参考資料

COSEL

TEST DATA OF SFS15481R8

Regulated DC Power Supply
Oct.23. 2003

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COSEL CO.,LTD.

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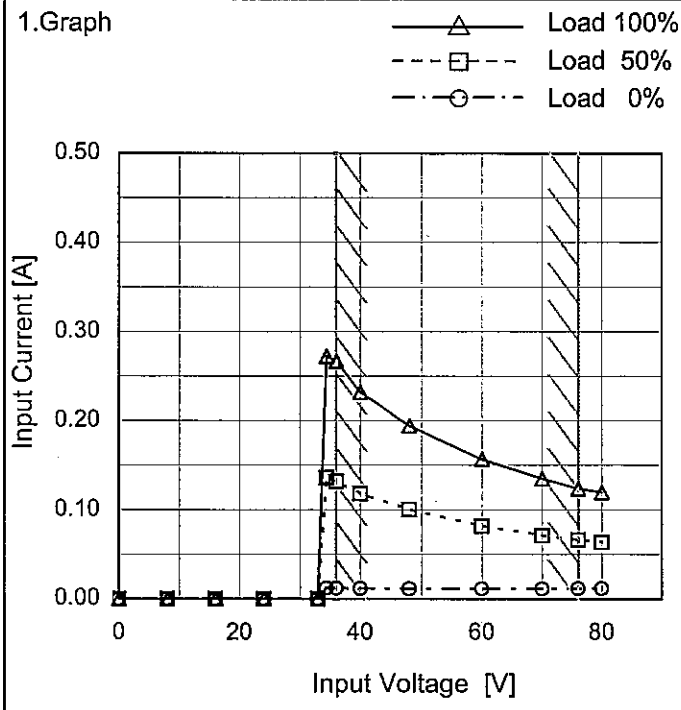
COSEL

Model	SFS15481R8
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

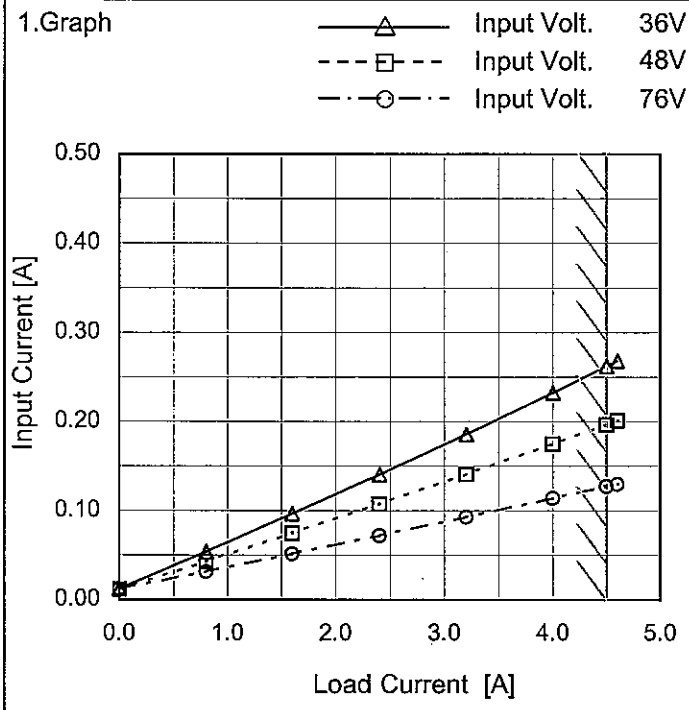
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
8	0.000	0.000	0.000
16	0.000	0.000	0.000
24	0.000	0.000	0.000
33	0.000	0.000	0.000
34	0.012	0.136	0.272
36	0.012	0.132	0.267
40	0.011	0.118	0.232
48	0.011	0.100	0.194
60	0.011	0.082	0.157
70	0.011	0.071	0.135
76	0.011	0.066	0.124
80	0.012	0.064	0.120
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS15481R8
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

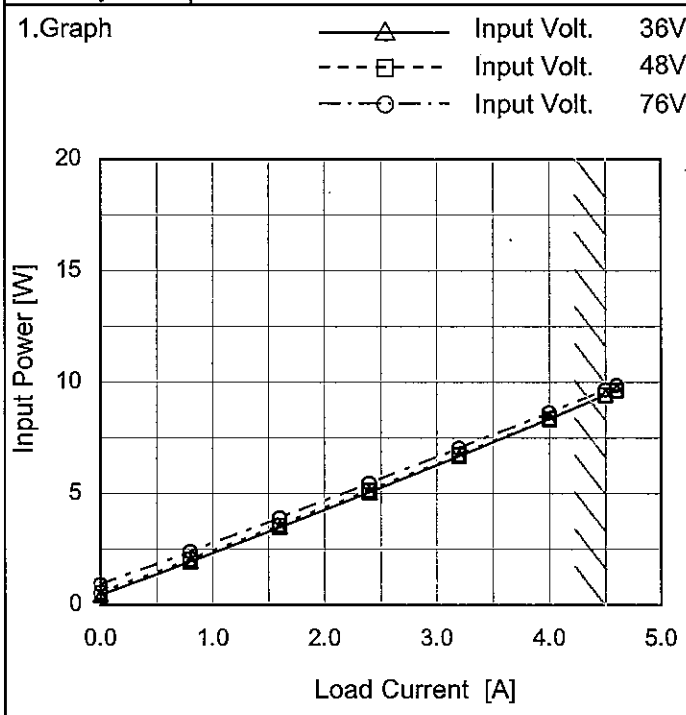
Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.012	0.011	0.012
0.8	0.054	0.043	0.031
1.6	0.097	0.075	0.051
2.4	0.141	0.107	0.072
3.2	0.186	0.141	0.093
4.0	0.232	0.175	0.114
4.5	0.262	0.197	0.127
4.6	0.268	0.201	0.130
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS15481R8
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

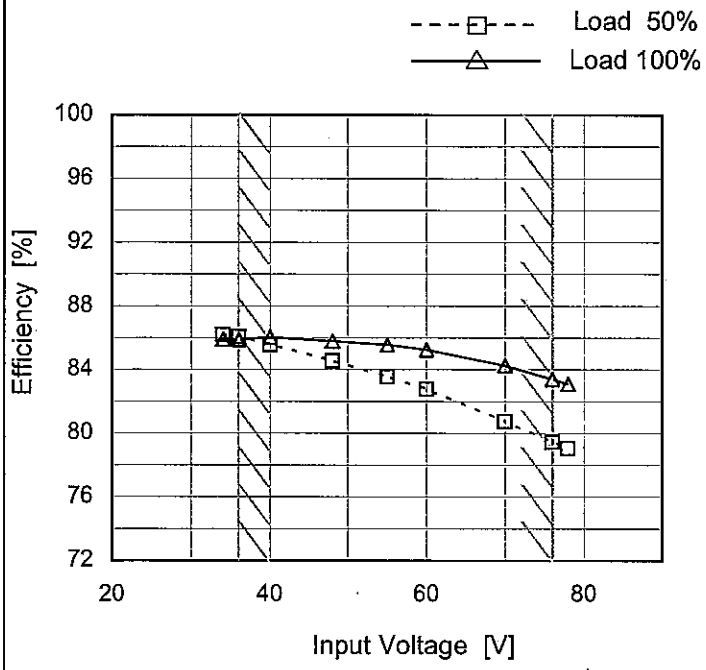
Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.44	0.55	0.90
0.8	1.94	2.04	2.39
1.6	3.48	3.58	3.91
2.4	5.06	5.15	5.46
3.2	6.69	6.74	7.04
4.0	8.35	8.38	8.64
4.5	9.43	9.43	9.65
4.6	9.64	9.63	9.85
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS15481R8
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	86.2	85.9
36	86.1	85.9
40	85.6	86.0
48	84.6	85.8
55	83.6	85.6
60	82.8	85.3
70	80.8	84.3
76	79.5	83.4
78	79.1	83.1

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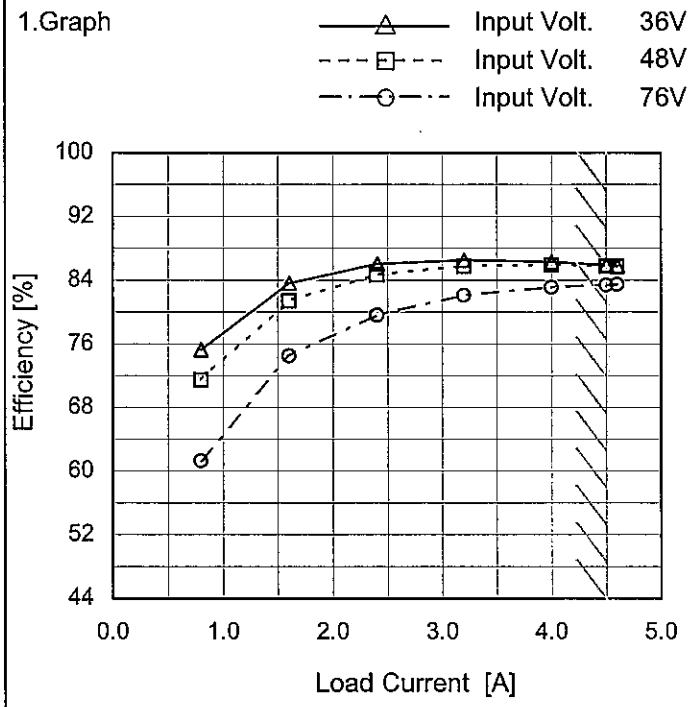
Model	SFS15481R8
Item	Efficiency (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

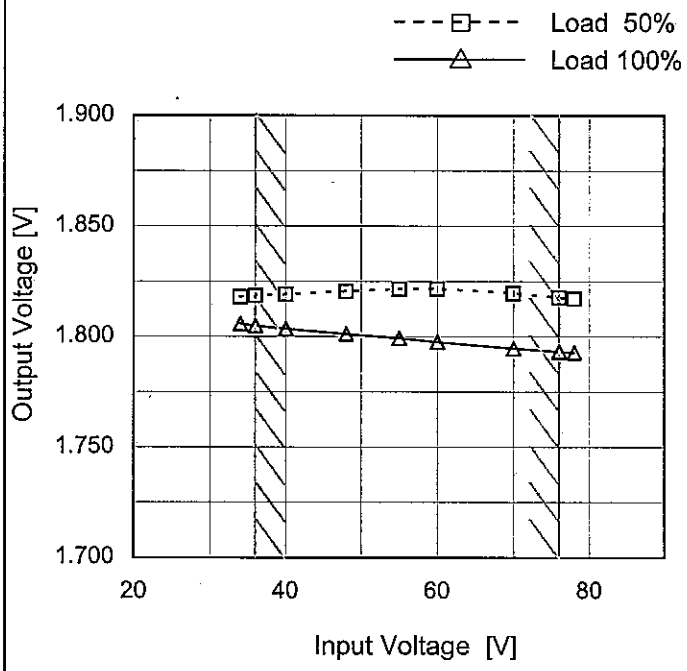
Load Current [A]	Efficiency [%]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	-	-	-
0.8	75.3	71.5	61.3
1.6	83.6	81.4	74.5
2.4	86.0	84.7	79.6
3.2	86.5	85.8	82.1
4.0	86.3	85.9	83.1
4.5	85.9	85.8	83.4
4.6	85.8	85.7	83.4
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS15481R8
Item	Line Regulation
Object	+1.8V4.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

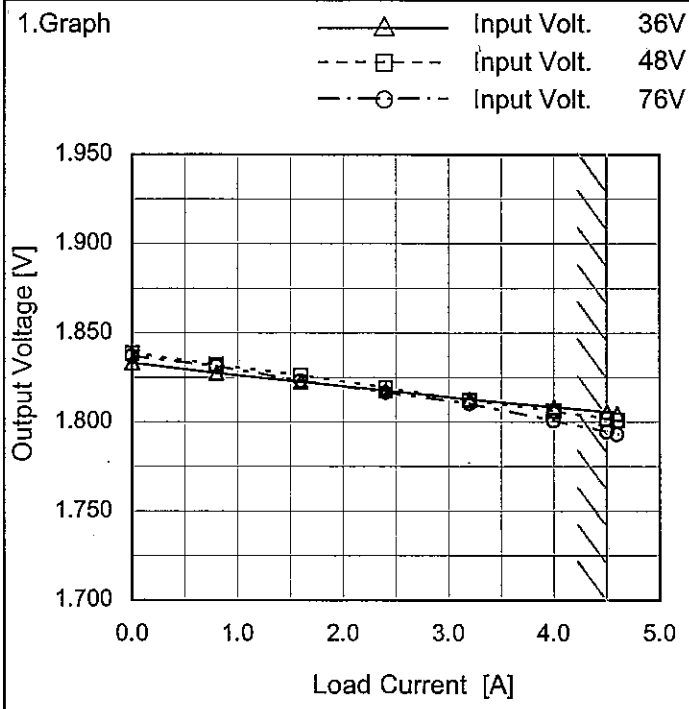
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	1.818	1.806
36	1.819	1.805
40	1.819	1.804
48	1.821	1.801
55	1.822	1.799
60	1.822	1.798
70	1.820	1.795
76	1.818	1.793
78	1.817	1.793

COSEL

Model	SFS15481R8
Item	Load Regulation
Object	+1.8V4.5A

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	1.833	1.839	1.837
0.8	1.828	1.832	1.831
1.6	1.823	1.826	1.823
2.4	1.818	1.819	1.817
3.2	1.813	1.812	1.810
4.0	1.808	1.806	1.801
4.5	1.806	1.802	1.794
4.6	1.805	1.801	1.793
--	-	-	-
--	-	-	-
--	-	-	-

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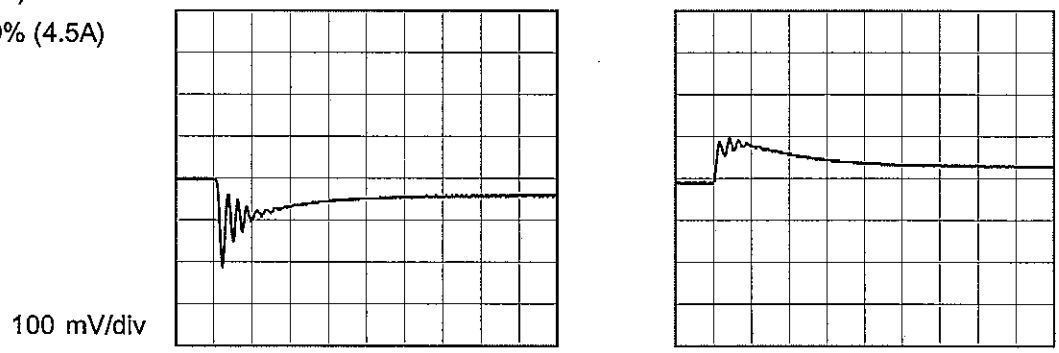
Model	SFS15481R8		
Item	Dynamic Load Response	Temperature Testing Circuitry	25℃ Figure A
Object	+1.8V4.5A		

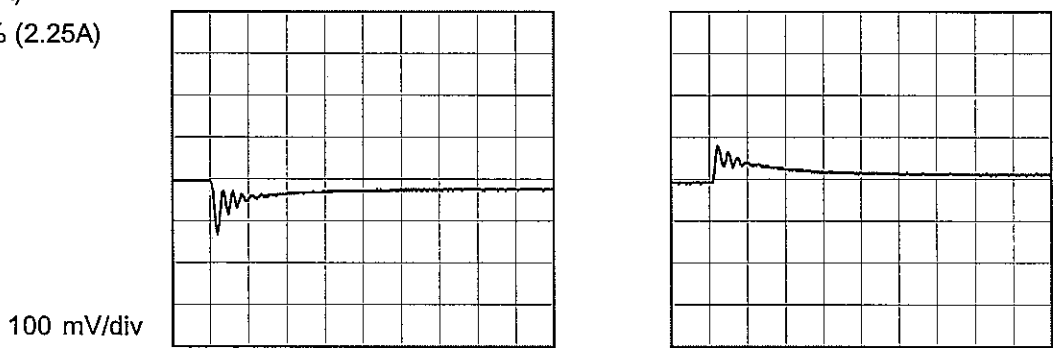
Input Volt. 48 V
Cycle 1000 ms

Load Current

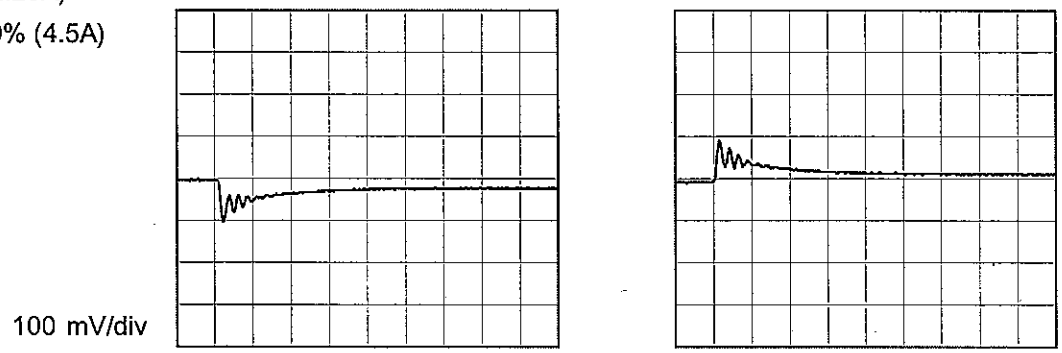
Min. Load (0A)
Load 100% (4.5A)



Min. Load (0A)
Load 50% (2.25A)



Load 50% (2.25A)
Load 100% (4.5A)



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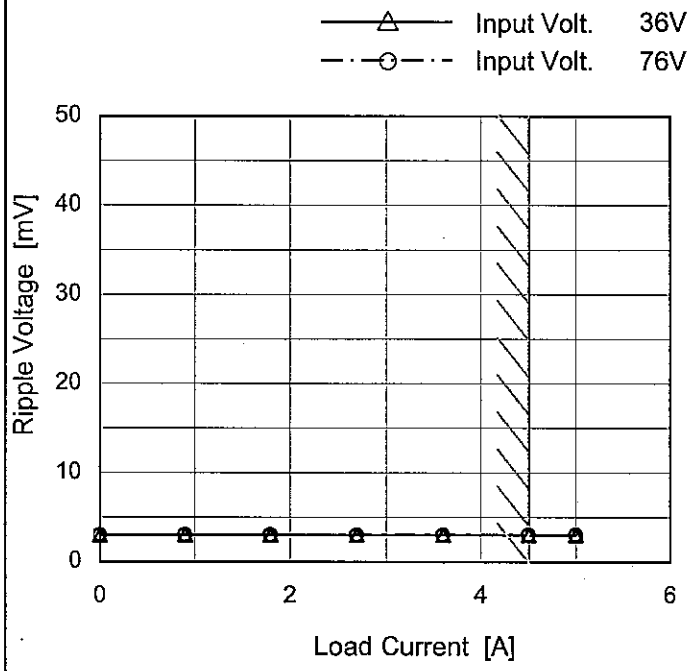
Model	SFS15481R8
Item	Ripple Voltage (by Load Current)
Object	+1.8V4.5A

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]

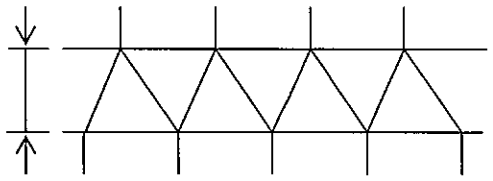


Fig.Complex Ripple Wave Form

2.Values

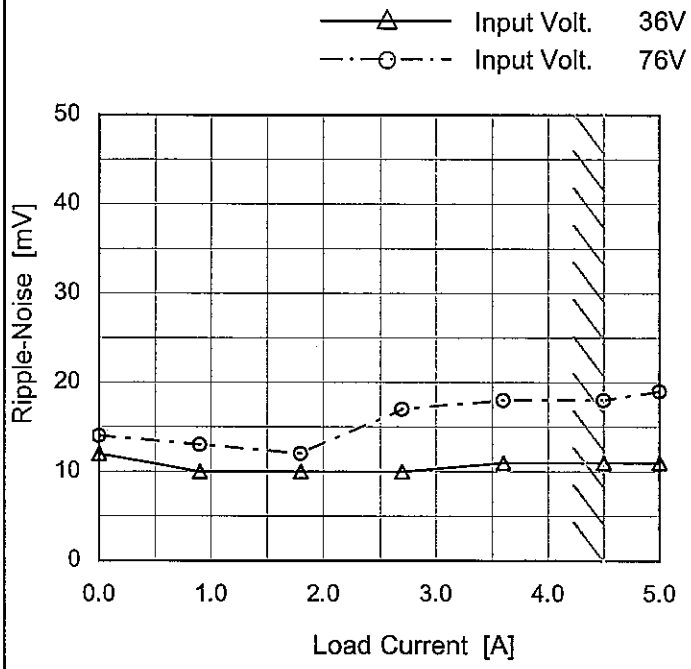
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	3	3
0.9	3	3
1.8	3	3
2.7	3	3
3.6	3	3
4.5	3	3
5.0	3	3
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS15481R8
Item	Ripple-Noise
Object	+1.8V4.5A

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.

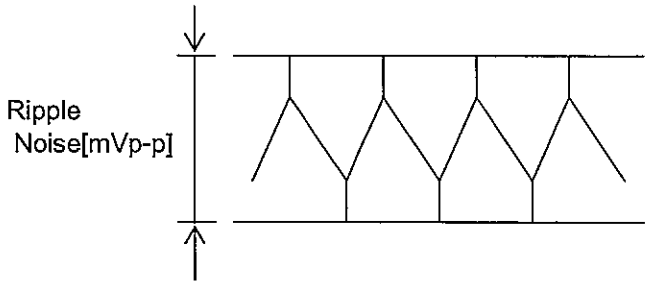


Fig.Complex Ripple Noise Wave Form

2.Values

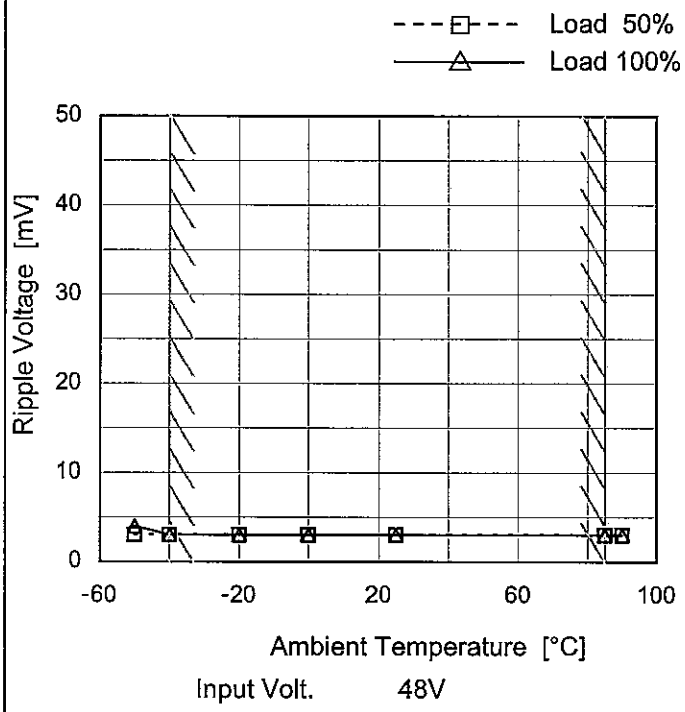
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	12	14
0.9	10	13
1.8	10	12
2.7	10	17
3.6	11	18
4.5	11	18
5.0	11	19
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS15481R8
Item	Ripple Voltage (by Ambient Temp.)
Object	+1.8V4.5A

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

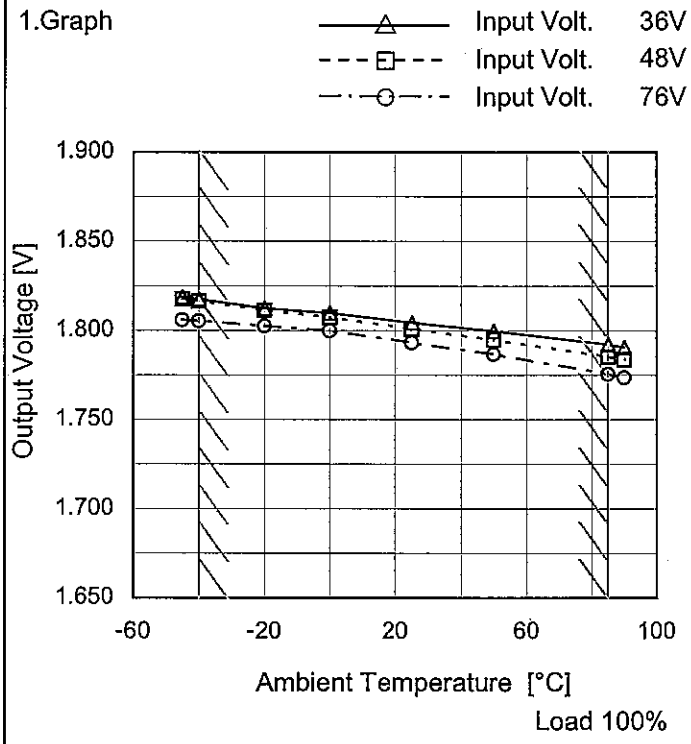
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-50	3	4
-40	3	3
-20	3	3
0	3	3
25	3	3
85	3	3
90	3	3
---	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS15481R8
Item	Ambient Temperature Drift
Object	+1.8V4.5A

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	1.819	1.818	1.806
-40	1.818	1.816	1.805
-20	1.813	1.811	1.802
0	1.810	1.807	1.800
25	1.805	1.801	1.793
50	1.800	1.795	1.787
85	1.792	1.785	1.776
90	1.791	1.784	1.774
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS15481R8	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+1.8V4.5A	

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 - 4.5A

* 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

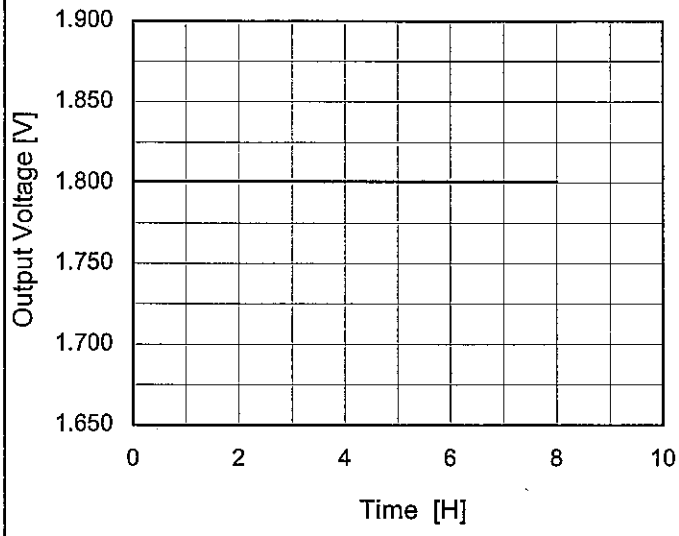
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	85	48	0	1.843	±34	±1.9
Minimum Voltage	85	76	4.5	1.775		

COSEL

Model	SFS15481R8
Item	Time Lapse Drift
Object	+1.8V4.5A

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	1.803
0.5	1.801
1.0	1.801
2.0	1.801
3.0	1.801
4.0	1.801
5.0	1.801
6.0	1.801
7.0	1.801
8.0	1.801

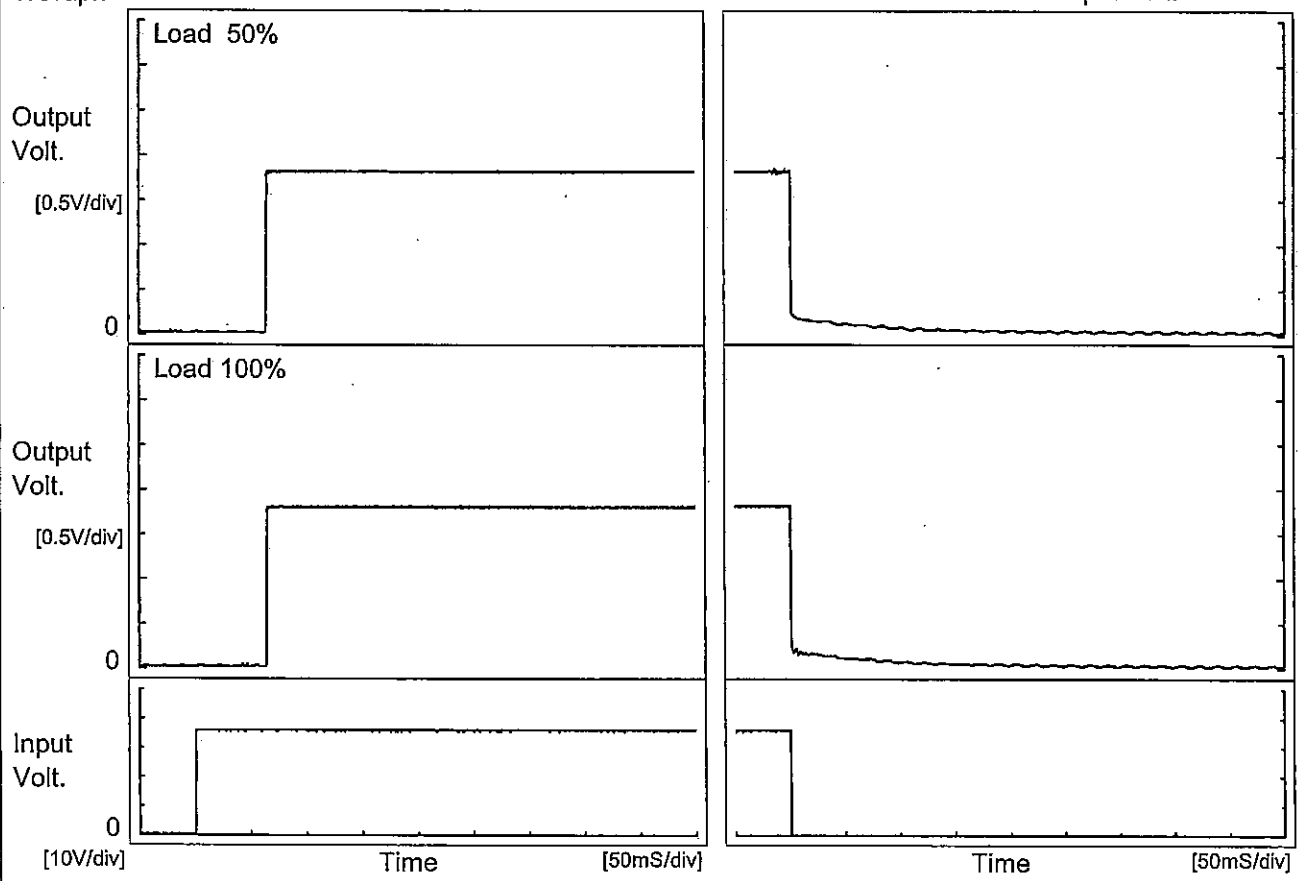
COSEL

Model	SFS15481R8
Item	Rise and Fall Time
Object	+1.8V4.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

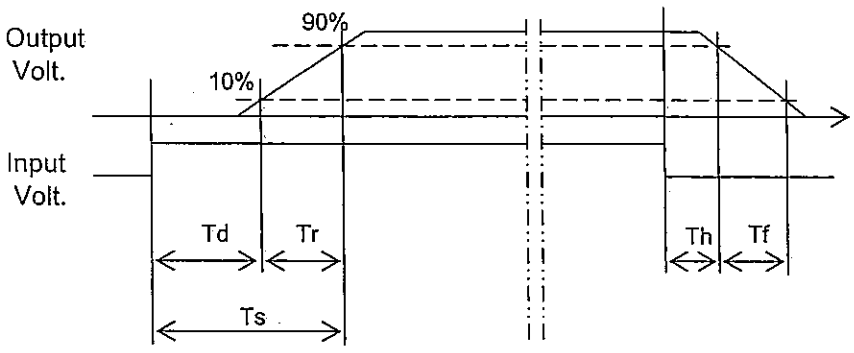
Input Volt. 36 V



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	64.3	0.7	65.0	0.3	3.8
100 %	66.0	0.7	66.7	0.3	1.8

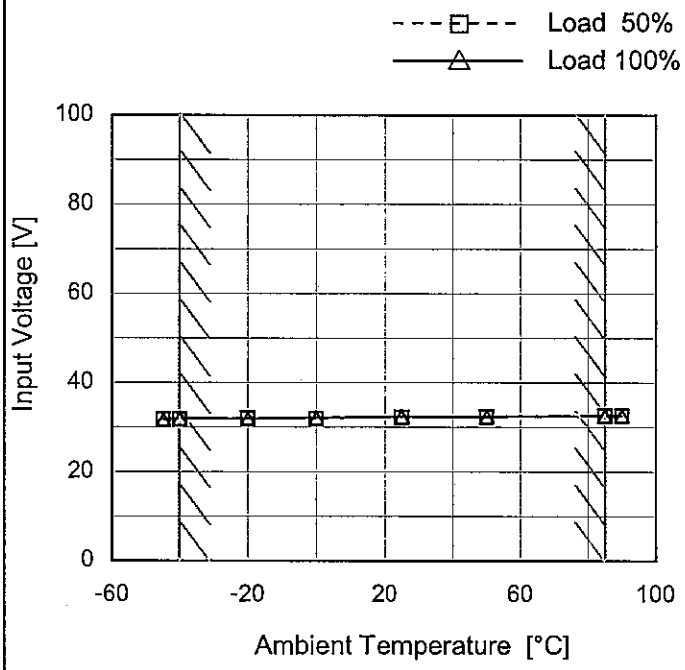


COSEL

Model	SFS15481R8
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+1.8V4.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

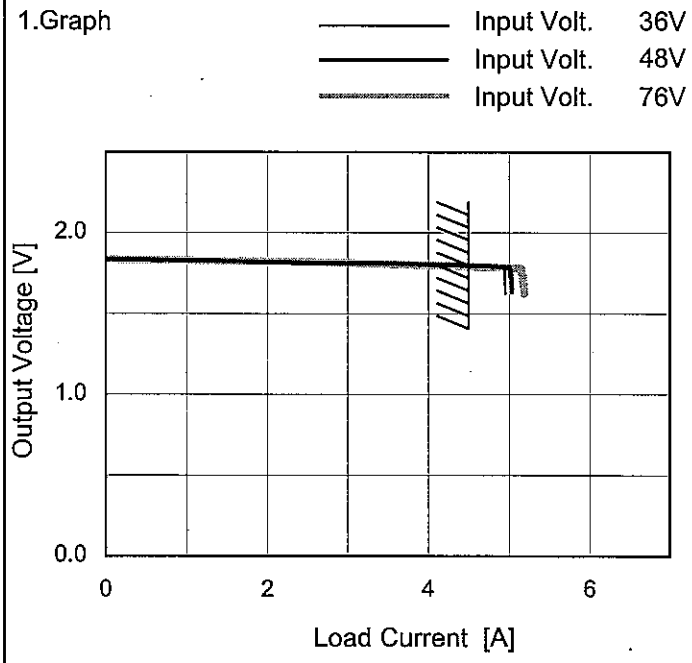
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-45	31.9	31.8
-40	31.9	32.0
-20	32.1	32.0
0	32.0	32.2
25	32.3	32.4
50	32.4	32.4
85	32.7	32.6
90	32.7	32.6
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS15481R8
Item	Overcurrent Protection
Object	+1.8V4.5A

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 1.62V,the unit shuts off the output by operating low voltage protection.

2.Values

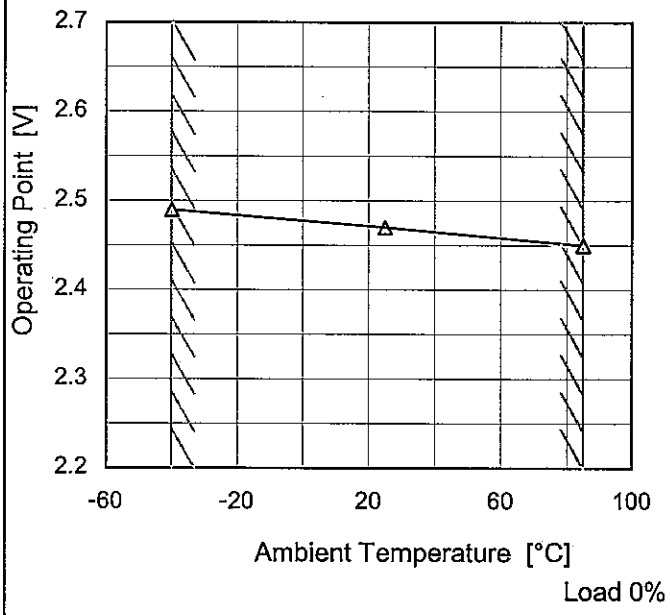
Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
1.80	4.93	5.01	5.15
1.71	4.95	5.03	5.17
1.62	4.95	5.04	5.18
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS15481R8
Item	Overvoltage Protection
Object	+1.8V4.5A

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	2.49	-	-
25	2.47	-	-
85	2.45	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

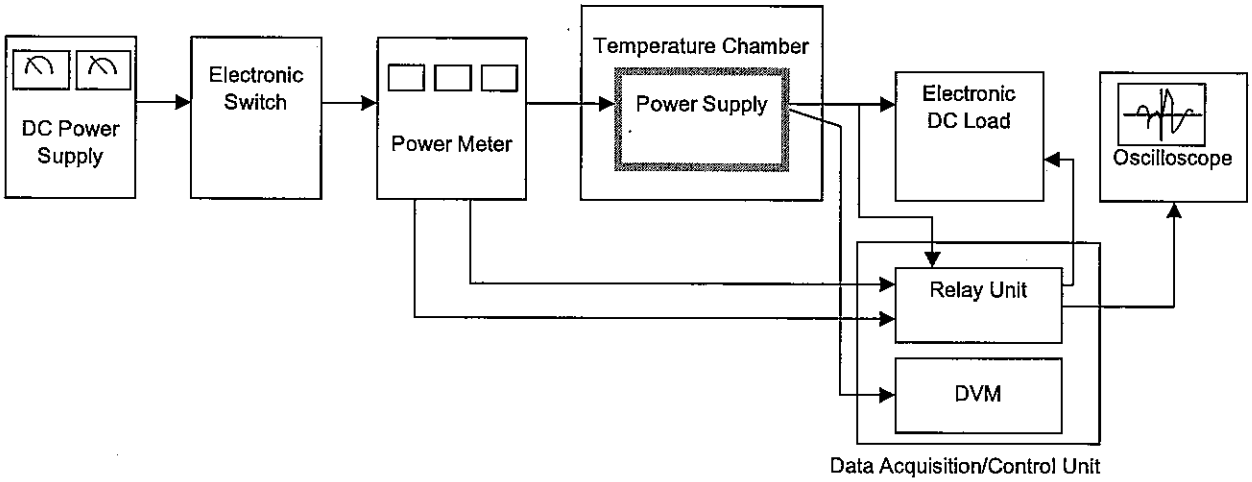


Figure A

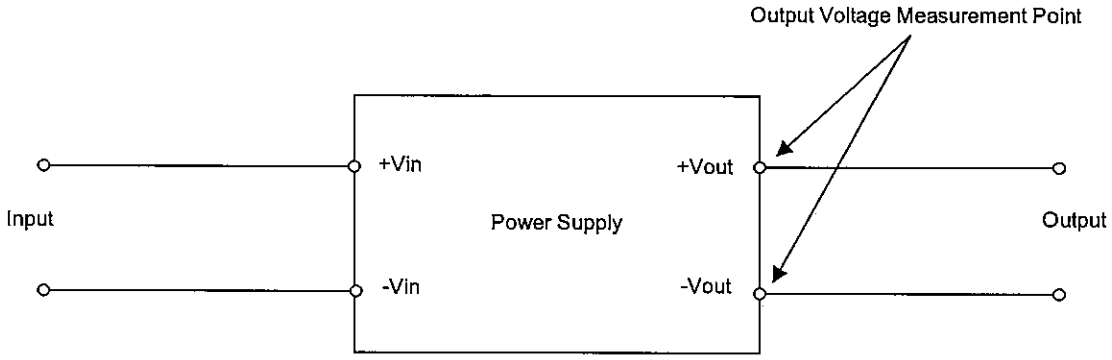


Figure B (General Electric Characteristic)

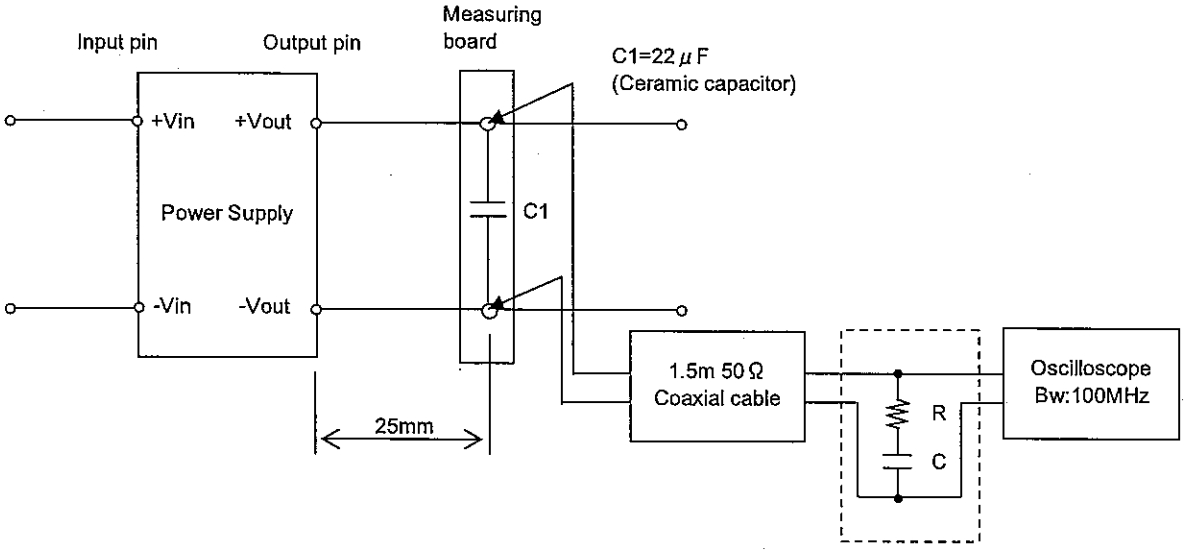


Figure C (Ripple and Ripple noise Characteristic)