

AC Input

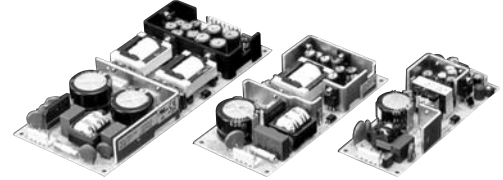
Conformity to RoHS Directive

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

M Series MTW(15 to 60W)

FEATURES

- Compact, slim and light-weight standard power supply that is energy-efficient and environmentally friendly.
- Low-cost design
- Approved by safety standards (UL, C-UL and TÜV). Conforms to the Electrical Appliance and Material Safety Law(conforms to Appendix No. 8 creepage, spatial distance).
- Conforms to FCC-B, VCCI-B, EN55011-B and EN55022-B regulations for radiating and transmission noise.
- Conforms to Immunity EN61000-4-2, 3, 4, 5, 6, 8 and 11.
- Can carry peak loads.
- Lead-free.
- Warranty period: 3 years
- It is a product conforming to RoHS directive.



PART NUMBERS AND RATINGS

Part No.	MTW15-51212	MTW30-51212	MTW60-51212
Output voltage(V)	Current(A)	Current(A)	Current(A)
V1=+5.0	2.0(Peak 3.0)	3.0(Peak 4.5)	5.0(Peak 7.0)
V2=+12.0	0.3(Peak 0.6)	1.2(Peak 2.0)	2.5(Peak 3.5)
V3=-12.0	0.2(Peak 0.3)	0.3(Peak 0.45)	0.5(Peak 0.7)

Part No.	MTW15-51515	MTW30-51515	MTW60-51515
Output voltage(V)	Current(A)	Current(A)	Current(A)
V1=+5.0	2.0(Peak 3.0)	3.0(Peak 4.5)	5.0(Peak 7.0)
V2=+15.0	0.3(Peak 0.6)	0.8(Peak 2.0)	2.0(Peak 3.5)
V3=-15.0	0.2(Peak 0.3)	0.3(Peak 0.45)	0.5(Peak 0.7)

• 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.

MTW15W Type

SPECIFICATIONS AND STANDARDS

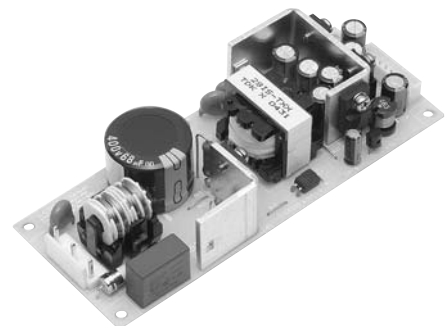
Part No.		MTW15-51212	MTW15-51515				
Input voltage Eac	V	AC.85 to 265					
Input current	A	0.42typ./0.25typ.[AC.100/240V]					
Input frequency	Hz	47 to 440					
Surge current*1	A	25typ./50typ.[AC.100/240V, 100% Load, 25°C, cold start.]					
Leakage current	mA	0.2typ./0.75max.[AC.100V, 60Hz, ON/OFF switch, Electrical Appliance and Material Safety Law] 0.3typ./0.75max.[AC.240V, 60Hz, UL60950-1, EN60950-1]					
Power factor*2		0.45typ.					
Rated output voltage Edc*3	V	+5[V1]	+12[V2]	-12[V3]	+5[V1]	+15[V2]	-15[V3]
Rated output current	A	2.0	0.3	0.2	2.0	0.3	0.2
Output voltage setting	V	+5±0.25	+12±0.6	-12±0.6	+5±0.25	+15±0.6	-15±0.6
Voltage variable range	V	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Maximum output current	A	2.0	0.3	0.2	2.0	0.3	0.2
Peak output current*4	A	3.0	0.6	0.3	3.0	0.6	0.3
Maximum output power	W	16(P0[V1]+P0[V2]+P0[V3])			17.5		
Efficiency*2	%	71typ.			70		
Ripple Ep-p	mV	100	120	120	100	120	120
Ripple noise Ep-p	mV	120	150	150	120	150	150
Start up time*2	ms	100max.	100max.	100max.	100	100	100
Hold up time	ms	20typ./150typ.[AC.100/240V]					
Overvoltage protection*2		V1: Zenor clamp method					
Overcurrent protection		Higher overcurrent detection point at low load, automatic recovery.					
Electrostatic discharge immunity		EN 61000-4-2 Level4, without operation abnormality.					
Discharge magnetic field immunity		EN 61000-4-3 Level3, without operation abnormality.					
Burst immunity		EN 61000-4-4 Level3, without operation abnormality.					
Surge immunity		EN 61000-4-5 Level4, without damaged components.					
Conductive immunity		EN 61000-4-6 Level3, without operation abnormality.					
Power frequency magnetic field immunity		EN 61000-4-8 Level4, without operation abnormality.					
Voltage dip, momentary power failure and voltage variation immunity		EN 61000-4-11, without operation abnormality.					
Parallel operation		Impossible					
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-Class B, EN55011-B, EN55022-B meet.					
Case material		CEM3					
External dimensions	mm	26×50×127[H×W×L]					
Weight	g	150max.					
Mounting method		Can be attached to 1 side					

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

*2 AC.100V

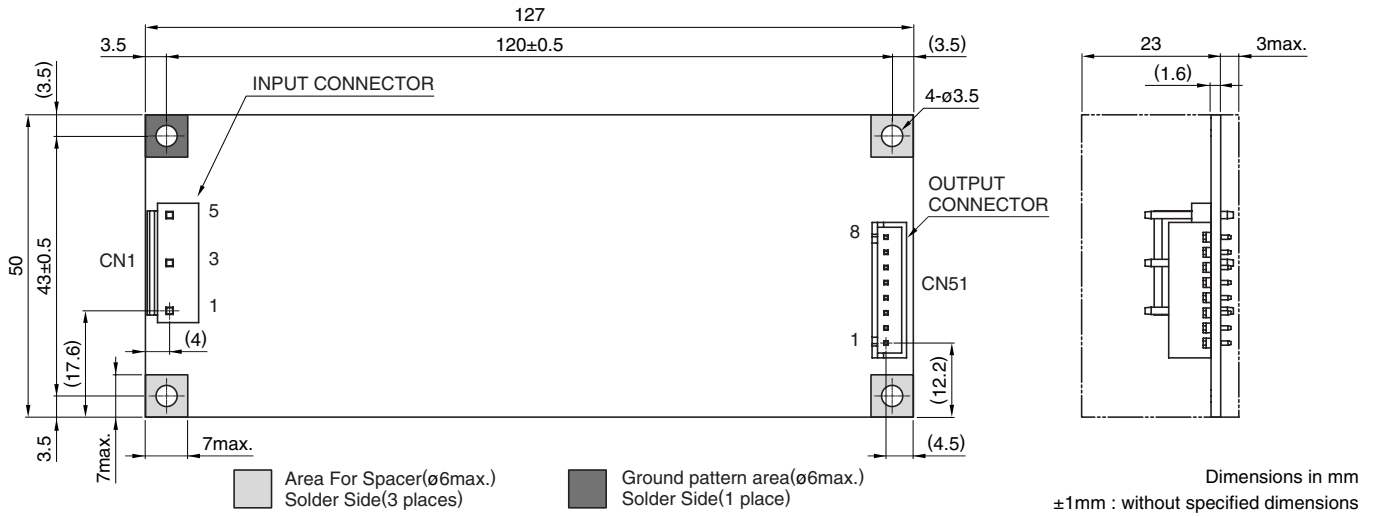
*3 V1 to V2 and V1 to V3 outputs are floating.

*4 10s max.



MTW15W Type

SHAPES AND DIMENSIONS



TERMINAL DESIGNATION



CN1

P1	L
P3	N
P5	\perp

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

CN51

P1	V1
P2	
P3	G1
P4	
P5	V2
P6	G2
P7	
P8	V3

· Japan Solderless Terminal Co., Ltd.
 XH Series B8B-XH-2

MTW30W Type

SPECIFICATIONS AND STANDARDS

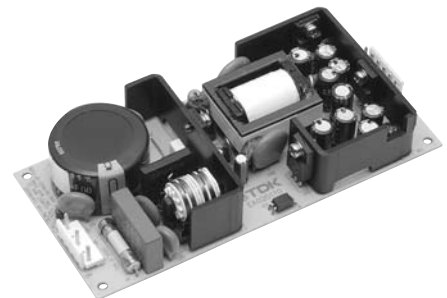
Part No.		MTW30-51212		MTW30-51515			
Input voltage Eac	V	AC.85 to 265					
Input current	A	0.8typ./0.4typ.[AC.100/240V]					
Input frequency	Hz	47 to 440					
Surge current*1	A	20typ./40typ.[AC.100/240V, 100% Load, 25°C, cold start.]					
Leakage current	mA	0.35typ./0.55 max.[AC.100V, 60Hz, ON/OFF switch, Electrical Appliance and Material Safety Law] 0.5typ./0.75max.[AC.240V, 60Hz, UL60950-1, EN60950-1]					
Power factor*2		0.55typ.					
Rated output voltage Edc*3	V	+5[V1]	+12[V2]	-12[V3]	+5[V1]	+15[V2]	-15[V3]
Rated output current	A	3.0	1.2	0.3	3.0	0.8	0.3
Output voltage setting	V	+5+0.3, -0.1	+12±0.6	-12±0.6	+5+0.3, -0.1	+15±0.75	-15±0.75
Voltage variable range	V	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Maximum output current	A	3.0	1.2	0.3	3.0	0.8	0.3
Peak output current*4	A	4.5	2.0	0.45	4.5	2.0	0.45
Maximum output power	W	30(P0[V1]+P0[V2]+P0[V3])			33		
Efficiency*2	%	76typ.			76		
Ripple Ep-p	mV	80	100	100	80	100	100
Ripple noise Ep-p	mV	120	150	150	120	150	150
Start up time*2	ms	300max.	300max.	300max.	550	550	550
Hold up time	ms	20typ./140typ.[AC.100/240V]					
Overvoltage protection*2		V1: Zenor clamp method					
Overcurrent protection		Winker operation, automatic recovery.					
Electrostatic discharge immunity		EN 61000-4-2 Level4, without operation abnormality.					
Discharge magnetic field immunity		EN 61000-4-3 Level3, without operation abnormality.					
Burst immunity		EN 61000-4-4 Level3, without operation abnormality.					
Surge immunity		EN 61000-4-5 Level4, without damaged components.					
Conductive immunity		EN 61000-4-6 Level3, without operation abnormality.					
Power frequency magnetic field immunity		EN 61000-4-8 Level4, without operation abnormality.					
Voltage dip, momentary power failure and voltage variation immunity		EN 61000-4-11, without operation abnormality.					
Parallel operation		Impossible					
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-Class B, EN55011-B, EN55022-B meet.					
Case material		CEM3					
External dimensions	mm	26×65×140[H×W×L]					
Weight	g	210max.					
Mounting method		Can be attached to 1 side					

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

*2 AC.100V

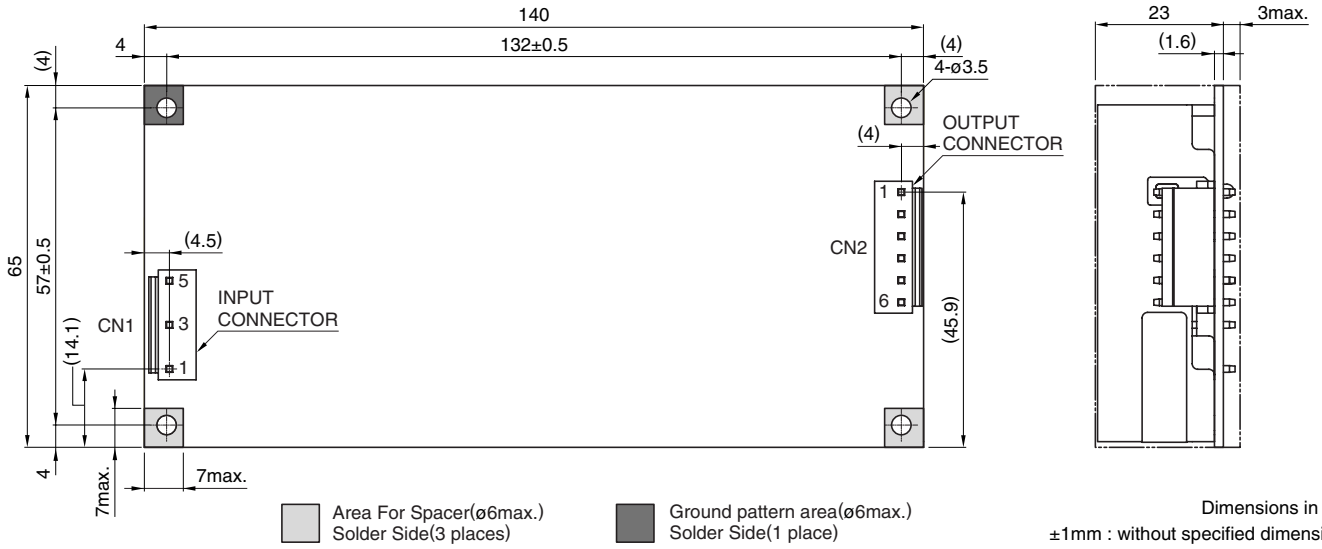
*3 V1 to V2 and V1 to V3 outputs are floating.

*4 10s max.



MTW30W Type

SHAPES AND DIMENSIONS



TERMINAL DESIGNATION



CN1

P1	L
P3	N
P5	⊥

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

CN2

P1	V3
P2	G2
P3	G2
P4	V2
P5	G1
P6	V1

· Japan Solderless Terminal Co., Ltd.
VH Series B6P-VH-B

MTW60W Type

SPECIFICATIONS AND STANDARDS

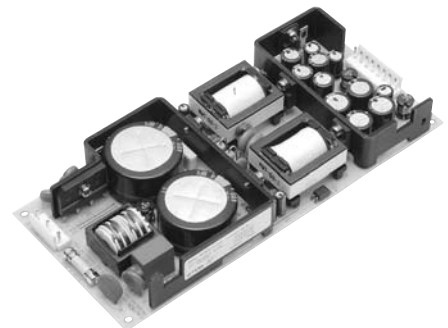
Part No.	MTW60-51212			MTW60-51515			
Input voltage Eac	V	AC.85 to 265					
Input current	A	1.4typ./0.8typ.[AC.100/240V]					
Input frequency	Hz	47 to 440					
Surge current*1	A	20typ./40typ.[AC.100/240V, 100% Load, 25°C, cold start.]					
Leakage current	mA	0.45typ./0.6max.[AC.100V, 60Hz, ON/OFF switch, Electrical Appliance and Material Safety Law] 0.55typ./0.75max.[AC.240V, 60Hz, UL60950-1, EN60950-1]					
Power factor*2		0.55typ.					
Rated output voltage Edc*3	V	+5[V1]	+12[V2]	-12[V3]	+5[V1]	+15[V2]	-15[V3]
Rated output current	A	5.0	2.5	0.5	5.0	2.0	0.5
Output voltage setting	V	+5+0.3, -0.1	+12±0.6	-12±0.6	+5+0.3, -0.1	+15±0.75	-15±0.75
Voltage variable range	V	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Maximum output current	A	5.0	2.5	0.5	5.0	2.0	0.5
Peak output current*4	A	7.0	3.5	0.7	7.0	3.5	0.7
Maximum output power	W	60(P0[V1]+P0[V2]+P0[V3])			62.5		
Efficiency*2	%	76typ.			76		
Ripple Ep-p	mV	80	100	100	300	100	100
Ripple noise Ep-p	mV	120	150	150	120	150	150
Start up time*2	ms	350max.	350max.	350max.	300	300	300
Hold up time	ms	10typ./20typ.[AC.100V/240V]					
Overvoltage protection*2		V1, V2: Zenor clamp method					
Overcurrent protection		Winker operation, automatic recovery.					
Electrostatic discharge immunity		EN 61000-4-2 Level4, without operation abnormality.					
Discharge magnetic field immunity		EN 61000-4-3 Level3, without operation abnormality.					
Burst immunity		EN 61000-4-4 Level3, without operation abnormality.					
Surge immunity		EN 61000-4-5 Level4, without damaged components.					
Conductive immunity		EN 61000-4-6 Level3, without operation abnormality.					
Power frequency magnetic field immunity		EN 61000-4-8 Level4, without operation abnormality.					
Voltage dip, momentary power failure and voltage variation immunity		EN 61000-4-11, without operation abnormality.					
Parallel operation		Impossible					
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-Class B, EN55011-B, EN55022-B meet.					
Case material		CEM3					
External dimensions	mm	26×83×185[H×W×L]					
Weight	g	330max.					
Mounting method		Can be attached to 1 side					

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

*2 AC.100V

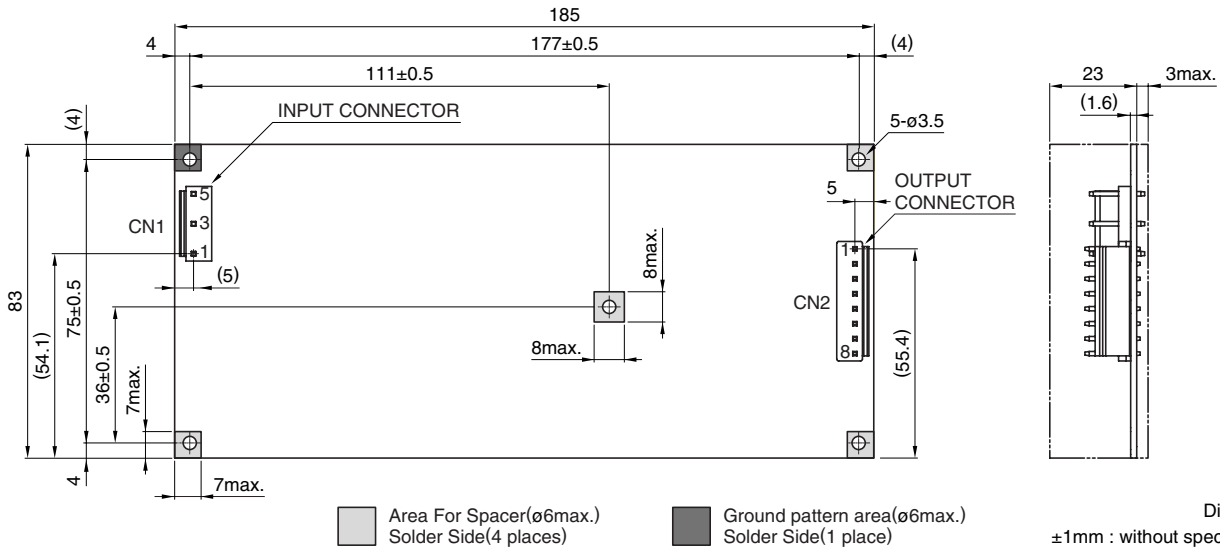
*3 V1 to V2 and V1 to V3 outputs are floating.

*4 10s max.

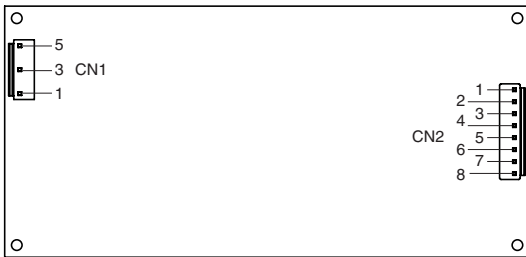


MTW60W Type

SHAPES AND DIMENSIONS



TERMINAL DESIGNATION



CN1

P1	L
P3	N
P5	$\frac{1}{\equiv}$

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

CN2

P1	V3
P2	G2
P3	
P4	V2
P5	G1
P6	
P7	V1
P8	

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

Characteristics, Functions, and Applications

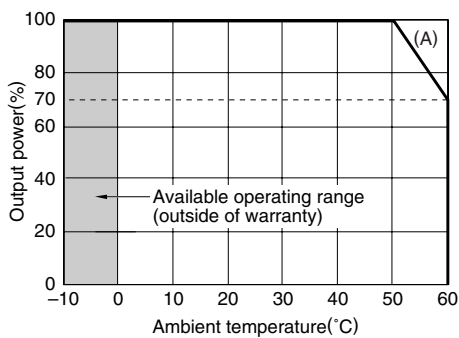
COMMON SPECIFICATIONS

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*1	5 to 10Hz	All amplitude 10mm
	10 to 200Hz	Acceleration 19.6m/s ² (2G)
Shock*2	Acceleration	588m/s ² (60G)[Half sine wave]
	Pulse duration	11±5ms
Insulation resistance	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]

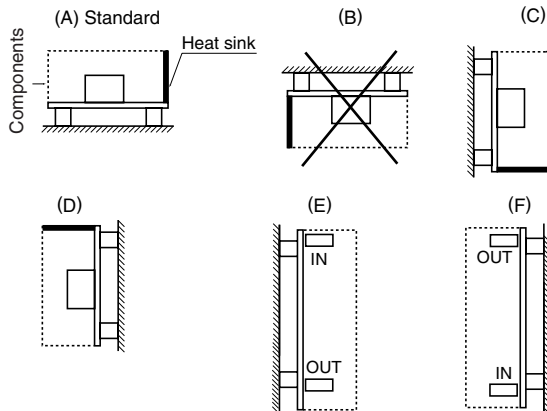
*1 Sweep time: 10m, 3 directions, each 1h.

*2 3 directions, each 3 times.

OUTPUT POWER-AMBIENT TEMPERATURE(DERATING)



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.