COSEL

参考資料

TEST DATA OF STMGFS154812

Regulated DC Power Supply
January 26, 2013

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COSEL CO.,LTD.

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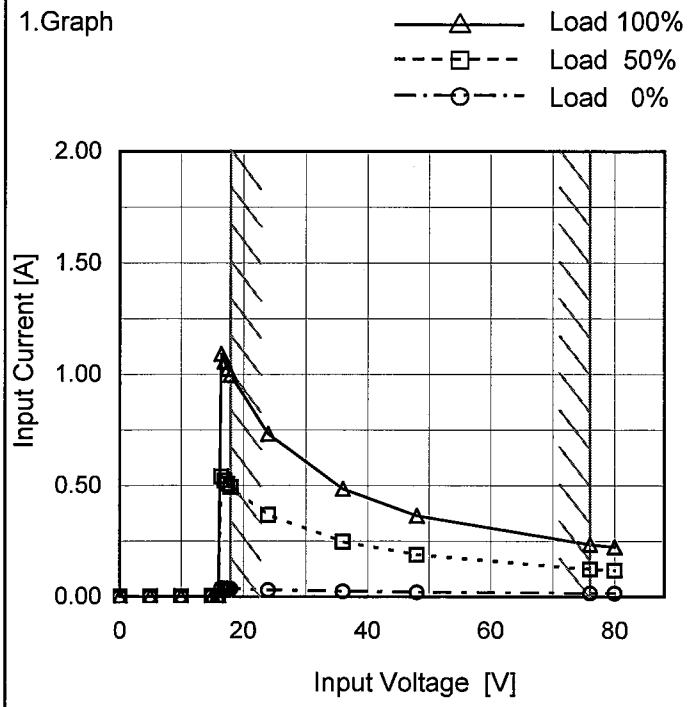

Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
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	0.039	0.540	1.092
17.0	0.038	0.524	1.057
17.5	0.037	0.507	1.025
18.0	0.037	0.493	0.997
24.0	0.031	0.368	0.733
36.0	0.024	0.248	0.486
48.0	0.021	0.188	0.365
76.0	0.016	0.123	0.235
80.0	0.016	0.118	0.224
--	-	-	-
--	-	-	-
--	-	-	-
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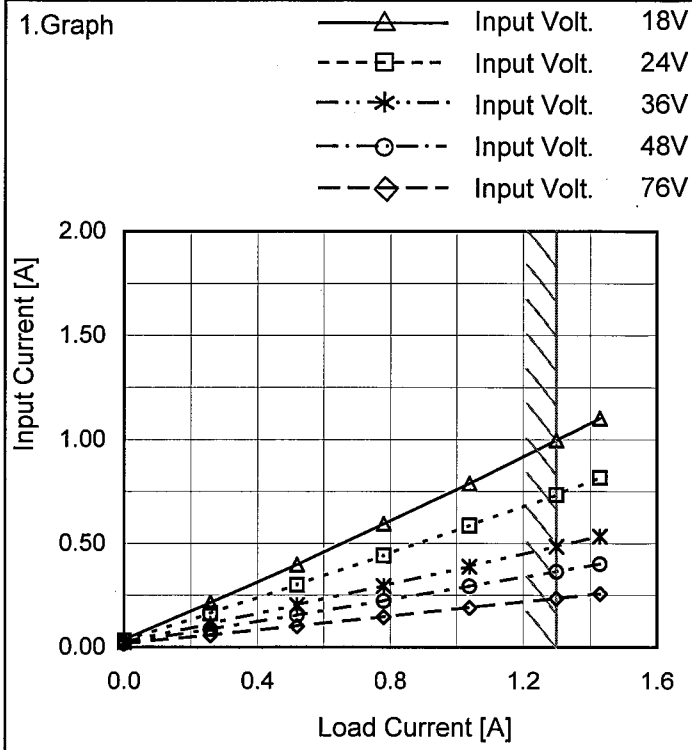
COSEL

Model	STMGFS154812
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]
0.00	0.037	0.031	0.024	0.021	0.016
0.26	0.216	0.164	0.113	0.087	0.058
0.52	0.398	0.301	0.203	0.154	0.101
0.78	0.595	0.441	0.295	0.223	0.145
1.04	0.789	0.585	0.390	0.294	0.190
1.30	0.997	0.733	0.486	0.365	0.235
1.43	1.102	0.816	0.535	0.401	0.258
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--	-	-	-	-	-
--	-	-	-	-	-

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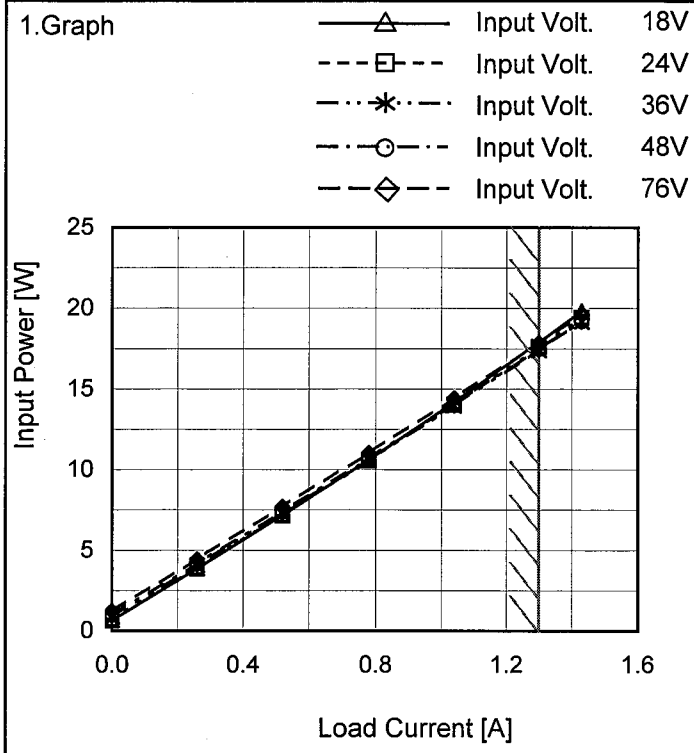
Model	STMGFS154812
Item	Input Power (by Load Current)
Object	————————

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]
0.00	0.66	0.74	0.88	0.99	1.23
0.26	3.86	3.92	4.05	4.16	4.44
0.52	7.17	7.19	7.28	7.40	7.71
0.78	10.62	10.55	10.60	10.70	11.04
1.04	14.21	14.03	13.99	14.08	14.44
1.30	17.91	17.61	17.43	17.48	17.86
1.43	19.82	19.44	19.20	19.21	19.60
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--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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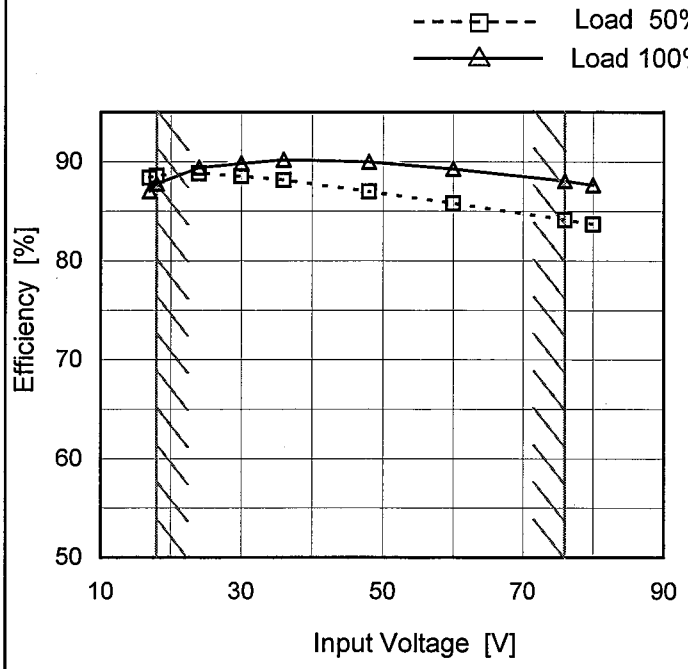
Model	STMGFS154812
Item	Efficiency (by Input Voltage)
Object	———————

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	88.4	87.0
18	88.6	87.8
24	88.8	89.4
30	88.5	89.8
36	88.1	90.2
48	87.0	90.0
60	85.8	89.3
76	84.1	88.1
80	83.7	87.7

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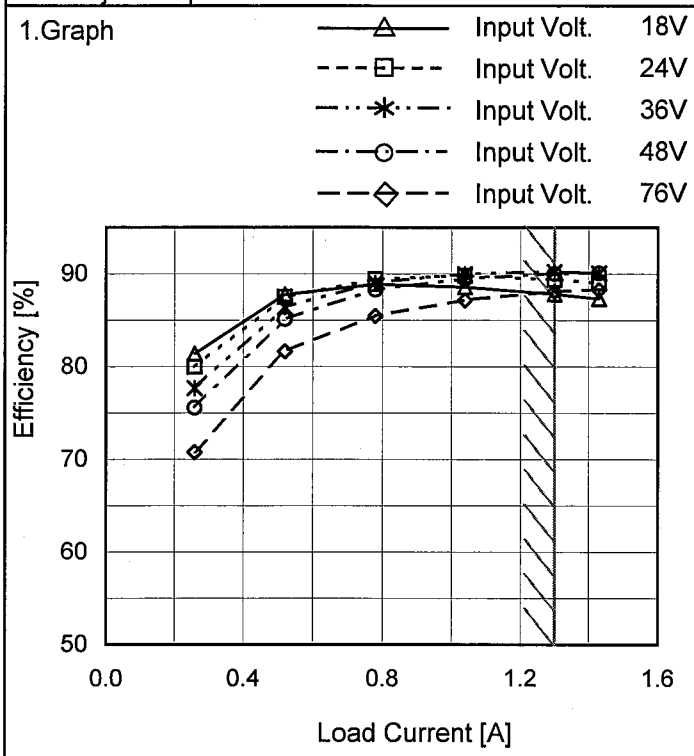
Model	STMGFS154812
Item	Efficiency (by Load Current)
Object	————————

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]
0.00	-	-	-	-	-
0.26	81.4	80.0	77.7	75.6	70.8
0.52	87.8	87.5	86.4	85.2	81.7
0.78	88.9	89.4	89.1	88.3	85.5
1.04	88.6	89.8	90.0	89.5	87.2
1.30	87.8	89.4	90.2	90.0	88.1
1.43	87.3	89.0	90.1	90.1	88.3
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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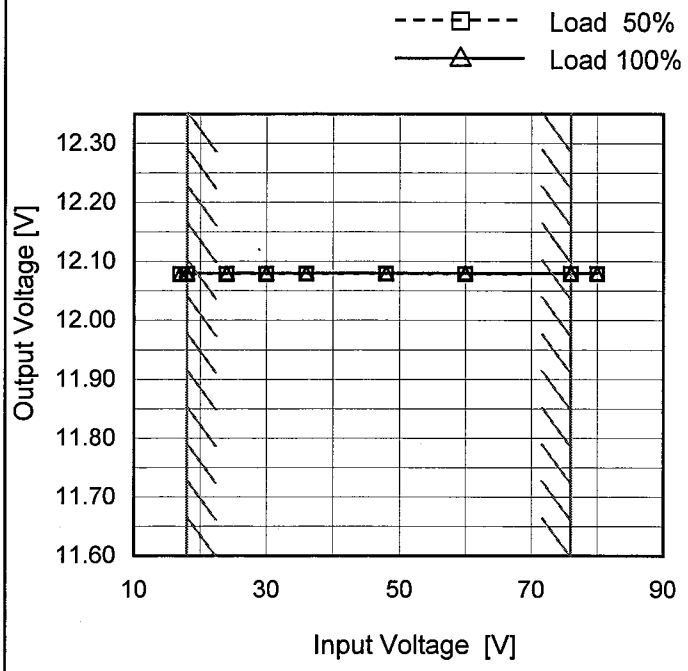
Model	STMGFS154812
Item	Line Regulation
Object	+12V1.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

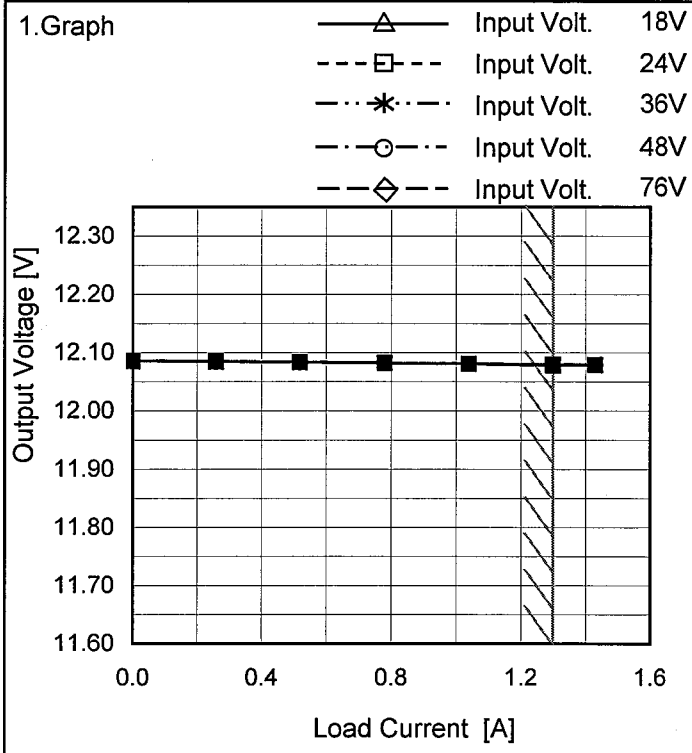
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
17	12.078	12.079
18	12.078	12.080
24	12.078	12.080
30	12.079	12.080
36	12.079	12.080
48	12.079	12.080
60	12.079	12.080
76	12.079	12.080
80	12.079	12.080

COSEL

Model	STMGFS154812
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]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	12.087	12.086	12.086	12.086	12.085
0.26	12.085	12.085	12.085	12.084	12.084
0.52	12.084	12.084	12.084	12.084	12.083
0.78	12.083	12.082	12.083	12.082	12.082
1.04	12.082	12.081	12.081	12.081	12.081
1.30	12.079	12.080	12.080	12.080	12.080
1.43	12.079	12.079	12.079	12.079	12.079
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--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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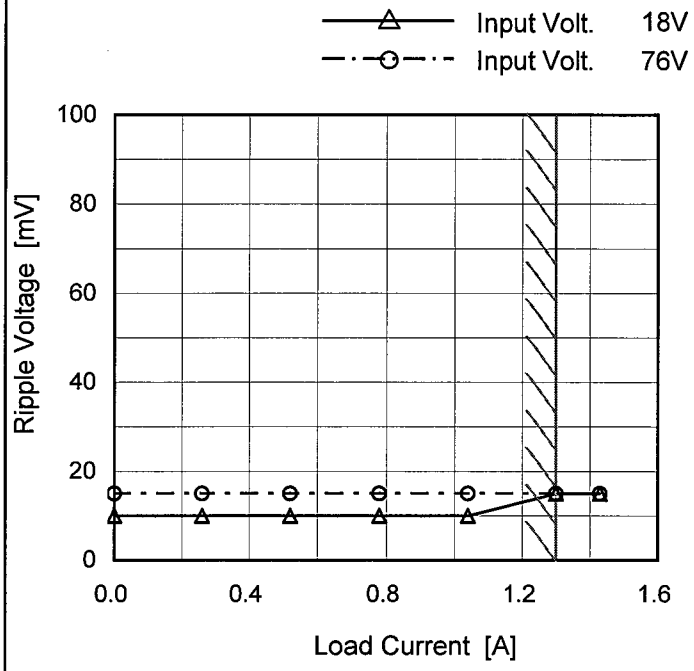
Model	STMGFS154812
Item	Ripple Voltage (by Load Current)
Object	+12V1.3A

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]

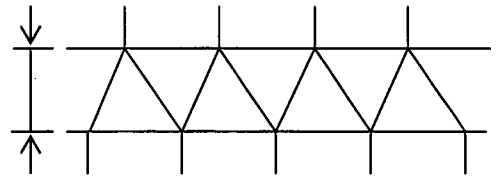


Fig.Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.000	10	15
0.260	10	15
0.520	10	15
0.780	10	15
1.040	10	15
1.300	15	15
1.430	15	15
--	-	-
--	-	-
--	-	-
--	-	-

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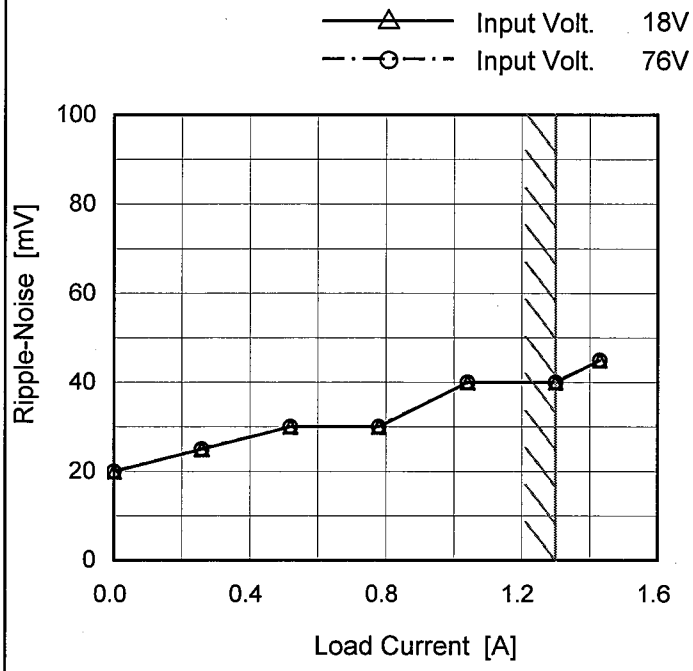
Model	STMGFS154812
Item	Ripple-Noise
Object	+12V1.3A

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.

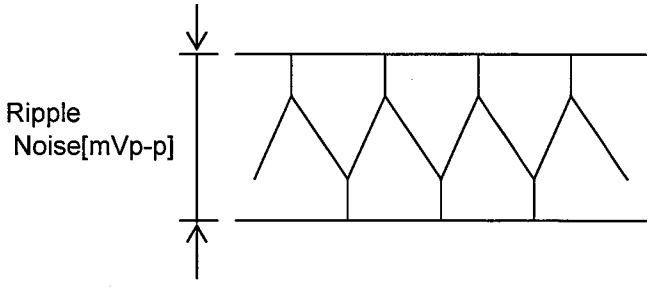


Fig.Complex Ripple Noise Wave Form

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.00	20	20
0.26	25	25
0.52	30	30
0.78	30	30
1.04	40	40
1.30	40	40
1.43	45	45
--	-	-
--	-	-
--	-	-
--	-	-

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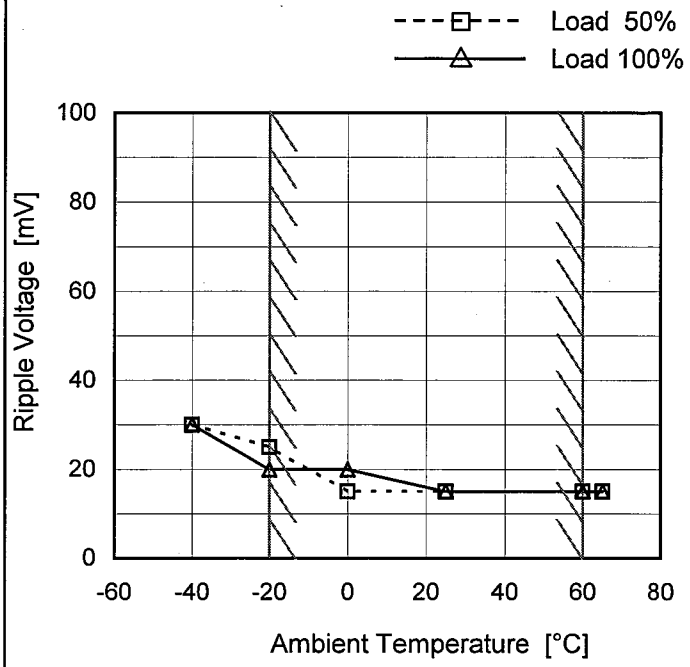
Model	STMGFS154812
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V1.3A

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.

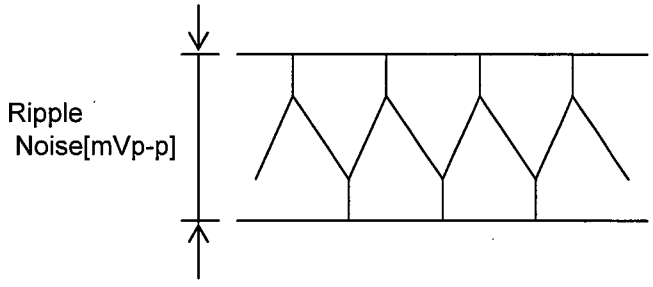


Fig.Complex Ripple Noise Wave Form

2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	30	30
-20	25	20
0	15	20
25	15	15
60	15	15
65	15	15
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

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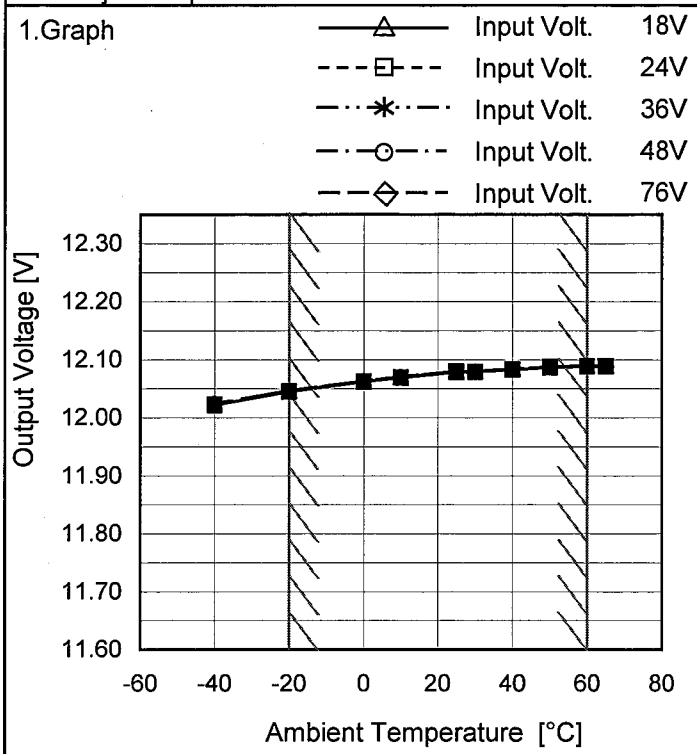
Model	STMGFS154812
Item	Ambient Temperature Drift
Object	+12V1.3A

Testing Circuitry Figure A

1.Graph



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]
-40	12.022	12.023	12.024	12.024	12.025
-20	12.045	12.046	12.047	12.047	12.047
0	12.062	12.063	12.063	12.063	12.064
10	12.069	12.070	12.070	12.071	12.070
25	12.079	12.080	12.080	12.080	12.080
30	12.079	12.080	12.080	12.080	12.080
40	12.083	12.084	12.084	12.084	12.084
50	12.087	12.088	12.088	12.088	12.088
60	12.089	12.089	12.090	12.090	12.090
65	12.089	12.089	12.089	12.089	12.089
--	-	-	-	-	-

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Model	STMGFS154812	
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 : -20 - 60°C
Input Voltage : 18 - 76V
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	18	0	12.096	±26	±0.2
Minimum Voltage	-20	18	1.3	12.045		

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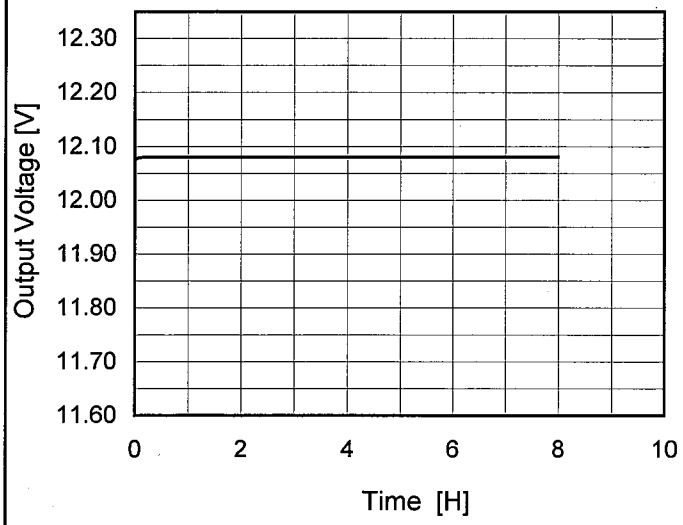
Model	STMGFS154812
Item	Time Lapse Drift
Object	+12V1.3A

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	12.074
0.5	12.080
1.0	12.080
2.0	12.080
3.0	12.080
4.0	12.080
5.0	12.080
6.0	12.081
7.0	12.081
8.0	12.081

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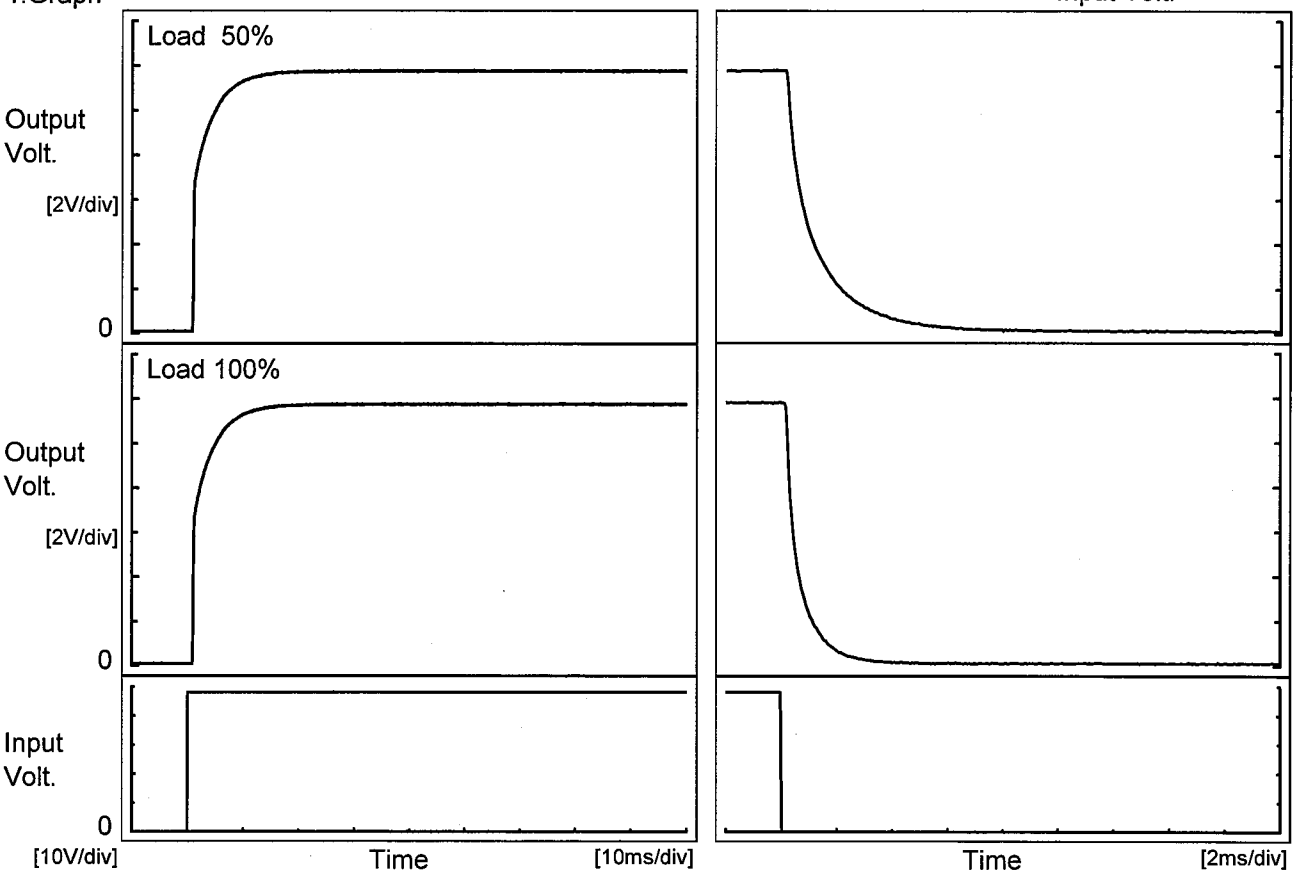
Model	STMGFS154812
Item	Rise and Fall Time
Object	+12V1.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

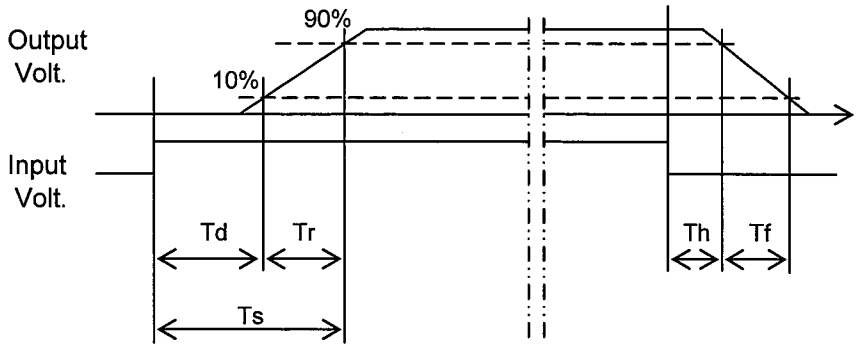
Input Volt. 48 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	1.0	6.4	7.4	0.2	2.6
100 %	1.0	6.6	7.6	0.2	1.3



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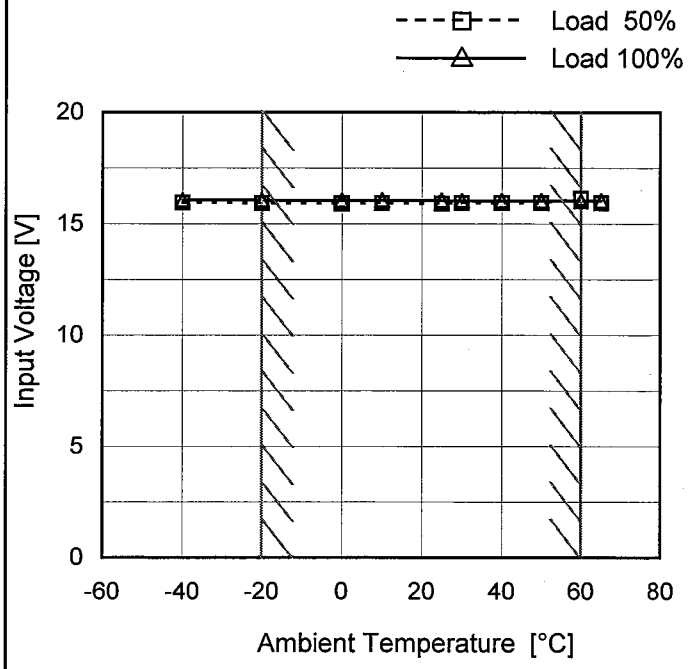
Model	STMGFS154812
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V1.3A

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%
-40	16.0	16.1
-20	16.0	16.1
0	16.0	16.1
10	16.0	16.1
25	16.0	16.1
30	16.0	16.1
40	16.0	16.1
50	16.0	16.1
60	16.2	16.1
65	16.0	16.1
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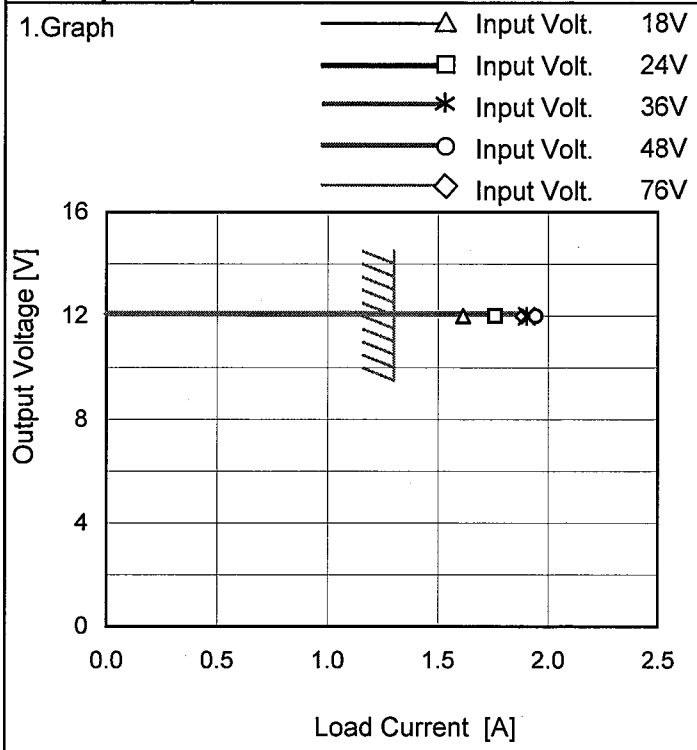
COSEL

Model	STMGFS154812
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]	Input Volt. 48[V]	Input Volt. 76[V]
12.0	1.614	1.759	1.902	1.943	1.881
11.4	-	-	-	-	-
10.8	-	-	-	-	-
9.6	-	-	-	-	-
8.4	-	-	-	-	-
7.2	-	-	-	-	-
6.0	-	-	-	-	-
4.8	-	-	-	-	-
3.6	-	-	-	-	-
2.4	-	-	-	-	-
1.2	-	-	-	-	-
0.0	-	-	-	-	-

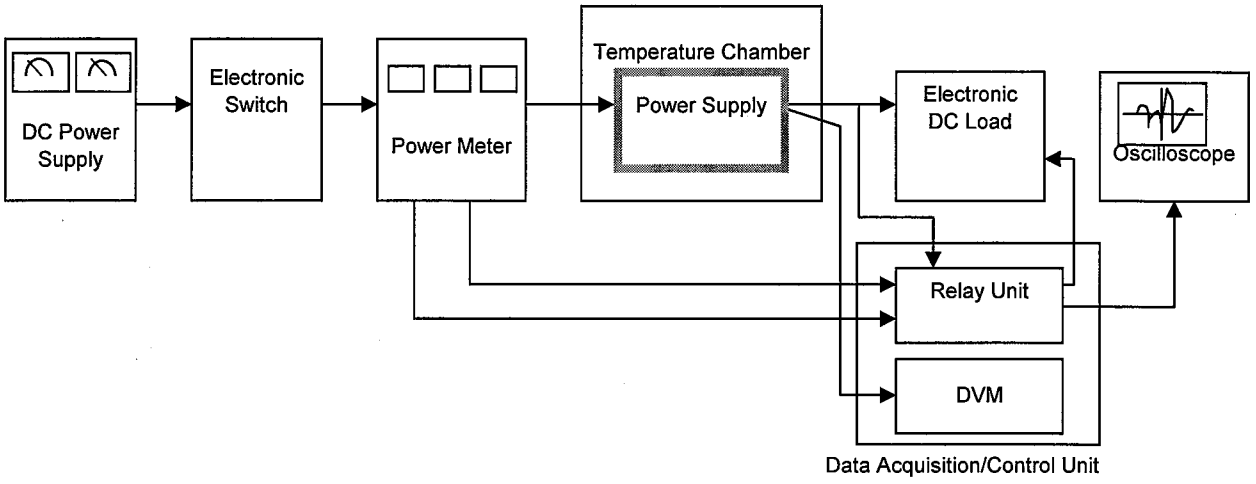


Figure A

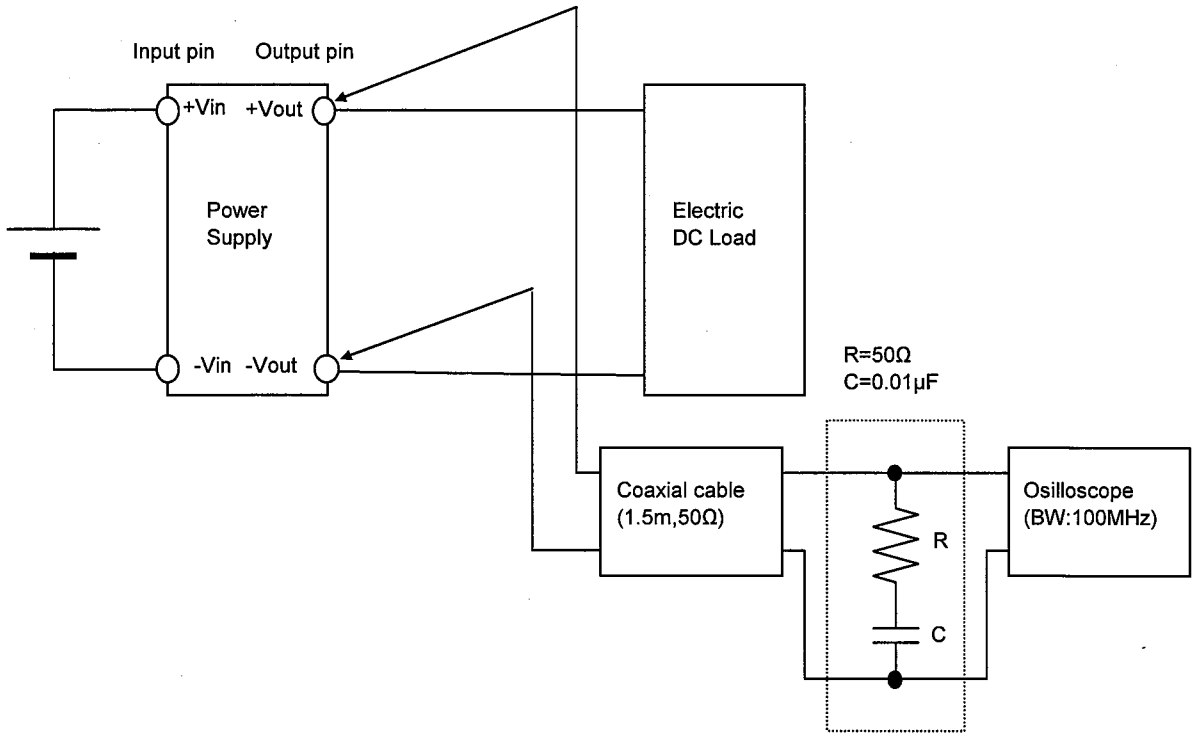


Figure B（Ripple and Ripple noise Characteristic）