COSEL

参考資料

TEST DATA OF MGS152412

Regulated DC Power Supply
September 14, 2010

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COSEL CO.,LTD.

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

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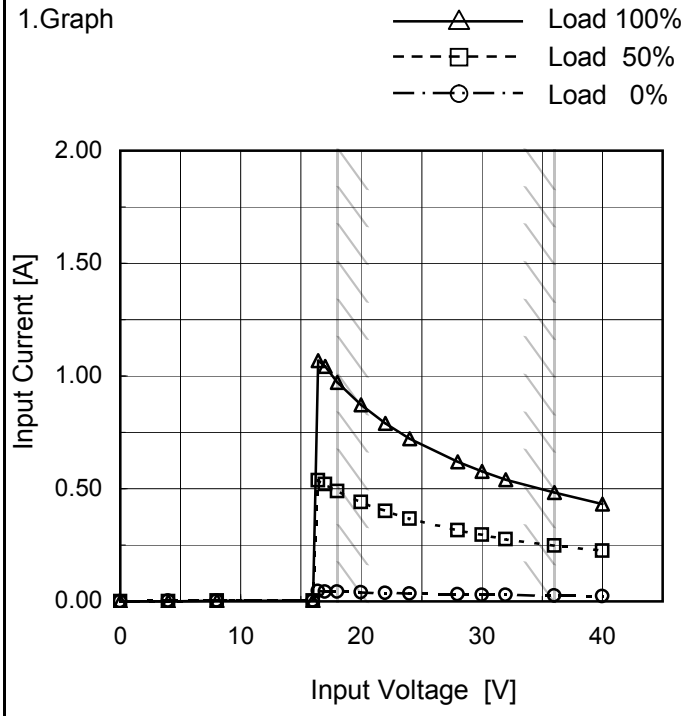


Note: Slanted line shows the range of the rated input voltage.

2.Values

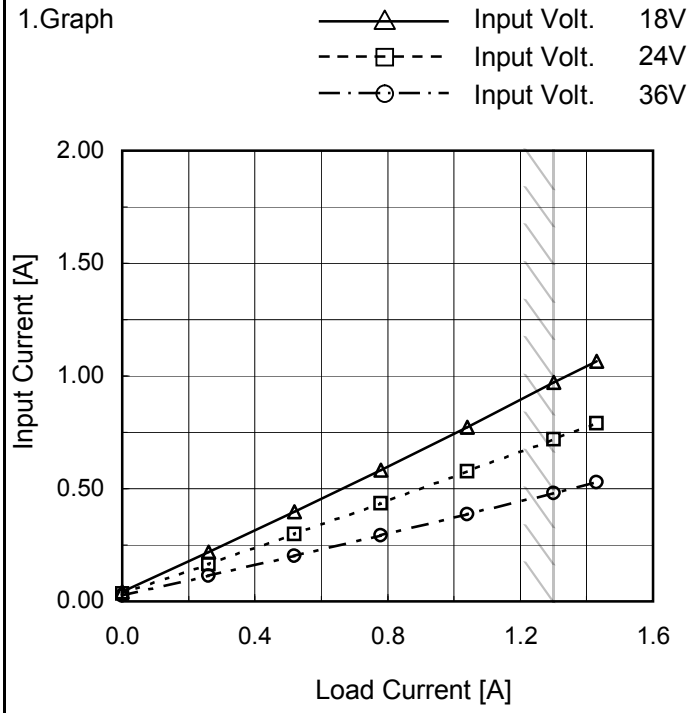
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
4.0	0.002	0.001	0.001
8.0	0.002	0.002	0.002
16.0	0.002	0.003	0.003
16.4	0.045	0.538	1.069
17.0	0.044	0.519	1.044
18.0	0.042	0.490	0.973
20.0	0.038	0.440	0.871
22.0	0.036	0.400	0.789
24.0	0.034	0.367	0.722
28.0	0.030	0.316	0.618
30.0	0.029	0.295	0.577
32.0	0.028	0.277	0.540
36.0	0.025	0.248	0.482
40.0	0.024	0.224	0.433
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGS152412
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

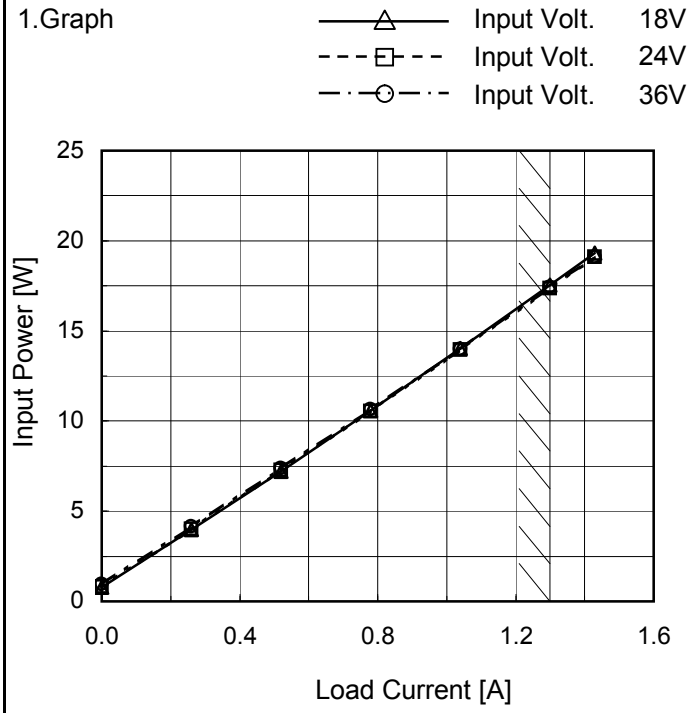
Load Current [A]	Input Current [A]		
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
0.00	0.042	0.034	0.026
0.26	0.218	0.165	0.114
0.52	0.398	0.299	0.203
0.78	0.583	0.436	0.294
1.04	0.772	0.576	0.386
1.30	0.973	0.720	0.480
1.43	1.066	0.790	0.527
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGS152412
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

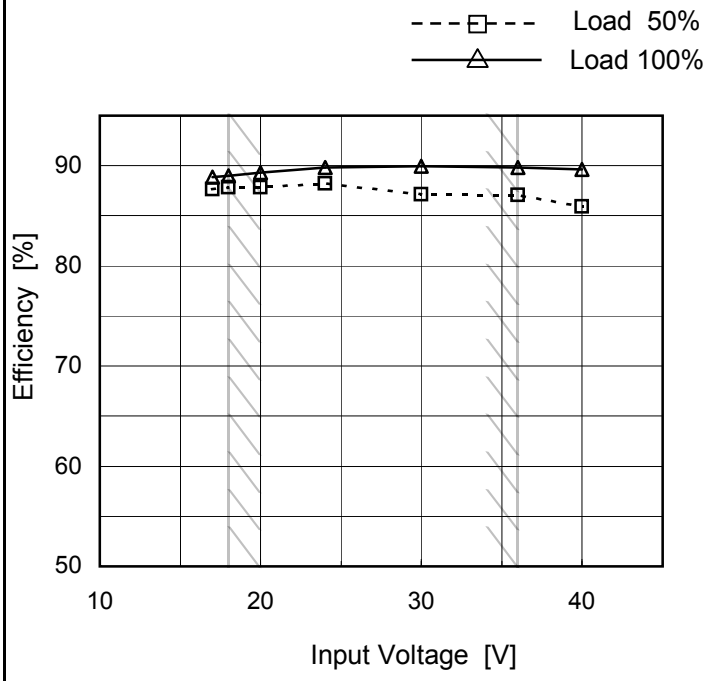
Load Current [A]	Input Power [W]		
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
0.00	0.78	0.81	0.95
0.26	3.97	4.01	4.16
0.52	7.22	7.27	7.37
0.78	10.60	10.55	10.65
1.04	14.01	13.94	13.99
1.30	17.54	17.35	17.42
1.43	19.33	19.10	19.09
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGS152412
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%
17	87.7	88.8
18	87.8	89.0
20	87.8	89.3
24	88.2	89.8
30	87.1	89.9
36	87.1	89.8
40	85.9	89.6
--	-	-
--	-	-

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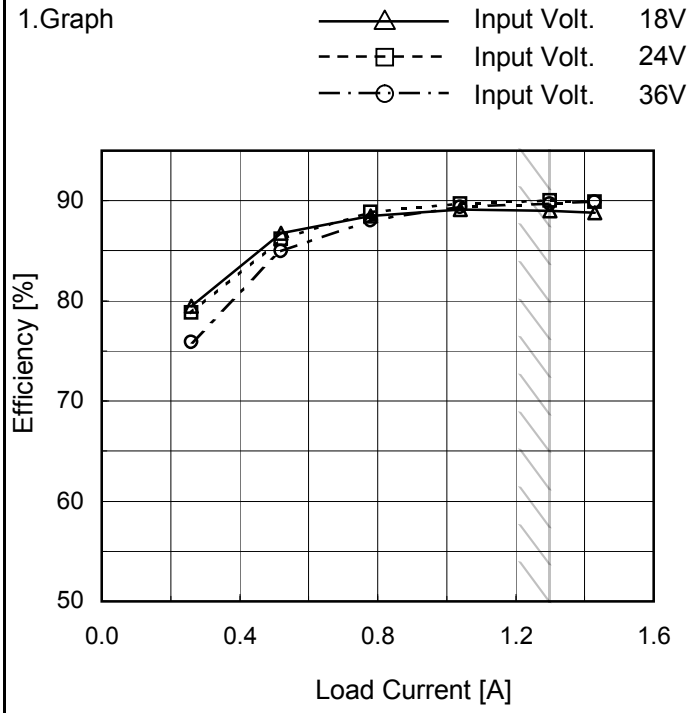
Model	MGS152412
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

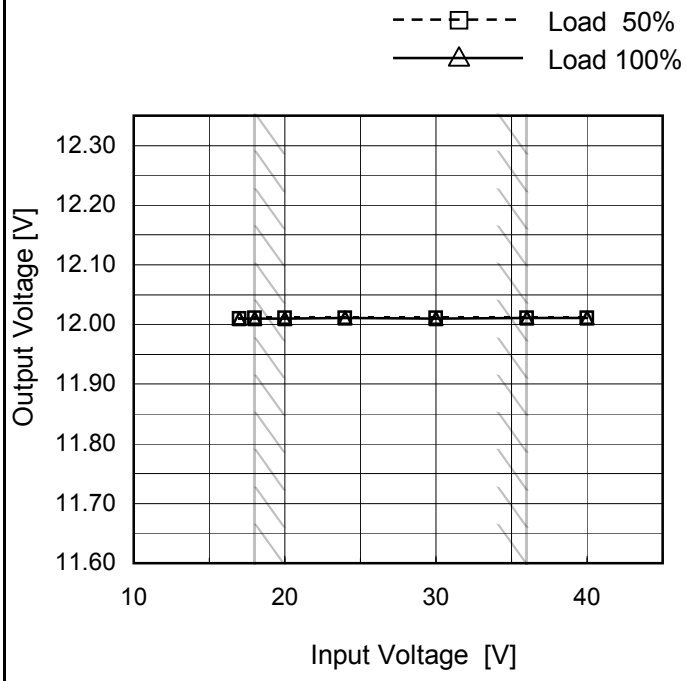
Load Current [A]	Efficiency [%]		
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
0.00	-	-	-
0.26	79.5	78.8	75.9
0.52	86.7	86.2	84.9
0.78	88.5	88.9	88.0
1.04	89.1	89.7	89.3
1.30	89.0	90.0	89.7
1.43	88.8	89.9	89.9
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGS152412
Item	Line Regulation
Object	+12V1.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

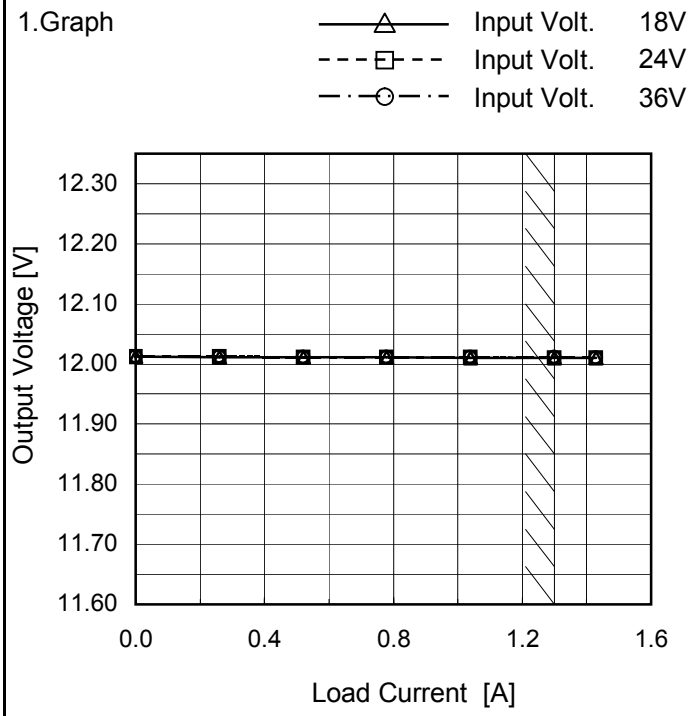
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
17	12.010	12.010
18	12.011	12.010
20	12.011	12.010
24	12.011	12.011
30	12.011	12.010
36	12.011	12.011
40	12.011	12.011
--	-	-
--	-	-

COSEL

Model	MGS152412
Item	Load Regulation
Object	+12V1.3A

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. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
0.00	12.012	12.012	12.012
0.26	12.012	12.012	12.012
0.52	12.011	12.012	12.011
0.78	12.011	12.011	12.011
1.04	12.010	12.011	12.011
1.30	12.010	12.011	12.011
1.43	12.010	12.010	12.011
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

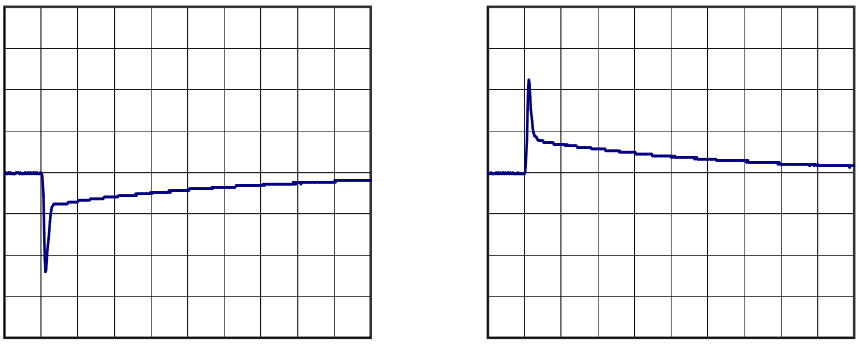
COSEL

Model	MGS152412
Item	Dynamic Load Response
Object	+12V1.3A

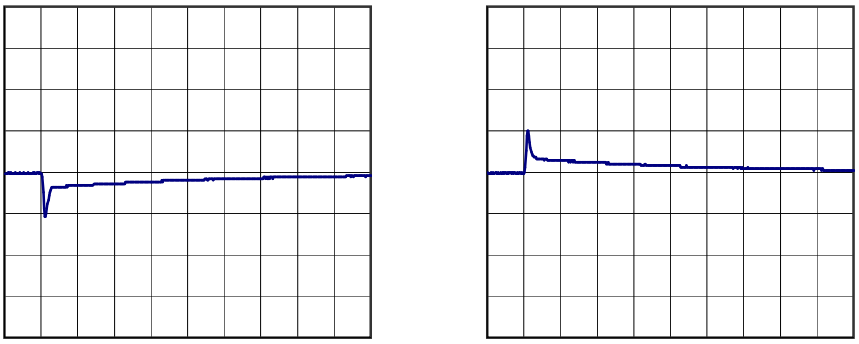
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 24 V
Cycle 1000 ms

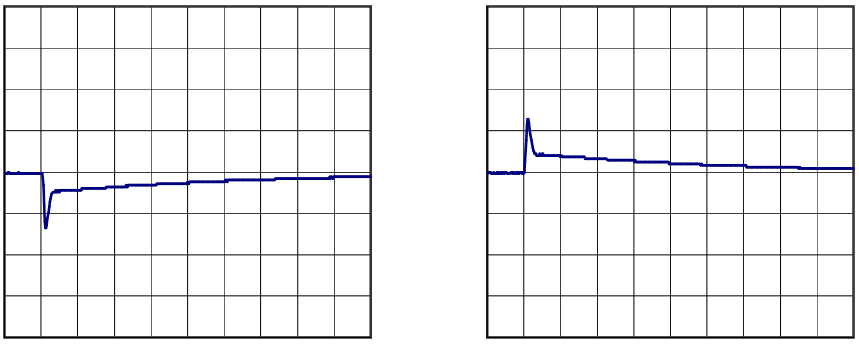
Min. Load (0A) ⟷
Load 100% (1.3A)



Min. Load (0A) ⟷
Load 50% (0.65A)



Load 50% (0.65A) ⟷
Load 100% (1.3A)



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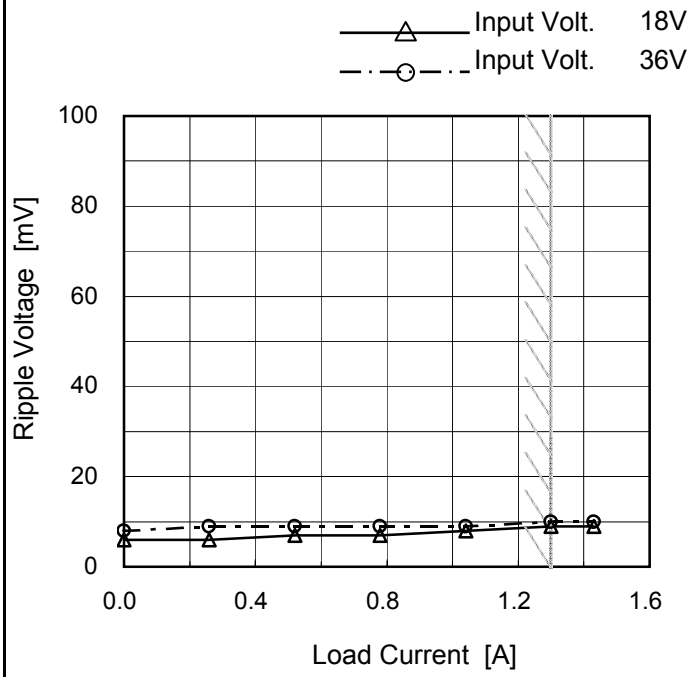
Model	MGS152412
Item	Ripple Voltage (by Load Current)
Object	+12V1.3A

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]

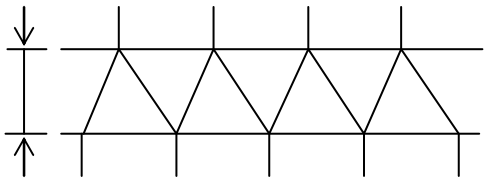


Fig.Complex Ripple Wave Form

2.Values

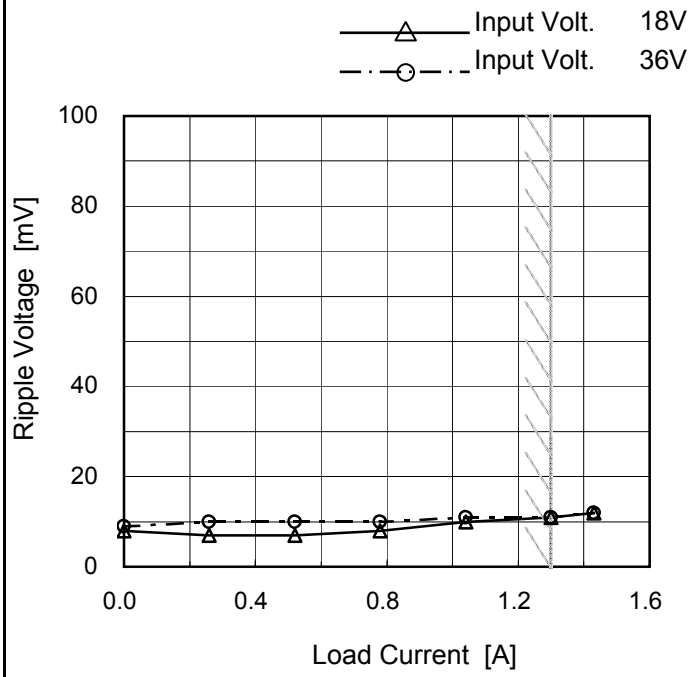
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 18 [V]	Input Volt. 36 [V]
0.00	6	8
0.26	6	9
0.52	7	9
0.78	7	9
1.04	8	9
1.30	9	10
1.43	9	10
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	MGS152412
Item	Ripple-Noise
Object	+12V1.3A

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.

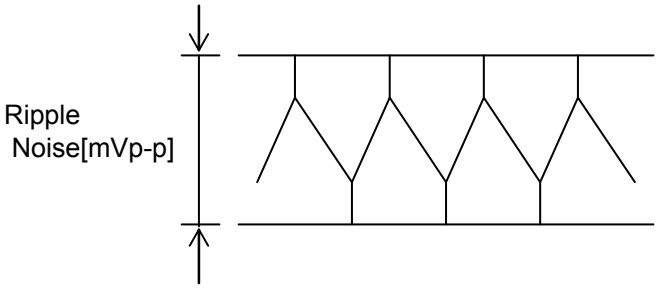


Fig.Complex Ripple Noise Wave Form

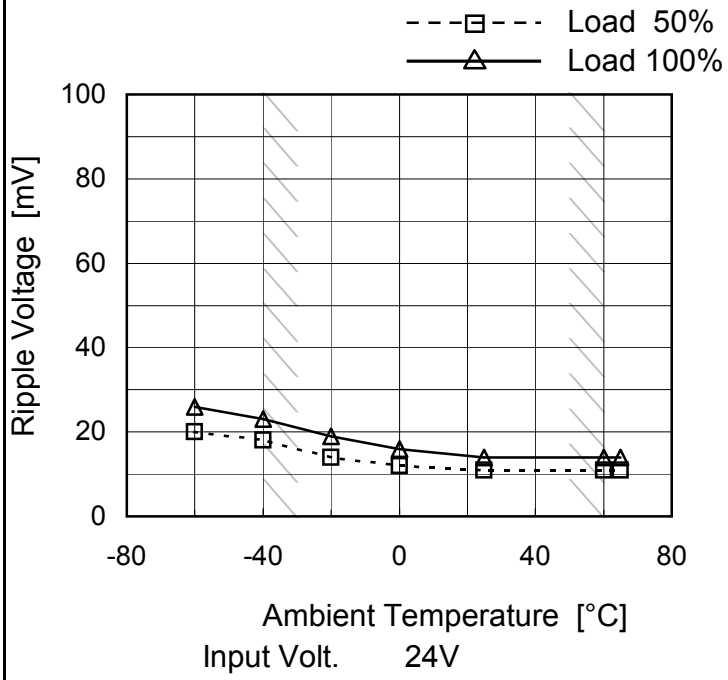
2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 18 [V]	Input Volt. 36 [V]
0.00	8	9
0.26	7	10
0.52	7	10
0.78	8	10
1.04	10	11
1.30	11	11
1.43	12	12
--	-	-
--	-	-
--	-	-
--	-	-

Model	MGS152412
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V1.3A

Testing Circuitry Figure B

1.Graph



Input Volt. 24V

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

2.Values

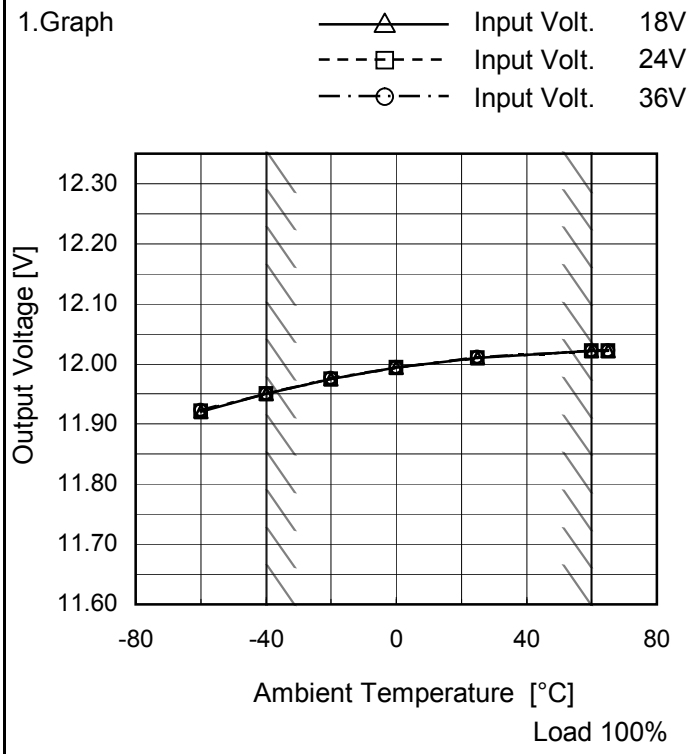
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	20	26
-40	18	23
-20	14	19
0	12	16
25	11	14
60	11	14
65	11	14
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	MGS152412
Item	Ambient Temperature Drift
Object	+12V1.3A

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. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
-60	11.921	11.922	11.923
-40	11.950	11.951	11.951
-20	11.975	11.975	11.976
0	11.994	11.994	11.995
25	12.010	12.010	12.011
60	12.022	12.022	12.022
65	12.022	12.022	12.022
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGS152412	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+12V1.3A	

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 : 18 - 36V
Load Current : 0 - 1.3A

* 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

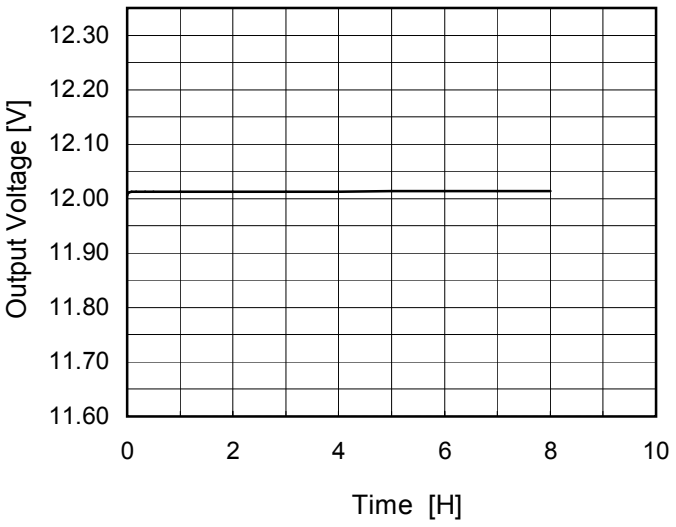
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	60	24	0	12.024	±37	±0.3
Minimum Voltage	-40	18	1.3	11.950		

COSEL

Model	MGS152412
Item	Time Lapse Drift
Object	+12V1.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 24V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	12.006
0.5	12.013
1.0	12.013
2.0	12.013
3.0	12.013
4.0	12.013
5.0	12.014
6.0	12.013
7.0	12.014
8.0	12.014

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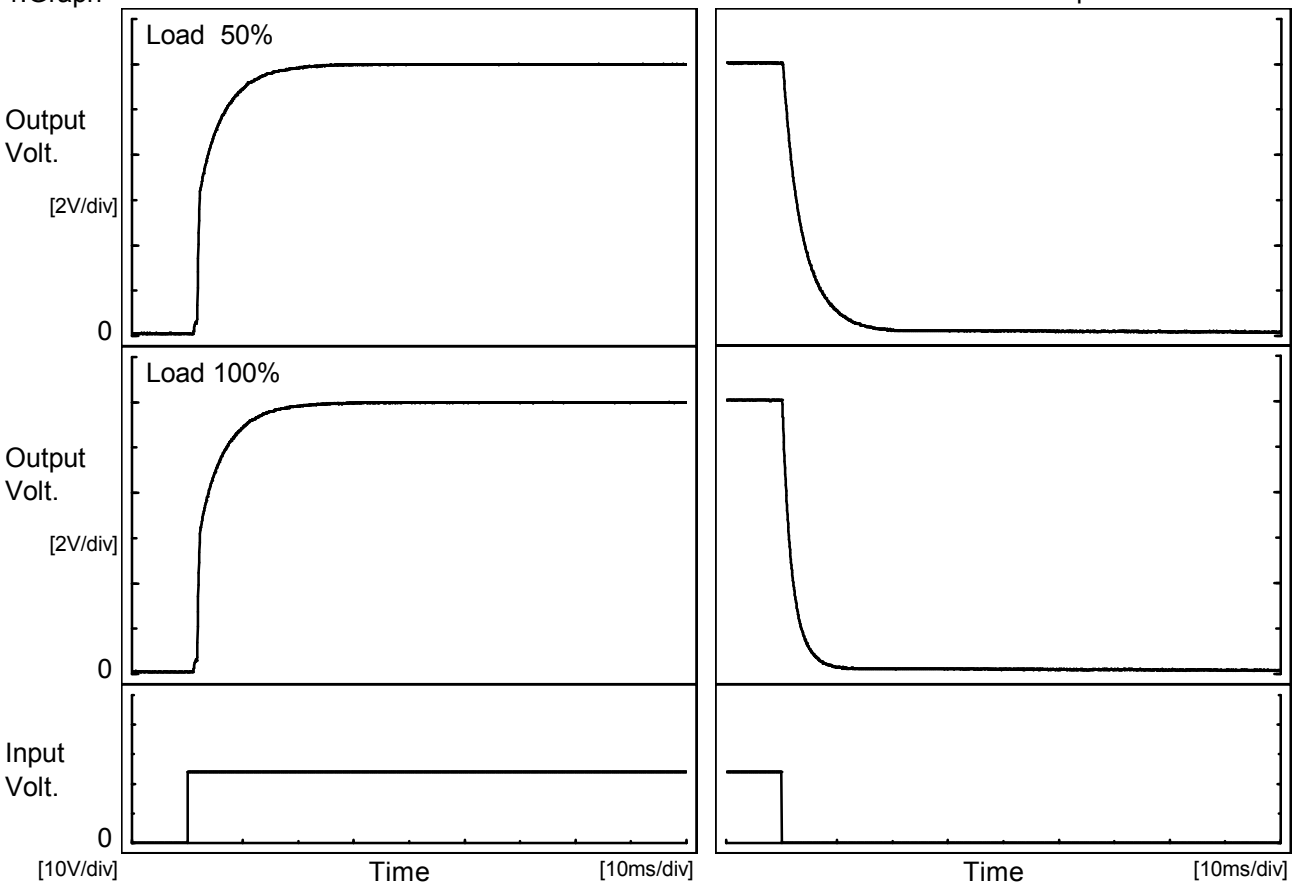
Model	MGS152412	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+12V1.3A	

1.Graph

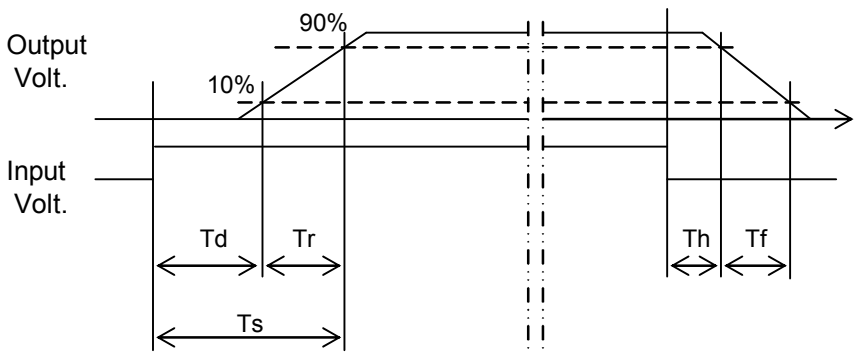
Input Volt. 24 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	1.8	8.0	9.8	0.5	8.6
100 %	1.8	8.2	10.0	0.3	4.3

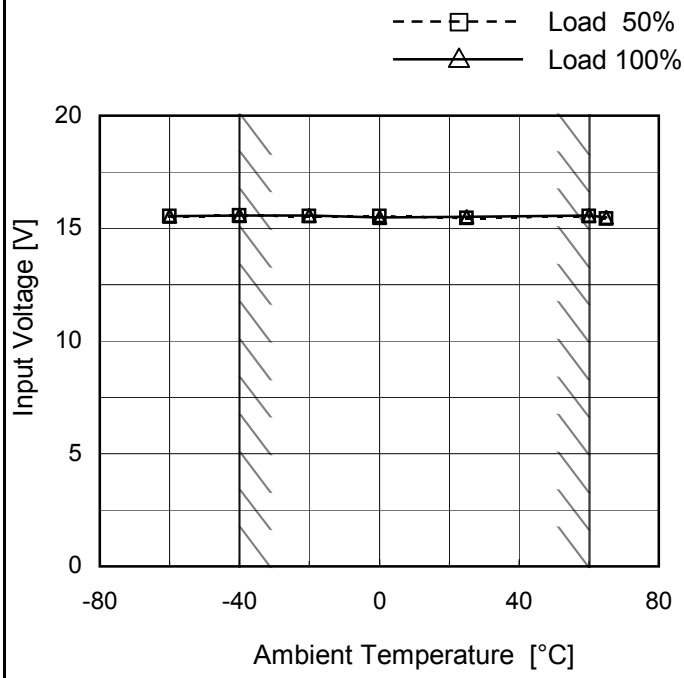


COSEL

Model	MGS152412
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V1.3A

Testing Circuitry Figure A

1.Graph



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

2.Values

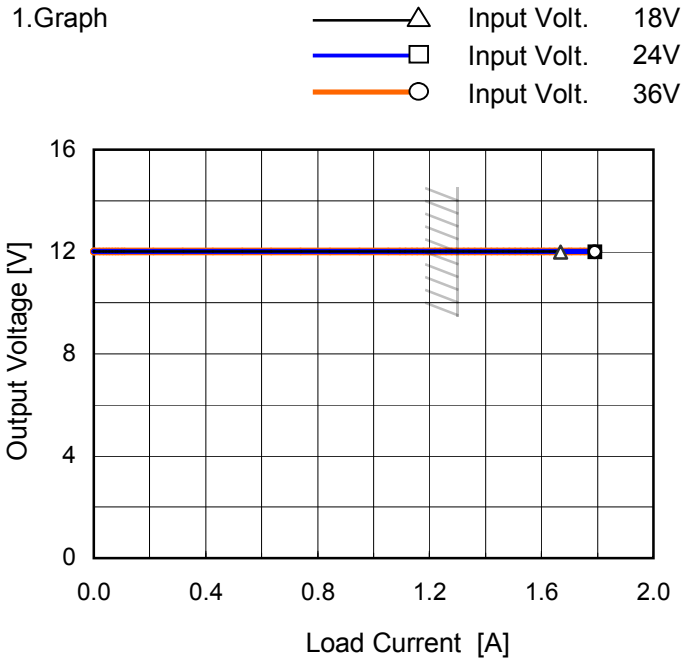
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	15.6	15.6
-40	15.6	15.6
-20	15.6	15.6
0	15.6	15.5
25	15.5	15.5
60	15.6	15.6
65	15.5	15.5
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	MGS152412
Item	Overcurrent Protection
Object	+12V1.3A

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. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
12.0	1.67	1.79	1.79
11.4	-	-	-
10.8	-	-	-
9.6	-	-	-
8.4	-	-	-
7.2	-	-	-
6.0	-	-	-
4.8	-	-	-
3.6	-	-	-
2.4	-	-	-
1.2	-	-	-
0.0	-	-	-

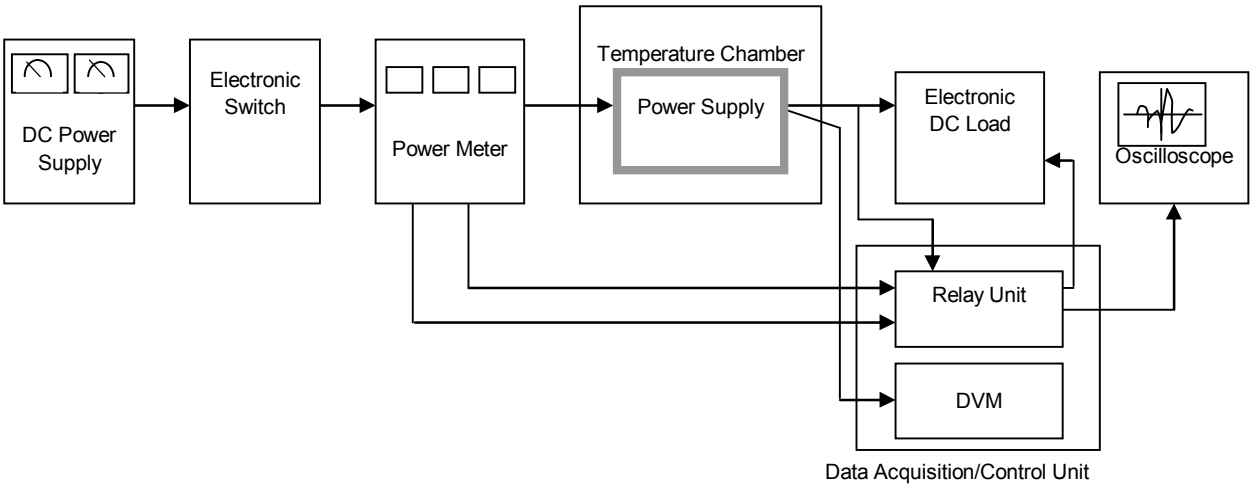


Figure A

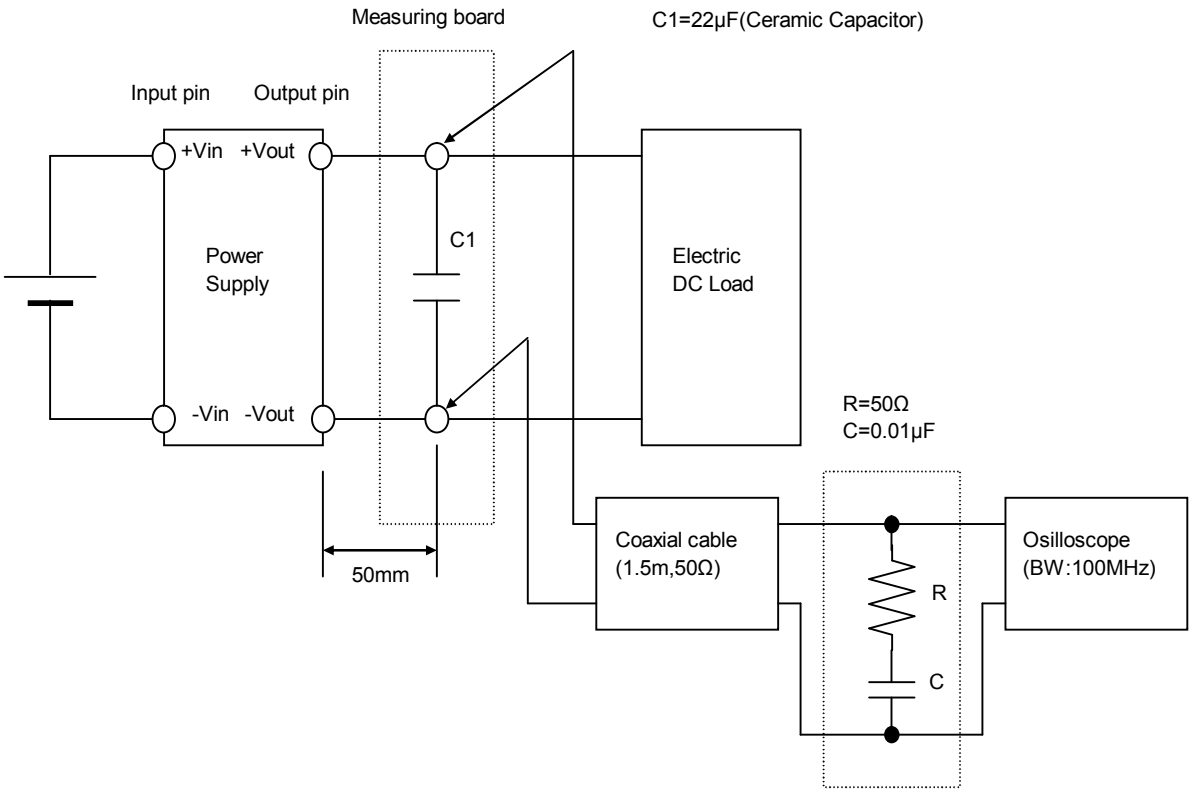


Figure B（Ripple and Ripple noise Characteristic）