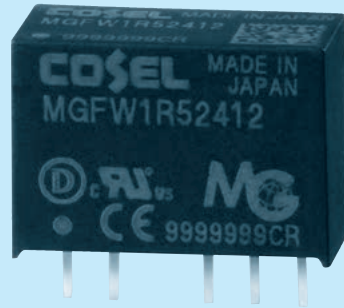


MGFW1R5

MGF W 1R5 24 12 -□

① ② ③ ④ ⑤ ⑥



- ① Series name  
 ② Dual output  
 ③ Output wattage  
 ④ Input voltage  
 ⑤ Output voltage  
 ⑥ Optional

MODEL	MGFW1R52412	MGFW1R52415	MGFW1R54812	MGFW1R54815
MAX OUTPUT WATTAGE[W]	1.56	1.50	1.56	1.50
DC OUTPUT	VOLTAGE[V] *1	±12 or +24	±15 or +30	±12 or +24
	CURRENT[A]	0.065	0.05	0.065

## SPECIFICATIONS

	MODEL	MGFW1R52412	MGFW1R52415	MGFW1R54812	MGFW1R54815	
INPUT	VOLTAGE[V]	DC9 - 36 (Surge voltage 50V, 100ms max)		DC18 - 76 (Surge voltage 100V, 100ms max)		
	CURRENT[A] *2	0.081typ	0.079typ	0.041typ	0.040typ	
	EFFICIENCY[%] *2	81typ	80typ	81typ	79typ	
OUTPUT	VOLTAGE[V]	±12 (+24)	±15 (+30)	±12 (+24)	±15 (+30)	
	CURRENT[A]	0.065	0.05	0.065	0.05	
	LINE REGULATION[mV]	60max	75max	60max	75max	
	LOAD REGULATION[mV]	*3	480max	600max	480max	600max
		*4	600max	750max	600max	750max
	RIPPLE[mVp-p] *5	150max	150max	150max	150max	
	RIPPLE NOISE[mVp-p] *5	200max	200max	200max	200max	
	TEMPERATURE REGULATION[mV]	-20 to +85°C	210max	260max	150max	180max
		-40 to +85°C	320max	390max	240max	290max
	DRIFT[mV] *6	48max	60max	48max	60max	
START-UP TIME[ms]	30max (Minimum input, I <sub>o</sub> =100%)					
OUTPUT VOLTAGE SETTING[V]	11.64 - 12.36	14.55 - 15.45	11.64 - 12.36	14.55 - 15.45		
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)				
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max				
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max				
	VIBRATION	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis				
	IMPACT	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis				
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1				
OTHERS	CASE SIZE/WEIGHT	17.0 X 12.0 X 8.5mm [0.67 X 0.48 X 0.34 inches] (W X H X D) / 4g max				
	COOLING METHOD	Convection/Forced air				

\*1 Single output +24V, +30V with no use of COM.

\*2 Rated input 24V or 48V DC I<sub>o</sub>=100%

\*3 Symmetrical loading from 20% to 100%.

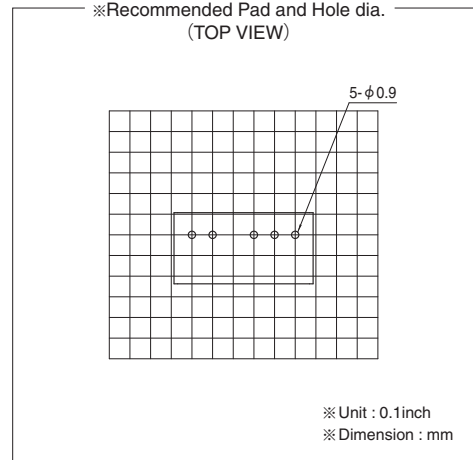
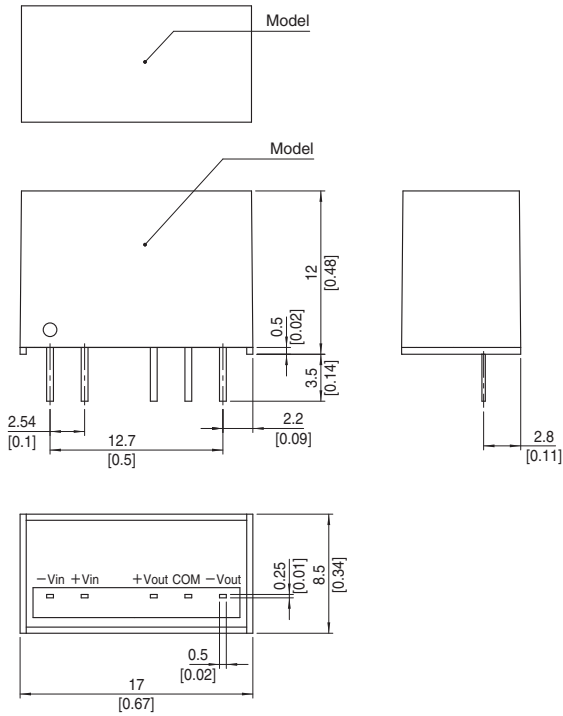
\*4 Symmetrical loading from 0% to 100%.

\*5 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins.

\*6 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.

\* Parallel operation with other model is not possible.

External view

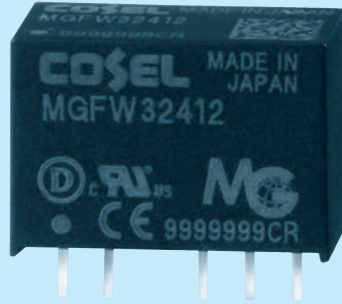


- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Planting treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 4g max

# MGFW3

MGF W 3 24 12 - □

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Dual output
- ③ Output wattage
- ④ Input voltage
- ⑤ Output voltage
- ⑥ Optional

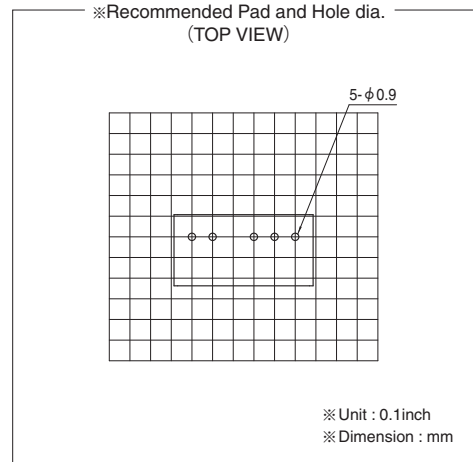
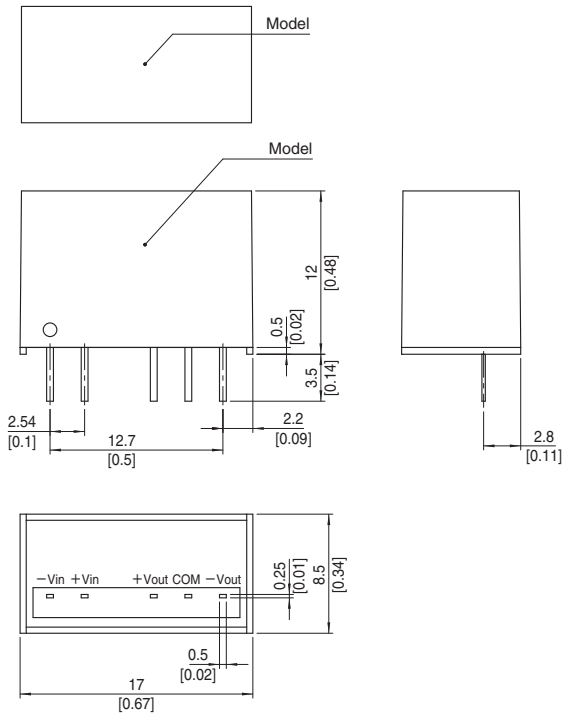
MODEL	MGFW32412	MGFW32415	MGFW34812	MGFW34815
MAX OUTPUT WATTAGE[W]	3.12	3.00	3.12	3.00
DC OUTPUT	VOLTAGE[V] *1	±12 or +24	±15 or +30	±12 or +24
	CURRENT[A]	0.13	0.1	0.13

## SPECIFICATIONS

	MODEL	MGFW32412	MGFW32415	MGFW34812	MGFW34815	
INPUT	VOLTAGE[V]	DC9 - 36 (Surge voltage 50V,100ms max) (Refer to the instruction manual for input voltage derating.)		DC18 - 76 (Surge voltage 100V,100ms max) (Refer to the instruction manual for input voltage derating.)		
	CURRENT[A] *2	0.16typ	0.16typ	0.081typ	0.078typ	
	EFFICIENCY[%] *2	82typ	82typ	81typ	81typ	
OUTPUT	VOLTAGE[V]	±12 (+24)	±15 (+30)	±12 (+24)	±15 (+30)	
	CURRENT[A]	0.13	0.1	0.13	0.1	
	LINE REGULATION[mV]	60max	75max	60max	75max	
	LOAD REGULATION[mV]	*3	480max	600max	480max	600max
		*4	600max	750max	600max	750max
	RIPPLE[mVp-p] *5	150max	150max	150max	150max	
	RIPPLE NOISE[mVp-p] *5	200max	200max	200max	200max	
	TEMPERATURE REGULATION[mV]	-20 to +70°C	180max	220max	180max	220max
		-40 to +70°C	290max	340max	290max	340max
	DRIFT[mV] *6	48max	60max	48max	60max	
START-UP TIME[ms]	30max (Minimum input, I <sub>o</sub> =100%)					
OUTPUT VOLTAGE SETTING[V]	11.64 - 12.36	14.55 - 15.45	11.64 - 12.36	14.55 - 15.45		
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)				
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max				
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max				
	VIBRATION	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis				
	IMPACT	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis				
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1				
OTHERS	CASE SIZE/WEIGHT	17.0 × 12.0 × 8.5mm [0.67 × 0.48 × 0.34 inches] (W × H × D) / 4g max				
	COOLING METHOD	Convection/Forced air				

- \*1 Single output +24V, +30V with no use of COM.
- \*2 Rated input 24V or 48V DC I<sub>o</sub>=100%
- \*3 Symmetrical loading from 20% to 100%.
- \*4 Symmetrical loading from 0% to 100%.
- \*5 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins.
- \*6 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.
- \* Parallel operation with other model is not possible.

External view

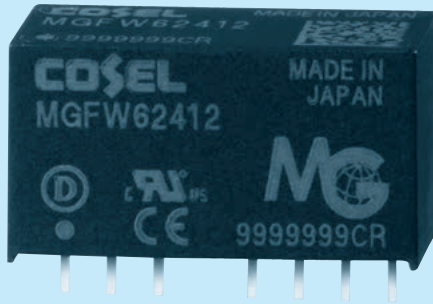


- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 4g max

# MGFW6

MGFW62412-□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Dual output
- ③ Output wattage
- ④ Input voltage
- ⑤ Output voltage
- ⑥ Optional
- Y2: Output voltage adjustable (+10%, -5%)

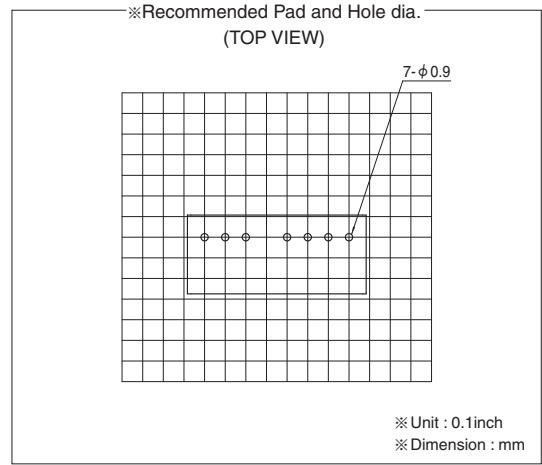
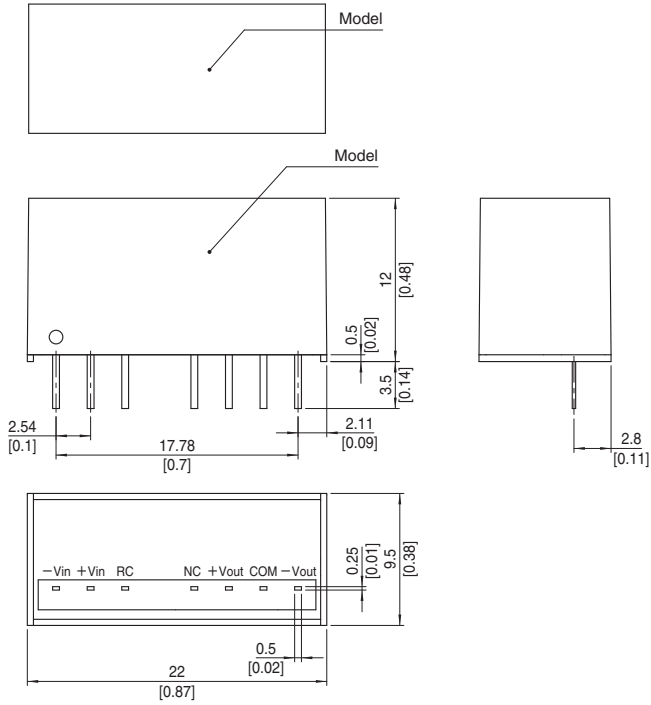
MODEL	MGFW62412	MGFW62415	MGFW64812	MGFW64815
MAX OUTPUT WATTAGE[W]	6.00	6.00	6.00	6.00
DC OUTPUT	VOLTAGE[V] *1	±12 or +24	±15 or +30	±15 or +30
	CURRENT[A]	0.25	0.2	0.25

## SPECIFICATIONS

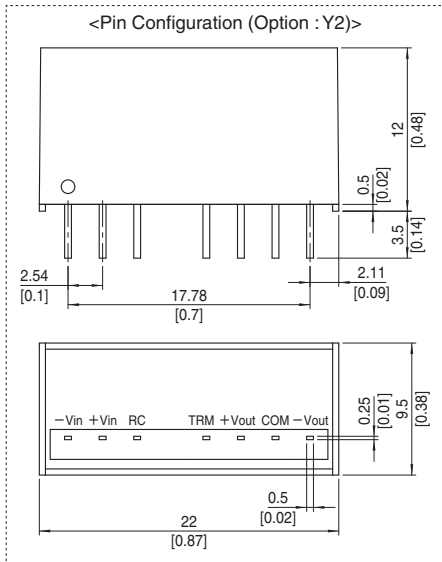
	MODEL	MGFW62412	MGFW62415	MGFW64812	MGFW64815	
INPUT	VOLTAGE[V]	DC9 - 36 (Surge voltage 50V,100ms max)		DC18 - 76 (Surge voltage 100V,100ms max)		
	CURRENT[A] *2	0.29typ	0.29typ	0.15typ	0.15typ	
	EFFICIENCY[%] *2	87typ	88typ	88typ	88typ	
OUTPUT	VOLTAGE[V]	±12 (+24)	±15 (+30)	±12 (+24)	±15 (+30)	
	CURRENT[A]	0.25	0.2	0.25	0.2	
	LINE REGULATION[mV]	60max	75max	60max	75max	
	LOAD REGULATION[mV]	*3	480max	600max	480max	600max
		*4	600max	750max	600max	750max
	RIPPLE[mVp-p] *5	Po=30% -	120max	120max	120max	120max
		Po=0 - 30%	360max	360max	360max	360max
	RIPPLE NOISE[mVp-p] *5	Po=30% -	200max	200max	200max	200max
		Po=0 - 30%	500max	500max	500max	500max
	TEMPERATURE REGULATION[mV]	-20 to +75°C	190max	230max	190max	230max
		-40 to +75°C	300max	360max	300max	360max
DRIFT[mV] *6	48max	60max	48max	60max		
START-UP TIME[ms]	30max (Minimum input, Io=100%)					
OUTPUT VOLTAGE SETTING[V]	11.64 - 12.36	14.55 - 15.45	11.64 - 12.36	14.55 - 15.45		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
	REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)				
ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)				
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max				
	STORAGE TEMP.,HUMID.AND ALTITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max				
	VIBRATION	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis				
	IMPACT	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis				
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1				
OTHERS	CASE SIZE/WEIGHT	22.0×12.0×9.5mm [0.87×0.48×0.38 inches] (W×H×D) / 7g max				
	COOLING METHOD	Convection/Forced air				

\*1 Single output +24V, +30V with no use of COM.  
 \*2 Rated input 5V, 12V, 24V or 48V DC Io=100%  
 \*3 Symmetrical loading from 20% to 100%.  
 \*4 Symmetrical loading from 0% to 100%.  
 \*5 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins. Po:Output wattage.  
 \*6 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.  
 \* Parallel operation with other model is not possible.

External view

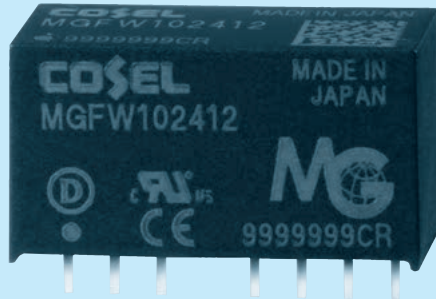


- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Planting treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 7g max



# MGFW10

MGF ① W ② 10 ③ 24 ④ 12 ⑤ - ⑥ □



- ① Series name
- ② Dual output
- ③ Output wattage
- ④ Input voltage
- ⑤ Output voltage
- ⑥ Optional
- Y2: Output voltage adjustable (+10%, -5%)

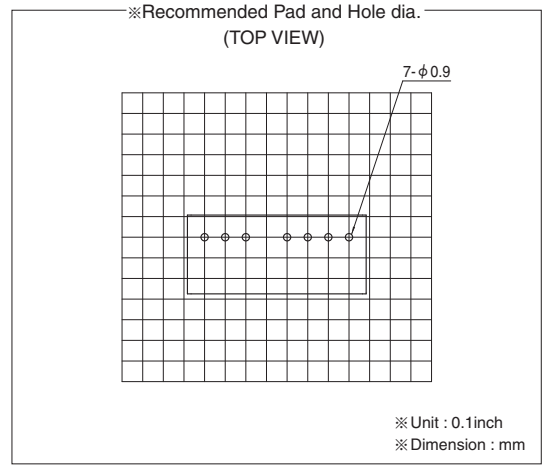
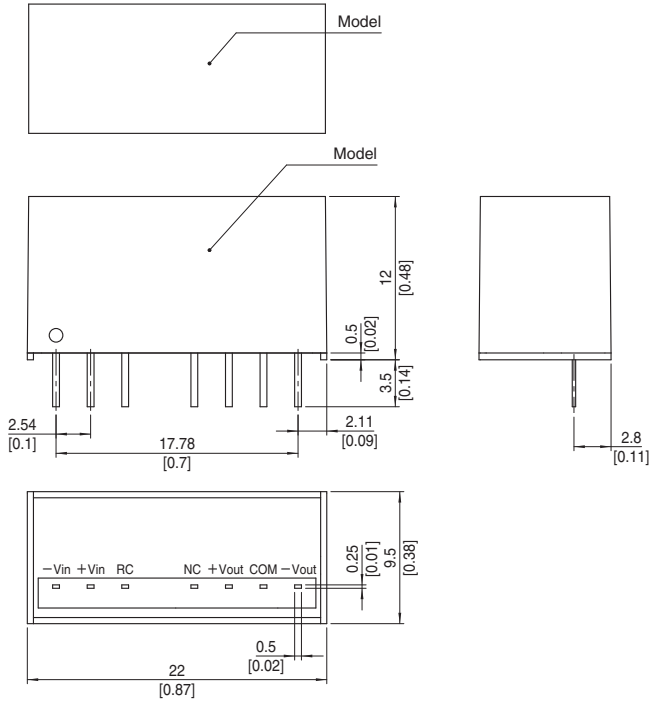
MODEL	MGFW102412	MGFW102415	MGFW104812	MGFW104815
MAX OUTPUT WATTAGE[W]	10.08	10.20	10.08	10.20
DC OUTPUT	VOLTAGE[V] *1	±12 or +24	±15 or +30	±12 or +24
	CURRENT[A]	0.42	0.34	0.42

## SPECIFICATIONS

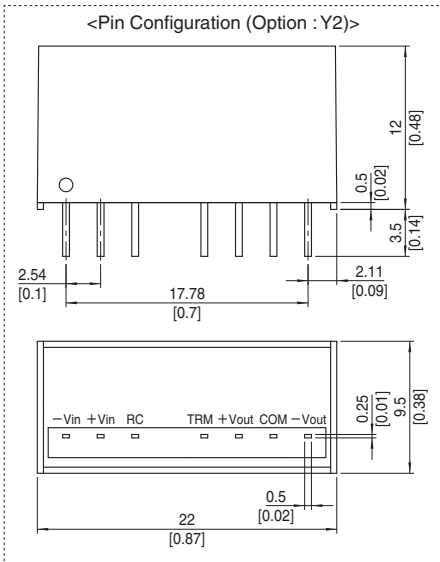
	MODEL	MGFW102412	MGFW102415	MGFW104812	MGFW104815	
INPUT	VOLTAGE[V]	DC9 - 36 (Surge voltage 50V,100ms max) (Refer to the instruction manual for input voltage derating.)		DC18 - 76 (Surge voltage 100V,100ms max) (Refer to the instruction manual for input voltage derating.)		
	CURRENT[A] *2	0.49typ	0.49typ	0.25typ	0.25typ	
	EFFICIENCY[%] *2	87typ	87typ	87typ	88typ	
OUTPUT	VOLTAGE[V]	±12 (+24)	±15 (+30)	±12 (+24)	±15 (+30)	
	CURRENT[A]	0.42	0.34	0.42	0.34	
	LINE REGULATION[mV]	60max	75max	60max	75max	
	LOAD REGULATION[mV]	*3	480max	600max	480max	600max
		*4	600max	750max	600max	750max
	RIPPLE[mVp-p]	Po=30% - *5	120max	120max	120max	120max
		Po=0 - 30%	360max	360max	360max	360max
	RIPPLE NOISE[mVp-p]	Po=30% - *5	200max	200max	200max	200max
		Po=0 - 30%	500max	500max	500max	500max
	TEMPERATURE REGULATION[mV]	-20 to +50°C	150max	180max	150max	180max
		-40 to +50°C	240max	290max	240max	290max
DRIFT[mV] *6	48max	60max	48max	60max		
START-UP TIME[ms]	30max (Minimum input, Io=100%)					
OUTPUT VOLTAGE SETTING[V]	11.64 - 12.36	14.55 - 15.45	11.64 - 12.36	14.55 - 15.45		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
	REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)				
ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)				
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max				
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max				
	VIBRATION	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis				
	IMPACT	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis				
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1				
OTHERS	CASE SIZE/WEIGHT	22.0x12.0x9.5mm [0.87x0.48x0.38 inches] (WXHXD) / 7g max				
	COOLING METHOD	Convection/Forced air				

- \*1 Single output +24V, +30V with no use of COM.
- \*2 Rated input 5V, 12V, 24V or 48V DC Io=100%
- \*3 Symmetrical loading from 20% to 100%.
- \*4 Symmetrical loading from 0% to 100%.
- \*5 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins. Po:Output wattage.
- \*6 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.
- \* Parallel operation with other model is not possible.

## External view



- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Planting treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 7g max





# MGFW15

MGF W 15 24 05 - □

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Dual output
- ③ Output wattage
- ④ Input voltage
- ⑤ Output voltage
- ⑥ Optional
- G: Capacitor between Input and Output is removed.
- R: with Remote ON/OFF (Positive logic control)

MODEL	MGFW152405	MGFW152412	MGFW152415	MGFW154805	MGFW154812	MGFW154815
MAX OUTPUT WATTAGE[W]	15	15.6	15	15	15.6	15
DC OUTPUT	VOLTAGE[V] *1	±5 or +10	±12 or +24	±15 or +30	±5 or +10	±12 or +24
	CURRENT[A]	1.5	0.65	0.5	1.5	0.65

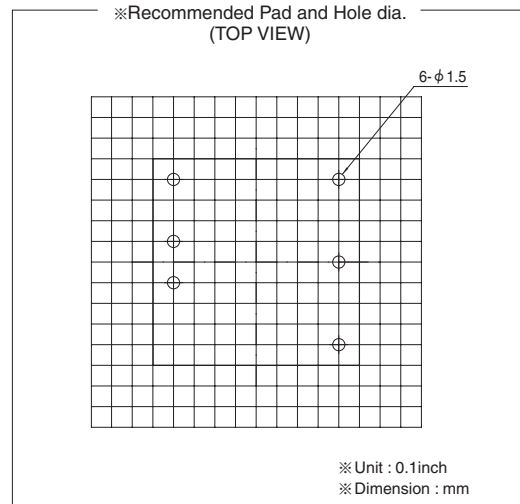
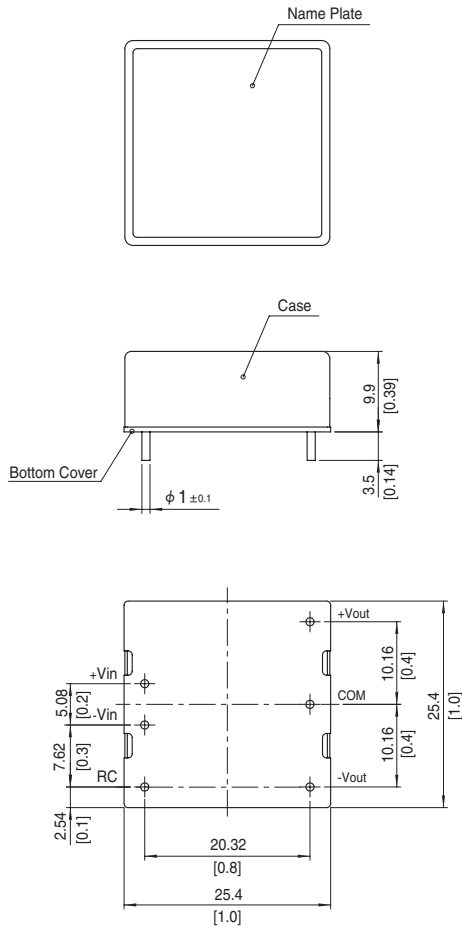
## SPECIFICATIONS

	MODEL	MGFW152405	MGFW152412	MGFW152415	MGFW154805	MGFW154812	MGFW154815	
INPUT	VOLTAGE[V]	DC9 - 36			DC18 - 76			
	CURRENT[A] *2	0.74typ	0.74typ	0.70typ	0.37typ	0.37typ	0.36typ	
	EFFICIENCY[%] *2	84typ	88typ	89typ	84typ	87typ	88typ	
OUTPUT	VOLTAGE[V]	±5(+10)	±12(+24)	±15(+30)	±5(+10)	±12(+24)	±15(+30)	
	CURRENT[A]	1.5	0.65	0.5	1.5	0.65	0.5	
	LINE REGULATION[mV]	40max	60max	75max	40max	60max	75max	
	LOAD REGULATION[mV]	*3	500max *5	600max	750max	500max *5	600max	750max
		*4	250max	480max	600max	250max	480max	600max
	RIPPLE[mVp-p] *6	-20 to +60°C	100max	100max	100max	100max	100max	100max
		-40 to -20°C	120max	120max	120max	120max	120max	120max
	RIPPLE NOISE[mVp-p] *6	-20 to +60°C	100max	100max	100max	100max	100max	100max
		-40 to -20°C	150max	150max	150max	150max	150max	150max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	150max	180max	50max	150max	180max
		-40 to +60°C	80max	240max	290max	80max	240max	290max
DRIFT[mV] *7	50max	50max	60max	50max	50max	60max		
START-UP TIME[ms]	30max (Minimum input, Io=100%)							
OUTPUT VOLTAGE SETTING[V]*8	4.935 - 5.240	11.765 - 12.492	14.602 - 15.505	4.935 - 5.240	11.765 - 12.492	14.602 - 15.505		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)						
ISOLATION	INPUT-OUTPUT	DC1,500V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
	INPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
	OUTPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTIITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required Derating), 3,000m (10,000feet) max						
	STORAGE TEMP.,HUMID.AND ALTIITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION	10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each along X, Y and Z axis						
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1						
OTHERS	CASE SIZE/WEIGHT	25.4×9.9×25.4mm [1×0.39×1 inches] (W×H×D) / 20g max						
	COOLING METHOD	Convection/Forced air						

\*1 Single output +10V, +24V, +30V with no use of COM.  
 \*2 Rated input 12V, 24V or 48V DC Io=100%  
 \*3 Symmetrical loading from 5% to 100%.  
 \*4 Symmetrical loading from 20% to 100%.  
 \*5 Refer to the instruction manual 11.  
 \*6 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF at 50mm from output pins. (20MHz Oscilloscope)  
 \*7 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.

\*8 Rated input voltage (DC24V, DC48V), rated output wattage, ambient temperature at 25°C.  
 \* Parallel operation with other model is not possible.

## External view

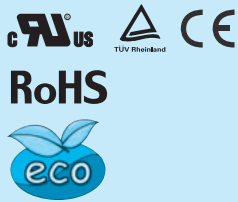


- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]=inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : Brass
- ※ Plating treatment of case : Nickel plating
- ※ Bottom Cover : FR4 (t=0.6) [t=0.024]
- ※ Please keep enough creepage distance with the pattern on PCB and other components.
- ※ Weight 20g max

## MGFW30

MGF W 30 24 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name  
② Dual output  
③ Output wattage  
④ Input voltage  
⑤ Output voltage  
⑥ Optional  
G: Capacitor between Input and Output is removed.  
R: with Remote ON/OFF (Positive logic control)

MODEL	MGFW302405	MGFW302412	MGFW302415	MGFW304805	MGFW304812	MGFW304815
MAX OUTPUT WATTAGE[W]	20	30	30	20	30	30
DC OUTPUT	VOLTAGE[V] *1	±5 or +10	±12 or +24	±15 or +30	±5 or +10	±12 or +24
	CURRENT[A]	2	1.25	1	2	1.25

## SPECIFICATIONS

	MODEL	MGFW302405	MGFW302412	MGFW302415	MGFW304805	MGFW304812	MGFW304815	
INPUT	VOLTAGE[V]	DC9 - 36			DC18 - 76			
	CURRENT[A] *2	0.98typ	1.42typ	1.44typ	0.49typ	0.71typ	0.72typ	
	EFFICIENCY[%] *2	85typ	88typ	87typ	85typ	88typ	87typ	
OUTPUT	VOLTAGE[V]	±5(+10)	±12(+24)	±15(+30)	±5(+10)	±12(+24)	±15(+30)	
	CURRENT[A]	2	1.25	1	2	1.25	1	
	LINE REGULATION[mV]	40max	60max	75max	40max	60max	75max	
	LOAD REGULATION[mV]	*3	500max *5	600max	750max	500max *5	600max	750max
		*4	250max	480max	600max	250max	480max	600max
	RIPPLE[mVp-p] *6	-20 to +60°C	100max	100max	100max	100max	100max	100max
		-40 to -20°C	120max	120max	120max	120max	120max	120max
	RIPPLE NOISE[mVp-p] *6	-20 to +60°C	100max	100max	100max	100max	100max	100max
		-40 to -20°C	150max	150max	150max	150max	150max	150max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	150max	180max	50max	150max	180max
		-40 to +60°C	80max	240max	290max	80max	240max	290max
	DRIFT[mV] *7	50max	50max	60max	50max	50max	60max	
START-UP TIME[ms]	30max (Minimum input, Io=100%)							
OUTPUT VOLTAGE SETTING[V]*8	4.935 - 5.240	11.765 - 12.492	14.602 - 15.505	4.935 - 5.240	11.765 - 12.492	14.602 - 15.505		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	OVERVOLTAGE PROTECTION	Works over 120 to 160% of rating (Total of +V and -V)						
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)						
ISOLATION	INPUT-OUTPUT	DC1,500V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
	INPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
	OUTPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required Derating), 3,000m (10,000feet) max						
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION	10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each along X, Y and Z axis						
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1						
OTHERS	CASE SIZE/WEIGHT	25.4 × 9.9 × 50.8mm [1 × 0.39 × 2 inches] (W × H × D) / 40g max						
	COOLING METHOD	Convection/Forced air						

\*1 Single output +10V, +24V, +30V with no use of COM.

\*2 Rated input 12V, 24V or 48V DC Io=100%

\*3 Symmetrical loading from 5% to 100%.

\*4 Symmetrical loading from 20% to 100%.

\*5 Refer to the instruction manual 11.

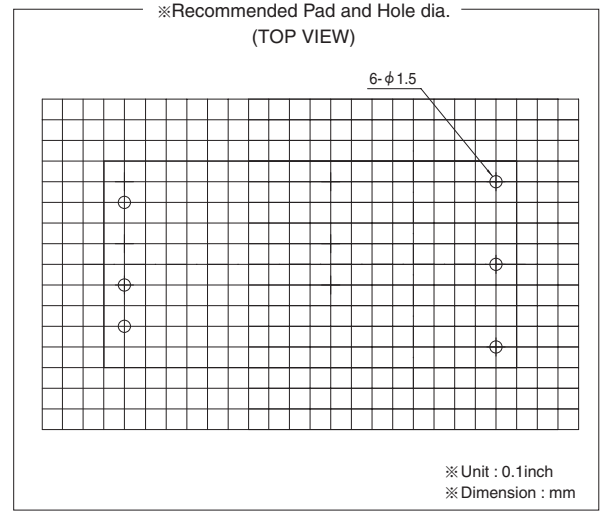
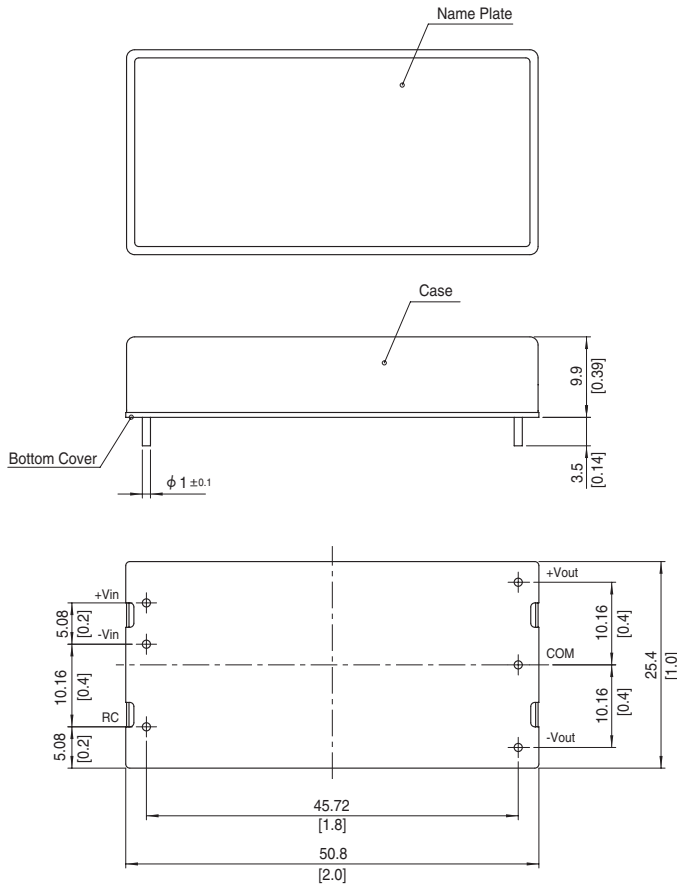
\*6 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF at 50mm from output pins. (20MHz Oscilloscope)

\*7 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.

\*8 Rated input voltage (DC24V, DC48V), rated output wattage, ambient temperature at 25°C.

\* Parallel operation with other model is not possible.

External view

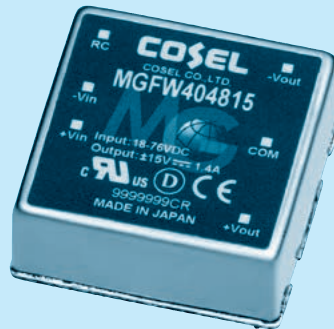


- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]=inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : Brass
- ※ Plating treatment of case : Nickel plating
- ※ Bottom Cover : FR4 (t=0.6) [t=0.024]
- ※ Please keep enough creepage distance with the pattern on PCB and other components.
- ※ Weight 40g max

# MGFW40

MGF W 40 24 12 - □

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Dual output
- ③ Output wattage
- ④ Input voltage
- ⑤ Output voltage
- ⑥ Optional
- G: Capacitor between Input and Output is removed.
- R: with Remote ON/OFF (Positive logic control)

MODEL	MGFW400512	MGFW400515	MGFW402412	MGFW402415	MGFW404812	MGFW404815	
MAX OUTPUT WATTAGE[W]	31.2	30	40.8	42	40.8	42	
DC OUTPUT	VOLTAGE[V] *1	±12 or +24	±15 or +30	±12 or +24	±15 or +30	±12 or +24	±15 or +30
	CURRENT[A]	1.3	1	1.7	1.4	1.7	1.4

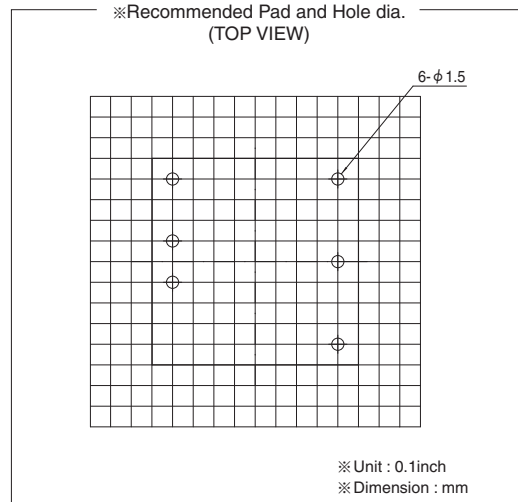
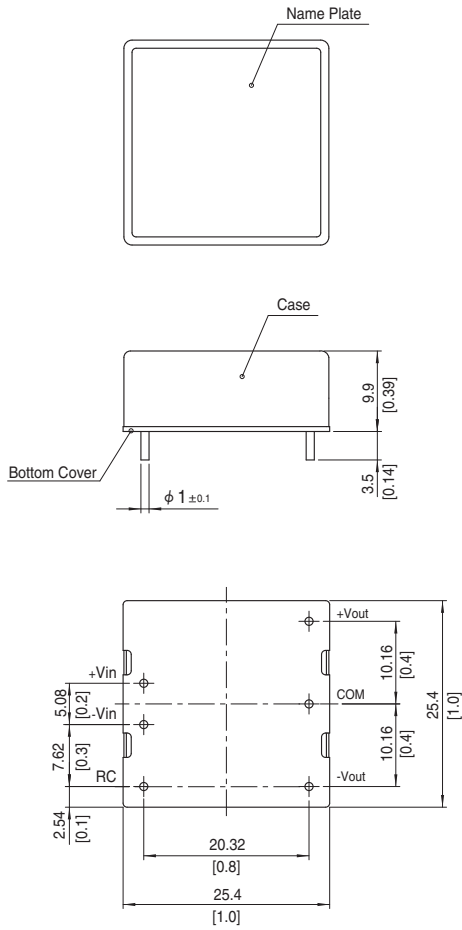
## SPECIFICATIONS

	MODEL	MGFW400512	MGFW400515	MGFW402412	MGFW402415	MGFW404812	MGFW404815	
INPUT	VOLTAGE[V]	DC4.5 - 13 (Surge Voltage 15V, 100ms max)		DC9 - 36 (Surge Voltage 50V, 100ms max)		DC18 - 76 (Surge Voltage 100V, 100ms max)		
	CURRENT[A] *2	7.26typ	6.90typ	1.87typ	1.92typ	0.93typ	0.96typ	
	EFFICIENCY[%] *2	86typ	87typ	91typ	91typ	91typ	91typ	
OUTPUT	VOLTAGE[V]	±12(+24)	±15(+30)	±12(+24)	±15(+30)	±12(+24)	±15(+30)	
	CURRENT[A]	1.3	1	1.7	1.4	1.7	1.4	
	LINE REGULATION[mV]	60max	75max	60max	75max	60max	75max	
	LOAD REGULATION[mV]	*3	600max	750max	600max	750max	600max	750max
		*4	480max	600max	480max	600max	480max	600max
	RIPPLE[mVp-p] *5	-20 to +60°C	100max	100max	100max	100max	100max	100max
		-40 to -20°C	120max	120max	120max	120max	120max	120max
	RIPPLE NOISE[mVp-p] *5	-20 to +60°C	100max	100max	100max	100max	100max	100max
		-40 to -20°C	150max	150max	150max	150max	150max	150max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	150max	180max	150max	180max	150max	180max
		-40 to +60°C	240max	290max	240max	290max	240max	290max
DRIFT[mV] *6	50max	60max	50max	60max	50max	60max		
START-UP TIME[ms]	30max (Minimum input, Rated load)							
OUTPUT VOLTAGE SETTING[V]*7	11.765 - 12.492	14.602 - 15.505	11.765 - 12.492	14.602 - 15.505	11.765 - 12.492	14.602 - 15.505		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	OVERVOLTAGE PROTECTION	Work over 115 to 140% of rating (Total of +Vo and -Vo)						
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)						
ISOLATION	INPUT-OUTPUT	DC1,500V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
	INPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
	OUTPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)						
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required Derating), 5,000m (16,400feet) max						
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION	10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each along X, Y and Z axis						
SAFETY	AGENCY APPROVALS	UL62368-1, C-UL (CSA62368-1), EN62368-1						
OTHERS	CASE SIZE/WEIGHT	25.4 × 9.9 × 25.4mm (W × H × D) / 30g max						
	COOLING METHOD	Convection/Forced air						

\*1 Single output +24V/+30V with no use of COM  
 \*2 Rated input voltage(DC5V, DC24V, DC48V) Io=100%  
 \*3 Symmetrical loading from 0% to 100%  
 \*4 Symmetrical loading from 20% to 100%  
 \*5 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF and Recommended Capacitance at 50mm from output pins. (20MHz Oscilloscope)  
 \*6 Drift is the DC output accuracy for eight hour period after a half-hour warm-up at 25°C

\*7 Rated input voltage (DC5V, DC24V, DC48V), rated output wattage, ambient temperature at 25°C  
 \* Parallel operation with other model is not possible.

## External view

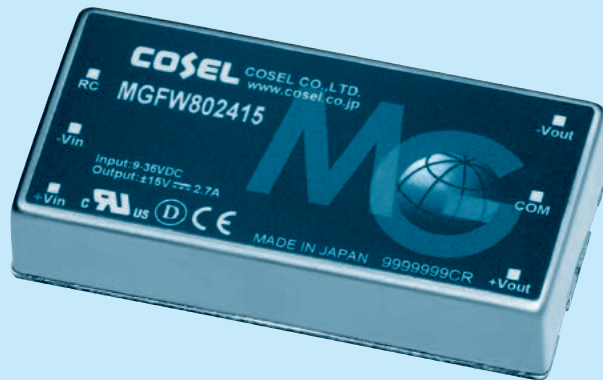


- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]=inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : Brass
- ※ Plating treatment of case : Nickel plating
- ※ Bottom Cover : FR4 (t=0.6) [t=0.024]
- ※ Please keep enough creepage distance with the pattern on PCB and other components.
- ※ Weight 30g max

## MGFW80

MGF W 80 24 12 -□

① ② ③ ④ ⑤ ⑥



- ① Series name  
 ② Dual output  
 ③ Output wattage  
 ④ Input voltage  
 ⑤ Output voltage  
 ⑥ Optional  
 G: Capacitor between  
 Input and Output is removed.  
 R: with Remote ON/OFF  
 (Positive logic control)

MODEL	MGFW802412	MGFW802415	MGFW804812	MGFW804815
MAX OUTPUT WATTAGE[W]	81.6	81	81.6	81
DC OUTPUT	VOLTAGE[V] *1	±12 or +24	±15 or +30	±12 or +24
	CURRENT[A]	3.4	2.7	3.4

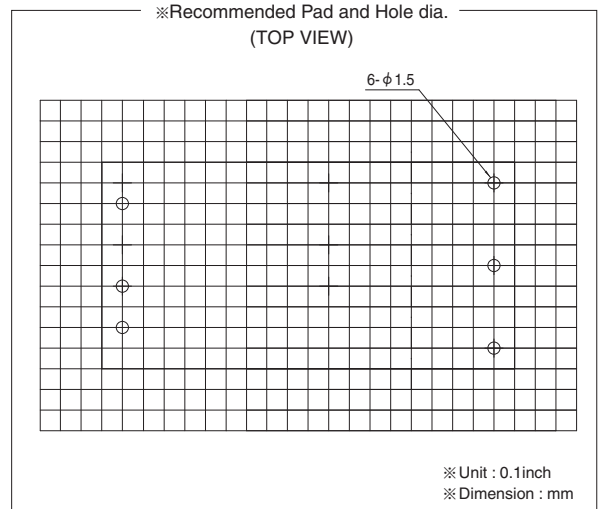
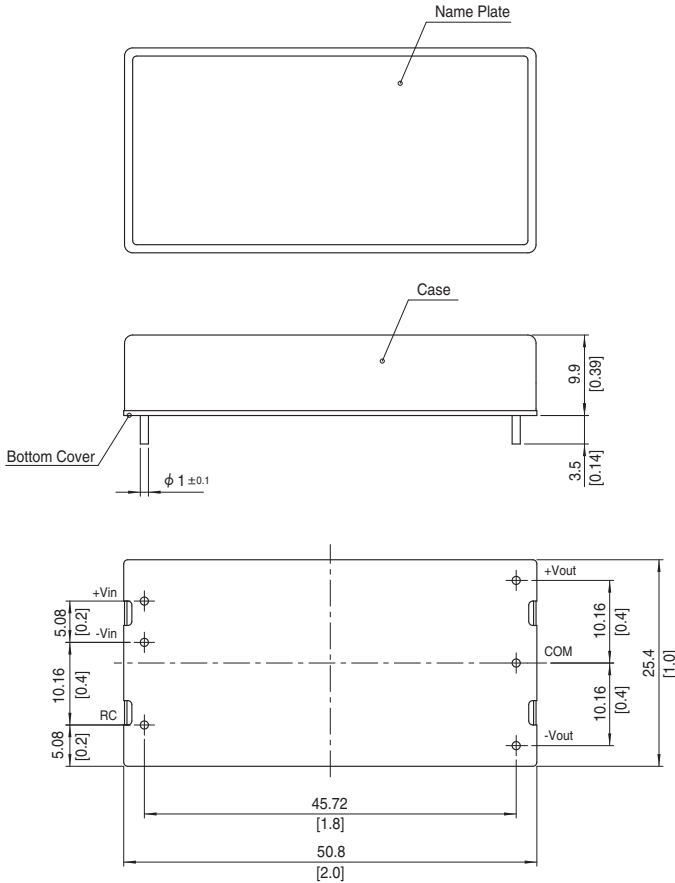
## SPECIFICATIONS

	MODEL	MGFW802412	MGFW802415	MGFW804812	MGFW804815	
INPUT	VOLTAGE[V]	DC9 - 36 (Surge Voltage 50V, 100ms max)		DC18 - 76 (Surge Voltage 100V, 100ms max)		
	CURRENT[A] *2	3.62typ	3.59typ	1.81typ	1.80typ	
	EFFICIENCY[%] *2	94typ	94typ	94typ	94typ	
OUTPUT	VOLTAGE[V]	±12 or +24	±15 or +30	±12 or +24	±15 or +30	
	CURRENT[A]	3.4	2.7	3.4	2.7	
	LINE REGULATION[mV]	60max	75max	60max	75max	
	LOAD REGULATION[mV]	*3	600max	750max	600max	750max
		*4	480max	600max	480max	600max
	RIPPLE[mVp-p]	-20 to +60°C	100max	100max	100max	100max
		-40 to -20°C	120max	120max	120max	120max
		Io=0 to 10%	240max	240max	240max	240max
	RIPPLE NOISE[mVp-p]	-20 to +60°C	100max	100max	100max	100max
		-40 to -20°C	150max	150max	150max	150max
		Io=0 to 10%	270max	270max	270max	270max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	150max	180max	150max	180max
-40 to +60°C		240max	290max	240max	290max	
DRIFT[mV] *6	50max	60max	50max	60max		
START-UP TIME[ms]	30max (Minimum input, Rated load)					
OUTPUT VOLTAGE SETTING[V]*7	11.765 - 12.492	14.602 - 15.505	11.765 - 12.492	14.602 - 15.505		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
	OVERVOLTAGE PROTECTION	Work over 115 to 140% of rating (Total of +Vo and -Vo)				
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)				
ISOLATION	INPUT-OUTPUT	DC1,500V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)				
	INPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)				
	OUTPUT-CASE	DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)				
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 to 95%RH (Non condensing) (Required Derating), 5,000m (16,400feet) max				
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max				
	VIBRATION	10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis				
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each along X, Y and Z axis				
SAFETY	AGENCY APPROVALS	UL62368-1, C-UL (CSA62368-1), EN62368-1				
OTHERS	CASE SIZE/WEIGHT	25.4 × 9.9 × 50.8mm (W × H × D) / 50g max				
	COOLING METHOD	Convection/Forced air				

\*1 Single output +24V/+30V with no use of COM  
 \*2 Rated input voltage (DC24V, DC48V) Io=100%  
 \*3 Symmetrical loading from 0% to 100%  
 \*4 Symmetrical loading from 20% to 100%  
 \*5 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF and

\*6 Drift is the DC output accuracy for eight hour period after a half-hour warm-up at 25°C  
 \*7 Rated input voltage (DC24V, DC48V), rated output wattage, ambient temperature at 25°C  
 \* Parallel operation with other model is not possible.

External view



- ※ Tolerance  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ Dimensions in mm, [ ]=inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : Brass
- ※ Plating treatment of case : Nickel plating
- ※ Bottom Cover : FR4 (t=0.6) [t=0.024]
- ※ Please keep enough creepage distance with the pattern on PCB and other components.
- ※ Weight 50g max