



## MWS65 Series

2 x 4" 55 to 67W AC-DC Power Supplies

- Medical & ITE Certifications
- BF Rated
- Very Low 1" profile
- Industry Standard Footprint
- Up to 89% Efficient
- <0.3W Off-load Power Draw

### Key Market Segments & Applications

- Medical
- Test & Measurement
- Point of Sale
- Datacom

### MWS65 Features and Benefits

#### Features

- Industry standard footprint
- <0.3W off-load power draw
- BF rated
- 25mm Profile

#### Benefits

- Availability to second source
- Suitable for "Green" products
- Easy system compliance
- Less system space needed

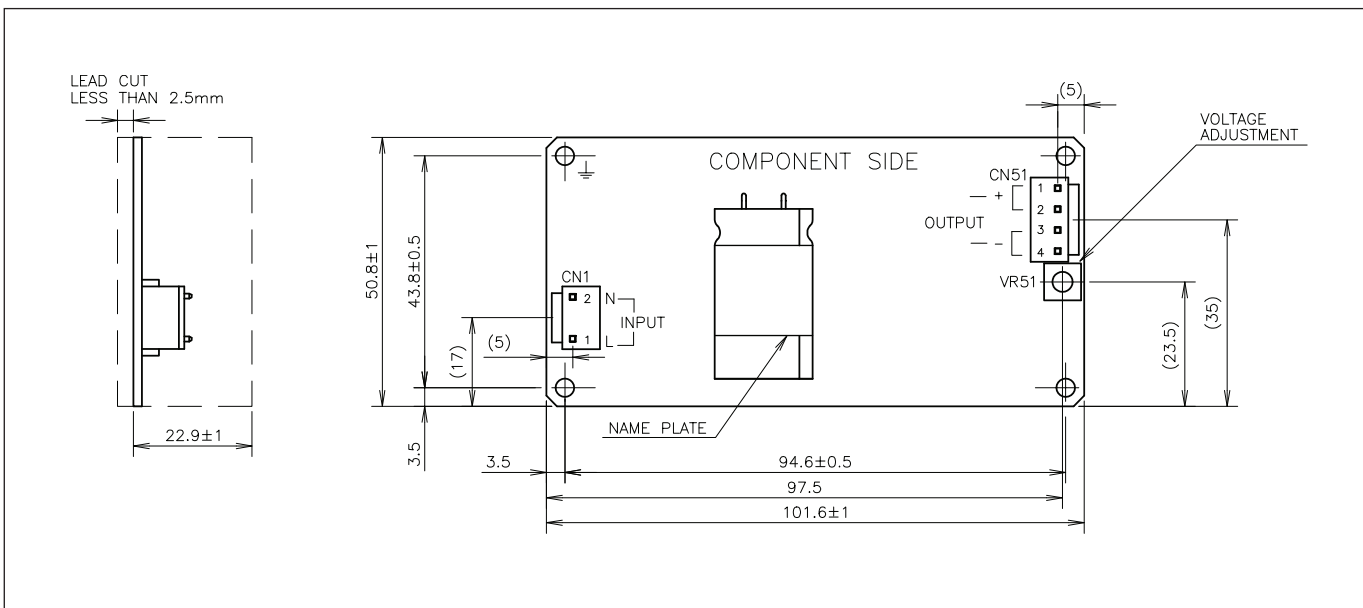
### Specifications

ITEMS	Model	MWS65
AC Input Voltage Range	(1) -	85 - 265VAC (47 - 440Hz)
DC Input Voltage Range	-	120 - 370VDC
Input Current (115 / 230VAC)	A	1.25 / 0.62A
Inrush Current (115 / 230VAC)	A	30 / 60A (Cold Start)
Temperature Coefficient	-	±0.02%/°C
Minimum Load	-	None
Off-load Power Draw	W	<0.3W at 230VAC
Overcurrent Protection	%	> 105%
Overvoltage Protection	%	115 - 135%
Load Regulation	%	0.8%
Line Regulation	%	0.4%
Hold Up Time (Typ)	ms	10ms / 20ms (115VAC / 230VAC input)
Leakage Current	mA	<0.25mA at 265VAC, 63Hz
Operating Temperature	°C	-20°C to +70°C, derate linearly to 50% load from 50°C to 70°C, Guaranteed start up at -25°C
Cooling	-	Convection
Operating Humidity (non condensing)	%RH	10 - 90% RH
Storage Temperature	°C	-40°C to +85°C
Storage Humidity (non condensing)	%RH	10 - 95% RH
Withstand Voltage	-	Input to Ground 1.5kVAC, Input to Output 4kVAC, Output to Ground 1.5kVAC for 1 min.
Isolation Resistance	-	>100M at 25°C & 70%RH, Output to Ground 500VDC
Vibration (non operating)	-	19.6m/s <sup>2</sup> (10 - 500Hz: constant sweep 1 min X, Y, Z for 1 hour)
Shock	-	< 196.1 m/s <sup>2</sup> (20G), MIL-STD810-F
Safety Agency Certifications	-	UL60950-1, CSA60950-1, EN60950-1, EN50178 (OV II), CE Mark UL60601-1, EN60601-1 (2nd & 3rd edition)
Conducted & Radiated EMI	-	EN55011/EN55022-B, FCC Class B, VCCI-B
Immunity	-	EN61000-4-2 (lv 2,3), -3 (lv 3), -4 (lv 3), -5 (lv 2,3), -6 (lv3), -8 (lv4), -11
Weight (Typ)	g	150
Size (WxLxH)	mm	50.8 x 101.6 x 25.4 (including underside components)
Warranty	yrs	3

Notes: (1) < 90VAC Input See Derating Curve

Model Selector						
Model	Output Voltage (V)	Adjustment Range (V)	Maximum Output (A)	Output Power (W)	Ripple/Noise (mV)	Efficiency (115/230VAC) (%)
MWS65-5	5V	4.5 - 5.5V	11A	55	120mV	80 / 82
MWS65-12	12V	10.8 - 13.2V	5A	60	150mV	84 / 86
MWS65-15	15V	13.5 - 16.5V	4.4A	66	150mV	85 / 87
MWS65-24	24V	21.6 - 26.4V	2.8A	67.2	150mV	86 / 88
MWS65-48	48V	43.2 - 52.8V	1.4A	67.2	200mV	87 / 89

Outline Drawing MWS65 Series



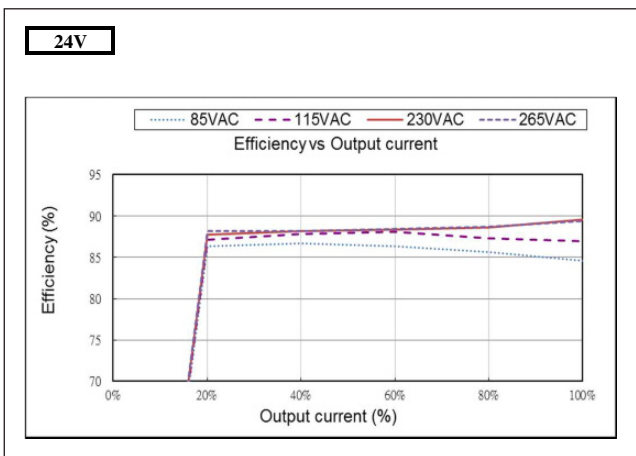
**Connectors Used:**

Part Description	Part Name	Manufacturer	Qty
Pin Header (input side CN1)	B2P3-VH(LF)(SN)	J.S.T	1
Pin Header (output side CN51)	B4P-VH(LF)(S)(SN)	J.S.T	1

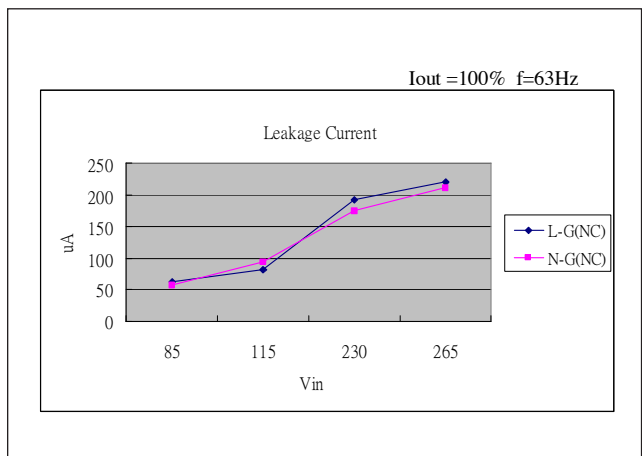
**Matching Housings, Pins & Tools (not included with product):**

Part Description	Part Name	Manufacturer	Qty
Socket Housing (CN1)	VAR-2/VHR-3N	J.S.T	1
Socket Housing (CN5)	VHR-4N	J.S.T	1
Terminal Pins	SVH-21T-P1.1 BVH-21T-P1.1	J.S.T	6
Hand Crimping Tool	YC-160R	J.S.T	-

Efficiency vs Output Current



Leakage Current

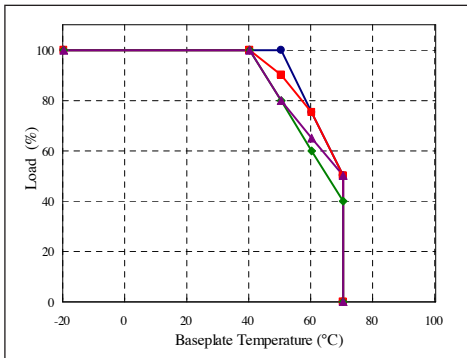


## Typical Mounting Method MWS65-24

**Output Derating according to the Mounting Directions**

Recommended standard mounting method is (A). Method (B)-(F) are also possible. Refer to the output derating below. Load(%) such as below derating curve indicates output power.

## Convection Cooling

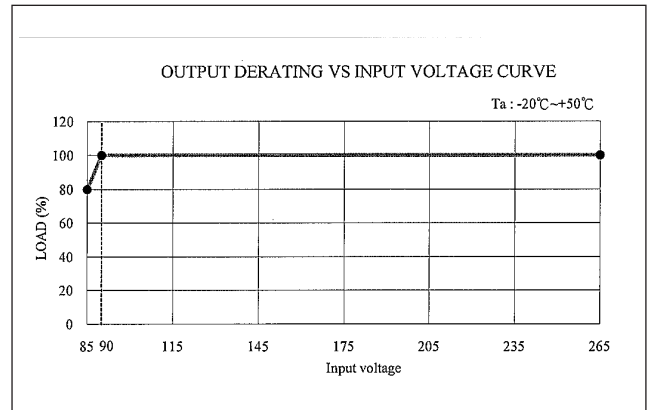


(\*1) Output derating is different depending on the output voltage

- MOUNTING: (A)-(B) : 5V - 48V
- MOUNTING: (C) : 12V
- MOUNTING: (D)-(E) : 12V/48V
- MOUNTING: (C) : 5V/15V/24V/48V
- MOUNTING: (D)-(E) : 15V/24V
- MOUNTING: (D)-(E) : 5V
- MOUNTING: (F) : 5V - 48V

Ta(°C)	Load(%)	Load(%)	Load(%)	Load(%)
Mounting	A,B,C,D,E	C,D,E	D,E	F
-20~40	100			
50	100	90	80	80
60	75	75	65	60
70	50	50	50	40

## Derating Curve MWS65

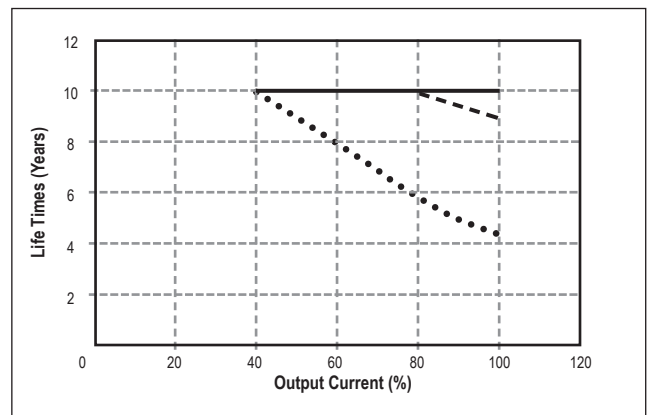


## Example Electrolytic Capacitor Lifetime MWS65-24

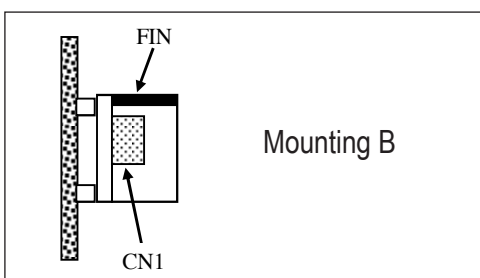
Ta = 40°C — = 50°C - - - - = 60°C .....

Vin = 230VAC	Life Time (Years)			
	Load (%)	Ta= 40°C	Ta= 50°C	Ta= 60°C
40		10.0	10.0	10.0
60		10.0	10.0	8.1
80		10.0	10.0	5.5
100		10.0	9.1	4.5

## Convection Cooling



## Mounting Method MWS65-24



For Electrolytic Cap life of other models  
Please contact Technical Sales  
or visit [www.emea.tdk-lambda.com/mws](http://www.emea.tdk-lambda.com/mws)

**TDK-LAMBDA EMEA**

[www.emea.tdk-lambda.com](http://www.emea.tdk-lambda.com)



**TDK-Lambda France SAS**

Route de Grivery  
ZAC des Delaches  
CS 41077  
91978 Courtaboeuf Cedex  
France  
Tel: +33 1 60 12 71 65  
Fax: +33 1 60 12 71 66  
[france@fr.tdk-lambda.com](mailto:france@fr.tdk-lambda.com)  
[www.fr.tdk-lambda.com](http://www.fr.tdk-lambda.com)



**Italy Sales Office**  
Via dei Lavoratori 128/130  
20092 Cinisello Balsamo (MI)  
Italy  
Tel: +39 02 61 29 38 63  
Fax: +39 02 61 29 09 00  
[info.italia@it.tdk-lambda.com](mailto:info.italia@it.tdk-lambda.com)  
[www.it.tdk-lambda.com](http://www.it.tdk-lambda.com)



**TDK-Lambda Germany GmbH**

Karl-Bold-Strasse 40  
77855 Achern  
Germany  
Tel: +49 7841 666 0  
Fax: +49 7841 5000  
[info.germany@de.tdk-lambda.com](mailto:info.germany@de.tdk-lambda.com)  
[www.de.tdk-lambda.com](http://www.de.tdk-lambda.com)



**Austria Sales Office**  
Aredstrasse 22  
2544 Leobersdorf  
Austria  
Tel: +43 2256 655 84  
Fax: +43 2256 645 12  
[info.germany@de.tdk-lambda.com](mailto:info.germany@de.tdk-lambda.com)  
[www.de.tdk-lambda.com](http://www.de.tdk-lambda.com)



**TDK-Lambda UK Ltd.**

Kingsley Avenue  
Ilfracombe  
Devon EX34 8ES  
United Kingdom  
Tel: +44 (0) 12 71 85 66 66  
Fax: +44 (0) 12 71 86 48 94  
[powersolutions@uk.tdk-lambda.com](mailto:powersolutions@uk.tdk-lambda.com)  
[www.uk.tdk-lambda.com](http://www.uk.tdk-lambda.com)



**Nemic Lambda Ltd.**

Kibbutz  
Givat Hashlosha 48800  
Israel  
Tel: +9 723 902 4333  
Fax: +9 723 902 4777  
[info@nemic.co.il](mailto:info@nemic.co.il)  
[www.nemic.co.il](http://www.nemic.co.il)



**Russia**

Technical Support:  
St Petersburg  
Tel: +7 (812) 6580463  
Sales:  
Moscow  
Tel: +7 (499) 7557732  
[info@tdk-lambda.ru](mailto:info@tdk-lambda.ru)  
[www.tdk-lambda.ru](http://www.tdk-lambda.ru)

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