

# Datasheet

## MGS-Series

### Cosel

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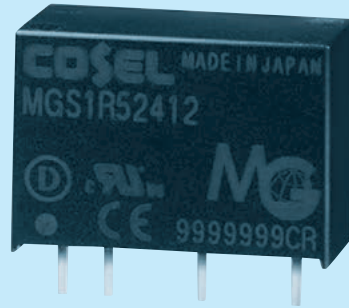
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# MGS1R5

MG S 1R5 24 05 -□

① ② ③ ④ ⑤ ⑥



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

MODEL	MGS1R5053R3	MGS1R50505	MGS1R50512	MGS1R50515	MGS1R5123R3	MGS1R51205	MGS1R51212	MGS1R51215
MAX OUTPUT WATTAGE[W]	1.32	1.50	1.56	1.50	1.32	1.50	1.56	1.50
DC OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12
	CURRENT[A]	0.4	0.3	0.13	0.1	0.4	0.3	0.13

## SPECIFICATIONS

	MODEL	MGS1R5053R3	MGS1R50505	MGS1R50512	MGS1R50515	MGS1R5123R3	MGS1R51205	MGS1R51212	MGS1R51215	
INPUT	VOLTAGE[V]	DC4.5 - 9 (Surge voltage 12.5V, 100ms max)				DC9 - 18 (Surge voltage 25V, 100ms max)				
	CURRENT[A]	*1 0.33typ	0.37typ	0.37typ	0.36typ	0.14typ	0.15typ	0.16typ	0.15typ	
	EFFICIENCY[%]	*1 80typ	82typ	85typ	84typ	80typ	83typ	84typ	84typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	0.4	0.3	0.13	0.1	0.4	0.3	0.13	0.1	
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	RIPPLE[mVp-p]	*2 120max	120max	150max	150max	120max	120max	150max	150max	
	RIPPLE NOISE[mVp-p]	*2 200max	200max	200max	200max	200max	200max	200max	200max	
	TEMPERATURE REGULATION[mV]	-20 to +85°C	50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +85°C	80max	80max	240max	290max	80max	80max	240max	290max
	DRIFT[mV]	*3 20max	20max	48max	60max	20max	20max	48max	60max	
	START-UP TIME[ms]	30max (Minimum input, I <sub>o</sub> =100%)								
OUTPUT VOLTAGE SETTING[V]	3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	14.55 - 15.45	3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	14.55 - 15.45		
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								

MODEL	MGS1R5243R3	MGS1R52405	MGS1R52412	MGS1R52415	MGS1R5483R3	MGS1R54805	MGS1R54812	MGS1R54815
MAX OUTPUT WATTAGE[W]	1.32	1.50	1.56	1.50	1.32	1.50	1.56	1.50
DC OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12
	CURRENT[A]	0.4	0.3	0.13	0.1	0.4	0.3	0.13

## SPECIFICATIONS

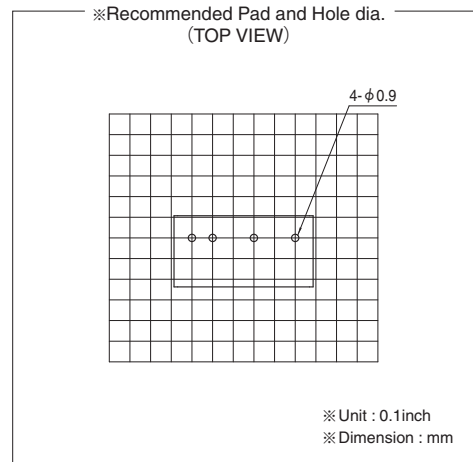
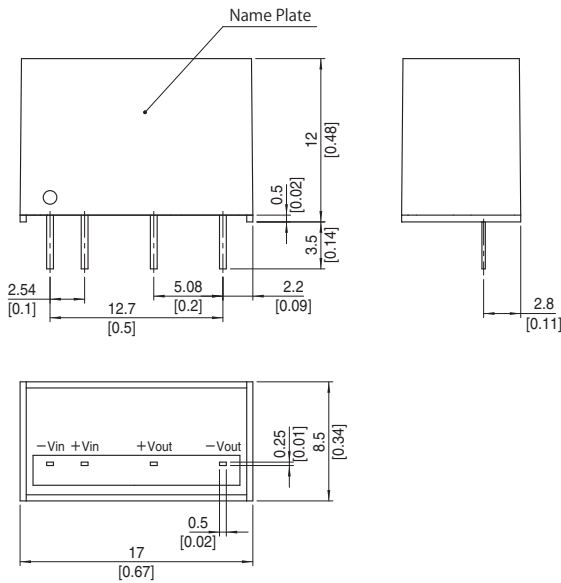
	MODEL	MGS1R5243R3	MGS1R52405	MGS1R52412	MGS1R52415	MGS1R5483R3	MGS1R54805	MGS1R54812	MGS1R54815	
INPUT	VOLTAGE[V]	DC18 - 36 (Surge voltage 50V, 100ms max)				DC36 - 76 (Surge voltage 100V, 100ms max)				
	CURRENT[A]	*1 0.071typ	0.079typ	0.080typ	0.077typ	0.036typ	0.040typ	0.040typ	0.039typ	
	EFFICIENCY[%]	*1 78typ	80typ	82typ	82typ	77typ	80typ	82typ	82typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	0.4	0.3	0.13	0.1	0.4	0.3	0.13	0.1	
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	RIPPLE[mVp-p]	*2 120max	120max	150max	150max	120max	120max	150max	150max	
	RIPPLE NOISE[mVp-p]	*2 200max	200max	200max	200max	200max	200max	200max	200max	
	TEMPERATURE REGULATION[mV]	-20 to +85°C	50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +85°C	80max	80max	240max	290max	80max	80max	240max	290max
	DRIFT[mV]	*3 20max	20max	48max	60max	20max	20max	48max	60max	
	START-UP TIME[ms]	30max (Minimum input, I <sub>o</sub> =100%)								
OUTPUT VOLTAGE SETTING[V]	3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	14.55 - 15.45	3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	14.55 - 15.45		
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								

## GENERAL SPECIFICATIONS

<b>ISOLATION</b>	<b>INPUT-OUTPUT</b>	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)
<b>ENVIRONMENT</b>	<b>OPERATING TEMP., HUMID. AND ALTITUDE</b>	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 3,000m (10,000feet) max
	<b>STORAGE TEMP., HUMID. AND ALTITUDE</b>	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max
	<b>VIBRATION</b>	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis
	<b>IMPACT</b>	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis
<b>SAFETY</b>	<b>AGENCY APPROVALS</b>	UL60950-1, C-UL, EN60950-1
<b>OTHERS</b>	<b>CASE SIZE/WEIGHT</b>	17.0×12.0×8.5mm [0.67×0.48×0.34 inches] (W×H×D) / 4g max
	<b>COOLING METHOD</b>	Convection/Forced air

- \*1 Rated input 5V, 12V, 24V or 48V DC I<sub>o</sub>=100%
- \*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins. (20MHz Oscilloscope)
- \*3 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

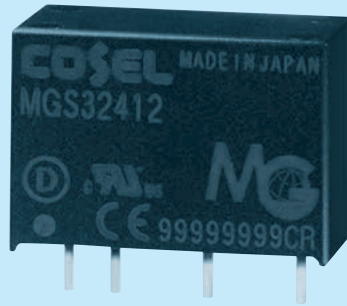


- ※ Tolerance ±0.5 [±0.02]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 4g max

# MGS3

MG S 3 24 05 -□

① ② ③ ④ ⑤ ⑥



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

MODEL	MGS3053R3	MGS30505	MGS30512	MGS30515	MGS3123R3	MGS31205	MGS31212	MGS31215	
MAX OUTPUT WATTAGE[W]	2.64	3.0	3.0	3.0	2.64	3.0	3.0	3.0	
DC OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15
	CURRENT[A]	0.8	0.6	0.25	0.2	0.8	0.6	0.25	0.2

## SPECIFICATIONS

	MODEL	MGS3053R3	MGS30505	MGS30512	MGS30515	MGS3123R3	MGS31205	MGS31212	MGS31215
INPUT	VOLTAGE[V]	DC4.5 - 9 (Surge voltage 12.5V, 100ms max)				DC9 - 18 (Surge voltage 25V, 100ms max)			
	CURRENT[A]	*1 0.67typ	0.73typ	0.71typ	0.71typ	0.28typ	0.30typ	0.29typ	0.30typ
	EFFICIENCY[%]	*1 79typ	82typ	85typ	85typ	80typ	83typ	86typ	85typ
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15
	CURRENT[A]	0.8	0.6	0.25	0.2	0.8	0.6	0.25	0.2
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max
	RIPPLE[mVp-p]	*2 120max	120max	150max	150max	120max	120max	150max	150max
	RIPPLE NOISE[mVp-p]	*2 200max	200max	200max	200max	200max	200max	200max	200max
	TEMPERATURE REGULATION[mV]	-20 to +85°C 50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +85°C 80max	80max	240max	290max	80max	80max	240max	290max
	DRIFT[mV]	*3 20max	20max	48max	60max	20max	20max	48max	60max
	START-UP TIME[ms]	30max (Minimum input, I <sub>o</sub> =100%)							
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically							

MODEL	MGS3243R3	MGS32405	MGS32412	MGS32415	MGS3483R3	MGS34805	MGS34812	MGS34815	
MAX OUTPUT WATTAGE[W]	2.64	3.0	3.0	3.0	2.64	3.0	3.0	3.0	
DC OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15
	CURRENT[A]	0.8	0.6	0.25	0.2	0.8	0.6	0.25	0.2

## SPECIFICATIONS

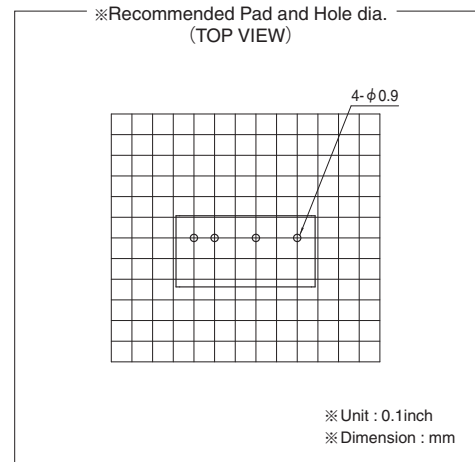
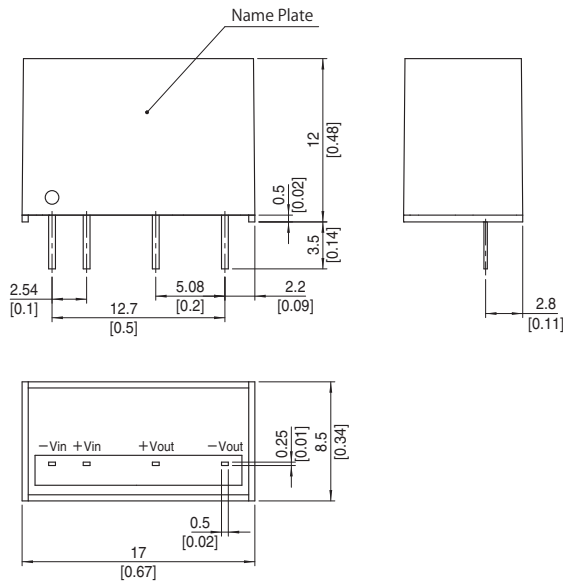
	MODEL	MGS3243R3	MGS32405	MGS32412	MGS32415	MGS3483R3	MGS34805	MGS34812	MGS34815
INPUT	VOLTAGE[V]	DC18 - 36 (Surge voltage 50V, 100ms max)				DC36 - 76 (Surge voltage 100V, 100ms max)			
	CURRENT[A]	*1 0.14typ	0.15typ	0.15typ	0.15typ	0.071typ	0.079typ	0.074typ	0.074typ
	EFFICIENCY[%]	*1 80typ	82typ	85typ	85typ	78typ	80typ	85typ	85typ
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15
	CURRENT[A]	0.8	0.6	0.25	0.2	0.8	0.6	0.25	0.2
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max
	RIPPLE[mVp-p]	*2 120max	120max	150max	150max	120max	120max	150max	150max
	RIPPLE NOISE[mVp-p]	*2 200max	200max	200max	200max	200max	200max	200max	200max
	TEMPERATURE REGULATION[mV]	-20 to +85°C 50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +85°C 80max	80max	240max	290max	80max	80max	240max	290max
	DRIFT[mV]	*3 20max	20max	48max	60max	20max	20max	48max	60max
	START-UP TIME[ms]	30max (Minimum input, I <sub>o</sub> =100%)							
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically							

## GENERAL SPECIFICATIONS

<b>ISOLATION</b>	<b>INPUT-OUTPUT</b>	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)
<b>ENVIRONMENT</b>	<b>OPERATING TEMP., HUMID. AND ALTITUDE</b>	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 3,000m (10,000feet) max
	<b>STORAGE TEMP., HUMID. AND ALTITUDE</b>	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max
	<b>VIBRATION</b>	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis
	<b>IMPACT</b>	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis
<b>SAFETY</b>	<b>AGENCY APPROVALS</b>	UL60950-1, C-UL, EN60950-1
<b>OTHERS</b>	<b>CASE SIZE/WEIGHT</b>	17.0×12.0×8.5mm [0.67×0.48×0.34 inches] (W×H×D) / 4g max
	<b>COOLING METHOD</b>	Convection/Forced air

- \*1 Rated input 5V, 12V, 24V or 48V DC I<sub>o</sub>=100%
- \*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins. (20MHz Oscilloscope)
- \*3 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

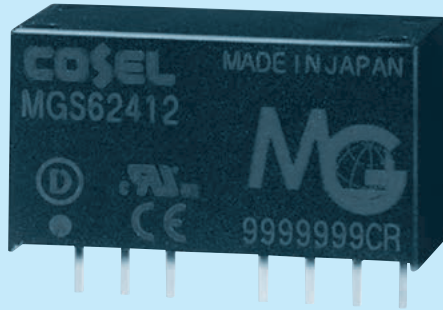


- ※ Tolerance ±0.5 [±0.02]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 4g max

# MGS6

MG S 6 24 05 -□

① ② ③ ④ ⑤ ⑥



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

MODEL	MGS6053R3	MGS60505	MGS60512	MGS60515	MGS6123R3	MGS61205	MGS61212	MGS61215
MAX OUTPUT WATTAGE[W]	5.28	6.0	6.0	6.0	5.28	6.0	6.0	6.0
DC OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12
	CURRENT[A]	1.6	1.2	0.5	0.4	1.6	1.2	0.5

## SPECIFICATIONS

	MODEL	MGS6053R3	MGS60505	MGS60512	MGS60515	MGS6123R3	MGS61205	MGS61212	MGS61215	
INPUT	VOLTAGE[V]	DC4.5 - 9 (Surge voltage 12.5V, 100ms max)				DC9 - 18 (Surge voltage 25V, 100ms max)				
	CURRENT[A]	*1 1.32typ	1.43typ	1.38typ	1.38typ	0.54typ	0.59typ	0.57typ	0.57typ	
	EFFICIENCY[%]	*1 80typ	84typ	87typ	87typ	81typ	85typ	88typ	88typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	1.6	1.2	0.5	0.4	1.6	1.2	0.5	0.4	
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	RIPPLE[mVp-p]	lo=30% -	75max	75max	100max	100max	75max	75max	100max	100max
		lo=0 - 30%	225max	225max	300max	300max	225max	225max	300max	300max
	RIPPLE NOISE[mVp-p]	lo=30% -	120max	120max	150max	150max	120max	120max	150max	150max
		lo=0 - 30%	300max	300max	400max	400max	300max	300max	400max	400max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +60°C	80max	80max	240max	290max	80max	80max	240max	290max
DRIFT[mV]	*3 20max	20max	48max	60max	20max	20max	48max	60max		
START-UP TIME[ms]	30max (Minimum input, lo=100%)									
OUTPUT VOLTAGE SETTING[V]	3.21 - 3.42		4.90 - 5.21	11.64 - 12.36		14.55 - 15.45	3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								
	REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)								

MODEL	MGS6243R3	MGS62405	MGS62412	MGS62415	MGS6483R3	MGS64805	MGS64812	MGS64815
MAX OUTPUT WATTAGE[W]	5.28	6.0	6.0	6.0	5.28	6.0	6.0	6.0
DC OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12
	CURRENT[A]	1.6	1.2	0.5	0.4	1.6	1.2	0.5

## SPECIFICATIONS

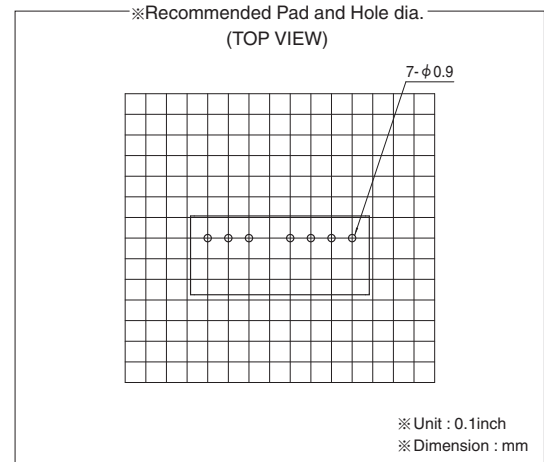
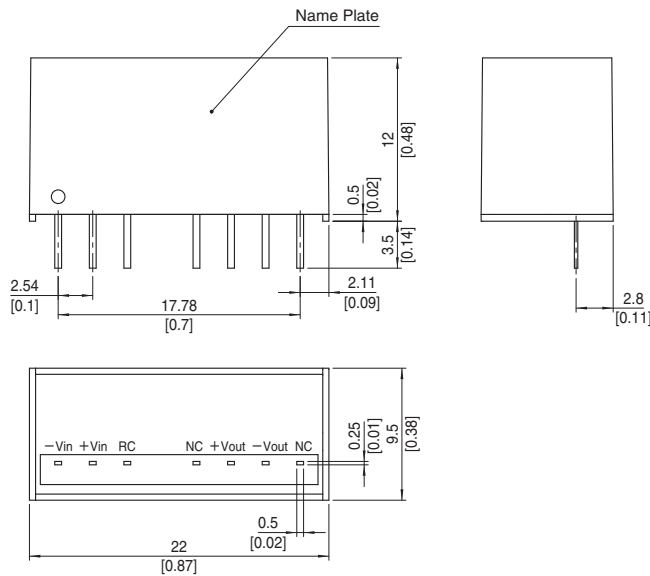
	MODEL	MGS6243R3	MGS62405	MGS62412	MGS62415	MGS6483R3	MGS64805	MGS64812	MGS64815	
INPUT	VOLTAGE[V]	DC18 - 36 (Surge voltage 50V, 100ms max)				DC36 - 76 (Surge voltage 100V, 100ms max)				
	CURRENT[A]	*1 0.27typ	0.29typ	0.28typ	0.28typ	0.14typ	0.15typ	0.14typ	0.14typ	
	EFFICIENCY[%]	*1 81typ	85typ	88typ	88typ	81typ	85typ	88typ	88typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	1.6	1.2	0.5	0.4	1.6	1.2	0.5	0.4	
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	RIPPLE[mVp-p]	lo=30% -	75max	75max	100max	100max	75max	75max	100max	100max
		lo=0 - 30%	225max	225max	300max	300max	225max	225max	300max	300max
	RIPPLE NOISE[mVp-p]	lo=30% -	120max	120max	150max	150max	120max	120max	150max	150max
		lo=0 - 30%	300max	300max	400max	400max	300max	300max	400max	400max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +60°C	80max	80max	240max	290max	80max	80max	240max	290max
DRIFT[mV]	*3 20max	20max	48max	60max	20max	20max	48max	60max		
START-UP TIME[ms]	30max (Minimum input, lo=100%)									
OUTPUT VOLTAGE SETTING[V]	3.21 - 3.42		4.90 - 5.21	11.64 - 12.36		14.55 - 15.45	3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								
	REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)								

### GENERAL SPECIFICATIONS

<b>ISOLATION</b>	<b>INPUT-OUTPUT</b>	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)
<b>ENVIRONMENT</b>	<b>OPERATING TEMP.,HUMID.AND ALTITUDE</b>	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 3,000m (10,000feet) max
	<b>STORAGE TEMP.,HUMID.AND ALTITUDE</b>	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max
	<b>VIBRATION</b>	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis
	<b>IMPACT</b>	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis
<b>SAFETY</b>	<b>AGENCY APPROVALS</b>	UL60950-1, C-UL, EN60950-1
<b>OTHERS</b>	<b>CASE SIZE/WEIGHT</b>	22.0×12.0×9.5mm [0.87×0.48×0.38 inches] (W×H×D) / 7g max
	<b>COOLING METHOD</b>	Convection/Forced air

- \*1 Rated input 5V, 12V, 24V or 48V DC I<sub>o</sub>=100%
- \*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins. (20MHz Oscilloscope)
- \*3 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

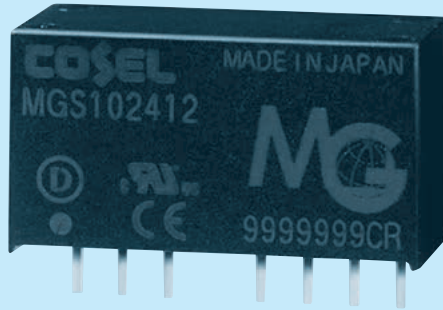


- ※ Unit : 0.1inch
- ※ Dimension : mm
- ※ Tolerance ±0.5 [±0.02]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Planting treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 7g max

# MGS10

MG S 10 24 05 -□

① ② ③ ④ ⑤ ⑥



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

MODEL	MGS10053R3	MGS100505	MGS100512	MGS100515	MGS10123R3	MGS101205	MGS101212	MGS101215	
MAX OUTPUT WATTAGE[W]	8.58	10.0	10.8	10.5	8.58	10.0	10.8	10.5	
DC OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15
	CURRENT[A]	2.6	2.0	0.9	0.7	2.6	2.0	0.9	0.7

## SPECIFICATIONS

	MODEL	MGS10053R3	MGS100505	MGS100512	MGS100515	MGS10123R3	MGS101205	MGS101212	MGS101215	
INPUT	VOLTAGE[V]	DC4.5 - 9 (Surge voltage 12.5V, 100ms max)				DC9 - 18 (Surge voltage 25V, 100ms max)				
	CURRENT[A]	*1 2.02typ	2.30typ	2.45typ	2.39typ	0.83typ	0.95typ	1.01typ	0.98typ	
	EFFICIENCY[%]	*1 85typ	87typ	88typ	88typ	86typ	88typ	89typ	89typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	2.6	2.0	0.9	0.7	2.6	2.0	0.9	0.7	
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	RIPPLE[mVp-p]	*2	Io=30% -	75max	75max	100max	100max	75max	75max	100max
			Io=0 - 30%	225max	225max	300max	300max	225max	225max	300max
	RIPPLE NOISE[mVp-p]	*2	Io=30% -	120max	120max	150max	150max	120max	120max	150max
			Io=0 - 30%	300max	300max	400max	400max	300max	300max	400max
	TEMPERATURE REGULATION[mV]	*2	-20 to +50°C	50max	50max	150max	180max	50max	50max	150max
			-40 to +50°C	80max	80max	240max	290max	80max	80max	240max
DRIFT[mV]	*3	20max	20max	48max	60max	20max	20max	48max	60max	
START-UP TIME[ms]		30max (Minimum input, Io=100%)								
OUTPUT VOLTAGE SETTING[V]		3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	14.55 - 15.45	3.21 - 3.42	4.90 - 5.21	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)								

MODEL	MGS10243R3	MGS102405	MGS102412	MGS102415	MGS10483R3	MGS104805	MGS104812	MGS104815	
MAX OUTPUT WATTAGE[W]	8.58	10.0	10.8	10.5	8.58	10.0	10.8	10.5	
DC OUTPUT	VOLTAGE[V]	*1 3.3	5	12	15	3.3	5	12	15
	CURRENT[A]	2.6	2.0	0.9	0.7	2.6	2.0	0.9	0.7

## SPECIFICATIONS

	MODEL	MGS10243R3	MGS102405	MGS102412	MGS102415	MGS10483R3	MGS104805	MGS104812	MGS104815	
INPUT	VOLTAGE[V]	DC18 - 36 (Surge voltage 50V, 100ms max)				DC36 - 76 (Surge voltage 100V, 100ms max)				
	CURRENT[A]	*1 0.42typ	0.47typ	0.51typ	0.49typ	0.21typ	0.24typ	0.25typ	0.25typ	
	EFFICIENCY[%]	*1 86typ	88typ	89typ	89typ	86typ	88typ	89typ	89typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	2.6	2.0	0.9	0.7	2.6	2.0	0.9	0.7	
	LINE REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	LOAD REGULATION[mV]	20max	20max	48max	60max	20max	20max	48max	60max	
	RIPPLE[mVp-p]	*2	Io=30% -	75max	75max	100max	100max	75max	75max	100max
			Io=0 - 30%	225max	225max	300max	300max	225max	225max	300max
	RIPPLE NOISE[mVp-p]	*2	Io=30% -	120max	120max	150max	150max	120max	120max	150max
			Io=0 - 30%	300max	300max	400max	400max	300max	300max	400max
	TEMPERATURE REGULATION[mV]	*2	-20 to +50°C	50max	50max	150max	180max	50max	50max	150max
			-40 to +50°C	80max	80max	240max	290max	80max	80max	240max
DRIFT[mV]	*3	20max	20max	48max	60max	20max	20max	48max	60max	
START-UP TIME[ms]		30max (Minimum input, Io=100%)								
OUTPUT VOLTAGE SETTING[V]		3.21 - 3.42	4.90 - 5.21	11.64 - 12.36	14.55 - 15.45	3.21 - 3.42	4.90 - 5.21	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)								

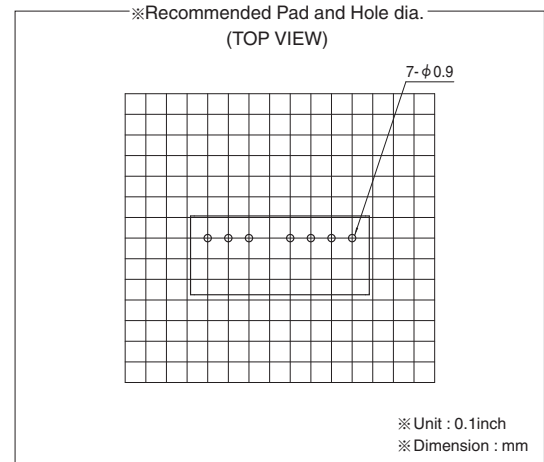
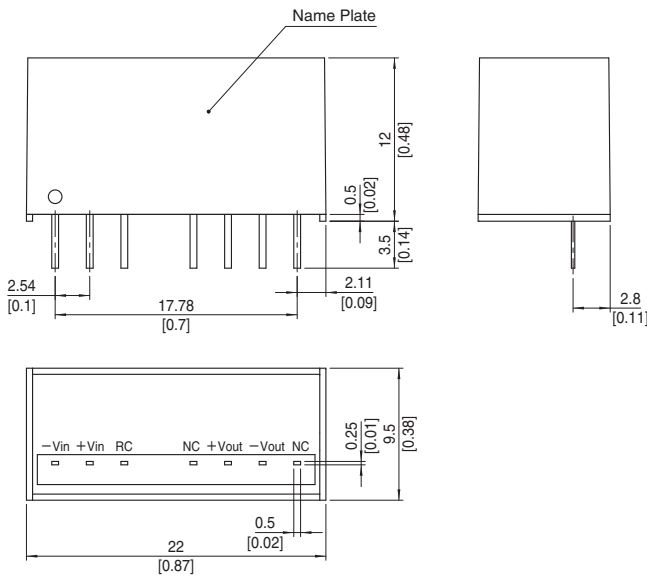


## GENERAL SPECIFICATIONS

<b>ISOLATION</b>	<b>INPUT-OUTPUT</b>	DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15°C)
<b>ENVIRONMENT</b>	<b>OPERATING TEMP., HUMID. AND ALTITUDE</b>	-40 to +85°C, 20 to 95%RH (Non condensing) (Required derating), 3,000m (10,000feet) max
	<b>STORAGE TEMP., HUMID. AND ALTITUDE</b>	-40 to +100°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max
	<b>VIBRATION</b>	10 - 55Hz 98.0m/s <sup>2</sup> (10G), 3minute period, 60minutes each along X, Y and Z axis
	<b>IMPACT</b>	490.3m/s <sup>2</sup> (50G) 11ms, once each along X, Y and Z axis
<b>SAFETY</b>	<b>AGENCY APPROVALS</b>	UL60950-1, C-UL, EN60950-1
<b>OTHERS</b>	<b>CASE SIZE/WEIGHT</b>	22.0×12.0×9.5mm [0.87×0.48×0.38 inches] (W×H×D) / 7g max
	<b>COOLING METHOD</b>	Convection/Forced air

- \*1 Rated input 5V, 12V, 24V or 48V DC I<sub>o</sub>=100%
- \*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins. (20MHz Oscilloscope)
- \*3 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



- ※ Unit : 0.1inch
- ※ Dimension : mm
- ※ Tolerance ±0.5 [±0.02]
- ※ Dimensions in mm, [ ]= inches
- ※ Pin terminal material : Copper
- ※ Planting treatment of terminal : Lead free plating
- ※ Case material : PBT
- ※ Weight 7g max

# MGS15

MG S 15 24 05 - □

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single 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)

MG

MODEL	MGS15123R3	MGS151205	MGS151212	MGS151215	MGS15243R3	MGS152405	MGS152412	MGS152415	
MAX OUTPUT WATTAGE[W]	13.2	15	15.6	15	13.2	15	15.6	15	
DC OUTPUT	VOLTAGE[V] *1	3.3	5	12	15	3.3	5	12	15
	CURRENT[A]	4	3	1.3	1	4	3	1.3	1

## SPECIFICATIONS

	MODEL	MGS15123R3	MGS151205	MGS151212	MGS151215	MGS15243R3	MGS152405	MGS152412	MGS152415	
INPUT	VOLTAGE[V]	DC9 - 18				DC18 - 36				
	CURRENT[A] *2	1.28typ	1.44typ	1.49typ	1.42typ	0.63typ	0.70typ	0.73typ	0.70typ	
	EFFICIENCY[%] *2	86typ	87typ	87typ	88typ	87typ	89typ	89typ	89typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	4	3	1.3	1	4	3	1.3	1	
	LINE REGULATION[mV]	13.2max	20max	48max	60max	13.2max	20max	48max	60max	
	LOAD REGULATION[mV]	13.2max	20max	48max	60max	13.2max	20max	48max	60max	
	RIPPLE[mVp-p] *3	-20 to +60°C	75max	75max	100max	100max	75max	75max	100max	100max
		-40 to -20°C	100max	100max	120max	120max	100max	100max	120max	120max
	RIPPLE NOISE[mVp-p] *3	-20 to +60°C	75max	75max	100max	100max	75max	75max	100max	100max
		-40 to -20°C	150max	150max	150max	150max	150max	150max	150max	150max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +60°C	80max	80max	240max	290max	80max	80max	240max	290max
	DRIFT[mV] *4	20max	20max	48max	60max	20max	20max	48max	60max	
START-UP TIME[ms]	30max (Minimum input, Io=100%)									
OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed (TRM pin open) Available to adjust ±10% by external variable resistor									
OUTPUT VOLTAGE SETTING[V]*5	3.296 - 3.404	4.975 - 5.137	11.857 - 12.243	14.839 - 15.321	3.296 - 3.404	4.975 - 5.137	11.857 - 12.243	14.839 - 15.321		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)								

MODEL	MGS15483R3	MGS154805	MGS154812	MGS154815	
MAX OUTPUT WATTAGE[W]	13.2	15	15.6	15	
DC OUTPUT	VOLTAGE[V] *1	3.3	5	12	15
	CURRENT[A]	4	3	1.3	1

## SPECIFICATIONS

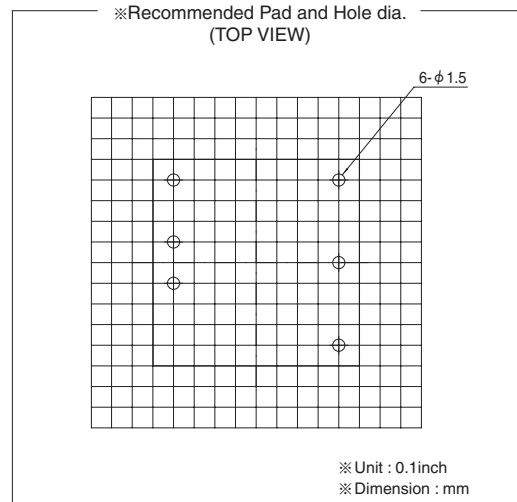
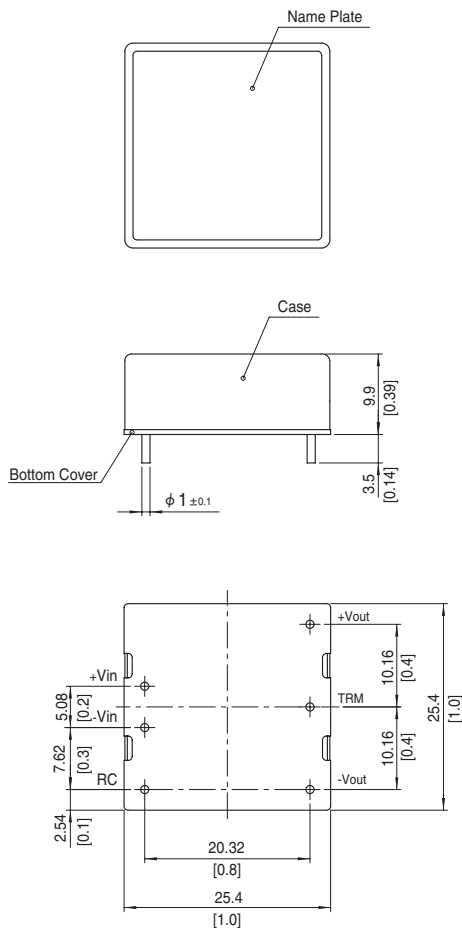
	MODEL	MGS15483R3	MGS154805	MGS154812	MGS154815	
INPUT	VOLTAGE[V]	DC36 - 76				
	CURRENT[A] *2	0.32typ	0.35typ	0.36typ	0.35typ	
	EFFICIENCY[%] *2	87typ	89typ	90typ	90typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	
	CURRENT[A]	4	3	1.3	1	
	LINE REGULATION[mV]	13.2max	20max	48max	60max	
	LOAD REGULATION[mV]	13.2max	20max	48max	60max	
	RIPPLE[mVp-p] *3	-20 to +60°C	75max	75max	100max	100max
		-40 to -20°C	100max	100max	120max	120max
	RIPPLE NOISE[mVp-p] *3	-20 to +60°C	75max	75max	100max	100max
		-40 to -20°C	150max	150max	150max	150max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	50max	150max	180max
		-40 to +60°C	80max	80max	240max	290max
	DRIFT[mV] *4	20max	20max	48max	60max	
START-UP TIME[ms]	30max (Minimum input, Io=100%)					
OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed (TRM pin open) ±10% adjustable by external VR					
OUTPUT VOLTAGE SETTING[V]*5	3.296 - 3.404	4.975 - 5.137	11.857 - 12.243	14.839 - 15.321		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)				

### GENERAL SPECIFICATIONS

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 X 9.9 X 25.4mm [1 X 0.39 X 1 inches] (W X H X D) / 20g max
	COOLING METHOD	Convection/Forced air

- \*1 MGW15xx05/MGW15xx12/MGW15xx15 is available as single output, +10V/+24V/+30V
- \*2 Rated input 12V, 24V or 48V DC Io=100%
- \*3 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF at 50mm from output pins. (20MHz Oscilloscope)
- \*4 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.
- \*5 Rated input voltage (DC12V, DC24V, DC48V), rated output wattage, ambient temperature at 25°C.
- \* Parallel operation with other model is not possible.

### External view

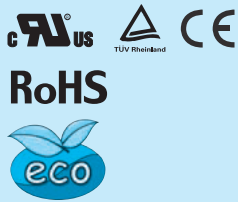


- ※ Tolerance ±0.5 [±0.02]
- ※ Dimensions in mm, [ ]=inches
- ※ Pin terminal material : Copper
- ※ Plating treatment of terminal : Lead free plating
- ※ Case material : Brass
- ※ Plating treatment of case : Nickel plating
- ※ Bottom Cover : FR4 (t=0.6) [t=0.024]
- ※ Please keep enough creepage distance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

# MGS30

MG S 30 24 05 - □

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single 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	MGS30123R3	MGS301205	MGS301212	MGS301215	MGS30243R3	MGS302405	MGS302412	MGS302415
MAX OUTPUT WATTAGE[W]	26.4	30	30	30	26.4	30	30	30
DC OUTPUT	VOLTAGE[V] *1	3.3	5	12	15	3.3	5	12
	CURRENT[A]	8	6	2.5	2	8	6	2.5

## SPECIFICATIONS

	MODEL	MGS30123R3	MGS301205	MGS301212	MGS301215	MGS30243R3	MGS302405	MGS302412	MGS302415	
INPUT	VOLTAGE[V]	DC9 - 18				DC18 - 36				
	CURRENT[A] *2	2.45typ	2.75typ	2.78typ	2.78typ	1.21typ	1.36typ	1.36typ	1.36typ	
	EFFICIENCY[%] *2	90typ	91typ	90typ	90typ	91typ	92typ	92typ	92typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	3.3	5	12	15	
	CURRENT[A]	8	6	2.5	2	8	6	2.5	2	
	LINE REGULATION[mV]	13.2max	20max	48max	60max	13.2max	20max	48max	60max	
	LOAD REGULATION[mV]	13.2max	20max	48max	60max	13.2max	20max	48max	60max	
	RIPPLE[mVp-p]	-20 to +60°C	75max	75max	100max	100max	75max	75max	100max	100max
		*3 -40 to -20°C	100max	100max	120max	120max	100max	100max	120max	120max
	RIPPLE NOISE[mVp-p]	-20 to +60°C	75max	75max	100max	100max	75max	75max	100max	100max
		*3 -40 to -20°C	150max	150max	150max	150max	150max	150max	150max	150max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	50max	150max	180max	50max	50max	150max	180max
		-40 to +60°C	80max	80max	240max	290max	80max	80max	240max	290max
DRIFT[mV] *4	20max	20max	48max	60max	20max	20max	48max	60max		
START-UP TIME[ms]	30max (Minimum input, Io=100%)									
OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed (TRM pin open) ±10% adjustable by external VR									
OUTPUT VOLTAGE SETTING[V]*5	3.296 - 3.404	4.975 - 5.137	11.857 - 12.243	14.839 - 15.321	3.296 - 3.404	4.975 - 5.137	11.857 - 12.243	14.839 - 15.321		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								
	OVERVOLTAGE PROTECTION[V]	Works over 120 to 160% of rating								
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)								

MODEL	MGS30483R3	MGS304805	MGS304812	MGS304815
MAX OUTPUT WATTAGE[W]	26.4	30	30	30
DC OUTPUT	VOLTAGE[V] *1	3.3	5	12
	CURRENT[A]	8	6	2.5

## SPECIFICATIONS

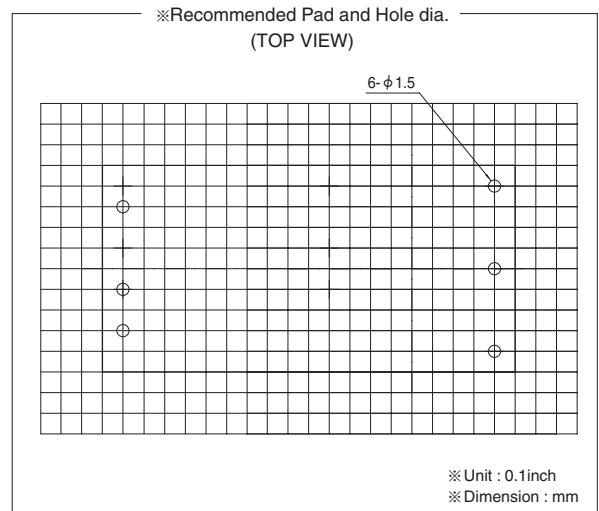
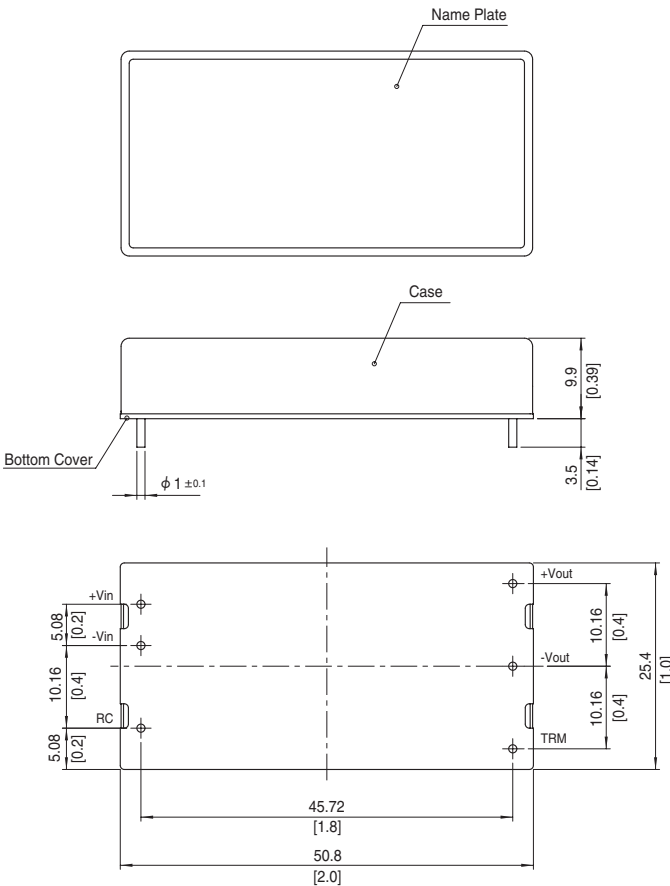
	MODEL	MGS30483R3	MGS304805	MGS304812	MGS304815	
INPUT	VOLTAGE[V]	DC36 - 76				
	CURRENT[A] *2	0.61typ	0.68typ	0.68typ	0.68typ	
	EFFICIENCY[%] *2	91typ	92typ	92typ	92typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	
	CURRENT[A]	8	6	2.5	2	
	LINE REGULATION[mV]	13.2max	20max	48max	60max	
	LOAD REGULATION[mV]	13.2max	20max	48max	60max	
	RIPPLE[mVp-p]	-20 to +60°C	75max	75max	100max	100max
		*3 -40 to -20°C	100max	100max	120max	120max
	RIPPLE NOISE[mVp-p]	-20 to +60°C	75max	75max	100max	100max
		*3 -40 to -20°C	150max	150max	150max	150max
	TEMPERATURE REGULATION[mV]	-20 to +60°C	50max	50max	150max	180max
		-40 to +60°C	80max	80max	240max	290max
DRIFT[mV] *4	20max	20max	48max	60max		
START-UP TIME[ms]	30max (Minimum input, Io=100%)					
OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed (TRM pin open) ±10% adjustable by external VR					
OUTPUT VOLTAGE SETTING[V]*5	3.296 - 3.404	4.975 - 5.137	11.857 - 12.243	14.839 - 15.321		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
	OVERVOLTAGE PROTECTION[V]	Works over 120 to 160% of rating				
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)				

GENERAL SPECIFICATIONS

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 X 9.9 X 50.8mm [1 X 0.39 X 2 inches] (W X H X D) / 40g max
	COOLING METHOD	Convection/Forced air

- \*1 MGW30xx05/MGW30xx12/MGW30xx15 is available as single output, +10V/+24V/+30V
- \*2 Rated input 12V, 24V or 48V DC I<sub>o</sub>=100%
- \*3 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF at 50mm from output pins. (20MHz Oscilloscope)
- \*4 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25°C.
- \*5 Rated input voltage (DC12V, DC24V, DC48V), rated output wattage, ambient temperature at 25°C.
- \* Parallel operation with other model is not possible.

External view



- ※ Tolerance ±0.5 [±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

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