参考資料

COSEL

TEST DATA OF SFS104805

Regulated DC Power Supply
Jul.15. 2003

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COSEL CO.,LTD.

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

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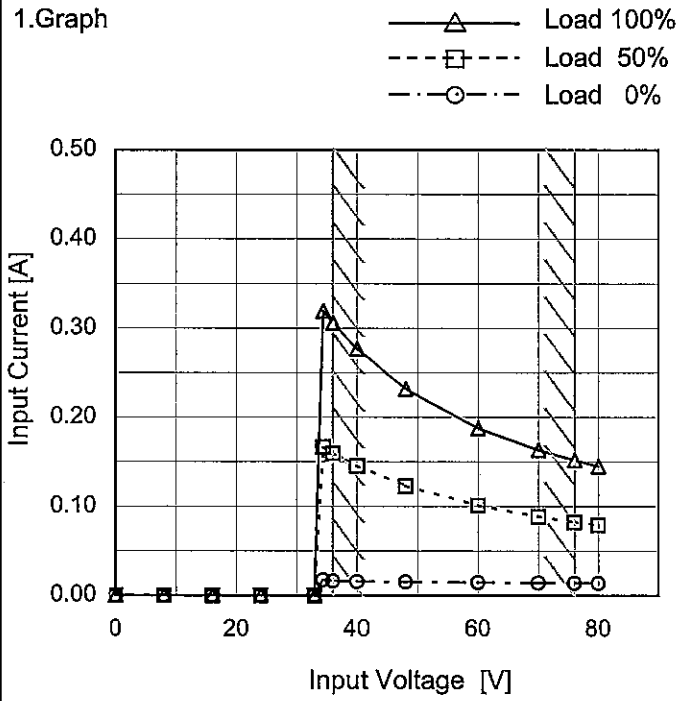


Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
8	0.000	0.000	0.000
16	0.000	0.000	0.000
24	0.000	0.000	0.000
33	0.000	0.000	0.000
34	0.017	0.167	0.319
36	0.016	0.160	0.306
40	0.016	0.145	0.277
48	0.015	0.123	0.232
60	0.014	0.101	0.188
70	0.014	0.088	0.164
76	0.014	0.082	0.152
80	0.014	0.079	0.145
--	-	-	-
--	-	-	-
--	-	-	-

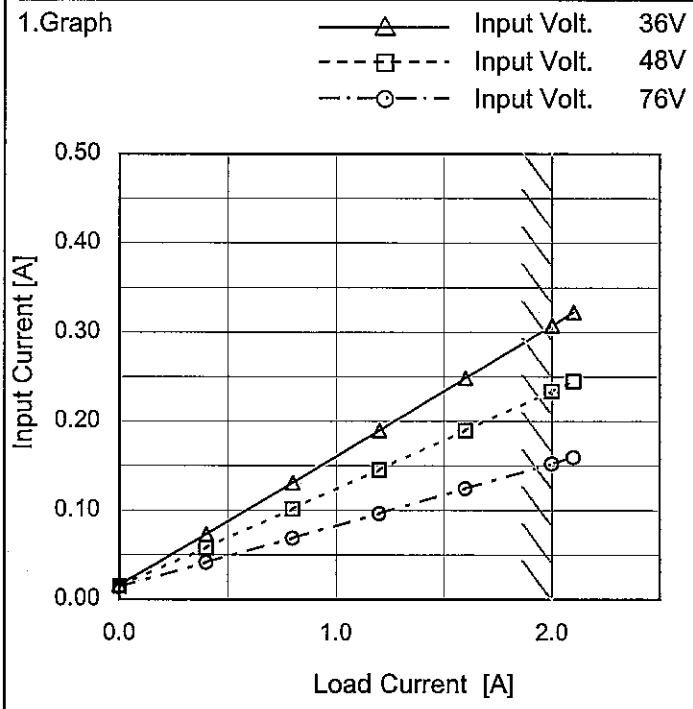
BC-3500

COSEL

Model	SFS104805
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

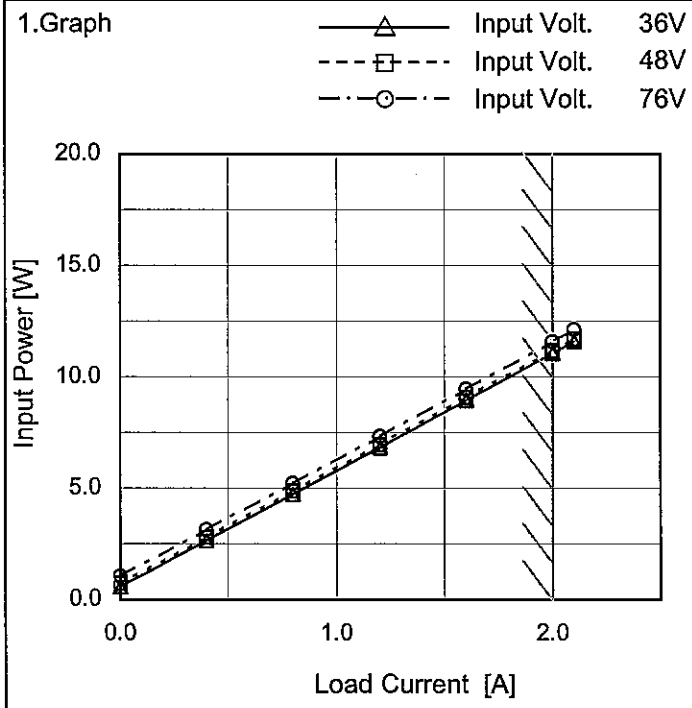
Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.016	0.015	0.014
0.4	0.073	0.058	0.041
0.8	0.131	0.102	0.069
1.2	0.190	0.145	0.096
1.6	0.248	0.190	0.124
2.0	0.308	0.234	0.152
2.1	0.322	0.245	0.159
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS104805
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

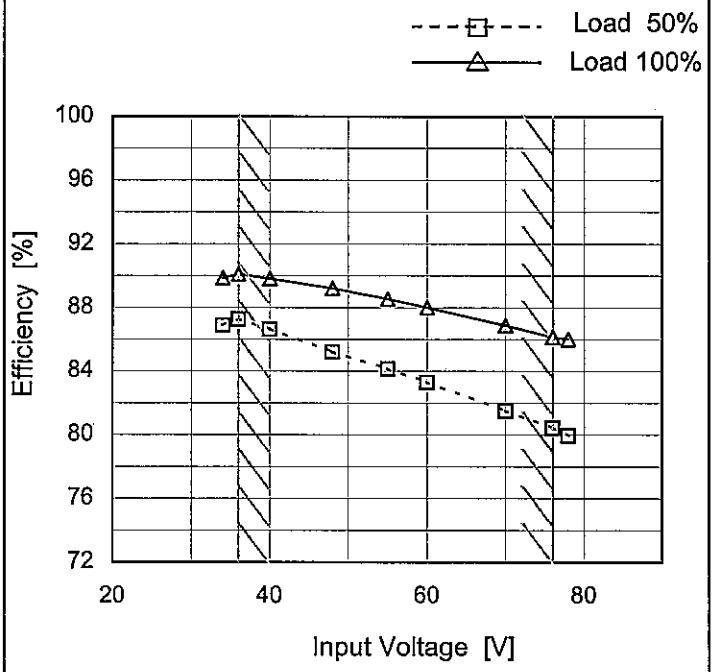
Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.58	0.71	1.05
0.4	2.64	2.79	3.14
0.8	4.73	4.87	5.22
1.2	6.83	6.96	7.33
1.6	8.94	9.07	9.45
2.0	11.07	11.19	11.58
2.1	11.60	11.72	12.13
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS104805
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	86.9	89.9
36	87.3	90.1
40	86.6	89.8
48	85.2	89.2
55	84.1	88.6
60	83.3	88.0
70	81.5	86.9
76	80.4	86.2
78	80.0	86.0

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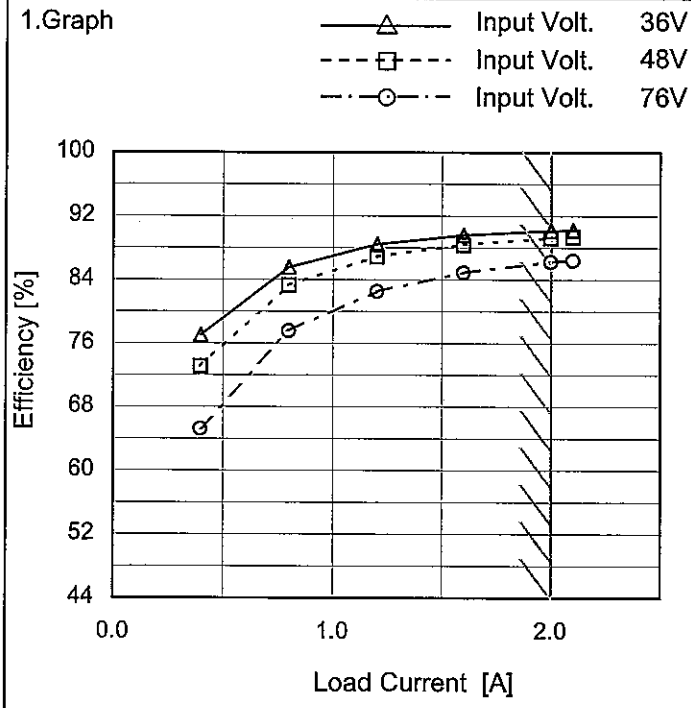
Model	SFS104805
Item	Efficiency (by Load Current)
Object	———————

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]
0.0	-	-	-
0.4	77.0	73.1	65.2
0.8	85.6	83.3	77.6
1.2	88.4	86.9	82.5
1.6	89.6	88.4	84.9
2.0	90.2	89.2	86.3
2.1	90.2	89.4	86.4
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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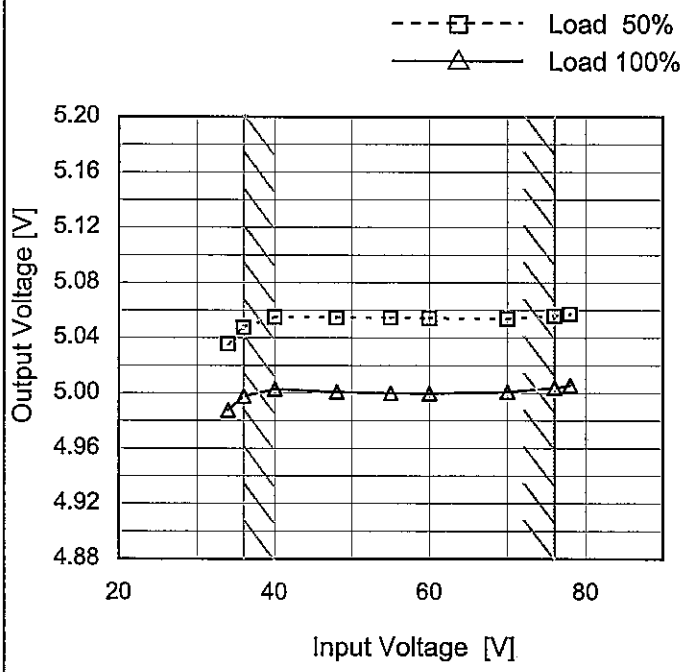
Model	SFS104805
Item	Line Regulation
Object	+5V2A

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	5.036	4.988
36	5.048	4.998
40	5.055	5.003
48	5.055	5.001
55	5.055	5.000
60	5.054	5.000
70	5.054	5.001
76	5.056	5.004
78	5.057	5.006

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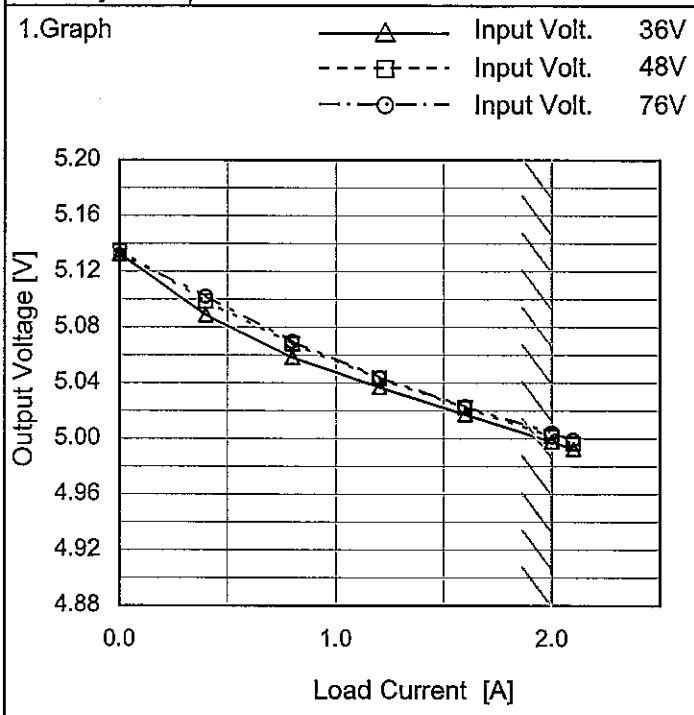
Model	SFS104805
Item	Load Regulation
Object	+5V2A

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]
0.0	5.133	5.135	5.132
0.4	5.089	5.099	5.102
0.8	5.059	5.068	5.070
1.2	5.037	5.043	5.044
1.6	5.017	5.022	5.023
2.0	4.998	5.002	5.004
2.1	4.993	4.996	4.999
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

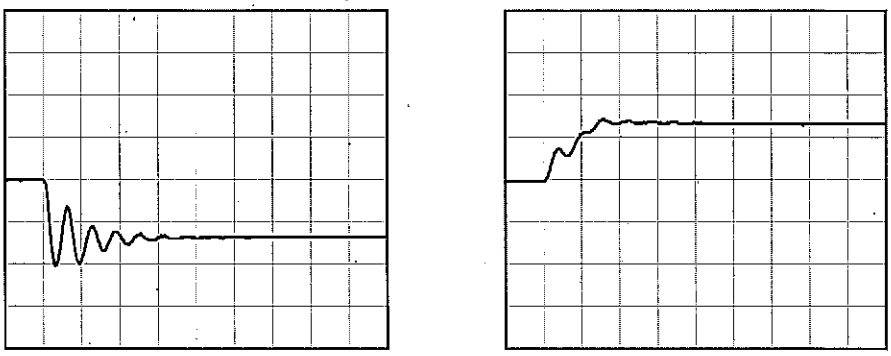
COSEL

Model	SFS104805		
Item	Dynamic Load Response	Temperature Testing Circuitry	25℃ Figure A
Object	+5V2A		

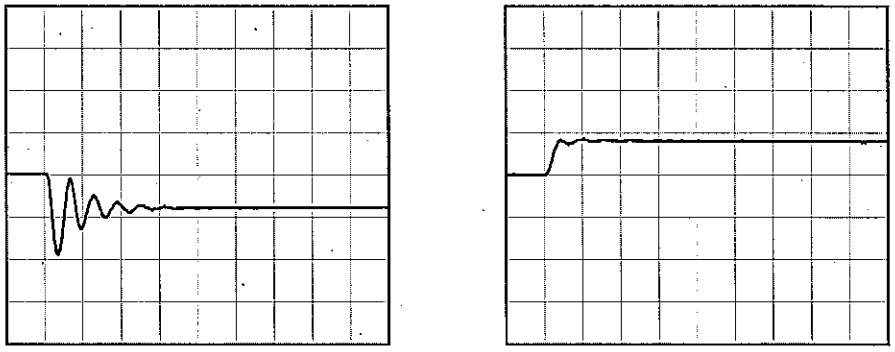
Input Volt. 48 V
Cycle 1000 ms

Load Current 2A/200 μs

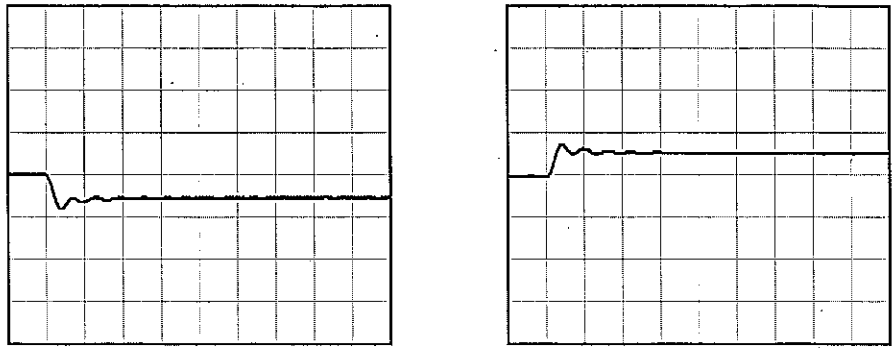
Min. Load (0A) ←→
Load 100% (2A)



Min. Load (0A) ←→
Load 50% (1A)



Load 50% (1A) ←→
Load 100% (2A)



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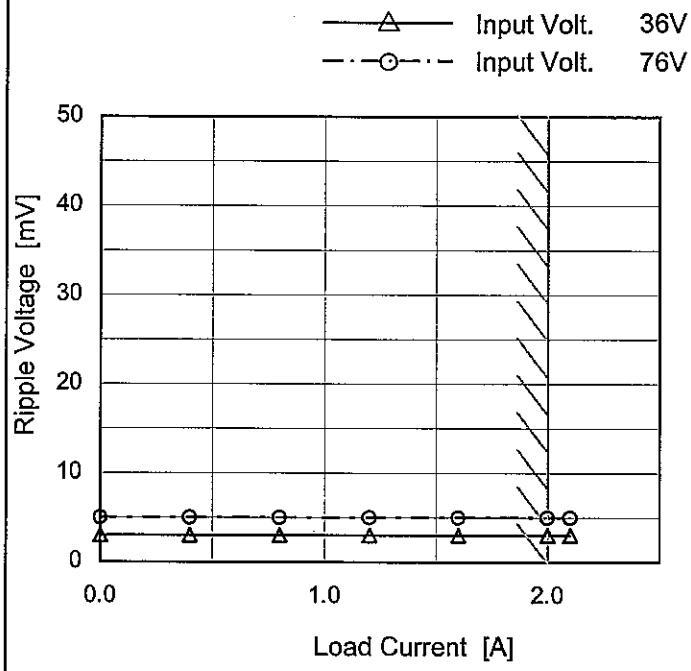
Model	SFS104805
Item	Ripple Voltage (by Load Current)
Object	+5V2A

Temperature 25°C
Testing Circuitry Figure C

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]

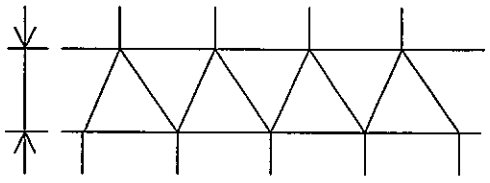


Fig.Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV] Input Volt. 36 [V]	Ripple Voltage [mV] Input Volt. 76 [V]
0.0	3	5
0.4	3	5
0.8	3	5
1.2	3	5
1.6	3	5
2.0	3	5
2.1	3	5
--	-	-
--	-	-
--	-	-
--	-	-

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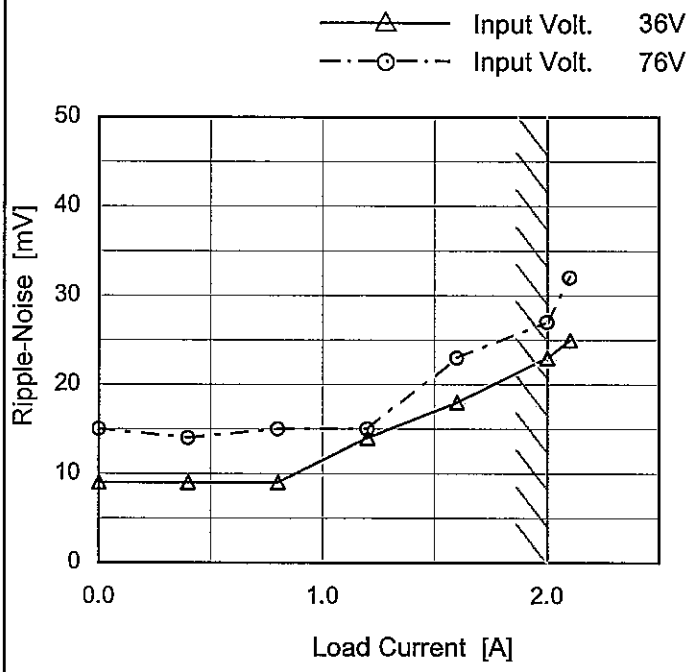
Model	SFS104805
Item	Ripple-Noise
Object	+5V2A

Temperature 25°C
Testing Circuitry Figure C

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.

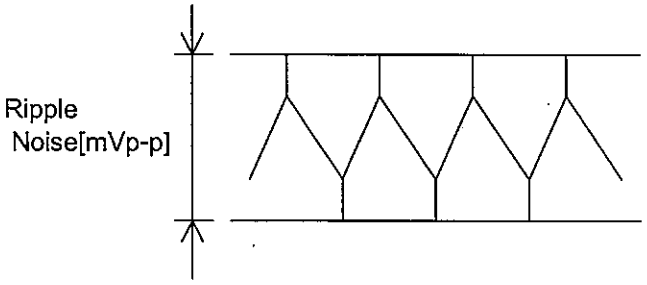


Fig.Complex Ripple Noise Wave Form

2.Values

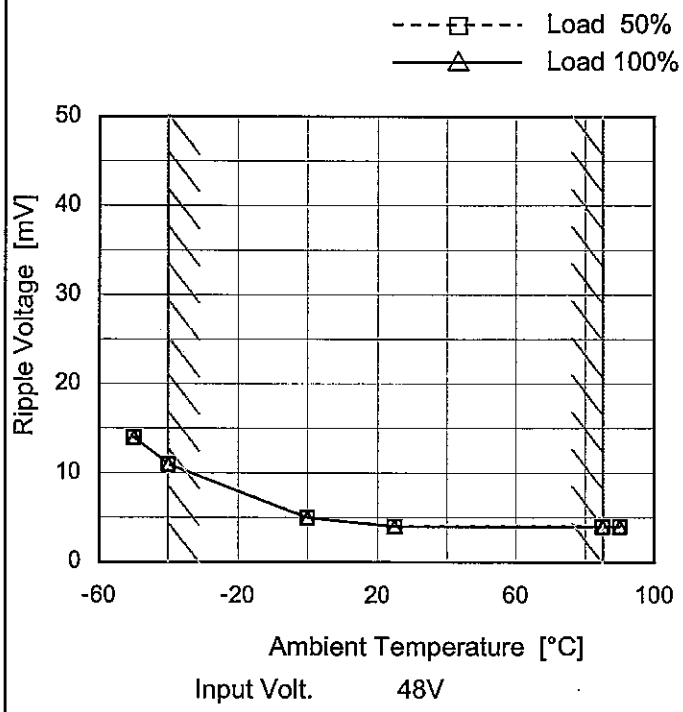
Load Current [A]	Ripple-Noise [mV] Input Volt. 36 [V]	Ripple-Noise [mV] Input Volt. 76 [V]
0.0	9	15
0.4	9	14
0.8	9	15
1.2	14	15
1.6	18	23
2.0	23	27
2.1	25	32
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS104805
Item	Ripple Voltage (by Ambient Temp.)
Object	+5V2A

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

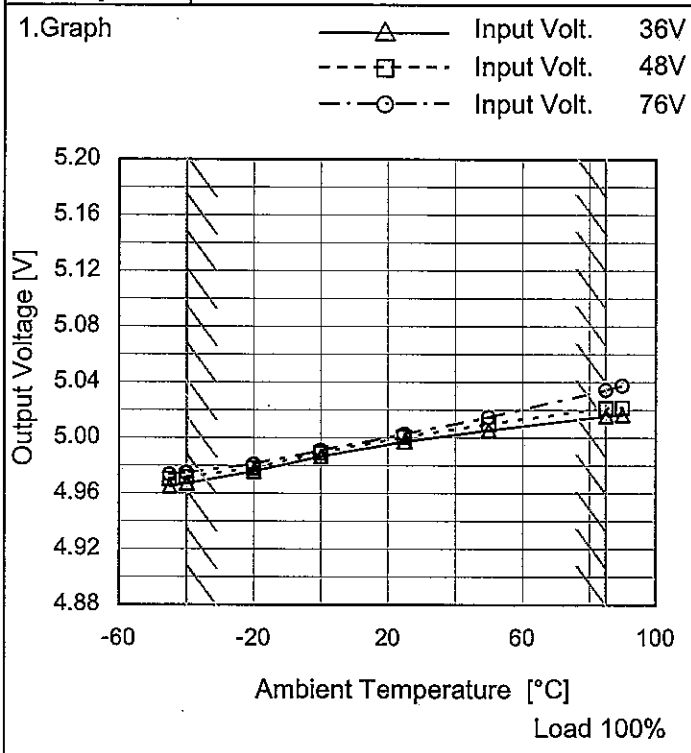
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-50	14	14
-40	11	11
0	5	5
25	4	4
85	4	4
90	4	4
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS104805
Item	Ambient Temperature Drift
Object	+5V2A

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	4.965	4.970	4.974
-40	4.967	4.972	4.975
-20	4.976	4.978	4.981
0	4.987	4.989	4.991
25	4.997	5.000	5.003
50	5.006	5.010	5.015
85	5.016	5.021	5.034
90	5.016	5.022	5.037
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS104805	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+5V2A	

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 - 2A

* 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	76	0	5.179	±106	±2.1
Minimum Voltage	-40	36	2	4.968		

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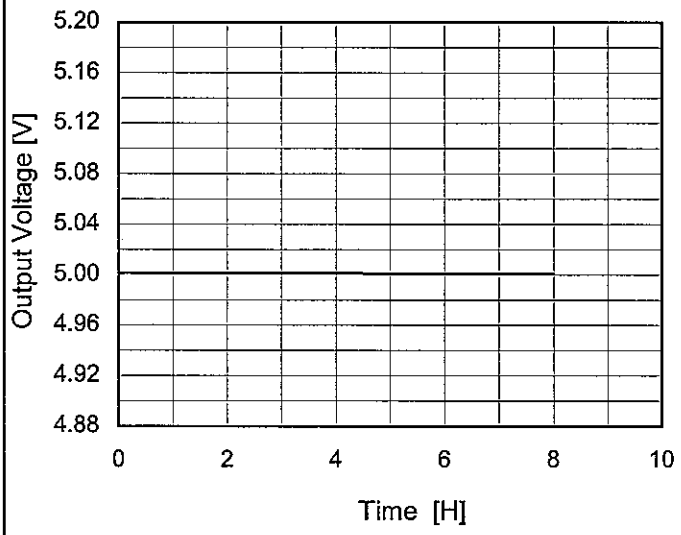
Model	SFS104805
Item	Time Lapse Drift
Object	+5V2A

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	4.999
0.5	5.002
1.0	5.002
2.0	5.002
3.0	5.002
4.0	5.001
5.0	5.001
6.0	5.001
7.0	5.001
8.0	5.001

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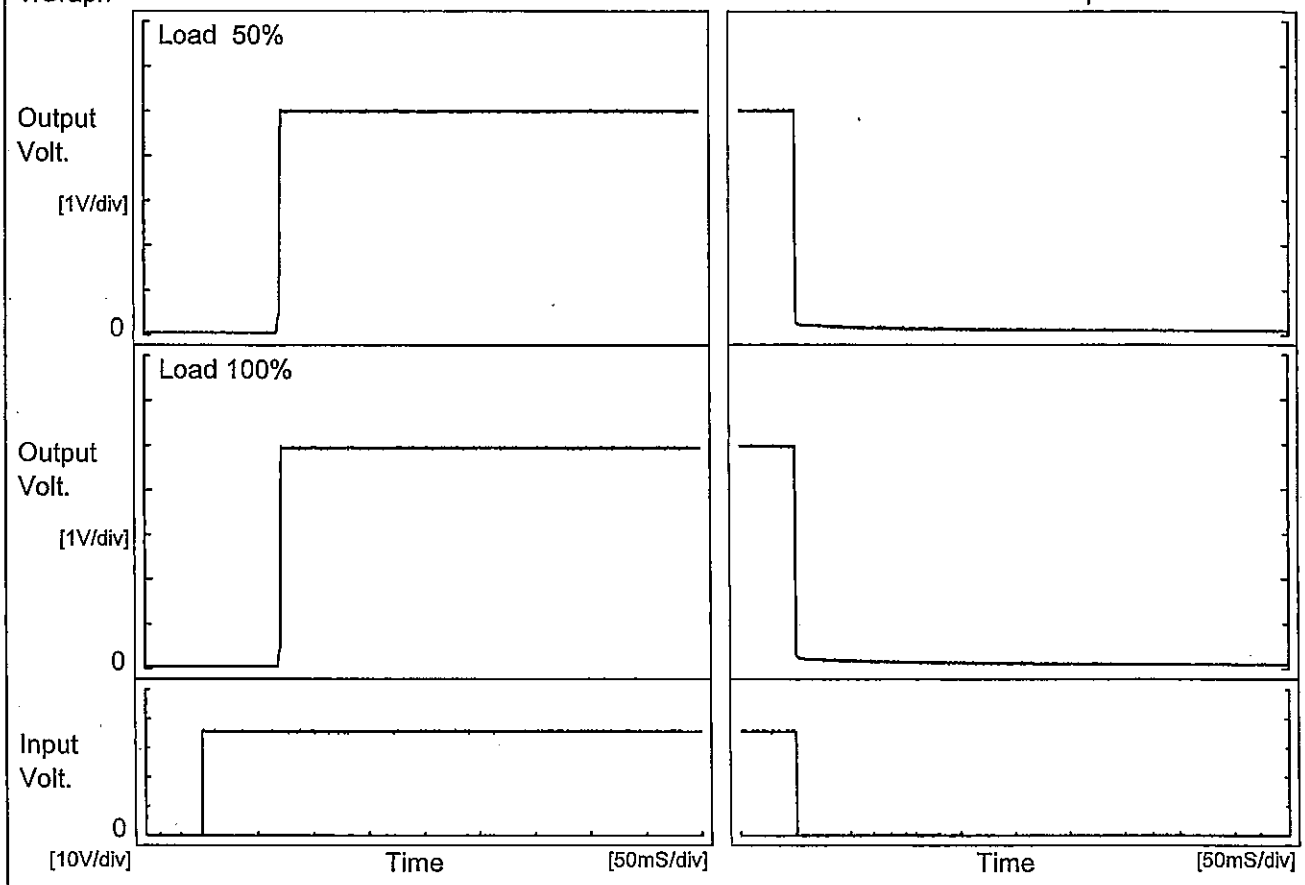
Model	SFS104805
Item	Rise and Fall Time
Object	+5V2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

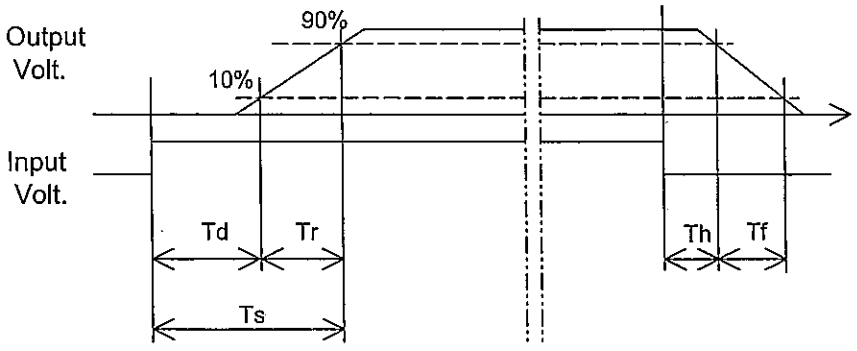
Input Volt. 36 V



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	71.0	0.5	71.5	0.3	0.8
100 %	70.8	0.5	71.3	0.3	0.5



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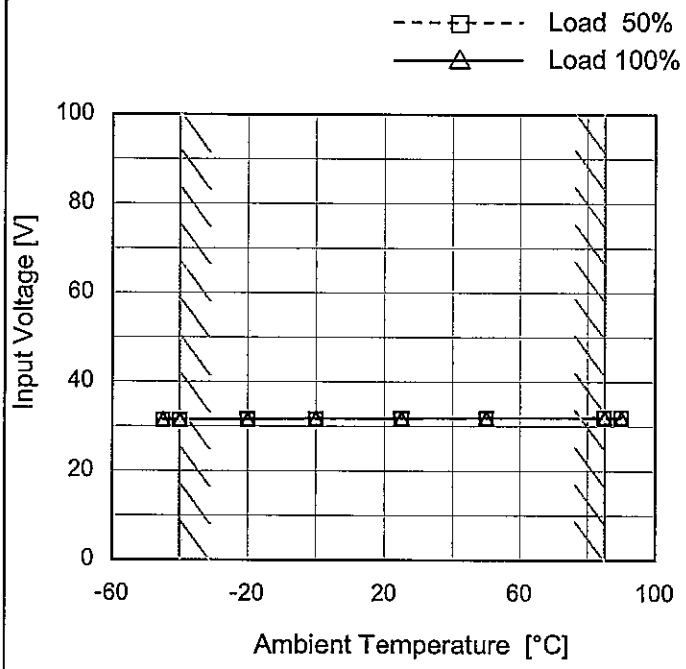
Model	SFS104805
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V2A

Testing Circuitry Figure A

1.Graph



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

2.Values

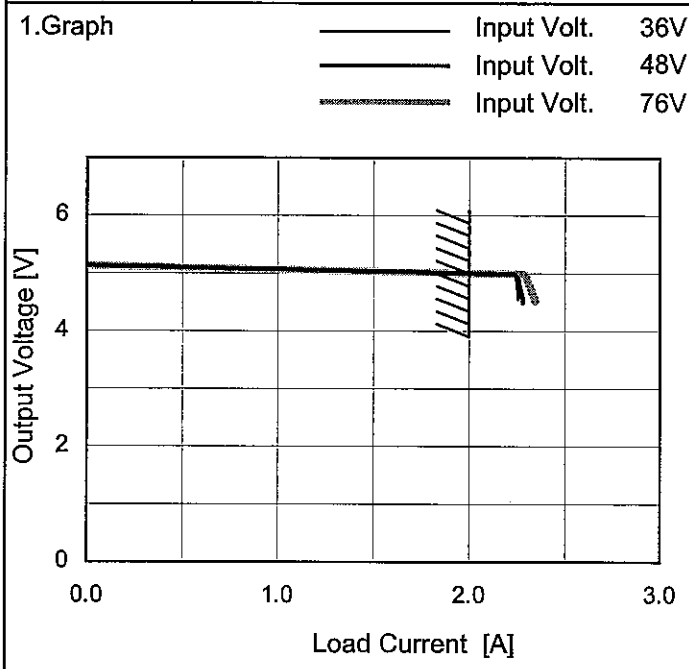
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-45	31.4	31.6
-40	31.5	31.6
-20	31.7	31.6
0	31.7	31.8
25	31.9	31.8
50	31.9	32.0
85	32.1	32.0
90	32.1	32.0
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS104805
Item	Overcurrent Protection
Object	+5V2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

When output voltage fell to less than 4.5V ,the unit shuts off the output by operating low voltage protection.

2.Values

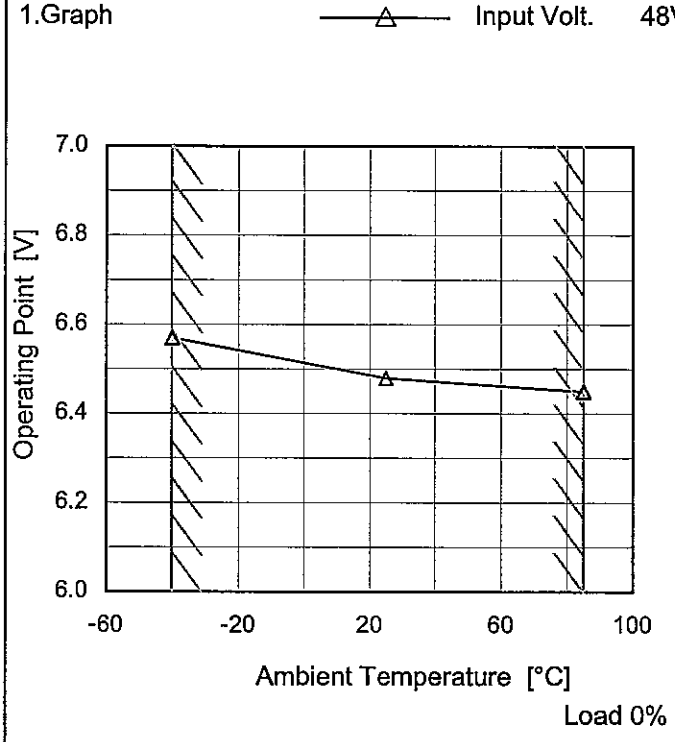
Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
5.00	2.05	2.05	2.11
4.75	2.25	2.26	2.32
4.50	2.26	2.28	2.35
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS104805
Item	Overvoltage Protection
Object	+5V2A

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. -[V]	Input Volt. -[V]
-40	6.57	-	-
25	6.48	-	-
85	6.45	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

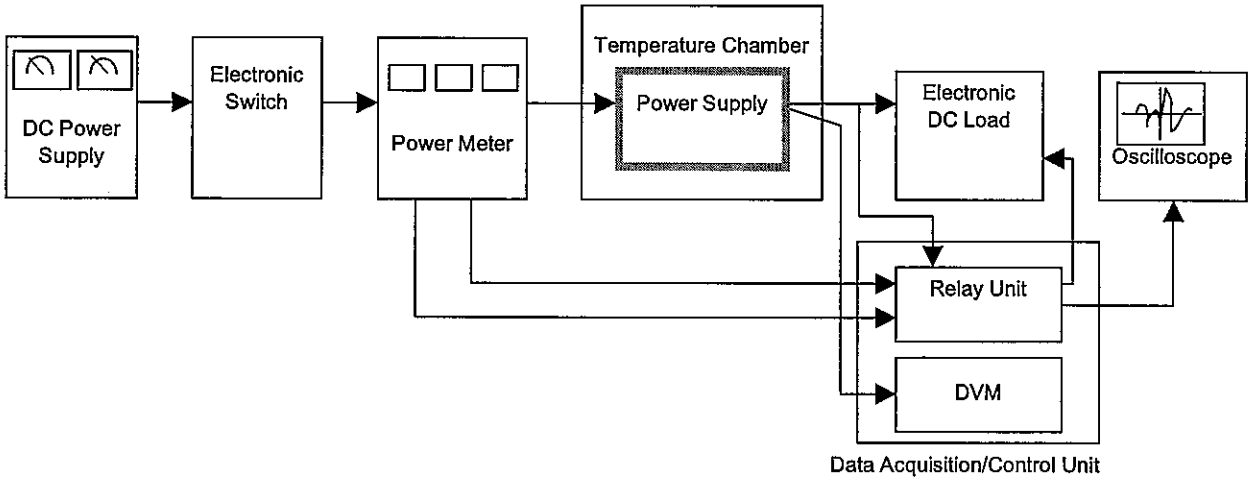


Figure A

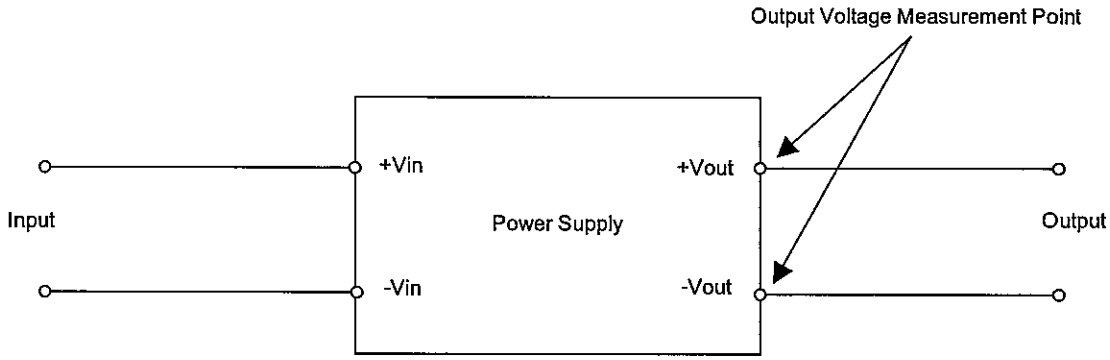


Figure B (General Electric Characteristic)

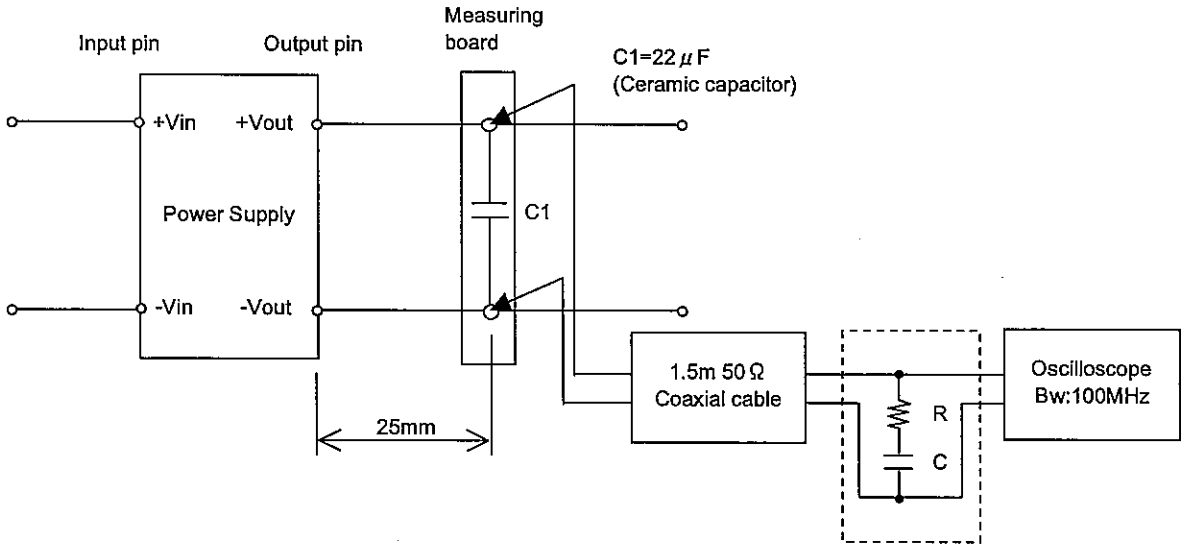


Figure C (Ripple and Ripple noise Characteristic)