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参考資料

TEST DATA OF MGFS154815

Regulated DC Power Supply

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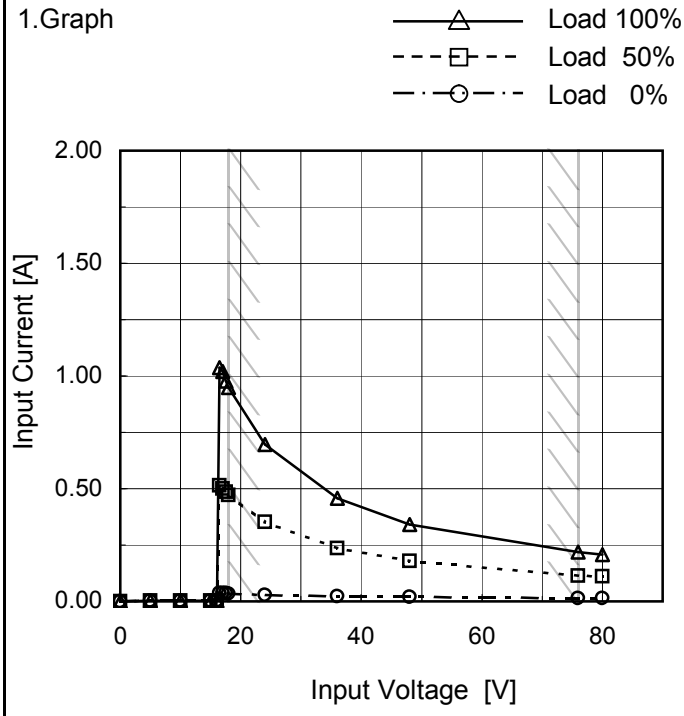
Model	MGFS154815
Item	Input Current (by Input Voltage)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

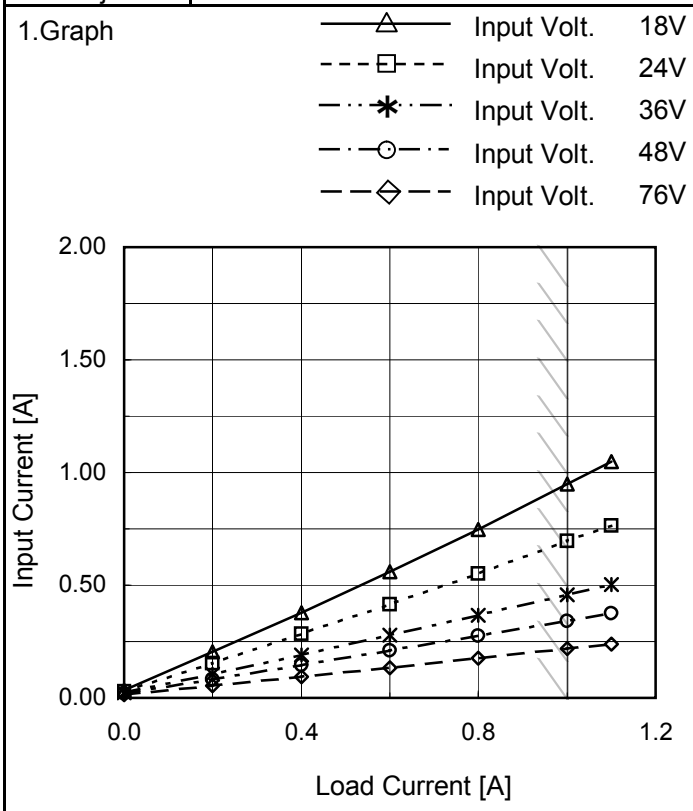
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
5.0	0.002	0.002	0.002
10.0	0.002	0.002	0.002
15.0	0.002	0.002	0.002
16.0	0.002	0.002	0.002
16.5	0.038	0.515	1.037
17.0	0.037	0.501	1.021
17.5	0.036	0.486	0.978
18.0	0.035	0.472	0.950
24.0	0.029	0.352	0.696
36.0	0.022	0.236	0.458
48.0	0.019	0.178	0.342
76.0	0.014	0.115	0.218
80.0	0.014	0.110	0.208
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MGFS154815
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]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.035	0.029	0.023	0.019	0.015
0.2	0.204	0.155	0.106	0.082	0.054
0.4	0.378	0.283	0.191	0.145	0.094
0.6	0.560	0.415	0.278	0.209	0.135
0.8	0.748	0.552	0.366	0.275	0.176
1.0	0.950	0.696	0.457	0.342	0.218
1.1	1.047	0.765	0.504	0.376	0.240
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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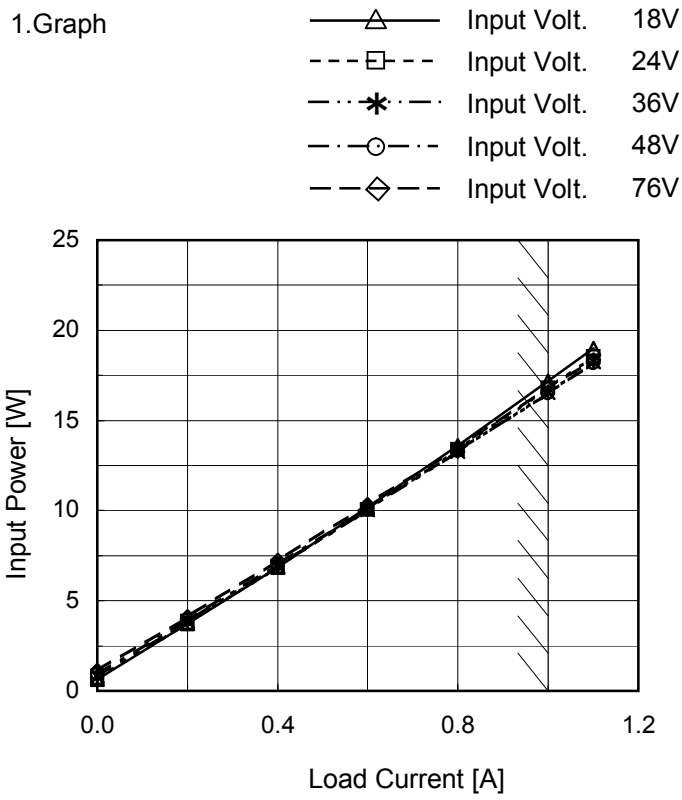
Model	MGFS154815
Item	Input Power (by Load Current)
Object	————————

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]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.64	0.72	0.83	0.93	1.15
0.2	3.72	3.78	3.88	3.95	4.13
0.4	6.87	6.88	6.93	7.03	7.25
0.6	10.19	10.05	10.06	10.12	10.34
0.8	13.60	13.40	13.28	13.31	13.49
1.0	17.17	16.78	16.54	16.52	16.85
1.1	19.00	18.53	18.27	18.19	18.35
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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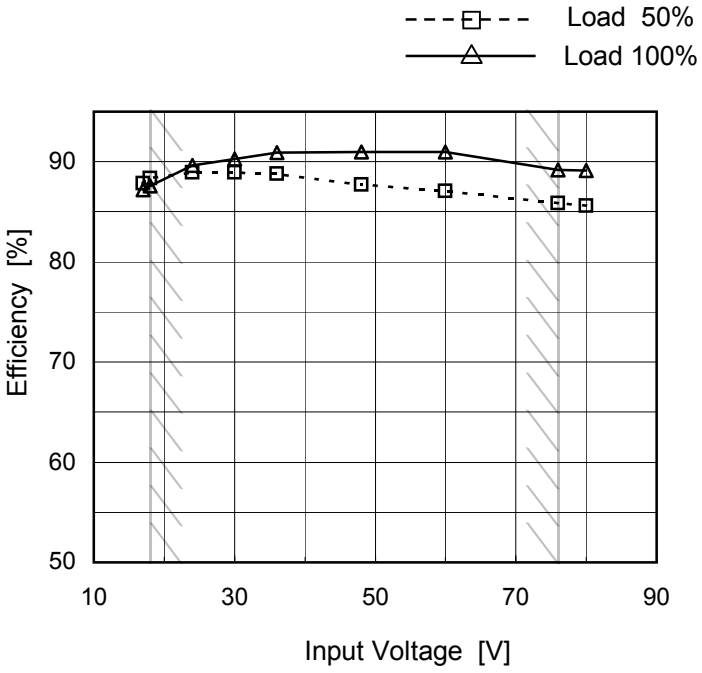
Model	MGFS154815
Item	Efficiency (by Input Voltage)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

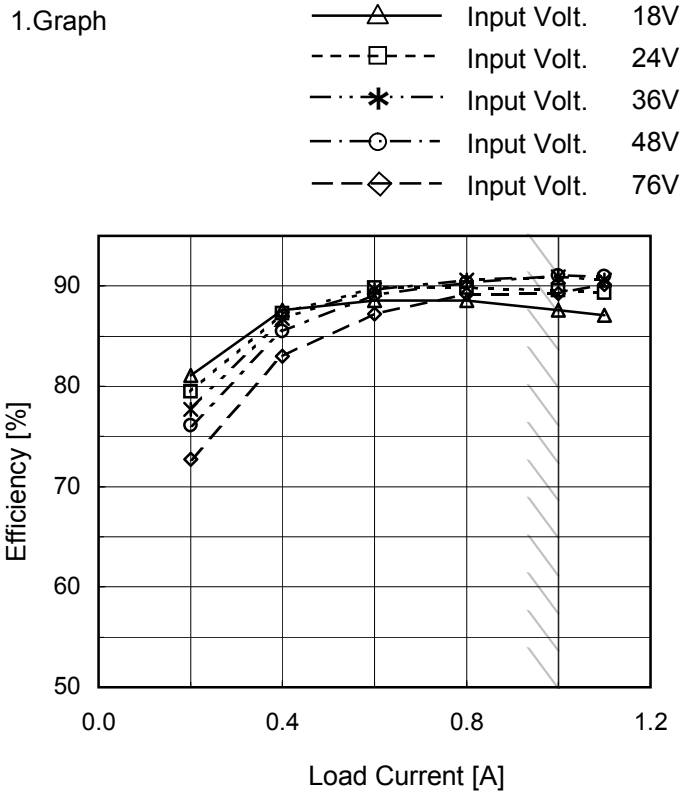
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
17	87.9	87.2
18	88.4	87.6
24	88.9	89.6
30	88.9	90.3
36	88.8	90.9
48	87.7	91.0
60	87.1	91.0
76	85.8	89.2
80	85.6	89.1

COSEL

Model	MGFS154815
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]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	-	-	-	-	-
0.2	81.1	79.5	77.7	76.1	72.8
0.4	87.6	87.3	86.7	85.5	83.0
0.6	88.5	89.8	89.6	89.1	87.2
0.8	88.5	89.9	90.6	90.4	89.2
1.0	87.6	89.6	90.9	91.0	89.2
1.1	87.1	89.3	90.6	91.0	90.2
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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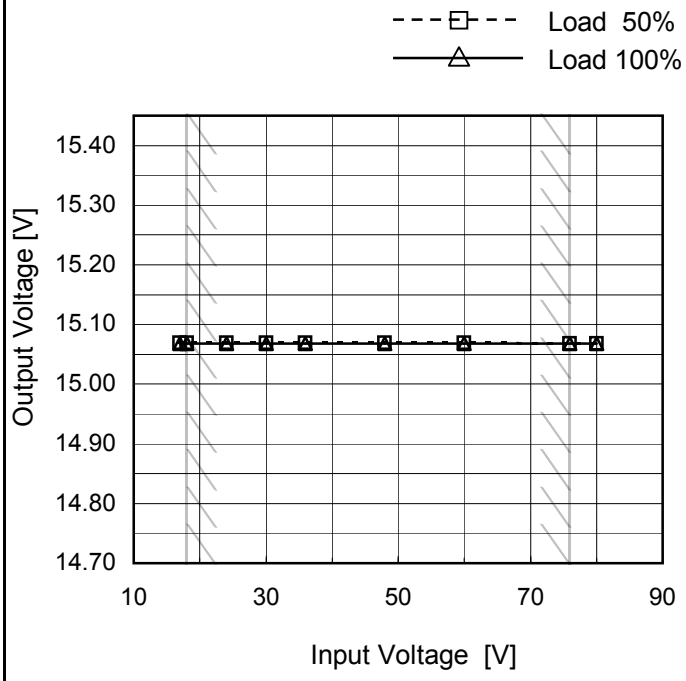
Model	MGFS154815
Item	Line Regulation
Object	+15V1A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

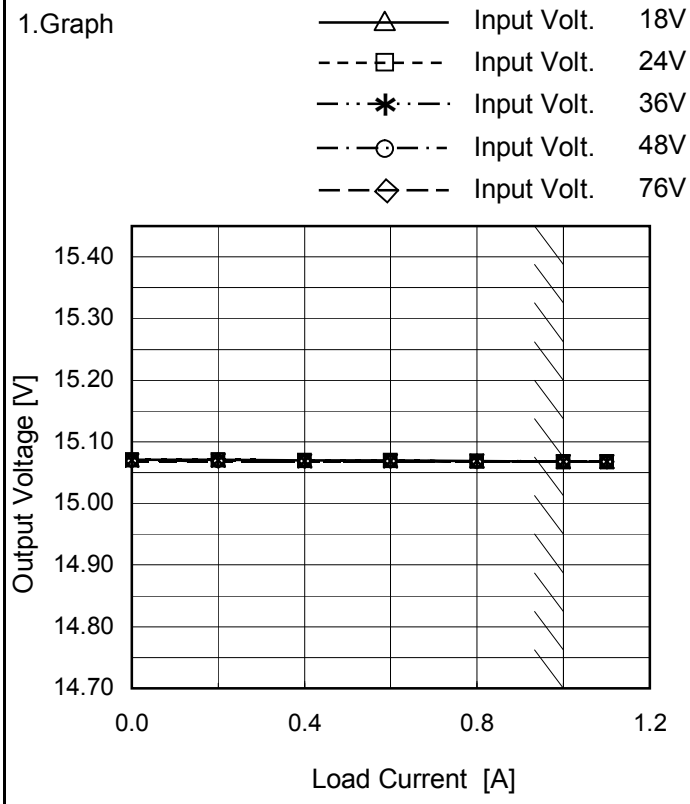
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
17	15.070	15.068
18	15.070	15.068
24	15.069	15.068
30	15.069	15.068
36	15.069	15.069
48	15.069	15.069
60	15.069	15.069
76	15.068	15.068
80	15.068	15.068

COSEL

Model	MGFS154815
Item	Load Regulation
Object	+15V1A

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]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	15.071	15.071	15.070	15.069	15.069
0.2	15.071	15.070	15.070	15.069	15.069
0.4	15.070	15.070	15.069	15.069	15.069
0.6	15.070	15.070	15.069	15.069	15.069
0.8	15.069	15.069	15.068	15.068	15.068
1.0	15.068	15.068	15.068	15.068	15.068
1.1	15.067	15.068	15.068	15.068	15.067
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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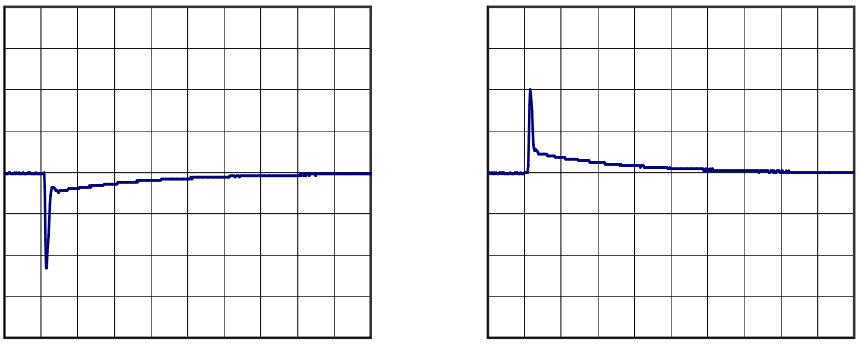
Model	MGFS154815
Item	Dynamic Load Response
Object	+15V1A

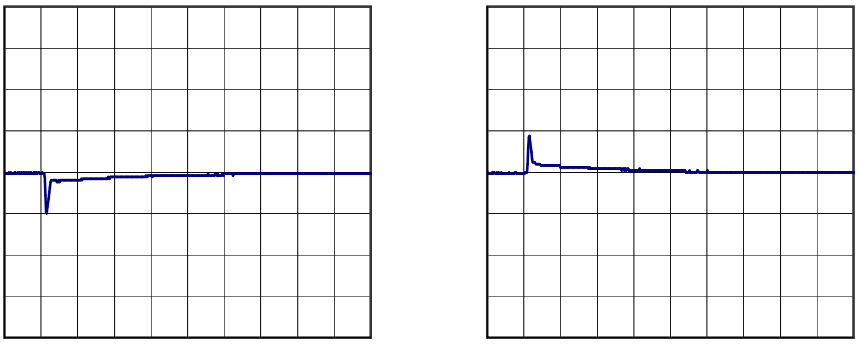
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 48 V
Cycle 1000 ms

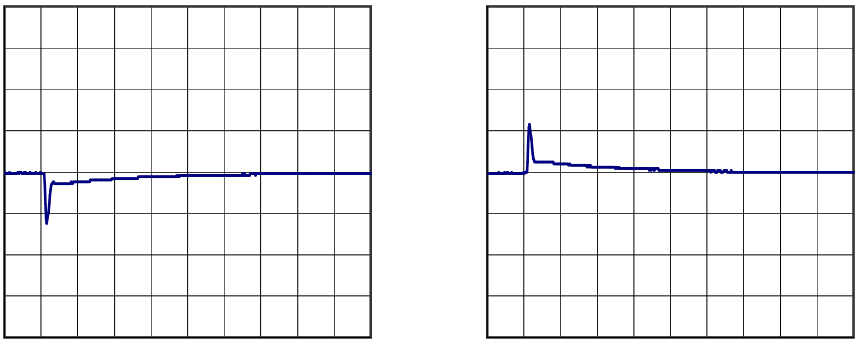
Min. Load (0A) ⟷ Load 100% (1A)



Min. Load (0A) ⟷ Load 50% (0.5A)



Load 50% (0.5A) ⟷ Load 100% (1A)



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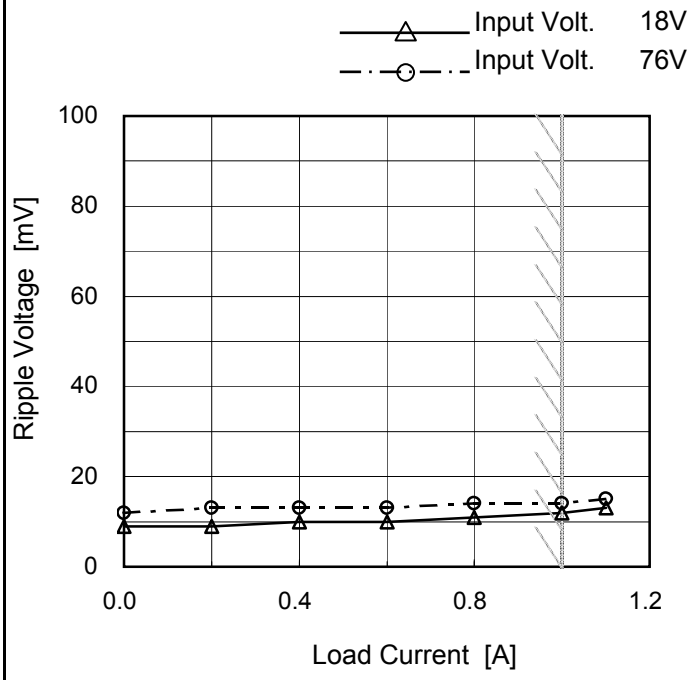
Model	MGFS154815
Item	Ripple Voltage (by Load Current)
Object	+15V1A

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]

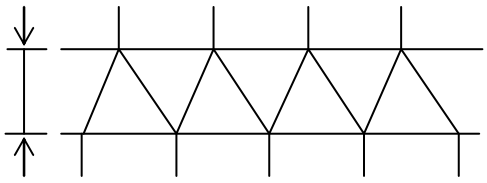


Fig.Complex Ripple Wave Form

2.Values

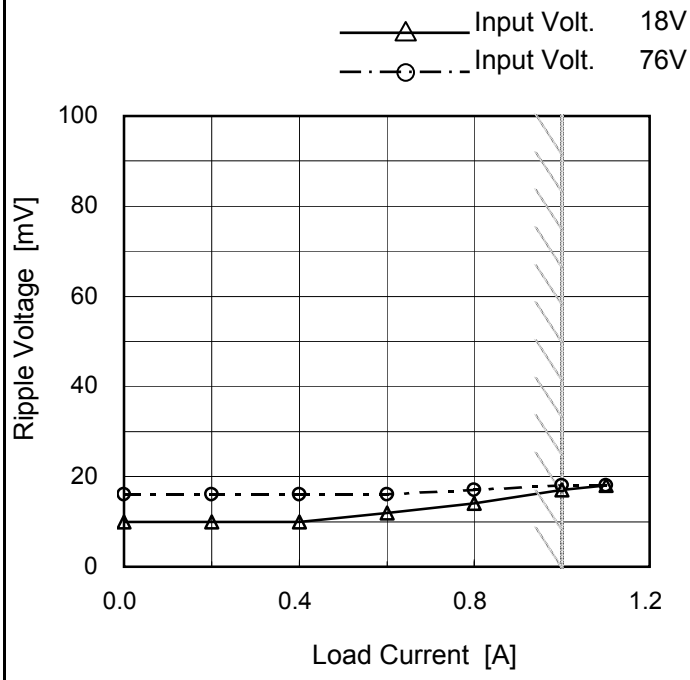
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.0	9	12
0.2	9	13
0.4	10	13
0.6	10	13
0.8	11	14
1.0	12	14
1.1	13	15
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	MGFS154815
Item	Ripple-Noise
Object	+15V1A

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.

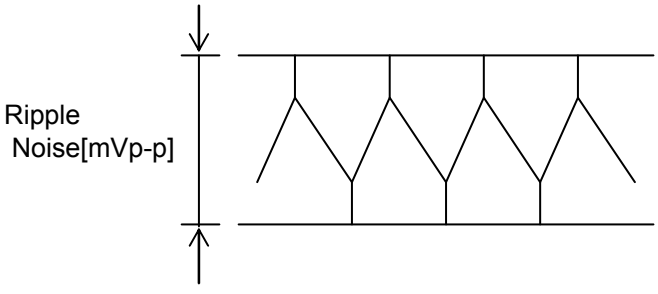


Fig.Complex Ripple Noise Wave Form

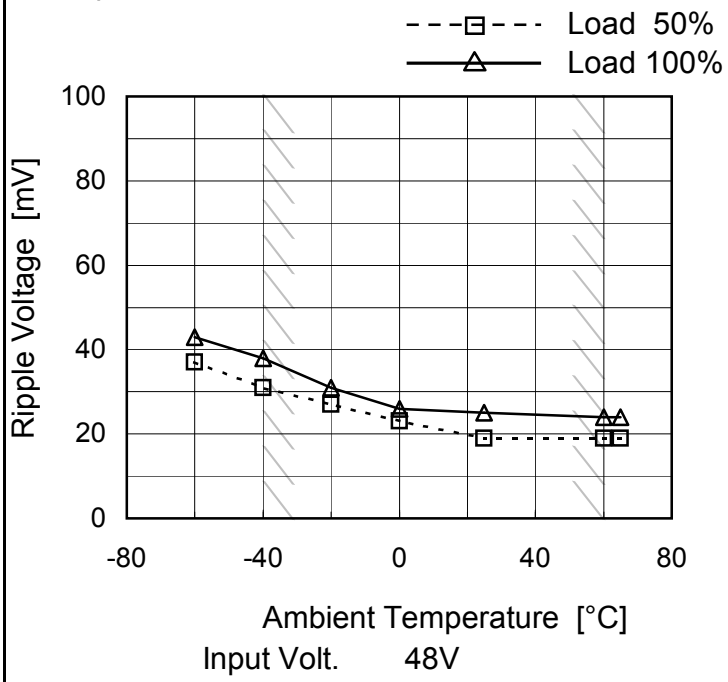
2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.0	10	16
0.2	10	16
0.4	10	16
0.6	12	16
0.8	14	17
1.0	17	18
1.1	18	18
--	-	-
--	-	-
--	-	-
--	-	-

Model	MGFS154815
Item	Ripple Voltage (by Ambient Temp.)
Object	+15V1A

Testing Circuitry Figure B

1.Graph



Input Volt. 48V

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	37	43
-40	31	38
-20	27	31
0	23	26
25	19	25
60	19	24
65	19	24
--	-	-
--	-	-
--	-	-
--	-	-

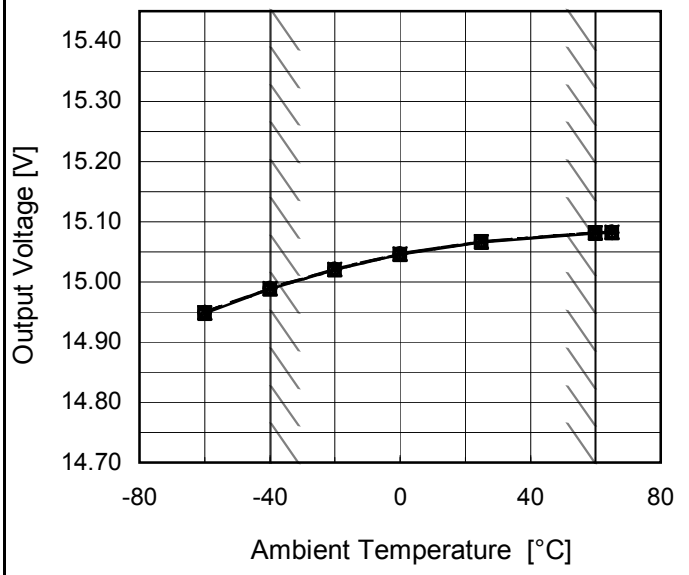
COSEL

Model	MGFS154815
Item	Ambient Temperature Drift
Object	+15V1A

Testing Circuitry Figure A

1.Graph

Input Volt. 18V
Input Volt. 24V
Input Volt. 36V
Input Volt. 48V
Input Volt. 76V



Load 100%

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]	Input Volt. 48[V]	Input Volt. 76[V]
-60	14.947	14.949	14.949	14.949	14.950
-40	14.988	14.989	14.989	14.990	14.990
-20	15.020	15.020	15.021	15.021	15.021
0	15.045	15.046	15.047	15.047	15.047
25	15.066	15.067	15.067	15.068	15.067
60	15.081	15.081	15.082	15.082	15.082
65	15.082	15.082	15.083	15.083	15.082
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

COSEL

Model	MGFS154815	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+15V1A	

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 - 76V
Load Current : 0 - 1A

* 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

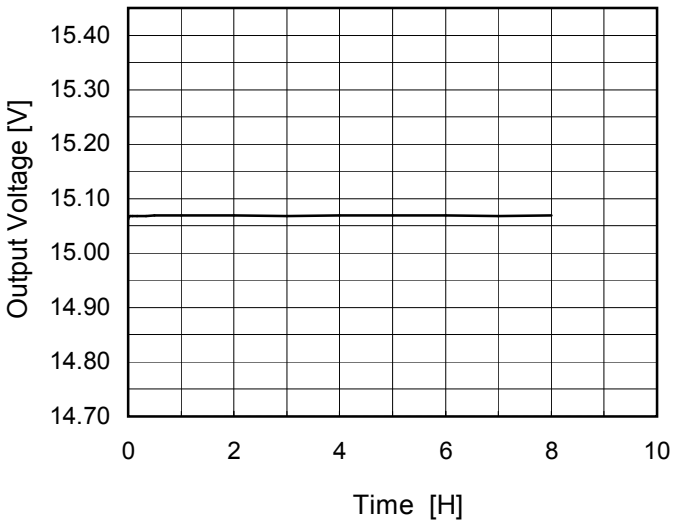
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	60	18	0	15.084	±48	±0.3
Minimum Voltage	-40	18	1	14.988		

COSEL

Model	MGFS154815
Item	Time Lapse Drift
Object	+15V1A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 48V
Load 100%

2.Values

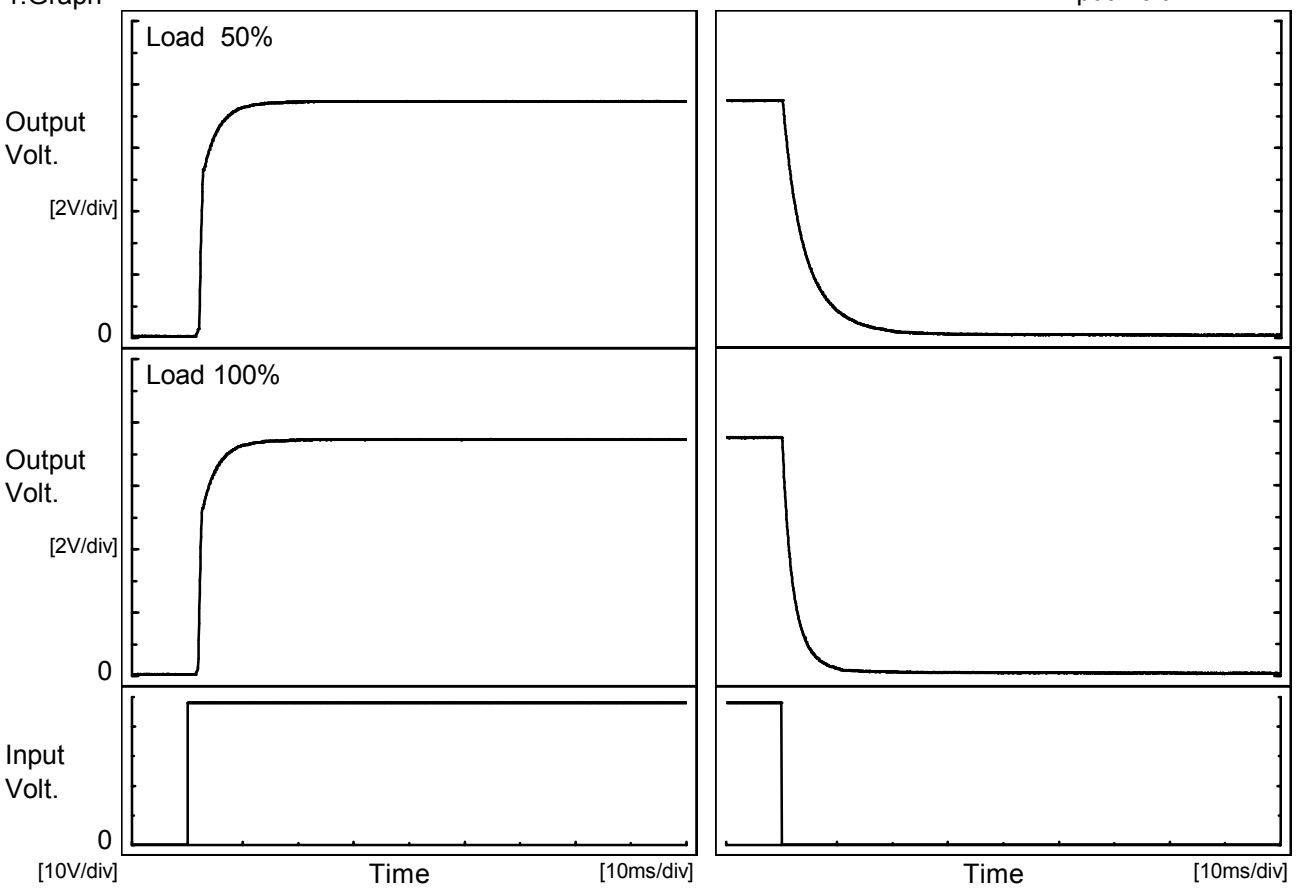
Time since start [H]	Output Voltage [V]
0.0	15.062
0.5	15.069
1.0	15.069
2.0	15.069
3.0	15.069
4.0	15.069
5.0	15.069
6.0	15.069
7.0	15.069
8.0	15.069

COSEL

Model	MGFS154815	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+15V1A	

1.Graph

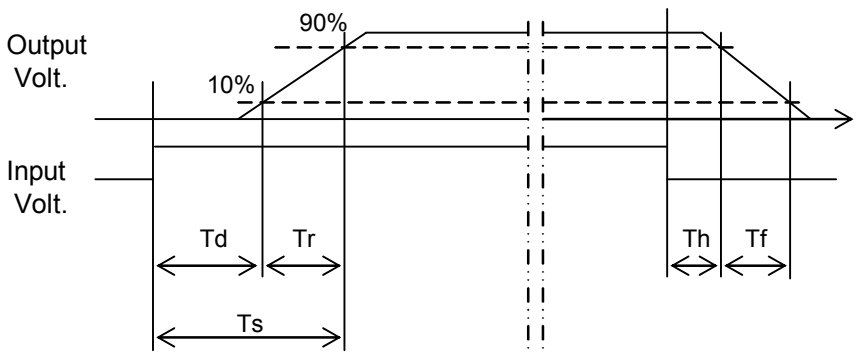
Input Volt. 48 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	2.2	4.1	6.3	0.5	9.9
100 %	2.1	4.2	6.3	0.3	5.1

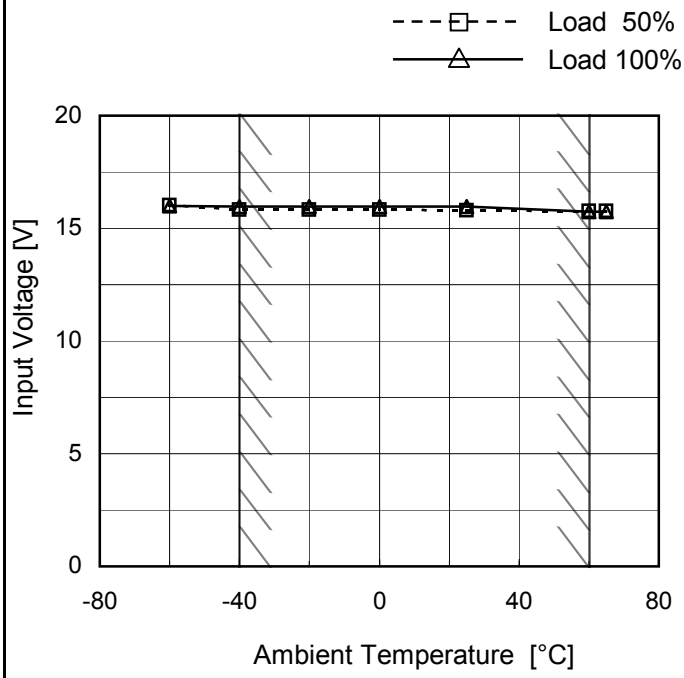


COSEL

Model	MGFS154815
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+15V1A

Testing Circuitry Figure A

1.Graph



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

2.Values

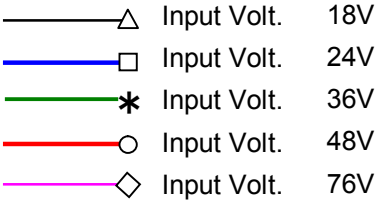
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	16.1	16.0
-40	15.9	16.0
-20	15.9	16.0
0	15.9	16.0
25	15.8	16.0
60	15.8	15.8
65	15.8	15.8
--	-	-
--	-	-
--	-	-
--	-	-

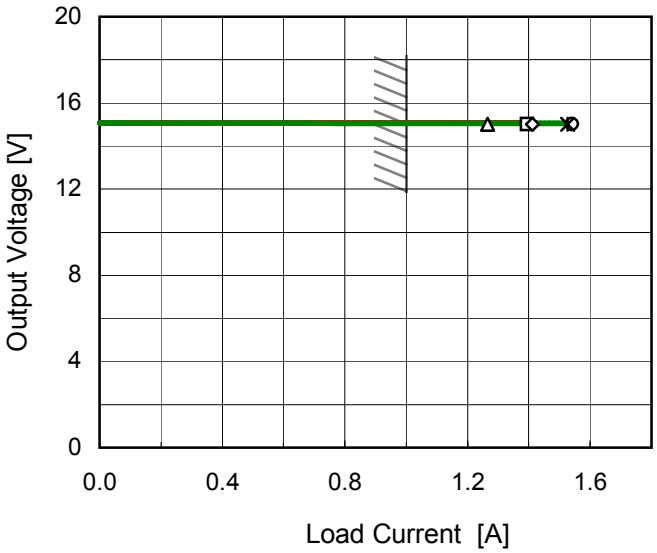
COSEL

Model	MGFS154815
Item	Overcurrent Protection
Object	+15V1A

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]	Input Volt. 48[V]	Input Volt. 76[V]
15.0	1.265	1.395	1.526	1.542	1.411
14.3	-	-	-	-	-
13.5	-	-	-	-	-
12.0	-	-	-	-	-
10.5	-	-	-	-	-
9.0	-	-	-	-	-
7.5	-	-	-	-	-
6.0	-	-	-	-	-
4.5	-	-	-	-	-
3.0	-	-	-	-	-
1.5	-	-	-	-	-
0.0	-	-	-	-	-

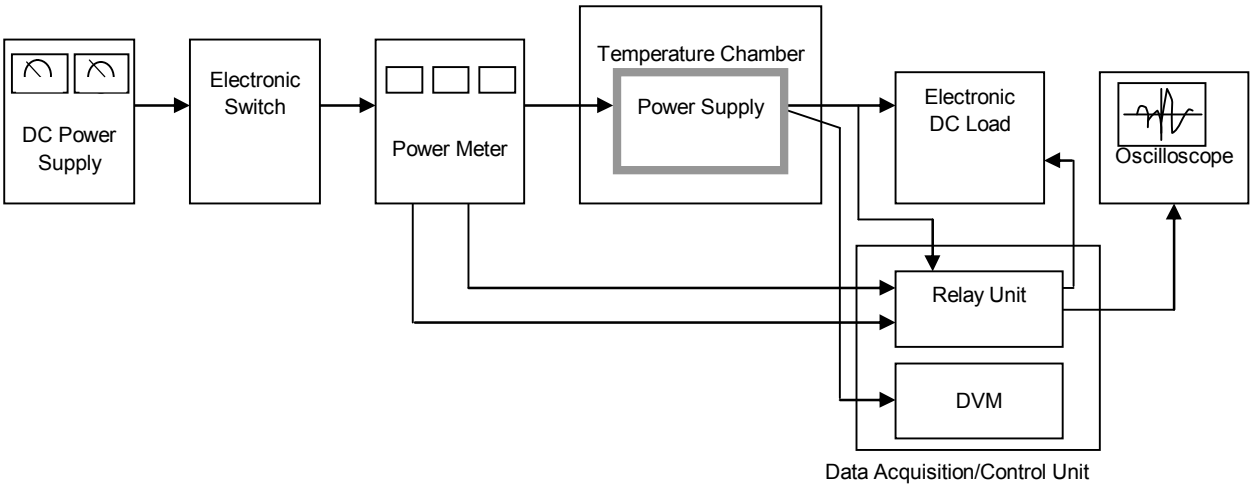


Figure A

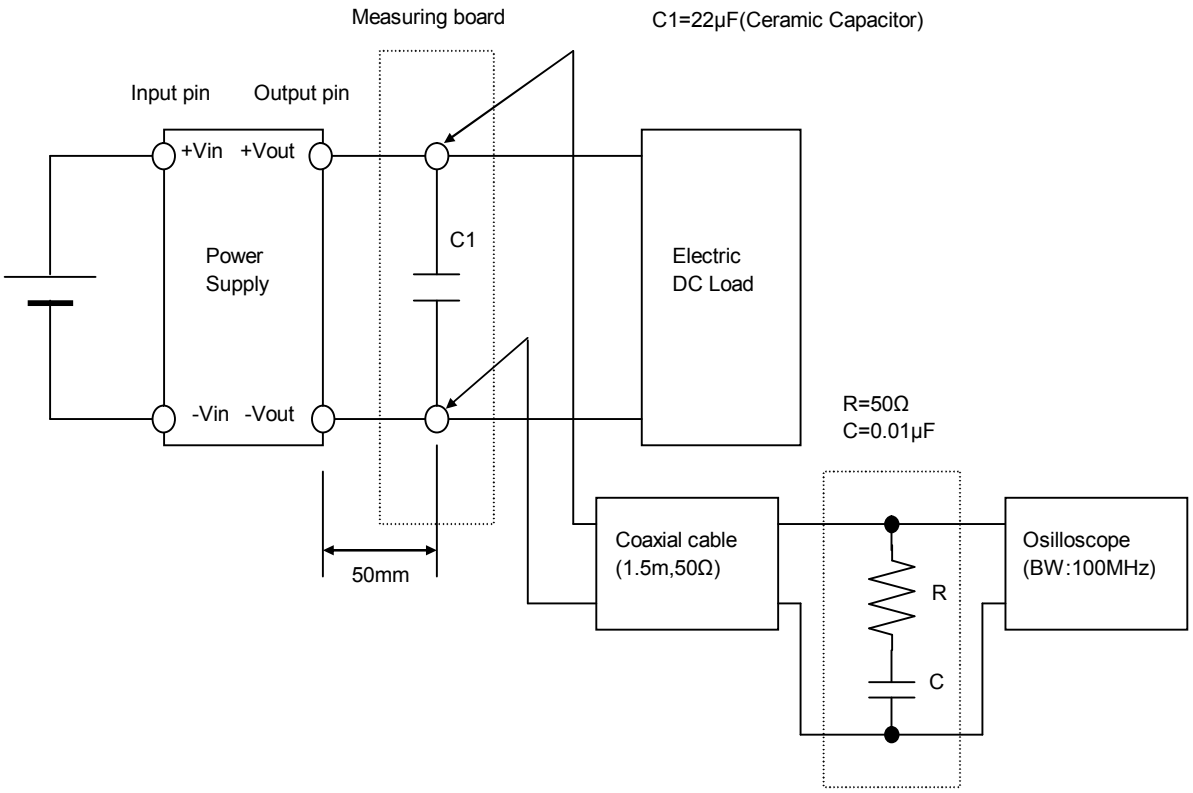


Figure B（Ripple and Ripple noise Characteristic）