



## ODC15-\*\*SC/WC\*\* Series

## 15Watt DC/DC Power Supply



**4:1 Wide input range VDC**  
 Compact size 1x1" package  
**Efficiency 85%~ 90%**  
**Wide operating temperature from -40°C to +105°C**  
**EMI class A without external circuit**  
**Regulated and low ripple noise is required**  
**No minimum load required**  
**Meet EN62368-1**  
**Available Inputs Voltage (nominal):**  
**24VDC Nom (DC 9~36V)**  
**48 VDC Nom (DC 18 ~ 75V)**  
**-ODC15-22WC -22: 12V, 12V**  
**-ODC15-23WC -23: 15V, 15V**



		UNIT	ODC15-**SC24		ODC15-**SC48		
<b>INPUT</b>	Nom Voltage (Range)	V	DC 24V (9~36)		DC 48V (18~75)		
	Current Typ.	mA	7		5		
	Start-up Time	ms	Nom. Vin at 100% load Typ. 20ms- Max. 25ms				
	Voltage Lockout	24VDC 48VDC			Typ. 7.5VDC Typ. 16VDC		
	Voltage Surge	24VDC 48VDC			Max. 50VDC Max. 100VDC		
	Remote ON/OFF	DC-DC On DC-DC Off			Open or 3.5~15VDC Short or 0~1.2VDC Input current (remote off mode ) typ. 2mA		
			ODC 15-03SC24	ODC 15-05SC24	ODC 15-12SC24	ODC 15-15SC24	ODC 15-24SC24
<b>OUTPUT</b>	Nominal Voltage	VDC	3.3	5	12	15	24
	Trim Range		+/-10%	+/-10%	+/-10%	+/-10%	+/-10%
	Current	A	4	3	1.25	1	.625
	Total Pwr	W	13.2	15	15	15	15
	Efficiency	%	85	88	88.5	89	89.5
	Line Regulation	%	0.2	0.2	0.2	.02	.02
	Load Regulation	%	0.5	0.5	0.5	0.5	0.5
	Operating Frequency	KHZ	400	350	350	350	350
	Ripple Noise 20MHZ	24VDC 48VDC mVp-p	60 100	60 100	60 100	60 100	60 100
	Cooling		Convection				
<b>ISOLATION</b>	Voltage		60 sec. typ. 1.6KVDC				
	Resistance		Min. 1000 MΩ				
	Capacitance		Typ. 1200pF				
	Overload Protection	24VDC 48VDC			Typ. 170% Typ. 190%		





<b>Environment</b>	<b>Operating temp</b>		-40 ~ +105°C
	<b>Storage</b>		-55 ~ +125°C
	<b>Vibration</b>		10 ~ 55Hz at 1G, 3 minutes period, 30 minutes along X, Y and Z axis
<b>Dimension</b>	<b>WxHxL</b>	mm/g	25.4 x 25.4 x 10 / 17
	<b>Case Material</b>		Nickel plated metal with FR-4 base
	<b>Potting Material</b>		Silicone

			ODC15-03SC48	ODC15-05SC48	ODC15-12SC48	ODC15-15SC48	ODC15-24SC48
<b>OUTPUT</b>	<b>Nominal Voltage</b>	VDC	3.3	5	12	15	24
	<b>Trim range</b>	VDC	+/-10%	+/-10%	+/-10%	+/-10%	+/-10%
	<b>Current</b>	A	4	3	1.25	1	.625
	<b>Total Pwr</b>	W	13.2	15	15	15	15
	<b>Efficiency</b>	%	85	88	88.5	89	89.5
	<b>Line Regulation</b>	%	0.2	0.2	0.2	.02	.02
	<b>Load Regulation</b>	%	0.5	0.5	0.5	0.5	0.5
	<b>Operating Frequency</b>	KHZ	400	350	350	350	350
	<b>Ripple Noise 20MHZ</b>	24VDC	60	60	60	60	60
		48VDC mVp-p	100	100	100	100	100
<b>Cooling</b>		Convection					
<b>ISOLATION</b>	<b>Voltage</b>		60 sec. typ. 1.6KVDC				
	<b>Resistance</b>		Min. 1000 MΩ				
	<b>Capacitance</b>		Typ. 1200pF				
	<b>Overload Protection</b>	24VDC 48VDC	Typ. 170% Typ. 190%				
<b>Environment</b>	<b>Operating temp</b>		-40 ~ +105°C				
	<b>Storage</b>		-55 ~ +125°C				
	<b>Vibration</b>		10 ~ 55Hz at 1G, 3 minutes period, 30 minutes along X, Y and Z axis				
<b>Dimension</b>	<b>WxHxL</b>	mm/g	25.4 x 25.4 x 10 / 17				
	<b>Case Material</b>		Nickel plated metal with FR-4 base				
	<b>Potting Material</b>		Silicone				

			ODC15-22WC24	ODC15-23WC 24	ODC15-22WC48	ODC15-23WC48
<b>OUTPUT</b>	<b>Nominal Voltage</b>	VDC	+/-12	+/-15	+/-12	+/-15
	<b>Trim Range</b>	VDC	+/-10%	+/-10%	+/-10%	+/-10%
	<b>Current</b>	A	+/- 0.625	+/-0.5	+/- 0.625	+/- 0.5
	<b>Total Pwr</b>	W	15	15	15	15
	<b>Efficiency</b>	%	87	89	87	89
	<b>Line Regulation</b>	%	0.5	0.5	0.5	0.5
	<b>Load Regulation</b>	%	1.0	1.0	1.0	1.0
	<b>Operating Frequency</b>	KHZ	350	350	350	350
	<b>Ripple Noise 20MHZ</b>	24VDC	60	60	60	60
		48VDC mVp-p	100	100	100	100
<b>Cooling</b>		Convection				
<b>ISOLATION</b>	<b>Voltage</b>		60 sec. typ. 1.6KVDC			
	<b>Resistance</b>		Min. 1000 MΩ			



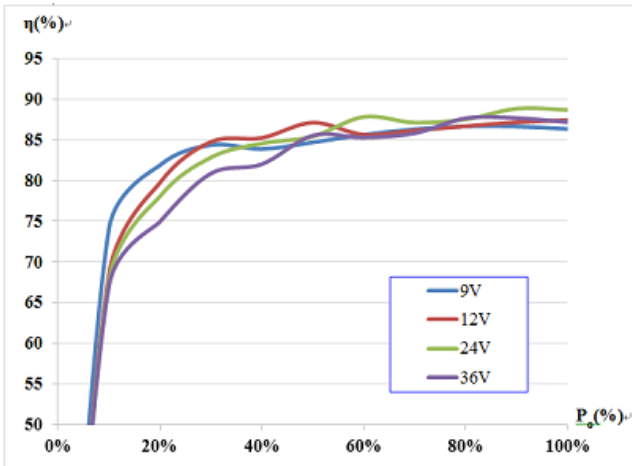


	<b>Capacitance</b>		Typ. 1200pF
	<b>Overload Protection</b>	24VDC 48VDC	Typ. 170% Typ. 190%
<b>Environment</b>	<b>Operating temp</b>		-40 ~ +105°C
	<b>Storage</b>		-55 ~ +125°C
	<b>Vibration</b>		Mil-STD 202G
<b>Dimension</b>	<b>WxHxL</b>	mm/g	25.40x25.40x10.00 / 17
	<b>Case Material</b> <b>Potting Material</b>		Nickel plated metal with FR-4 base Silicone

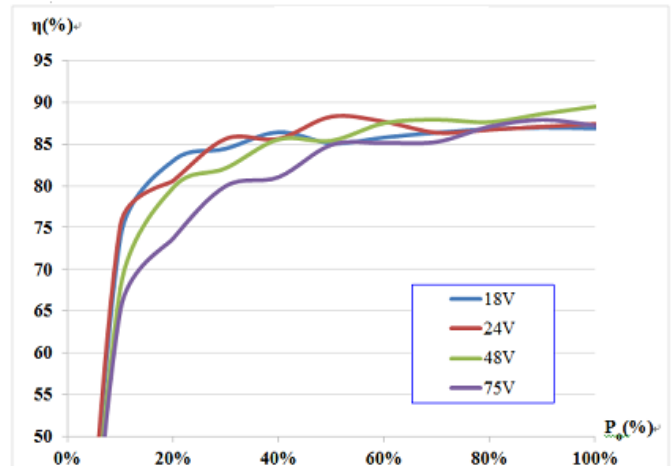
<b>Safety</b>	<b>EMI</b>	EN55032	Class A/B
	<b>ESD</b>	EN61000-4-2, Air±8kV; Contact±6kV	Perf. Criteria A
	Radiated immunity <sup>(1)</sup>	EN61000-4-3	Criteria A
	Fast transient <sup>(1)</sup>	EN61000-4-4, ±2kV	Criteria A
	Surge <sup>(1)</sup>	EN61000-4-5, ±2kV	Criteria A
	Conducted immunity <sup>(1)</sup>	EN61000-4-6	Criteria A
	Magnetic field immunity	EN61000-4-8	Criteria A
			Meet EN62368-1

## EFFICIENCY CURVE (per input voltage )

ODC15-05SC24

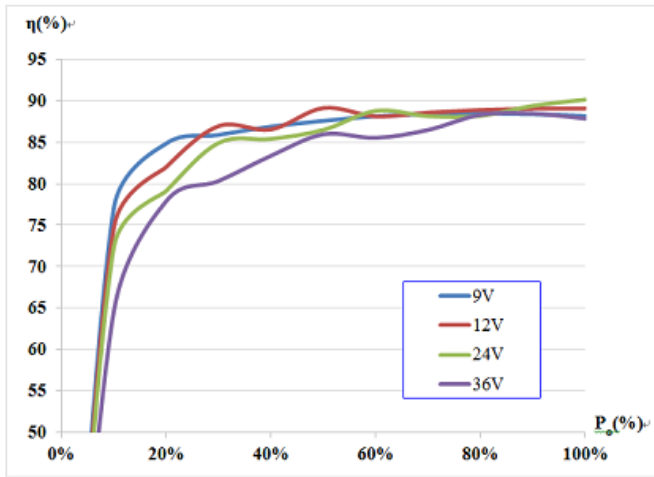


ODC15-05SC48

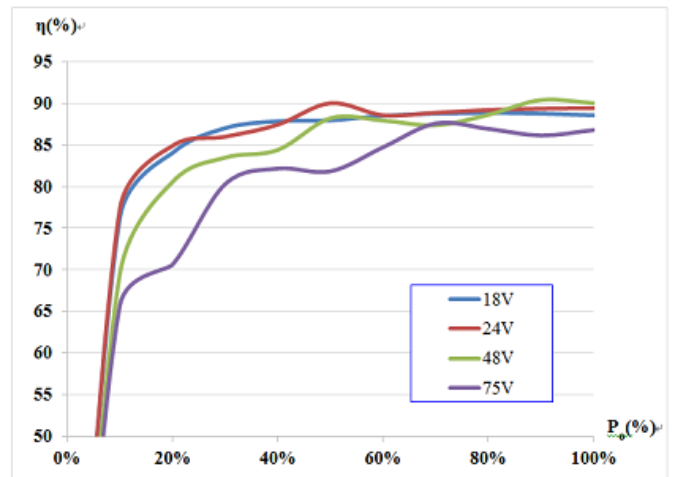




**ODC15-15SC24**

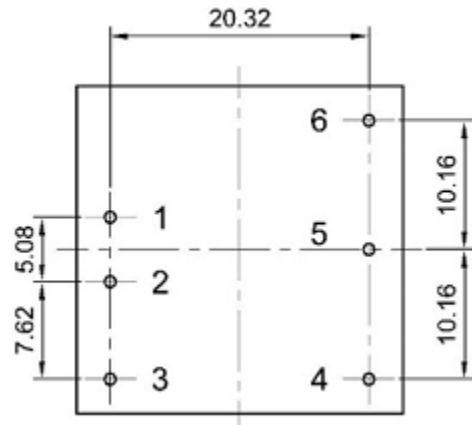


**ODC15-15SC48**



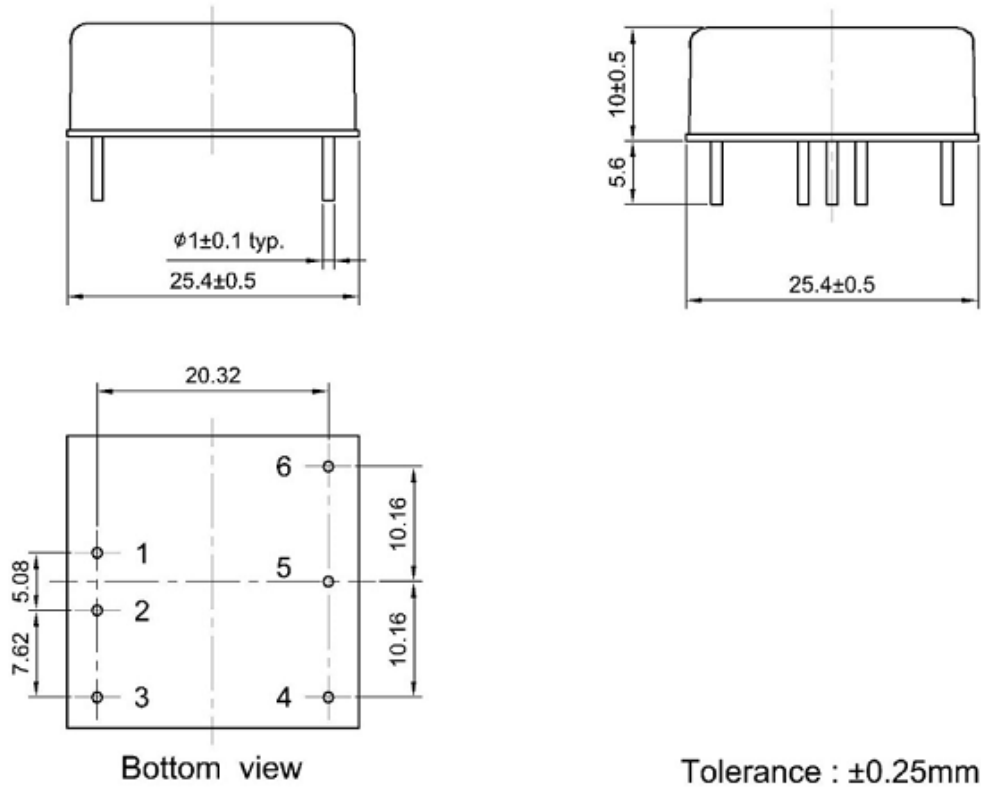
## PIN OUTPUT

	SC Series Single Output	WC Series Dual Output
Pin 1	+Vin	+Vin
Pin 2	-Vin	-Vin
Pin 3	CTRL	CTRL
Pin 4	-Vout	-Vout
Pin 5	Trim	Common
Pin 6	+Vout	+Vout

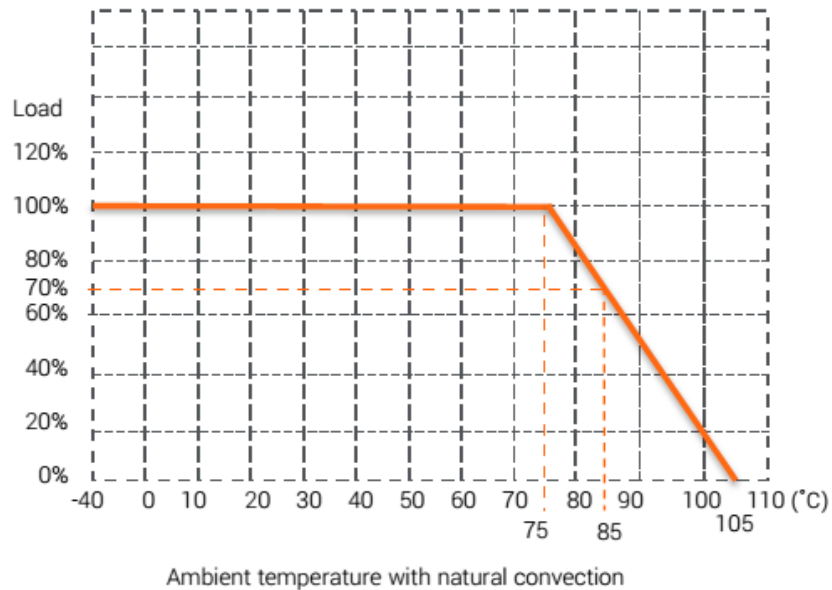




## DIMENSIONAL DRAWING (mm)

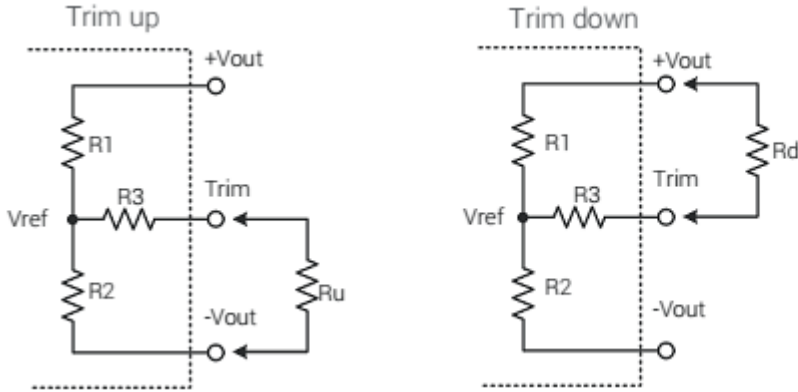


## OUTPUT DERATING CURVE





## EXTERNAL OUTPUT TRIMMING

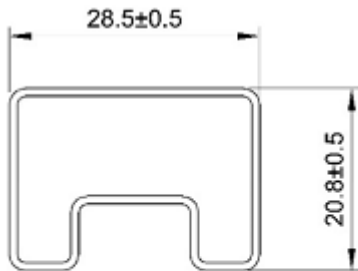


$$R_u = \frac{aR_2}{R_2 - a} - R_3 \quad a = \frac{V_{ref}}{V'_0 - V_{ref}} \cdot R_1$$

$$R_d = \frac{bR_1}{R_1 - b} - R_3 \quad b = \frac{V'_0 - V_{ref}}{V_{ref}} \cdot R_2$$

Model	R1	R2	R3	Vref
ODC15-03SC**	16.6kΩ	10kΩ	52.3kΩ	1.24 V
ODC15-05SC**	10kΩ	10kΩ	35.7kΩ	2.5 V
ODC15-12SC**	38.1kΩ	10kΩ	48.7kΩ	2.5 V
ODC15-15SC**	50.1kΩ	10kΩ	51kΩ	2.5 V
ODC15-24SC**	86.32kΩ	10kΩ	73.2kΩ	2.5 V

## PACKAGING (Parts packaged in tubes of 8)



UNIT:mm  
1 Tube = 8 pcs  
Length:260±2mm

