

AC Input

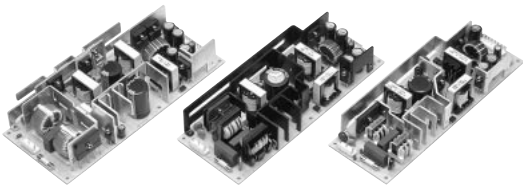
Conformity to RoHS Directive

Multi Output, General-Purpose, UL/C-UL/TÜV Approved, CE Certified

M Series MCW(100 to 225W)

FEATURES

- Compact, slim and light-weight standard power supply that is energy-efficient and environmentally friendly.
- Designed using materials, packaging, noise prevention measures, and thermal analysis simulation technology developed by TDK.
- Naturally-cooled (no fan) so very quiet.
- Wide input compatibility (AC.100-240V) so can be used world-wide.
- Can carry peak loads.
- Lead-free.
- Warranty period: 3 years
- It is a product conforming to RoHS directive.



PART NUMBERS AND RATINGS

Part No.	MCW100-0524	MCW150-0524	MCW225-0524
Output voltage(V)	Current(A)	Current(A)	Current(A)
V1=+5.0	5	5	5
V2=+24.0	4(Peak 7)	6(Peak 10)	9(Peak 14)

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
- All specifications are subject to change without notice.

MCW100W Type

SPECIFICATIONS AND STANDARDS

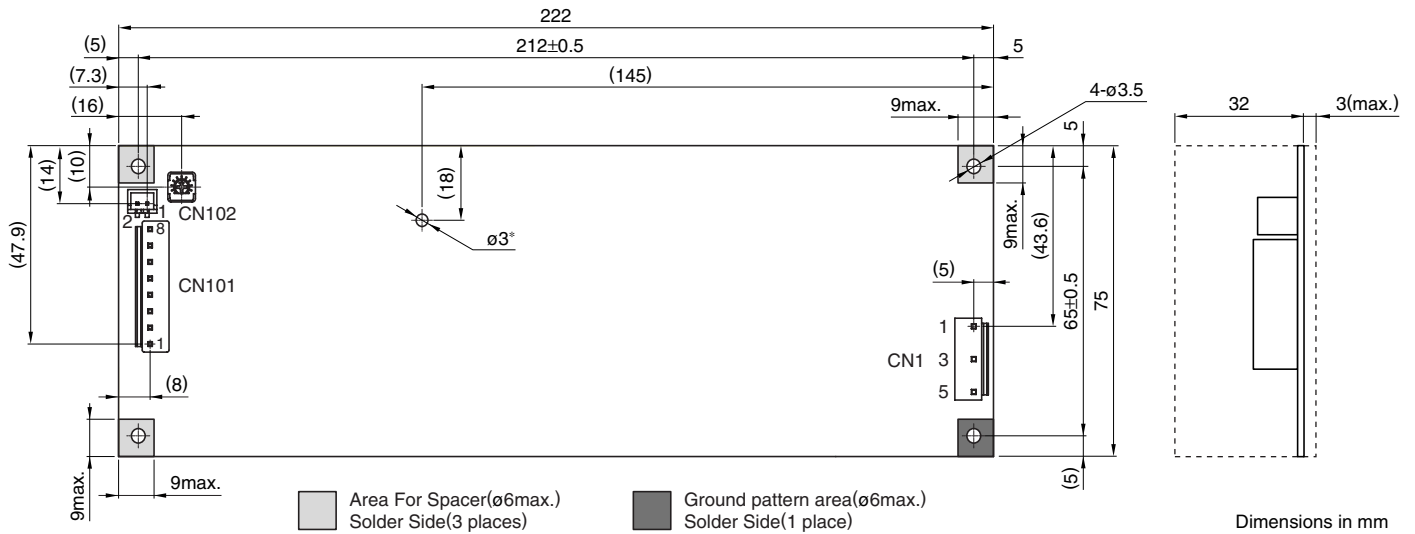
Part No.		MCW100-0524	
Input conditions			
Input voltage Eac	V	AC.85 to 265	
Input current	A	1.4typ./0.7typ.[AC.100/240V, 25°C cold start]	
Input frequency	Hz	47 to 66	
Surge current*1	A	15typ./30typ.[AC.100/240V]	
Leakage current	mA	0.30typ.(0.50max.)/0.50typ.(0.75max.)[AC.100(Electrical Appliance and Material Safety Law)/240V(UL60950-1, EN60950-1)]	
Power factor		0.99typ./0.93typ.[AC.100/240V]	
Efficiency	%	78typ./80typ.[AC.100/240V]	
Output characteristics			
Rated output voltage Edc	V	+5[V1]	+24[V2]
Rated output current	A	5.0	4.0
Output voltage setting	V	+5±0.1	+24±1.2
Voltage variable range	V	4.5 to 5.5	Fixed
Maximum output current	A	5.0	4.0
Peak output current	A	—	7.0
Maximum output power*1	W	100(Po[V1]+Po[V2])	
Voltage stability	Source effect	%	0.4max.
	Load effect	%	0.8max.
	Temperature effect	%	1max.
	Drift(Time effect)	%	0.4max.
	Total effect	%	±2.2max.
	Recovery	%	±4max.
	Recovery time	ms	50max.
Ripple Ep-p	mV	80max.	120max.
Ripple noise Ep-p	mV	120max.	150max.
Start up time	ms	120max.(60typ.)/100max.(30typ.)[AC.100/240V]	500max.(350typ.)/500max.(350typ.)[AC.100/240V]
Hold up time	ms	50typ.	20typ.
Maximum load capacitor	μF	10000max.	10000max.
Auxiliary functions			
Overvoltage protection*2	V	5.7min.[Zenor clamp method]	27.6 to 33.6[Output shut-down type]
Overcurrent protection	A	5.25min.[Fold back type]	7.07min.[Winker operation]
Indicator display		No	
Remote ON-OFF		Option(Only 24V)	
Remote sensing		No	
Parallel operation		Impossible	
Series operation		Impossible	
Standards			
Safety standards		UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TUV)approved, Electrical Appliance and Material Safety Law ("DENAN") meet(Compliant with creepage surface and air clearance in Attachment 8).	
Noise terminal voltage		FCC Class B, VCCI-B, EN55011-B, EN55022-B	
Immunity		EN61000-6-2: 1999	
Input harmonics current requirement		EN61000-3-2	
Radiation field intensity		—	
Constructions			
External dimensions	mm	35×75×222[H×W×D]	
Weight	g	450max.	
Mounting method		Can be attached to 1 side	
Case material		CEM3	

*1 Inrush current does not include the current that enters the current filter. Further, it is limited to primary surges.

*2 If 5V OVP is activated, recovery may not be possible. After activation of 24V OVP, recovers upon input reset.

MCW100W Type

SHAPES AND DIMENSIONS



* A plastic filler piece is included with the product. Attach to the prescribed place.

CN101

P1	G2
P2	
P3	V2
P4	
P5	G1
P6	
P7	V1
P8	

· Japan Solderless Terminal Co., Ltd.
VH Series B8P-VH-B

CN102
(Option)

P1	+
P2	-

· Japan Solderless Terminal Co., Ltd.
XH Series B2B-XH-2

CN1

P1	L
P3	N
P5	⊥

· Japan Solderless Terminal Co., Ltd.
VH Series B3P5-VH-B

Connector made by	Power supply side connector	Cable Side	
		Housing	Terminal
Japan Solderless Terminal Co., Ltd.			
Input Connector(CN1)VH Series	B3P5-VH-B	VHR-5N	SVH-21T-P1.1
Output Connector(CN101)VH Series	B8P-VH-B	VHR-8N	SVH-21T-P1.1

MCW150W Type

SPECIFICATIONS AND STANDARDS

Part No.		MCW150-0524	
Input conditions			
Input voltage Eac	V	AC.85 to 265	
Input current	A	2.0typ./1.0typ.[AC.100/240V, 25°C cold start]	
Input frequency	Hz	47 to 66	
Surge current*1	A	15typ./30typ.[AC.100/240V]	
Leakage current	mA	0.20typ.(0.50max.)/0.30typ.(0.75max.)[AC.100(Electrical Appliance and Material Safety Law)/240V(UL60950-1, EN60950-1)]	
Power factor		0.98typ./0.90typ.[AC.100/240V]	
Efficiency	%	79typ./82typ.[AC.100/240V]	
Output characteristics			
Rated output voltage Edc	V	+5[V1]	+24[V2]
Rated output current	A	5.0	6.0
Output voltage setting	V	+5±0.1	+24±1.2
Voltage variable range	V	4.5 to 5.5	Fixed
Maximum output current	A	5.0	6.0
Peak output current	A	—	10.0
Maximum output power*1	W	150(Po[V1]+Po[V2])	
Voltage stability	Source effect	%	0.4max.
	Load effect	%	0.8max.
	Temperature effect	%	1max.
	Drift(Time effect)	%	0.4max.
	Total effect	%	±2.2max.
	Recovery	%	±4max.
	Recovery time	ms	50max.
Ripple Ep-p	mV	80max.	120max.
Ripple noise Ep-p	mV	120max.	150max.
Start up time	ms	120max.(60typ.)/100max.(30typ.)[AC.100/240V]	500max.(350typ.)/500max.(350typ.)[AC.100/240V]
Hold up time	ms	50typ./50typ.[AC.100/240V]	30typ./35typ.[AC.100/240V]
Maximum load capacitor	μF	10000max.	10000max.
Auxiliary functions			
Overvoltage protection*2	V	5.7min.[Zenor clamp method]	27.6 to 33.6[Output shut-down type]
Overcurrent protection	A	5.25min.[Fold back type]	10.1min.[Winker operation]
Indicator display		No	
Remote ON-OFF		Option(Only 24V)	
Remote sensing		No	
Parallel operation		Impossible	
Series operation		Impossible	
Standards			
Safety standards		UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TUV)approved, Electrical Appliance and Material Safety Law ("DENAN") meet(Compliant with creepage surface and air clearance in Attachment 8).	
Noise terminal voltage		FCC Class B, VCCI-B, EN55011-B, EN55022-B	
Immunity		EN61000-6-2: 1999	
Input harmonics current requirement		EN61000-3-2	
Radiation field intensity		—	
Constructions			
External dimensions	mm	40×85×222[H×W×D]	
Weight	g	530max.	
Mounting method		Can be attached to 1 side	
Case material		CEM3	

*1 Inrush current does not include the current that enters the current filter. Further, it is limited to primary surges.

*2 If 5V OVP is activated, recovery may not be possible. After activation of 24V OVP, recovers upon input reset.

MCW225W Type

SPECIFICATIONS AND STANDARDS

Part No.		MCW225-0524	
Input conditions			
Input voltage Eac	V	AC.85 to 265	
Input current	A	2.7typ./1.2typ.[AC.100/240V]	
Input frequency	Hz	47 to 66	
Surge current*1	A	10typ./20typ.[AC.100/240V]	
Leakage current	mA	0.30typ.(0.50max.)/0.50typ.(0.75max.)[AC.100(Electrical Appliance and Material Safety Law)/240V(UL60950-1, EN60950-1)]	
Power factor		0.99typ./0.93typ.[AC.100/240V]	
Efficiency	%	82typ./85typ.[AC.100/240V]	
Output characteristics			
Rated output voltage Edc	V	+5[V1]	+24[V2]
Rated output current	A	5.0	9.0
Output voltage setting	V	+5±0.1	+24±1.2
Voltage variable range	V	4.5 to 5.5	Fixed
Maximum output current	A	5.0	9.0
Peak output current	A	—	14.0
Maximum output power*1	W	225(Po[V1]+Po[V2])	
Voltage stability	Source effect	%	0.4max.
	Load effect	%	0.8max.
	Temperature effect	%	1max.
	Drift(Time effect)	%	0.4max.
	Total effect	%	±2.2max.
	Recovery	%	±4max.
	Recovery time	ms	50max.
Ripple Ep-p	mV	80max.	120max.
Ripple noise Ep-p	mV	120max.	150max.
Start up time	ms	120max.(60typ.)/100max.(30typ.)[AC.100/240V]	500max.(350typ.)/500max.(350typ.)[AC.100/240V]
Hold up time	mS	40typ./60typ.[AC.100/240V]	40typ./60typ.[AC.100/240V]
Maximum load capacitor	μF	10000max.	10000max.
Auxiliary functions			
Overvoltage protection*2	V	5.7min.[Zenor clamp method]	27.6 to 33.6[Output shut-down type]
Overcurrent protection	A	5.25min.[Fold back type]	14.2min.[Winker operation]
Indicator display		No	
Remote ON-OFF		Option(Only 24V)	
Remote sensing		No	
Parallel operation		Impossible	
Series operation		Impossible	
Standards			
Safety standards		UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV)approved, Electrical Appliance and Material Safety Law ("DENAN") meet(Compliant with creepage surface and air clearance in Attachment 8).	
Noise terminal voltage		FCC Class B, VCCI-B, EN55011-B, EN55022-B	
Immunity		EN61000-6-2: 1999	
Input harmonics current requirement		EN61000-3-2	
Radiation field intensity		—	
Constructions			
External dimensions	mm	45×95×222[H×W×D]	
Weight	g	700max.	
Mounting method		Can be attached to 1 side	
Case material		CEM3	

*1 Inrush current does not include the current that enters the current filter. Further, it is limited to primary surges.

*2 If 5V OVP is activated, recovery may not be possible. After activation of 24V OVP, recovers upon input reset.

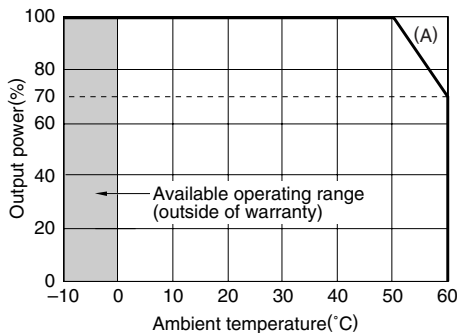
Characteristics, Functions, and Applications

COMMON SPECIFICATIONS

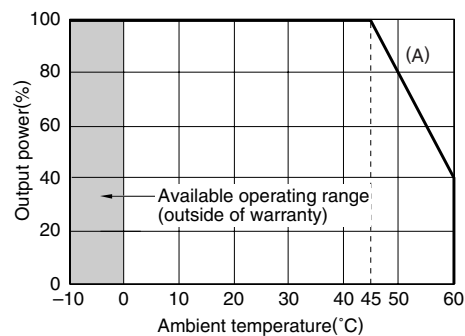
Temperature and humidity		
Temperature range	Operating(°C)	−10 to +60
	Operating available(°C)	−20 to −10
	Storage(°C)	−30 to +75
Humidity range	Operating(%)RH	10 to 90[Maximum wet-bulb temperature: 35°C, without dewing]
	Storage(%)RH	
Vibration and shock		
Vibration	5 to 10Hz	All amplitude 10mm[3 directions, each 1h]
	10 to 200Hz	Acceleration 19.6m/s ² (2G)[3 directions, each 1h]
Shock	Acceleration	392m/s ² (40G)[Half sine wave]
	Pulse duration	11±5ms
Withstand voltage and insulation resistance		
Withstand voltage	Input terminal to output terminal	Eac: 3.0kV, 1min[Normal temperature, normal humidity, cutout current 10mA]
	Input terminal to ground terminal(G)	Eac: 2.0kV, 1min[Normal temperature, normal humidity, cutout current 10mA]
	Output terminal to ground terminal(G)	Eac: 500V, 1min[Normal temperature, normal humidity, cutout current 10mA]
Insulation resistance	Input terminal to output terminal	Edc: 500V, 100MΩ min. [Normal temperature, normal humidity]
	Input terminal to ground terminal(G)	
	Output terminal to ground terminal(G)	

OUTPUT POWER-AMBIENT TEMPERATURE(DERATING)

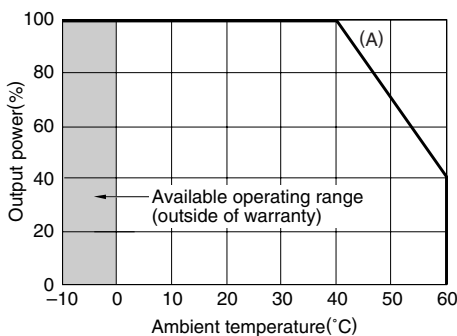
MCW100W TYPE



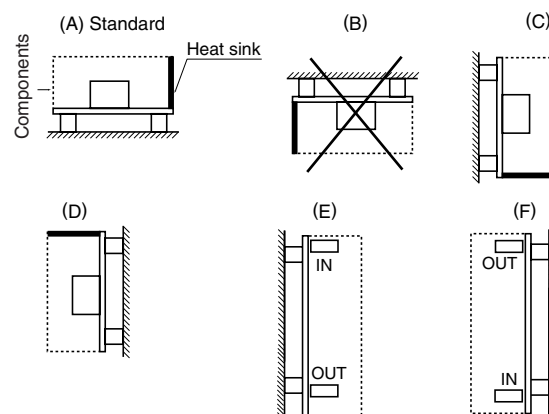
MCW150W TYPE



MCW225W TYPE



INSTALLATIONS



There are installation directions (B) to (F) as shown below in addition to the standard installation direction (A) for mounting the power supply on an apparatus. The installation (B), however, is inhibited because it will cause heat to be trapped inside the power supply.

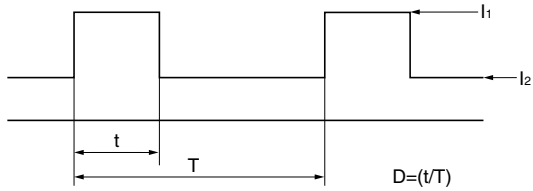
Derating of the output voltage and the ambient temperature for the installation directions (C) to (F) are not the same as for the direction (A). Refer to the derating curves.

Please contact our company when non-standard installation is needed.

Characteristics, Functions, and Applications

PEAK CURRENT

MCW Series are capable supply the peak current. The values exceeding the continuous rated values, however, must fulfill the following conditions.



- (1) Conditions of time

$$t \leq 10s$$

- (2) Conditions of peak current

$$I_1 \leq \text{Peak current(A)}$$

- (3) Conditions of effective current

$$\sqrt{DI_1^2 + (1-D)I_2^2} \leq \text{Rated current(A)}$$

- (4) Conditions of effective power

$$P \leq \text{Maximum power(W)}$$

(output RMS current×output voltage)