COSEL

参考資料

TEST DATA OF MGS151205

Regulated DC Power Supply
September 10, 2010

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COSEL CO.,LTD.

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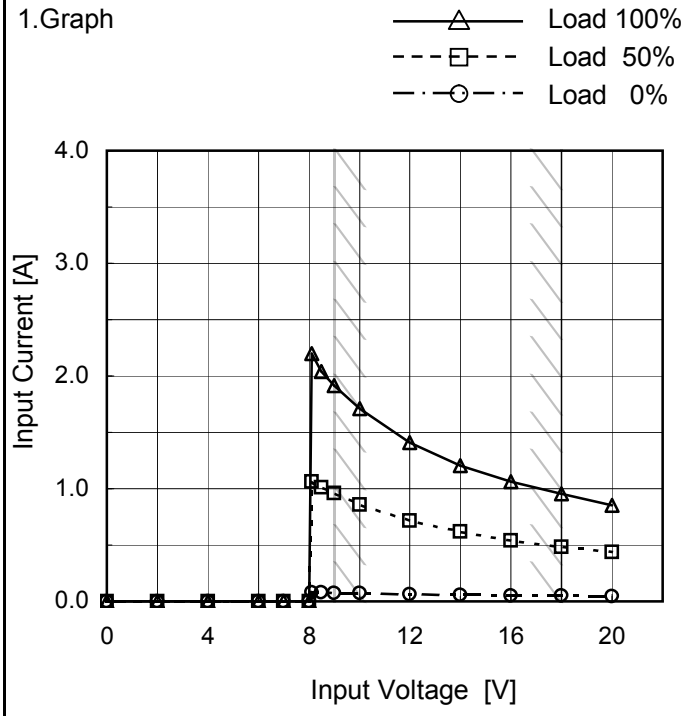
Model	MGS151205
Item	Input Current (by Input Voltage)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
2.0	0.001	0.001	0.001
4.0	0.001	0.002	0.002
6.0	0.002	0.002	0.002
7.0	0.002	0.002	0.002
8.0	0.002	0.002	0.002
8.1	0.082	1.062	2.199
8.5	0.080	1.014	2.040
9.0	0.077	0.958	1.916
10.0	0.071	0.860	1.708
12.0	0.064	0.717	1.411
14.0	0.058	0.617	1.206
16.0	0.053	0.541	1.062
18.0	0.050	0.484	0.954
20.0	0.047	0.436	0.850
--	-	-	-
--	-	-	-
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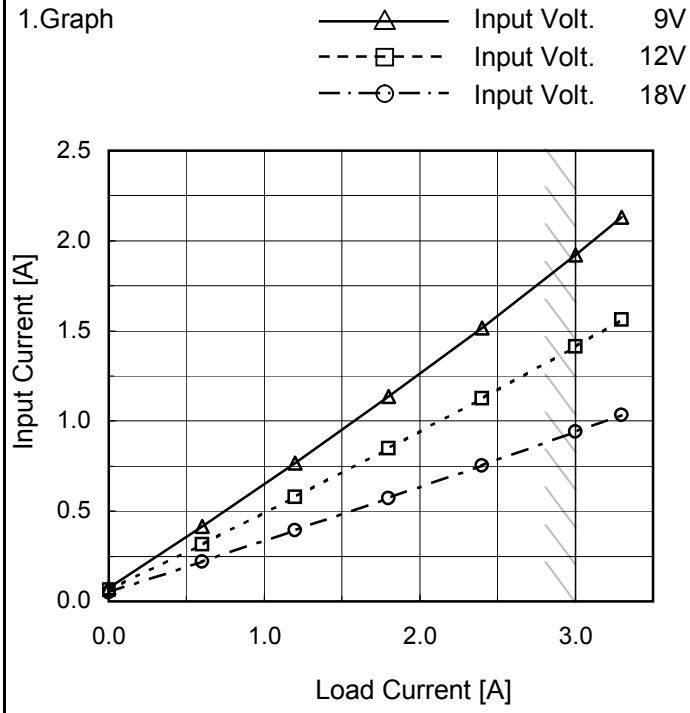
COSEL

Model	MGS151205
Item	Input Current (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.0	0.076	0.063	0.050
0.6	0.414	0.317	0.220
1.2	0.767	0.578	0.393
1.8	1.135	0.848	0.571
2.4	1.518	1.127	0.754
3.0	1.922	1.414	0.940
3.3	2.131	1.561	1.035
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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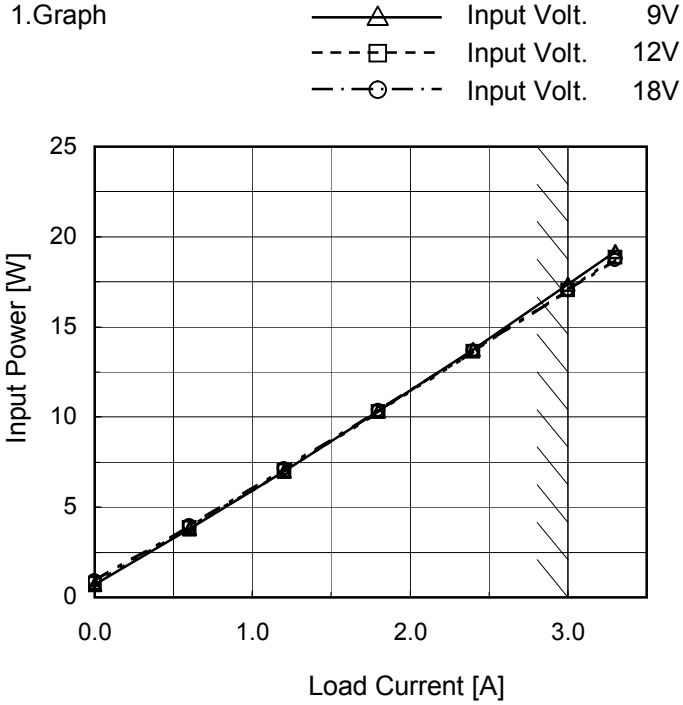
Model	MGS151205
Item	Input Power (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

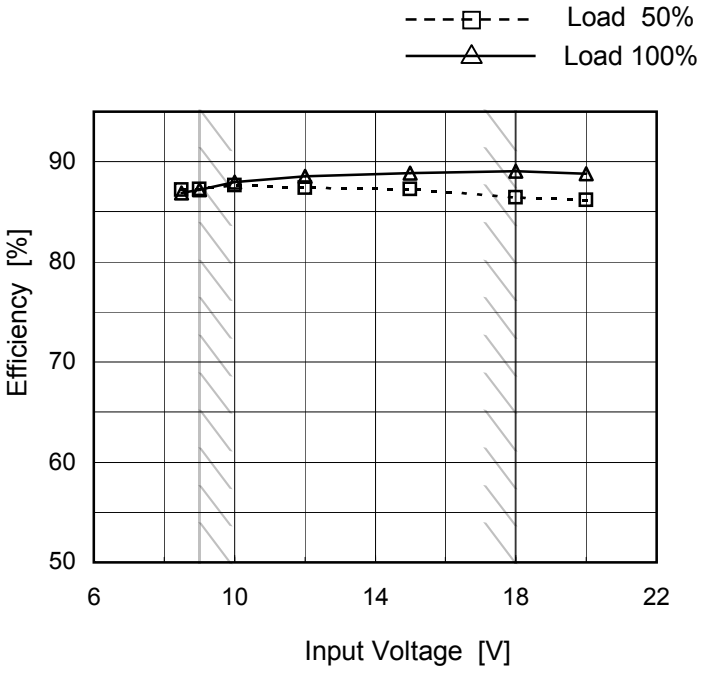
Load Current [A]	Input Power [W]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.0	0.71	0.78	0.93
0.6	3.80	3.88	3.99
1.2	7.01	7.04	7.14
1.8	10.34	10.30	10.37
2.4	13.75	13.64	13.66
3.0	17.35	17.06	17.05
3.3	19.17	18.84	18.72
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGS151205
Item	Efficiency (by Input Voltage)
Object	――――――――――

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
8.5	87.2	86.9
9.0	87.3	87.2
10.0	87.6	88.0
12.0	87.4	88.6
15.0	87.2	88.9
18.0	86.4	89.0
20.0	86.2	88.8
--	-	-
--	-	-

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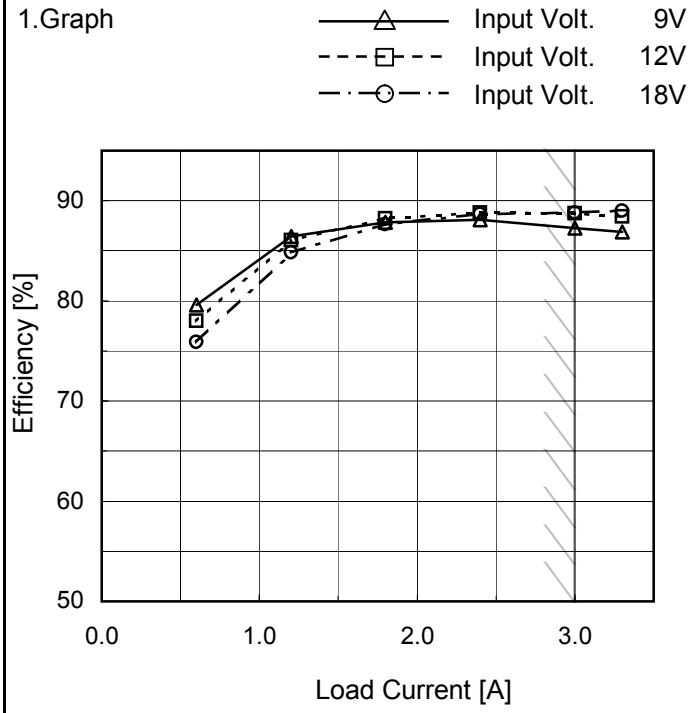
Model	MGS151205
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Efficiency [%] Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.0	-	-	-
0.6	79.6	78.0	75.9
1.2	86.4	86.0	84.8
1.8	87.9	88.2	87.6
2.4	88.1	88.8	88.7
3.0	87.3	88.8	88.8
3.3	86.9	88.4	89.0
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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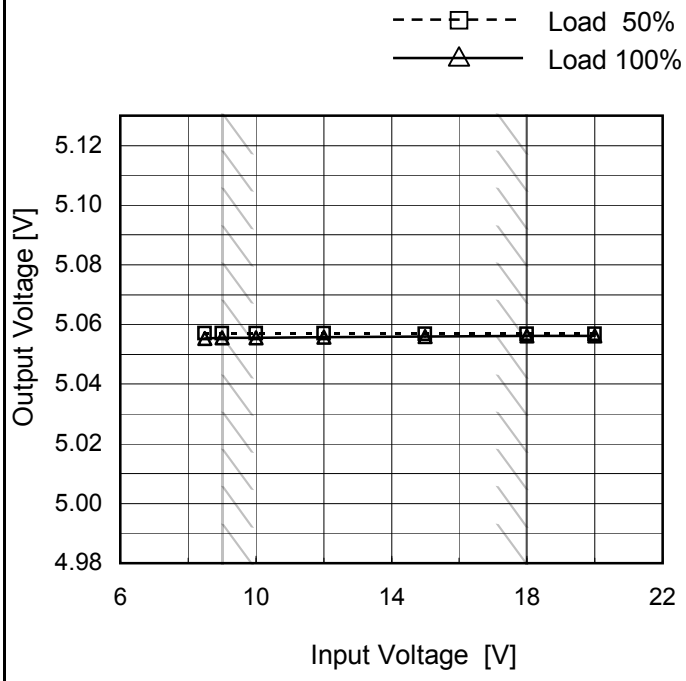
Model	MGS151205
Item	Line Regulation
Object	+5V3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated input voltage.

2.Values

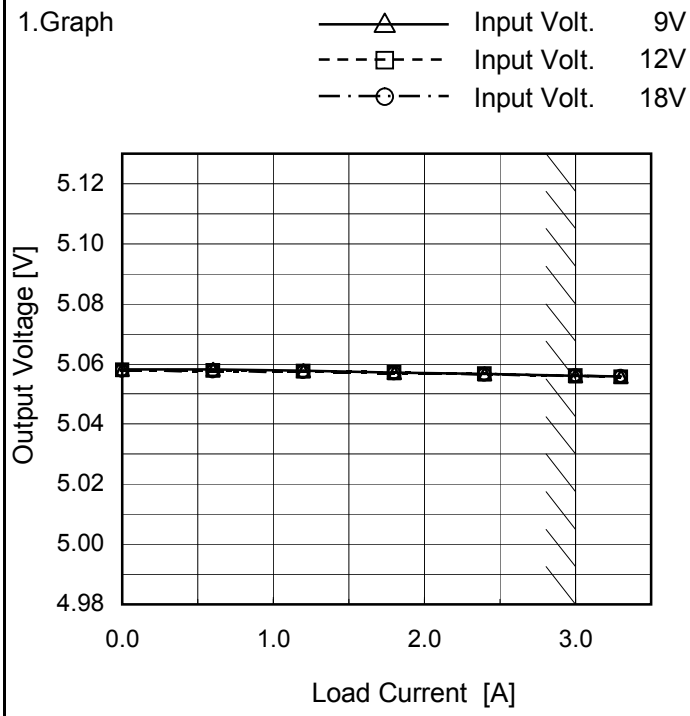
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
8.5	5.057	5.055
9.0	5.057	5.056
10.0	5.057	5.056
12.0	5.057	5.056
15.0	5.057	5.056
18.0	5.057	5.056
20.0	5.057	5.056
--	-	-
--	-	-

COSEL

Model	MGS151205
Item	Load Regulation
Object	+5V3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.0	5.058	5.058	5.058
0.6	5.058	5.058	5.058
1.2	5.058	5.058	5.057
1.8	5.057	5.057	5.057
2.4	5.057	5.057	5.057
3.0	5.056	5.056	5.056
3.3	5.056	5.056	5.056
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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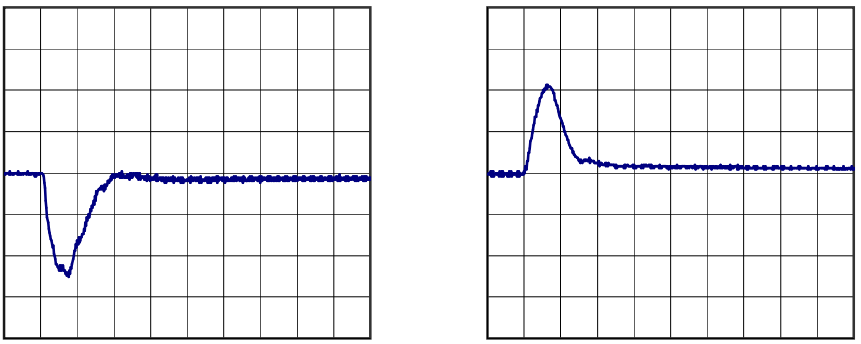
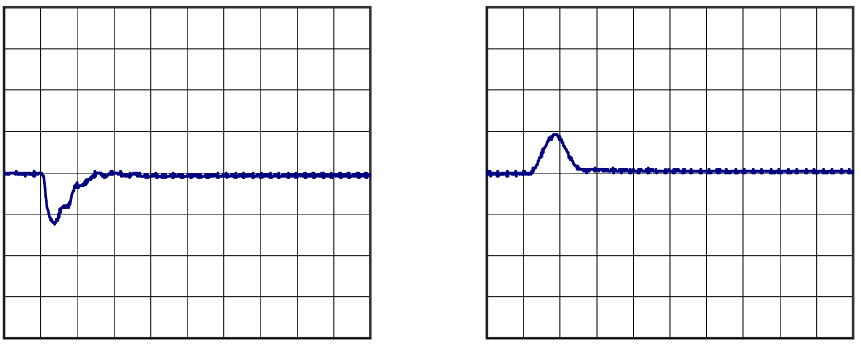
Model	MGS151205		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	+5V3A		

Input Volt. 12 V
Cycle 1000 ms

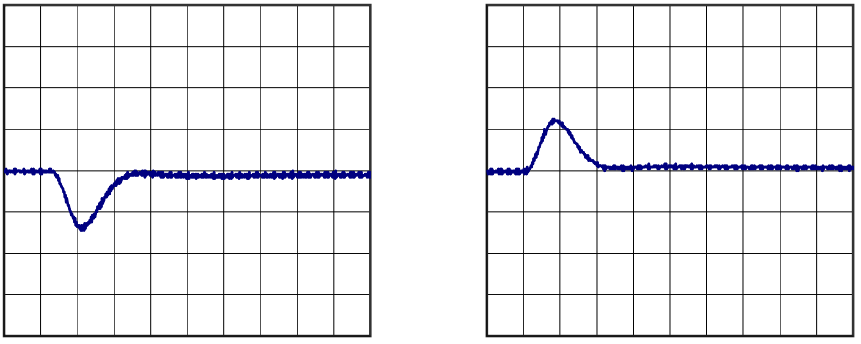
Min. Load (0A) ←→
Load 100% (3A)



Min. Load (0A) ←→
Load 50% (1.5A)



Load 50% (1.5A) ←→
Load 100% (3A)

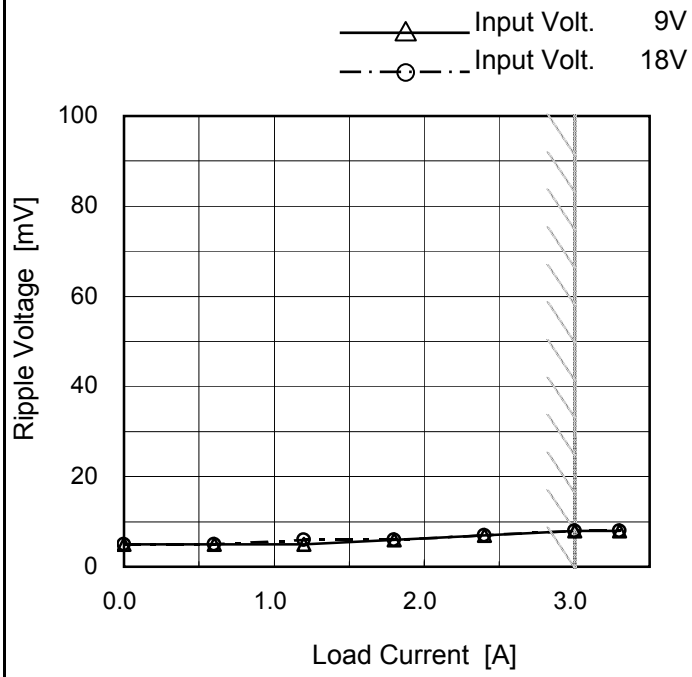


COSEL

Model	MGS151205
Item	Ripple Voltage (by Load Current)
Object	+5V3A

Temperature 25°C
Testing Circuitry Figure B

1.Graph



Measured by 100 MHz Oscilloscope.
Ripple Voltage is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

Ripple [mVp-p]

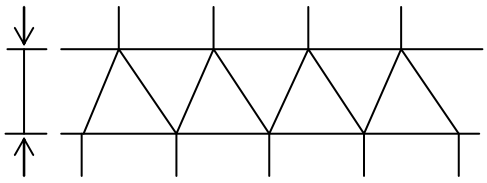


Fig.Complex Ripple Wave Form

2.Values

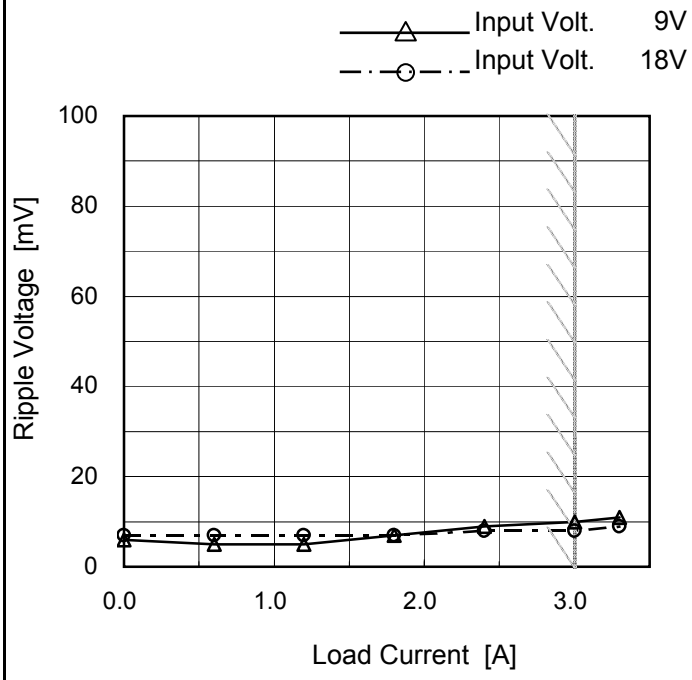
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 9 [V]	Input Volt. 18 [V]
0.0	5	5
0.6	5	5
1.2	5	6
1.8	6	6
2.4	7	7
3.0	8	8
3.3	8	8
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	MGS151205
Item	Ripple-Noise
Object	+5V3A

Temperature 25°C
Testing Circuitry Figure B

1.Graph



Measured by 100 MHz Oscilloscope.
Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

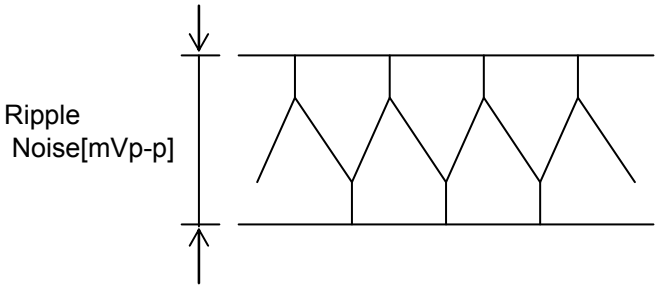


Fig.Complex Ripple Noise Wave Form

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 9 [V]	Input Volt. 18 [V]
0.0	6	7
0.6	5	7
1.2	5	7
1.8	7	7
2.4	9	8
3.0	10	8
3.3	11	9
--	-	-
--	-	-
--	-	-
--	-	-

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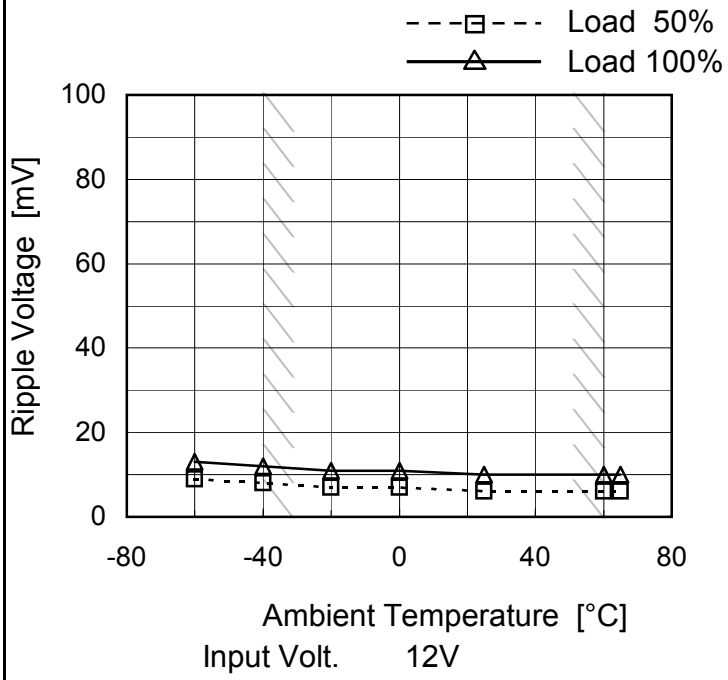
Model	MGS151205
Item	Ripple Voltage (by Ambient Temp.)
Object	+5V3A

Testing Circuitry Figure B

1.Graph



Input Volt. 12V

Measured by 100 MHz Oscilloscope.
Note: Slanted line shows the range of the rated ambient temperature.

2.Values

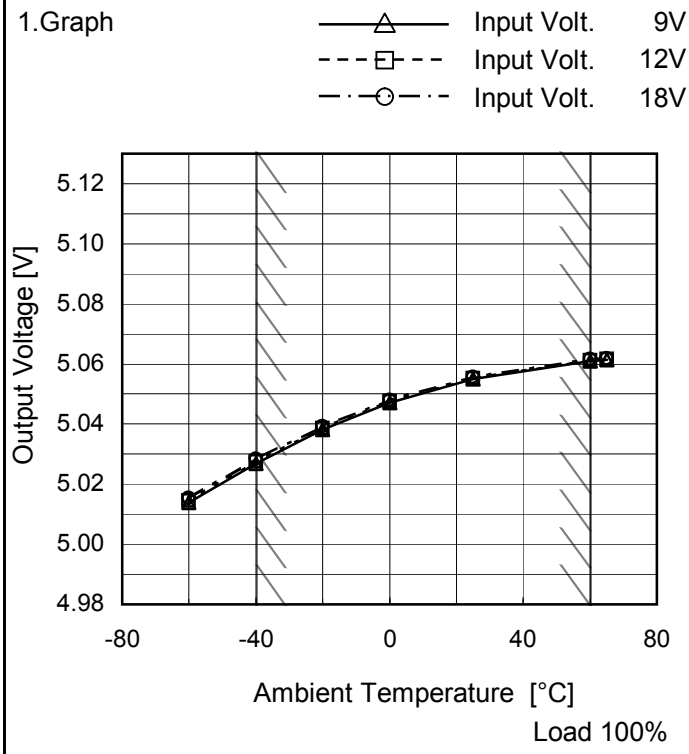
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	9	13
-40	8	12
-20	7	11
0	7	11
25	6	10
60	6	10
65	6	10
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	MGS151205
Item	Ambient Temperature Drift
Object	+5V3A

Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated ambient temperature.

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
-60	5.014	5.015	5.015
-40	5.027	5.028	5.028
-20	5.038	5.039	5.039
0	5.047	5.048	5.048
25	5.055	5.055	5.056
60	5.061	5.061	5.062
65	5.061	5.062	5.062
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGS151205	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+5V3A	

1.Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -40 - 60°C
Input Voltage : 9 - 18V
Load Current : 0 - 3A

* Output Voltage Accuracy = ±(Maximum of Output Voltage - Minimum of Output Voltage) / 2

$$\text{* Output Voltage Accuracy (Ration)} = \frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$$

2.Values

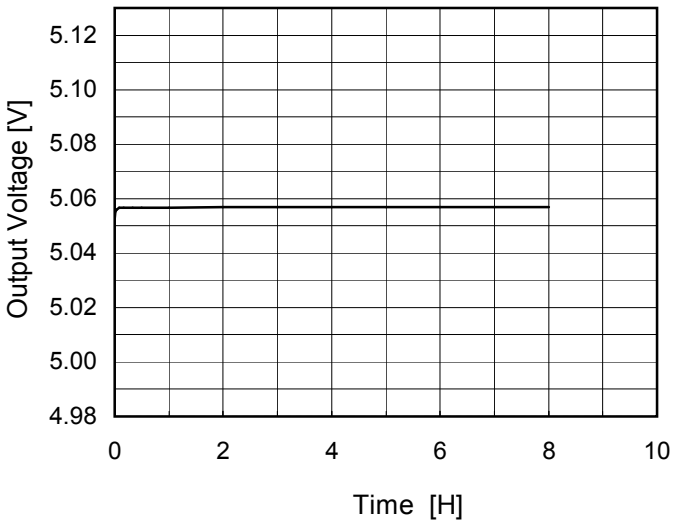
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	60	9	0	5.063	±18	±0.4
Minimum Voltage	-40	9	3	5.027		

COSEL

Model	MGS151205
Item	Time Lapse Drift
Object	+5V3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 12V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	5.053
0.5	5.057
1.0	5.057
2.0	5.057
3.0	5.057
4.0	5.057
5.0	5.057
6.0	5.057
7.0	5.057
8.0	5.057

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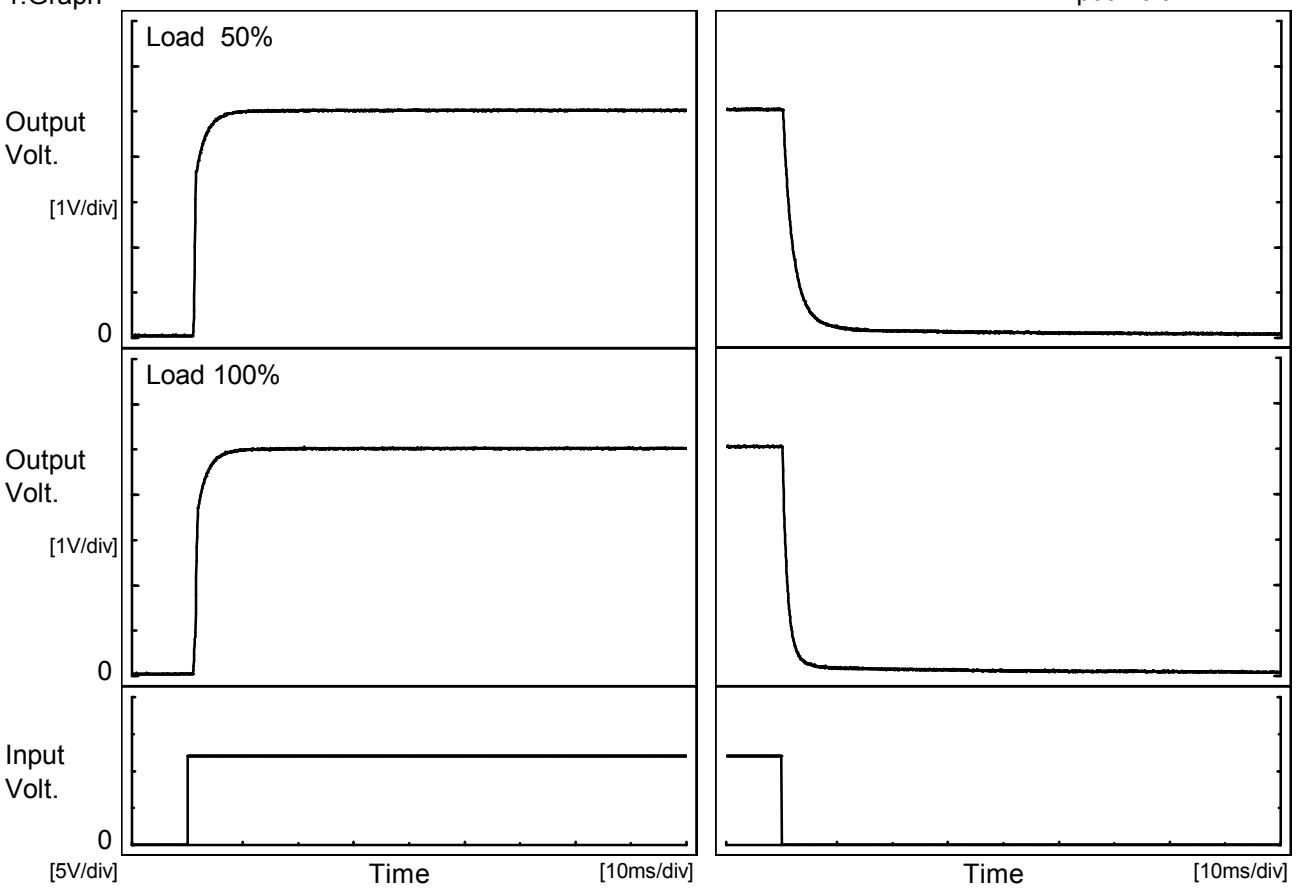
Model	MGS151205	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+5V3A	

1.Graph

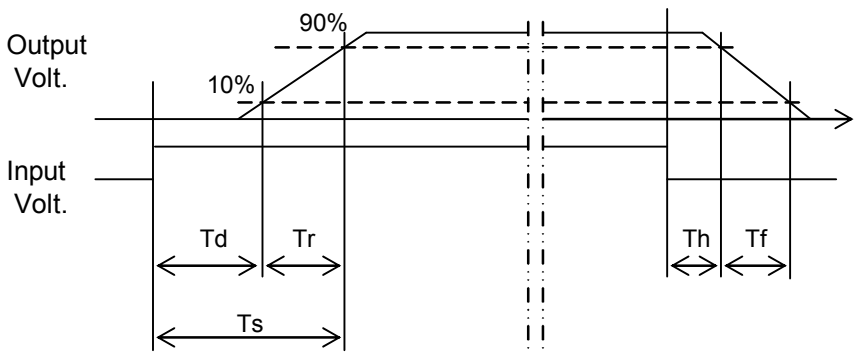
Input Volt. 12 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	1.2	2.4	3.6	0.3	5.0
100 %	1.3	2.6	3.9	0.2	2.5



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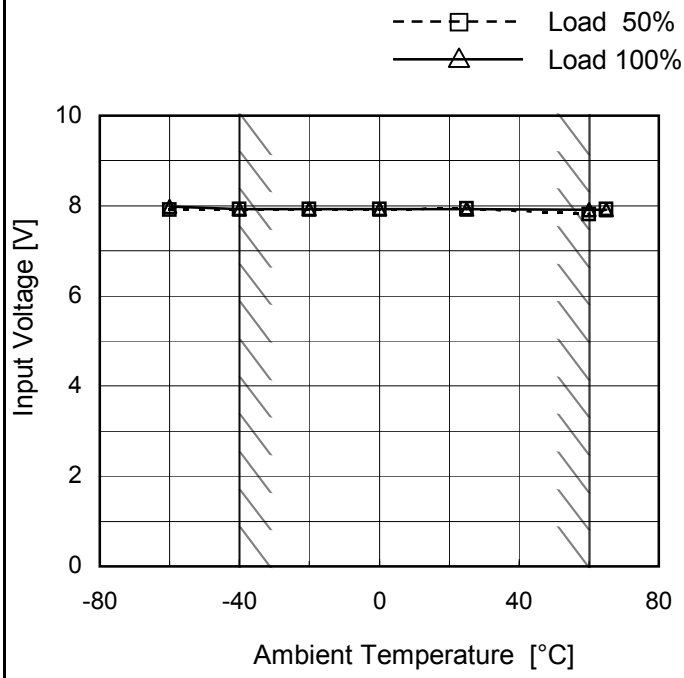
Model	MGS151205
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V3A

Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated ambient temperature.

2.Values

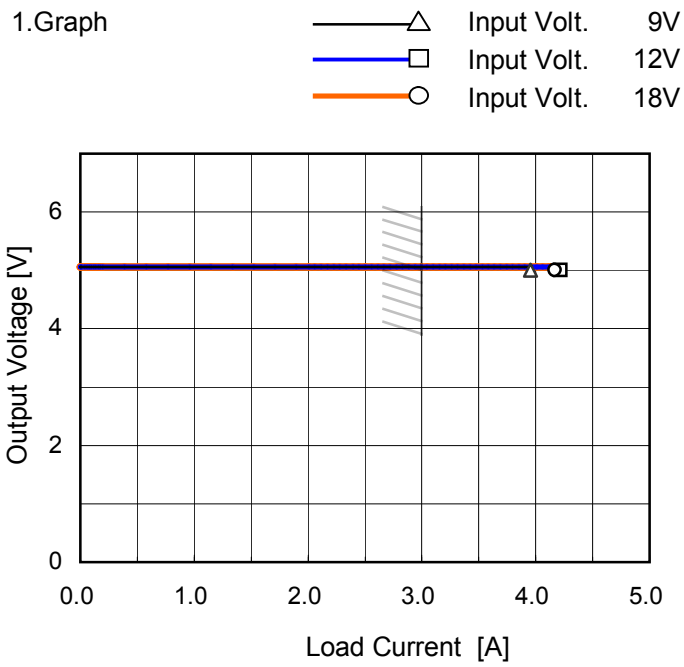
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	8.0	8.0
-40	8.0	8.0
-20	8.0	8.0
0	8.0	8.0
25	8.0	8.0
60	7.9	8.0
65	8.0	8.0
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	MGS151205
Item	Overcurrent Protection
Object	+5V3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

Intermittent operation occurs when overcurrent protection is activated.

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
5.00	3.96	4.22	4.17
4.75	-	-	-
4.50	-	-	-
4.00	-	-	-
3.50	-	-	-
3.00	-	-	-
2.50	-	-	-
2.00	-	-	-
1.50	-	-	-
1.00	-	-	-
0.50	-	-	-
0.00	-	-	-

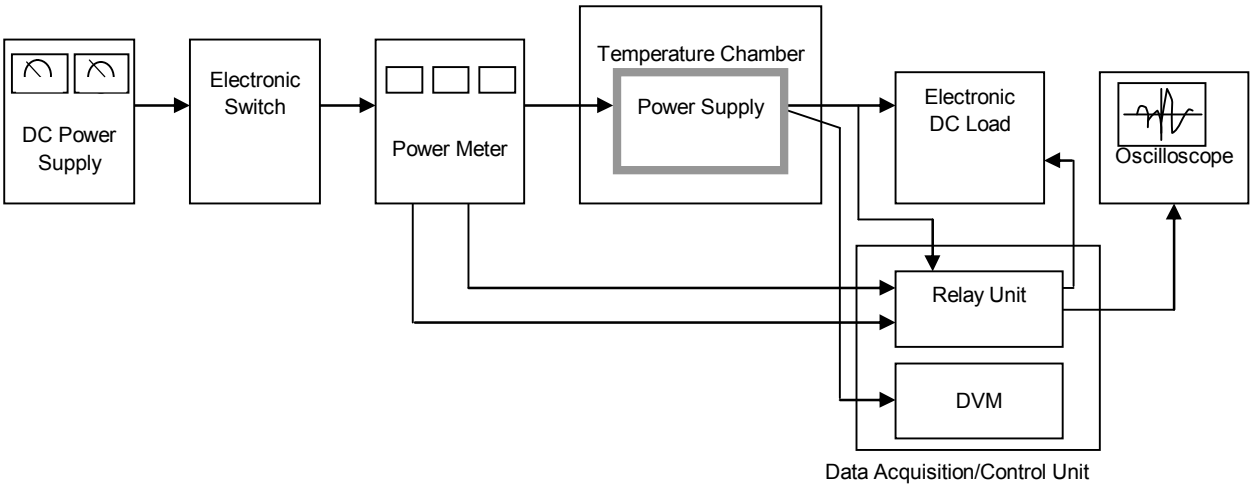


Figure A

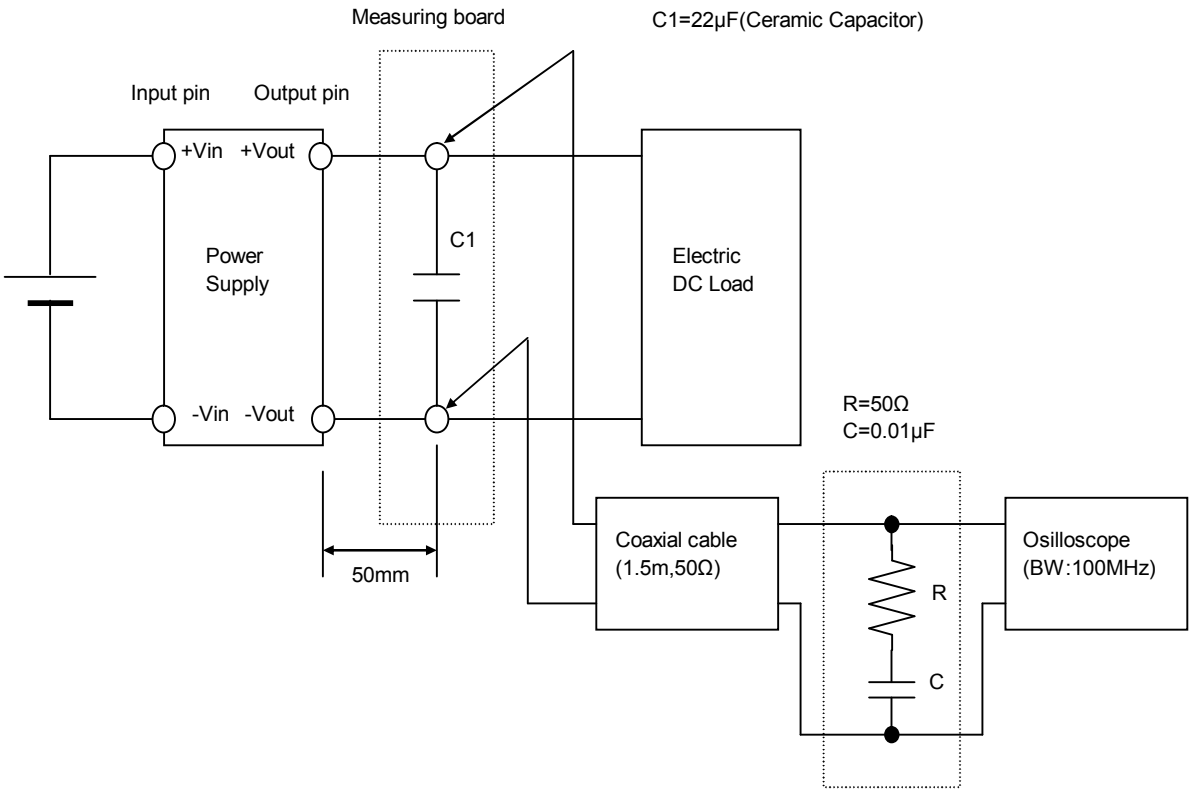


Figure B（Ripple and Ripple noise Characteristic）