参考資料

COSEL

TEST DATA OF SFS104815

Regulated DC Power Supply
Aug.10. 2004

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COSEL CO.,LTD.

COSEL

CONTENTS

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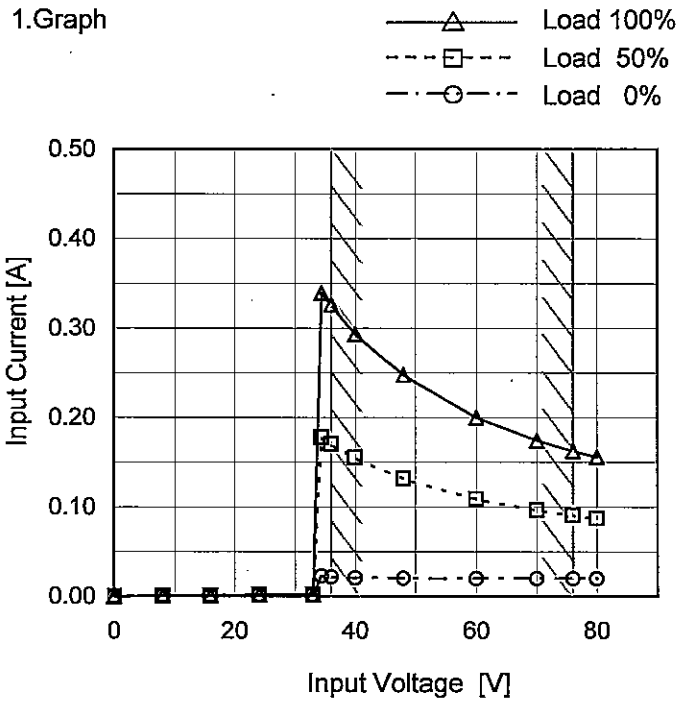
Model	SFS104815
Item	Input Current (by Input Voltage)
Object	————————

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	0.000	0.000	0.000
8	0.001	0.001	0.001
16	0.001	0.001	0.001
24	0.002	0.002	0.002
33	0.002	0.002	0.002
34	0.023	0.178	0.340
36	0.022	0.170	0.326
40	0.021	0.155	0.293
48	0.020	0.132	0.248
60	0.020	0.109	0.200
70	0.020	0.097	0.175
76	0.020	0.091	0.163
80	0.020	0.087	0.156
--	-	-	-
--	-	-	-
--	-	-	-

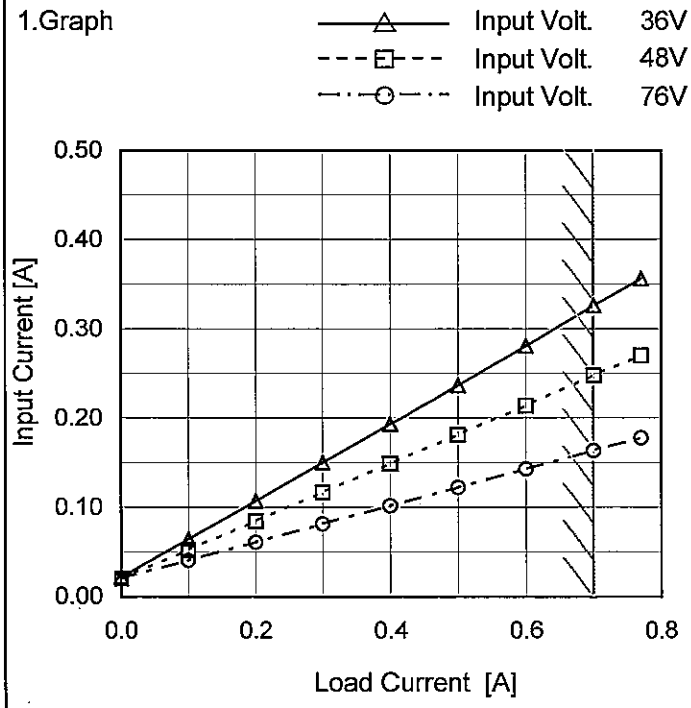
BC-3601

COSEL

Model	SFS104815
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

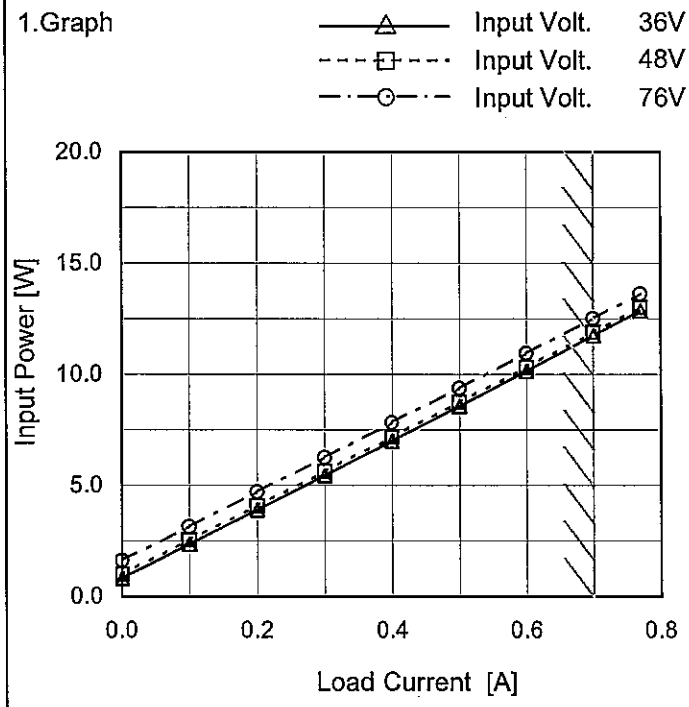
Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	0.022	0.020	0.020
0.10	0.064	0.052	0.040
0.20	0.107	0.084	0.061
0.30	0.150	0.117	0.081
0.40	0.193	0.149	0.102
0.50	0.237	0.181	0.122
0.60	0.281	0.214	0.143
0.70	0.326	0.248	0.163
0.77	0.356	0.270	0.178
--	-	-	-
--	-	-	-

COSEL

Model	SFS104815
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

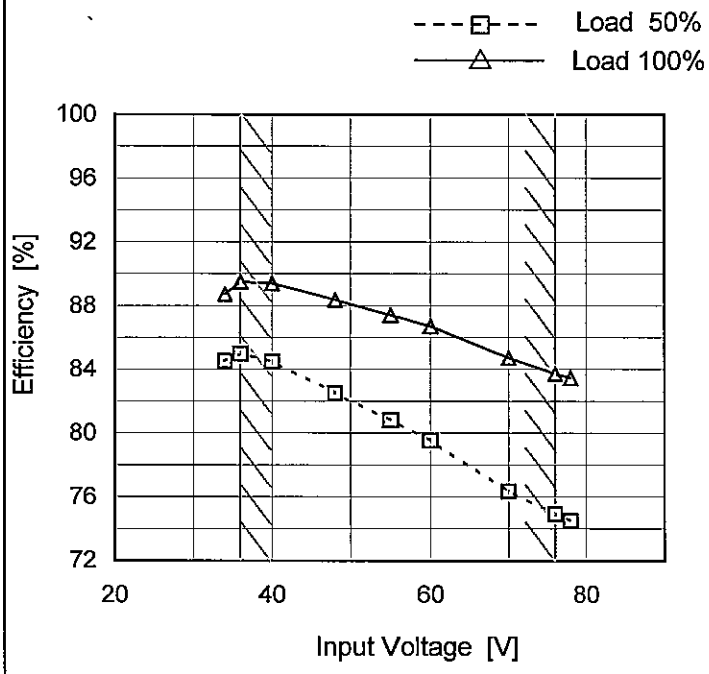
Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	0.82	1.00	1.62
0.10	2.35	2.54	3.15
0.20	3.89	4.08	4.71
0.30	5.44	5.63	6.27
0.40	7.00	7.18	7.83
0.50	8.57	8.75	9.38
0.60	10.15	10.31	10.95
0.70	11.74	11.89	12.51
0.77	12.86	13.00	13.62
--	-	-	-
--	-	-	-

COSEL

Model	SFS104815
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%
34	84.5	88.7
36	85.0	89.5
40	84.5	89.4
48	82.5	88.4
55	80.8	87.4
60	79.5	86.7
70	76.3	84.7
76	74.9	83.7
78	74.5	83.5

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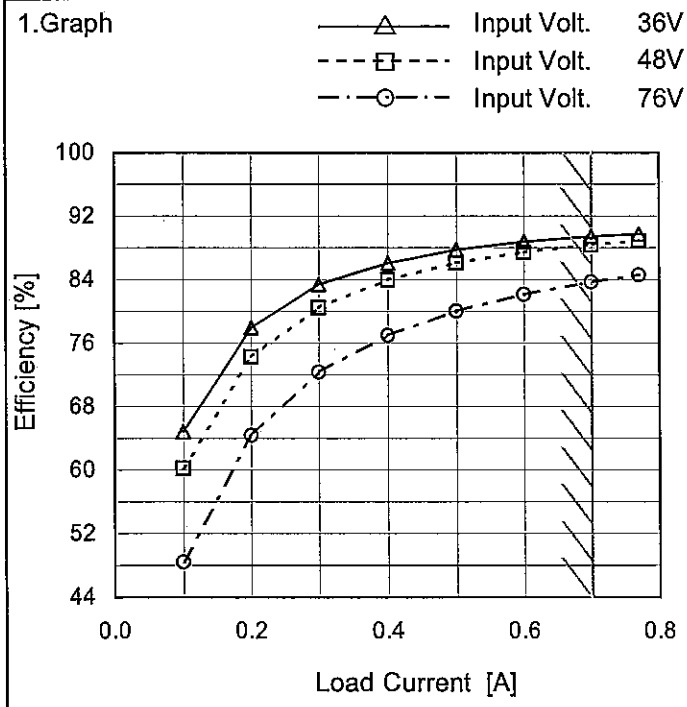
Model	SFS104815
Item	Efficiency (by Load Current)
Object	————————

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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	-	-	-
0.10	64.9	60.2	48.4
0.20	78.0	74.3	64.4
0.30	83.4	80.5	72.4
0.40	86.1	84.0	77.0
0.50	87.8	86.1	80.0
0.60	88.8	87.4	82.1
0.70	89.5	88.4	83.7
0.77	89.7	88.9	84.6
--	-	-	-
--	-	-	-

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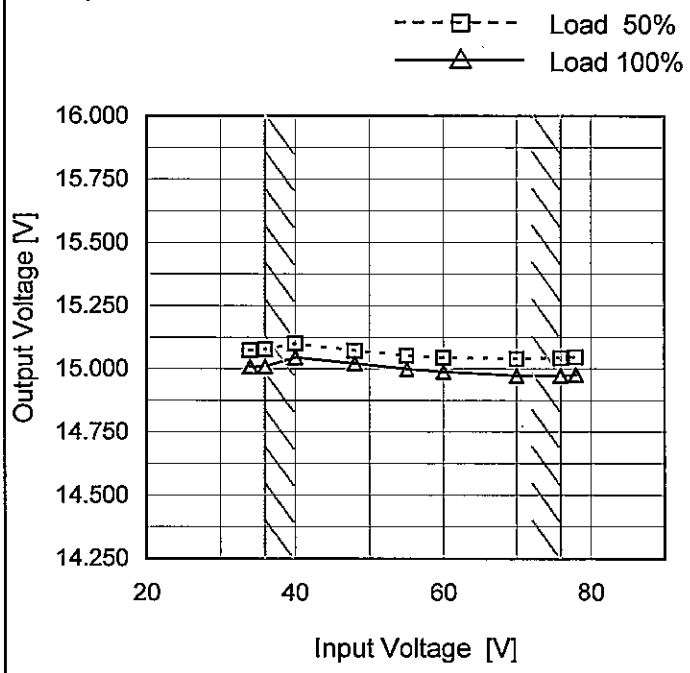
Model	SFS104815
Item	Line Regulation
Object	+15V0.7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

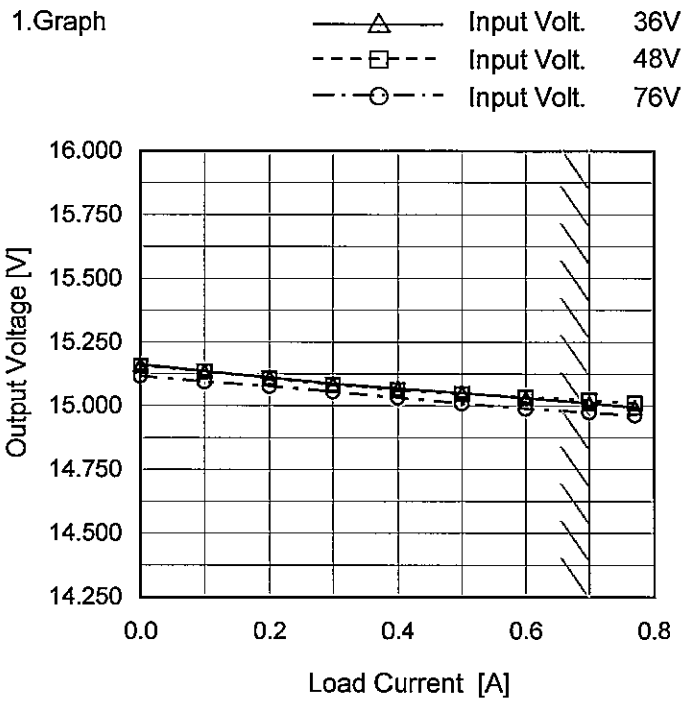
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	15.073	15.009
36	15.078	15.010
40	15.100	15.046
48	15.072	15.022
55	15.053	15.001
60	15.045	14.989
70	15.039	14.973
76	15.044	14.974
78	15.047	14.976

COSEL

Model	SFS104815
Item	Load Regulation
Object	+15V0.7A

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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	15.162	15.158	15.118
0.10	15.136	15.135	15.095
0.20	15.111	15.107	15.077
0.30	15.088	15.082	15.056
0.40	15.069	15.062	15.032
0.50	15.050	15.047	15.009
0.60	15.031	15.034	14.989
0.70	15.010	15.022	14.974
0.77	14.994	15.011	14.962
--	-	-	-
--	-	-	-

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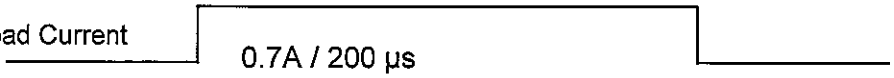
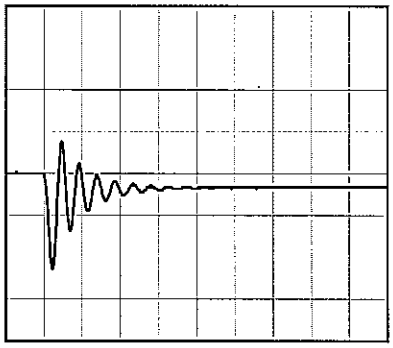
Model	SFS104815		
Item	Dynamic Load Response	Temperature	25℃
		Testing Circuitry	Figure A
Object	+15V0.7A		

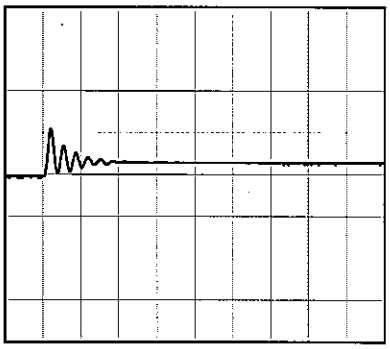
Input Volt. 48 V
Cycle 1000 ms

Load Current

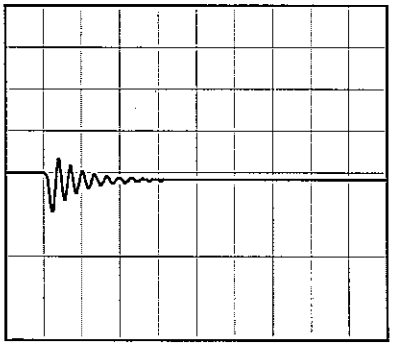


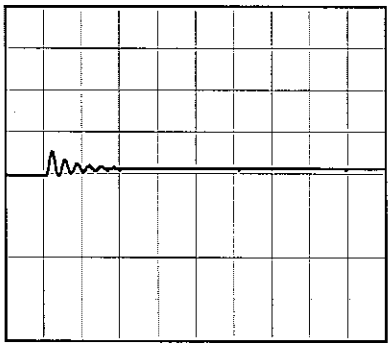
Min. Load (0A) ⟷
Load 100% (0.7A)



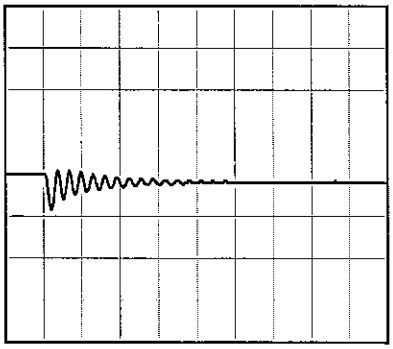


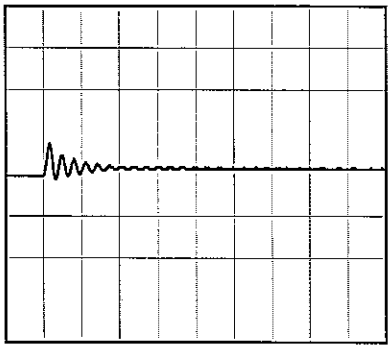
Min. Load (0A) ⟷
Load 50% (0.35A)





Load 50% (0.35A) ⟷
Load 100% (0.7A)





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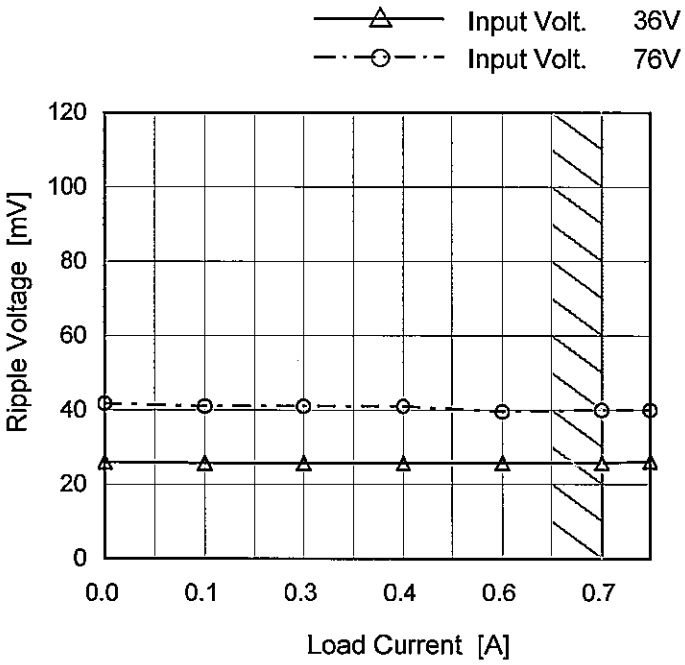
Model	SFS104815
Item	Ripple Voltage (by Load Current)
Object	+15V0.7A

Temperature 25°C
Testing Circuitry Figure C

1.Graph



2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	26	42
0.14	26	41
0.28	26	41
0.42	26	41
0.56	26	40
0.70	26	40
0.77	26	40
---	-	-
---	-	-
---	-	-
---	-	-

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

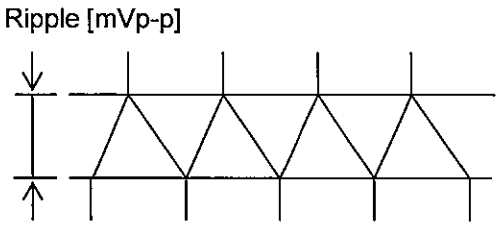


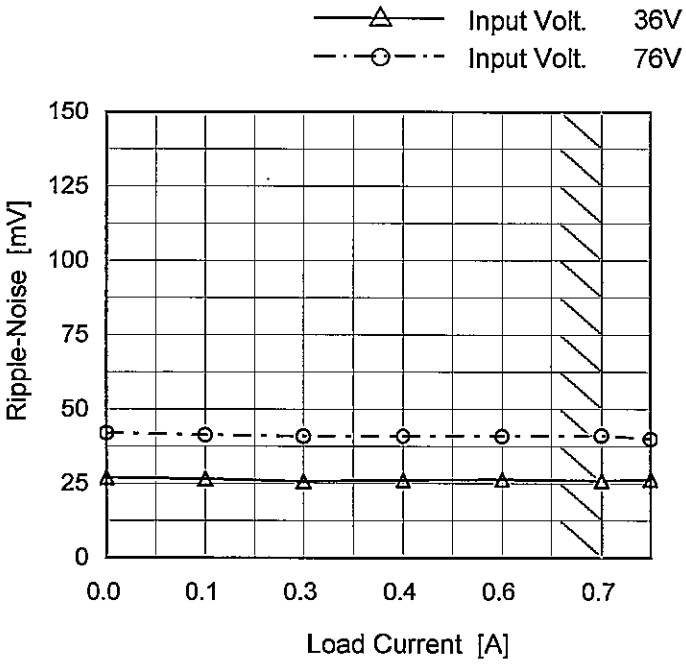
Fig.Complex Ripple Wave Form

COSEL

Model	SFS104815
Item	Ripple-Noise
Object	+15V0.7A

Temperature 25°C
Testing Circuitry Figure C

1.Graph



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

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	27	42
0.14	27	41
0.28	26	41
0.42	26	41
0.56	26	41
0.70	26	41
0.77	26	40
--	-	-
--	-	-
--	-	-
--	-	-

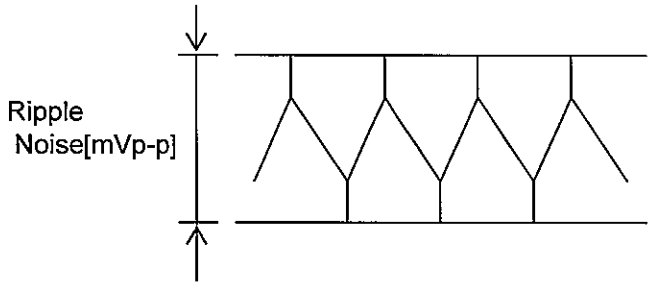


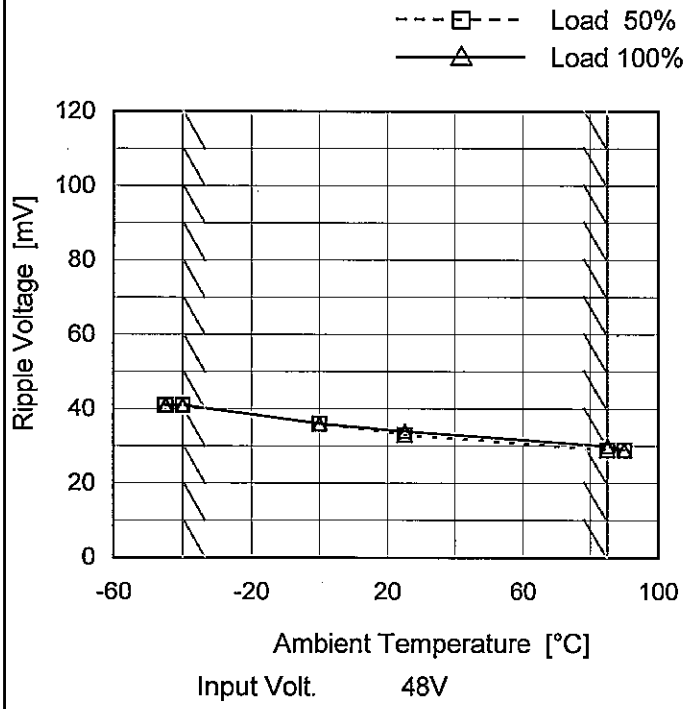
Fig.Complex Ripple Noise Wave Form

COSEL

Model	SFS104815
Item	Ripple Voltage (by Ambient Temp.)
Object	+15V0.7A

Testing Circuitry Figure C

1.Graph



Input Volt. 48V

Measured by 100 MHz Oscilloscope.

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

2.Values

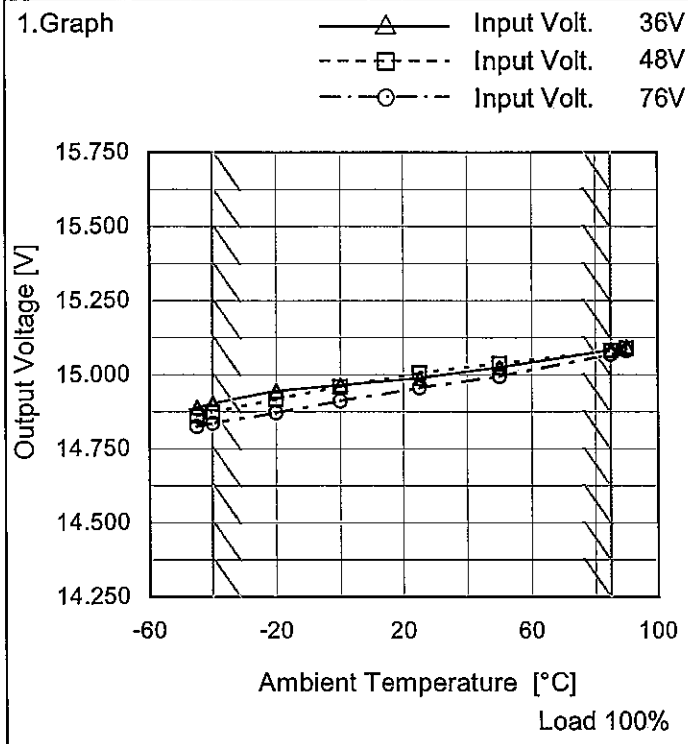
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-45	41	41
-40	41	41
0	36	36
25	33	34
85	29	30
90	29	29
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS104815
Item	Ambient Temperature Drift
Object	+15V0.7A

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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-45	14.891	14.860	14.826
-40	14.904	14.873	14.836
-20	14.946	14.919	14.872
0	14.965	14.960	14.911
25	14.989	15.006	14.956
50	15.026	15.038	14.994
85	15.084	15.082	15.069
90	15.095	15.089	15.081
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS104815
Item	Output Voltage Accuracy
Object	+15V0.7A

Testing Circuitry Figure A

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 - 85°C
Input Voltage : 36 - 76V
Load Current : 0 - 0.7A

* 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

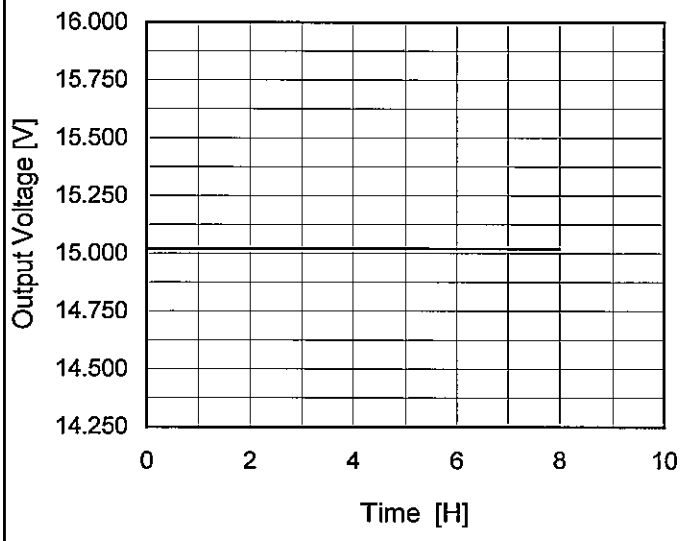
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	85	36	0	15.282	±223	±1.5
Minimum Voltage	-40	76	0.7	14.836		

COSEL

Model	SFS104815
Item	Time Lapse Drift
Object	+15V0.7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 48V
Load 100%

2.Values

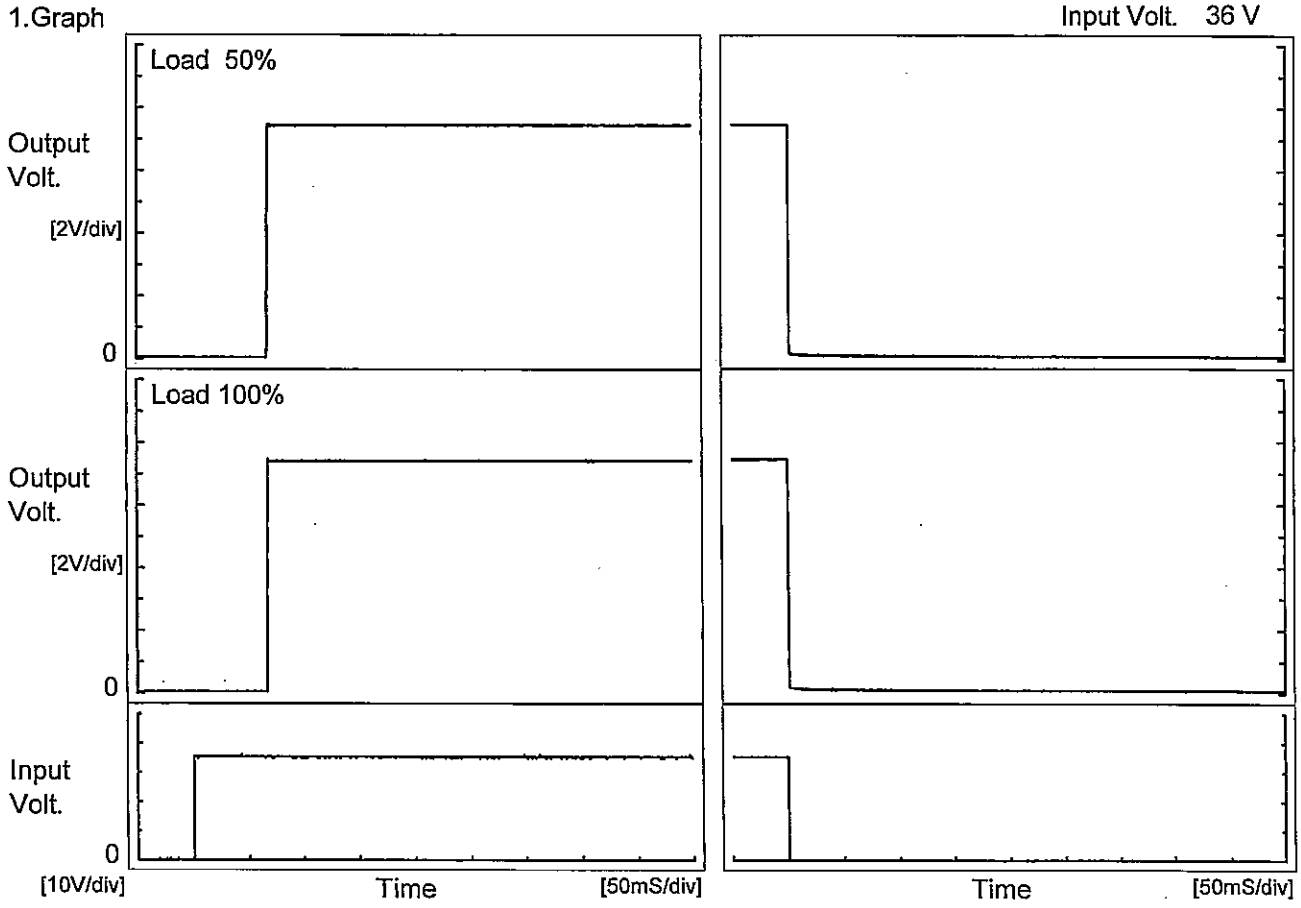
Time since start [H]	Output Voltage [V]
0.0	15.013
0.5	15.021
1.0	15.021
2.0	15.021
3.0	15.021
4.0	15.021
5.0	15.021
6.0	15.021
7.0	15.021
8.0	15.021

COSEL

Model	SFS104815
Item	Rise and Fall Time
Object	+15V0.7A

Temperature 25°C
Testing Circuitry Figure A

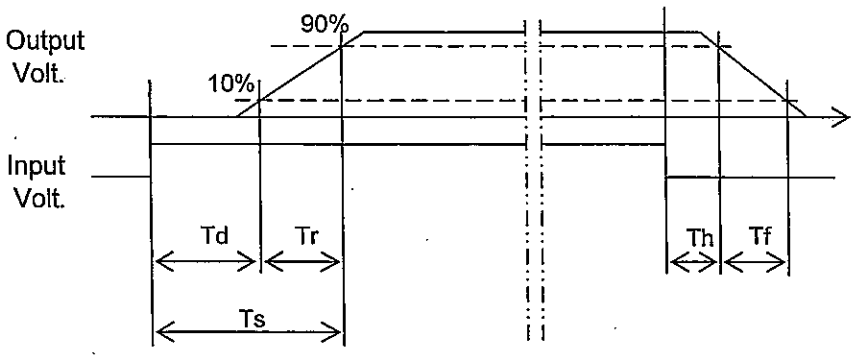
1.Graph



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	67.0	0.8	67.8	0.3	1.3
100 %	67.0	0.9	67.9	0.3	1.0

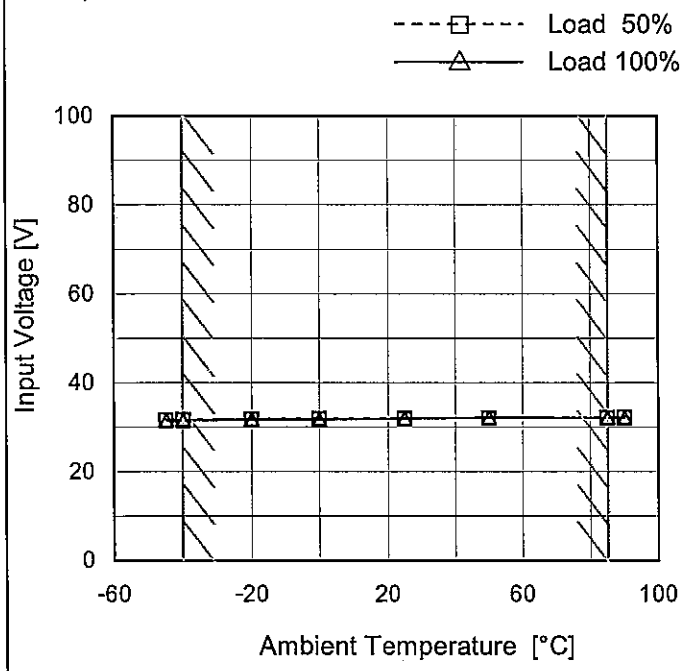


COSEL

Model	SFS104815
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+15V0.7A

Testing Circuitry Figure A

1.Graph



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

2.Values

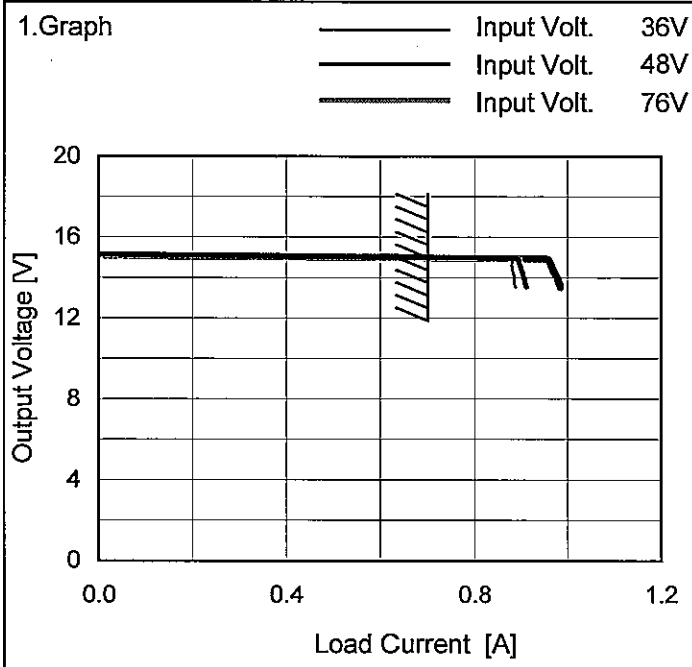
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-45	31.6	31.6
-40	31.7	31.6
-20	31.9	31.8
0	32.0	31.8
25	32.0	32.0
50	32.1	32.2
85	32.2	32.2
90	32.3	32.2
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS104815
Item	Overcurrent Protection
Object	+15V0.7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

When the output voltage fell to less than 13.5V,the unit shuts off the output by operating low voltage protection.

2.Values

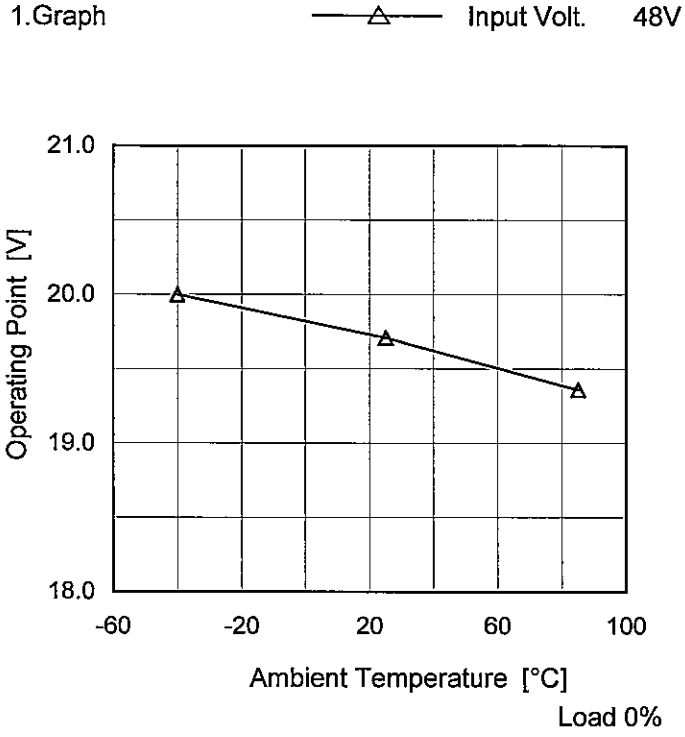
Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
15.0	0.72	0.72	0.71
14.3	0.88	0.90	0.97
13.5	0.89	0.91	0.99
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS104815
Item	Overvoltage Protection
Object	+15V0.7A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Operating Point [V] Input Volt. 48[V]	Input Volt.	Input Volt.
-40	20.0	-	-
25	19.7	-	-
85	19.4	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

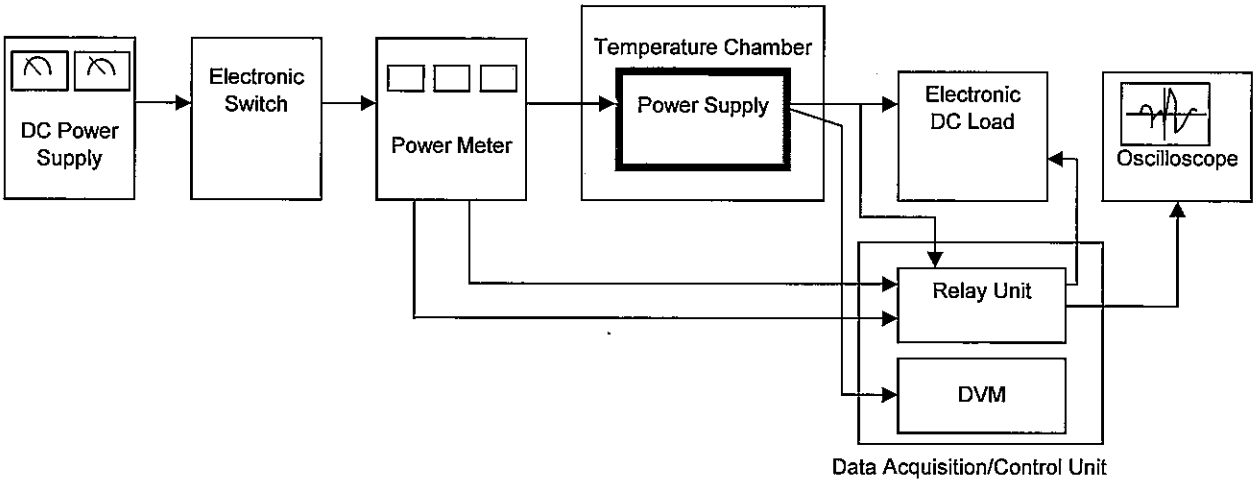


Figure A

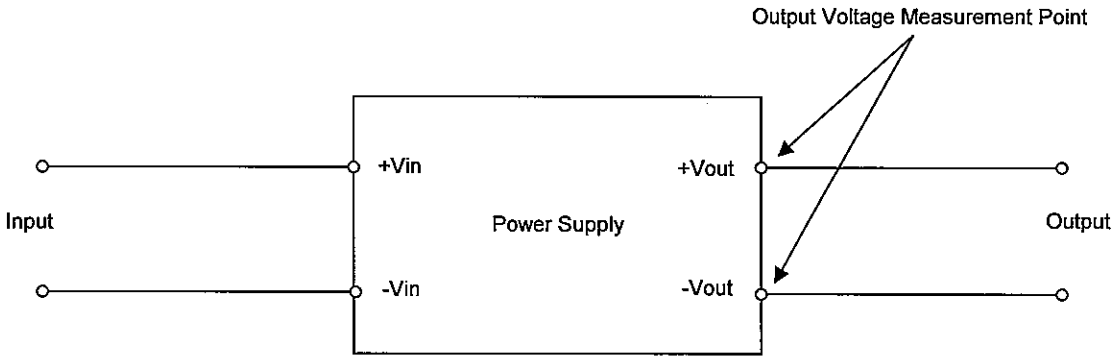


Figure B (General Electric Characteristic)

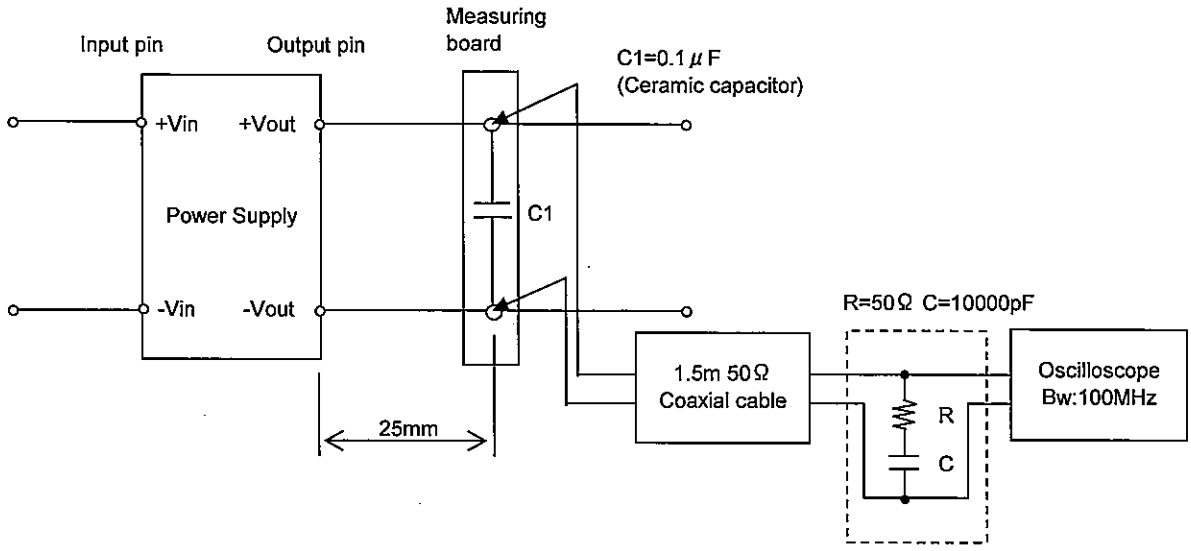


Figure C (Ripple and Ripple noise Characteristic)