUTPUT	Nominal Voltage	VDC	+/- 12		+/-15	
	Capacitive Load max.	uF	1200		800	
	Current	A	1.67		1.33	
	Total Power	W	40		40	
	Efficiency	%	91		91	
	Line Regulation	%	+/-0.2%		+/-0.2%	
	Load Regulation	%	+/-0.5%		+/-0.5%	
	Switching Frequency¹	KHZ	230		230	
	Ripple Noise²	mVp-p	150		150	
	OVER VOLTAGE PROTECTION	Vdc	15		30	
	Voltage adjustability	%	N/A		N/A	
	Transient Response Settling Time.	μ s	MIN	TYP		MAX
				350		650
			(25% Load Step Change)			
Transient Response Dev.	%	-5	+/-3		+5	
Output Power Protection	% of Iout	MIN	TYP		MAX	
		115	150		185	
Cooling		Natural Convection				

1: Switching Frequency measured at Nominal Input and Full Load
 2: Ripple and Noise measured at 20Mhz Bandwidth with 1uF MLCC

REMOTE ON/OFF (Ctrl PIN Refer To -Vin PIN)	Positive Logic (Standard)	Remote On: Open or 3.5 Vdc ~ 12 Vdc Remote Off: Short or 0 Vdc ~ 1.2 Vdc
	Input Current of CTRL pin	Min: -0.5 mA Max 0.5mA
	Remote Off Input Current	3 mA
PROTECTION	Over Voltage	Refer to Model for details
	Short Circuit	Continuous [Hiccup Mode], Auto-Recovery
	Over Load/Output Power	% of Io, Hiccup mode, Auto-recovery, refer to model for details
	Over Temperature	115 °C

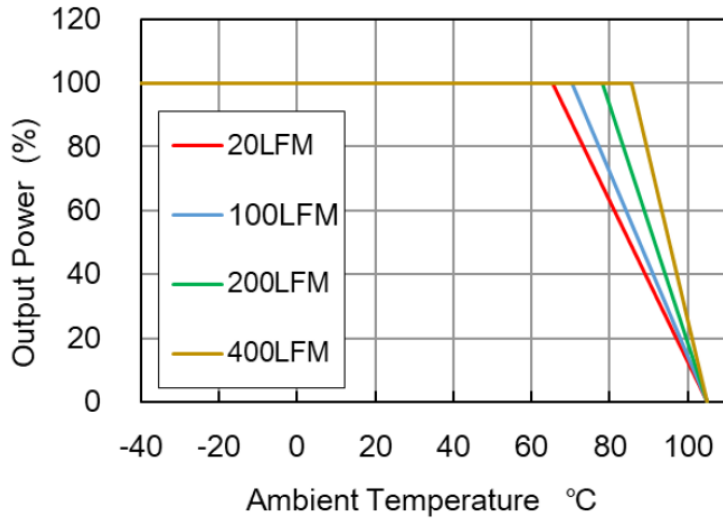
ISOLATION	Input - Output	2250Vdc (60 sec)
	Input+Output-Case	1000 Vdc (60 sec)
	Resistance	>= 1000 M Ω (500VDC)
	Capacitance	2200 pF @ 100kHz, 1V
ENVIRONMENT	Operating temp	-40 ~ +65°C (-40 ~ +60 °C for ODC40-05SC36-W)
	Storage	-55 ~ +125°C
	MTBF	415,000 Hrs per MIL-HDBK-217F @ 25°C (Calculated)
DIMENSION	WxLxH (mm)	50.8 x 25.4 x 11.6



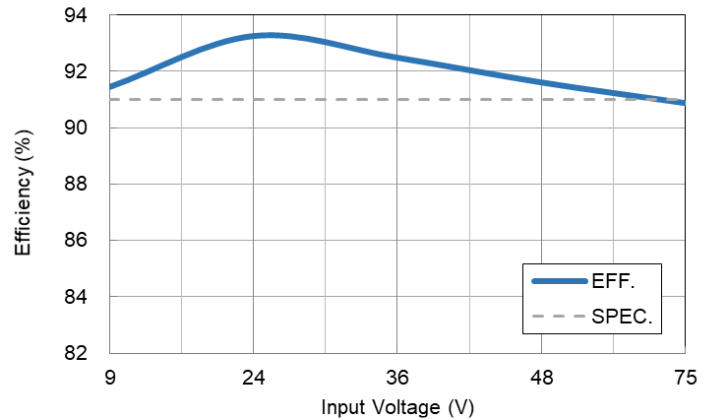
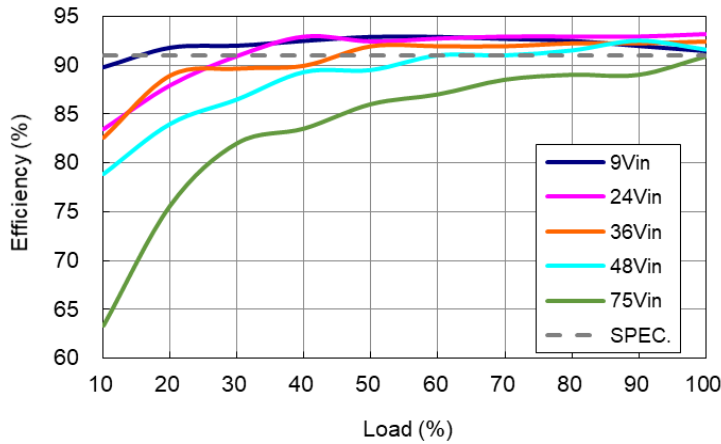


MATERIAL	Case Material Potting Material Pin Material	Copper Silicone (UL94-V0) Tin Plated Brass
SAFETY		UL /IEC/EN 62368-1, CE Marking. Completion Expected Q4 2023
EMC	EMS	EN55035:2017
	EMI	EN55032:2015, ICES-003 issue7(2020 Canada),
	FCC	47CFR FCC Part 15 subpart B

TEMPERATURE DERATING

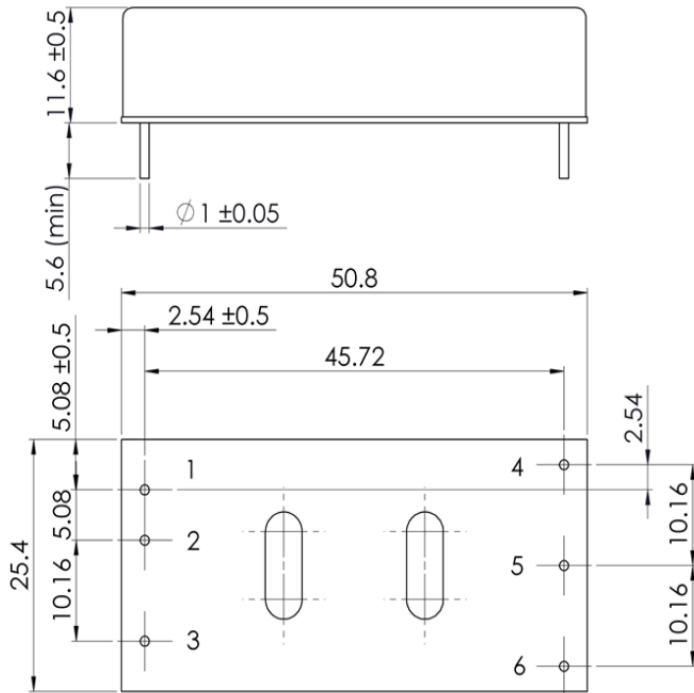


EFFICIENCY





DIMENSIONS



BOTTOM VIEW

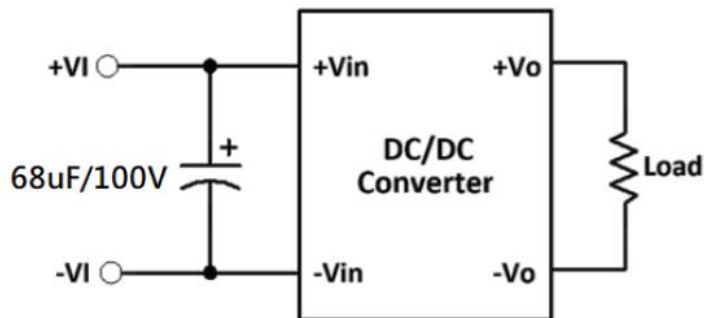
Unit : mm

Tolerance : XX.X ± 0.5 , XX.XX ± 0.25

Pin #	Single Output ODM40-SC	Dual Output ODM40-WC	Pin Dia mm (in)
1	+VIN	+VIN	1.0 (0.4)
2	-VIN	-VIN	1.0 (0.4)
3	CTRL	CTRL	1.0 (0.4)
4	+VOUT	+VOUT	1.0 (0.4)
5	-VOUT	COM	1.0 (0.4)
6	TRM	-VOUT	1.0 (0.4)

APPLICATION NOTES

Input Capacitor



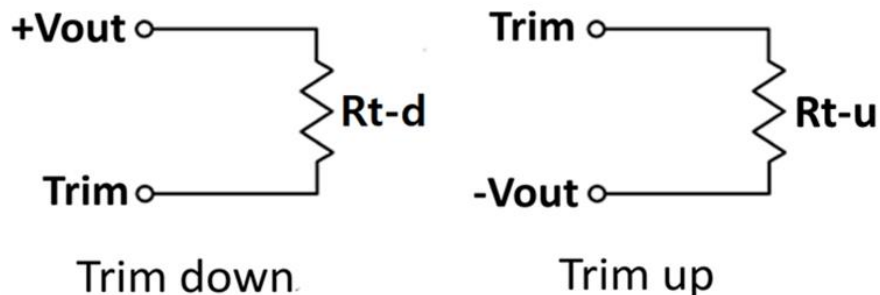
An input capacitor placed across input is necessary for normal operation.

Recommended min value of 68uF rated for 100V.





External Output Trimming Circuit



Trim Resistor Value Table

ODC40-05SC36-W

Trim	Vout	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rt-d =	138.88KΩ	62.41KΩ	36.92KΩ	24.18KΩ	16.53KΩ	11.44KΩ	7.79KΩ	5.06KΩ	2.94KΩ	1.24KΩ
up	Rt-u =	106.87KΩ	47.76KΩ	28.06KΩ	18.21KΩ	12.30KΩ	8.36KΩ	5.55KΩ	3.44KΩ	1.79KΩ	0.48KΩ

ODC40-12SC36-W

Trim	Vout	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rt-d =	280.90KΩ	125.65KΩ	73.90KΩ	48.02KΩ	32.50KΩ	22.15KΩ	14.76KΩ	9.21KΩ	4.90KΩ	1.45KΩ
up	Rt-u =	225.50KΩ	100.75KΩ	59.17KΩ	38.38KΩ	25.90KΩ	17.58KΩ	11.64KΩ	7.19KΩ	3.72KΩ	0.95KΩ

ODC40-15SC36-W

Trim	Vout	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rt-d =	499.18KΩ	223.09KΩ	131.06KΩ	85.05KΩ	57.44KΩ	39.03KΩ	25.88KΩ	16.02KΩ	8.35KΩ	2.22KΩ
up	Rt-u =	404.82KΩ	180.91KΩ	106.27KΩ	68.95KΩ	46.56KΩ	31.64KΩ	20.97KΩ	12.98KΩ	6.76KΩ	1.78KΩ

ODC40-24SC36-W

Trim	Vout	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rt-d =	598.97KΩ	267.93KΩ	157.59KΩ	102.42KΩ	69.31KΩ	47.24KΩ	31.48KΩ	19.66KΩ	10.46KΩ	3.11KΩ
up	Rt-u =	486.83KΩ	217.87KΩ	128.21KΩ	83.38KΩ	56.49KΩ	38.56KΩ	25.75KΩ	16.14KΩ	8.67KΩ	2.69KΩ

ODC40-48SC36-W

Trim	Vout	Vo*99%	Vo*98%	Vo*97%	Vo*96%	Vo*95%	Vo*94%	Vo*93%	Vo*92%	Vo*91%	Vo*90%
down	Rt-d =	1075.19KΩ	481.35KΩ	283.40KΩ	184.42KΩ	125.04KΩ	85.45KΩ	57.17KΩ	35.96KΩ	19.47KΩ	6.27KΩ
up	Rt-u =	871.31KΩ	390.15KΩ	229.77KΩ	149.58KΩ	101.46KΩ	69.38KΩ	46.47KΩ	29.29KΩ	15.92KΩ	5.23KΩ

