COSEL

TEST DATA OF SFS154815/SFCS154815

Regulated DC Power Supply
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Object	

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1.Graph
──△── Load 100%
--- ⊟ --- Load 50%
─·─○─·· Load 0%

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	0.248	0.476
36	0.022	0.239	0.460
40	0.022	0.216	0.413
48	0.021	0.183	0.346
60	0.021	0.150	0.280
70	0.021	0.132	0.243
76	0.021	0.123	0.228
80	0.021	0.118	0.216
--	-	-	-
---	-	-	-
---	-	-	-

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Model	SFS154815/SFCS154815
Item	Input Current (by Load Current)
Object	

Temperature 25°C
Testing Circuitry Figure A

1.Graph

———△——— Input Volt. 36V
- - -☐- - - Input Volt. 48V
— ·—○—·· Input Volt. 76V

Input Current [A] vs Load Current [A]

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	0.022	0.021	0.021
0.2	0.105	0.083	0.060
0.4	0.191	0.148	0.101
0.6	0.279	0.213	0.142
0.8	0.367	0.279	0.184
1.0	0.460	0.346	0.228
1.1	0.502	0.379	0.246
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SFS154815/SFCS154815
Item	Input Power (by Load Current)
Object	————————
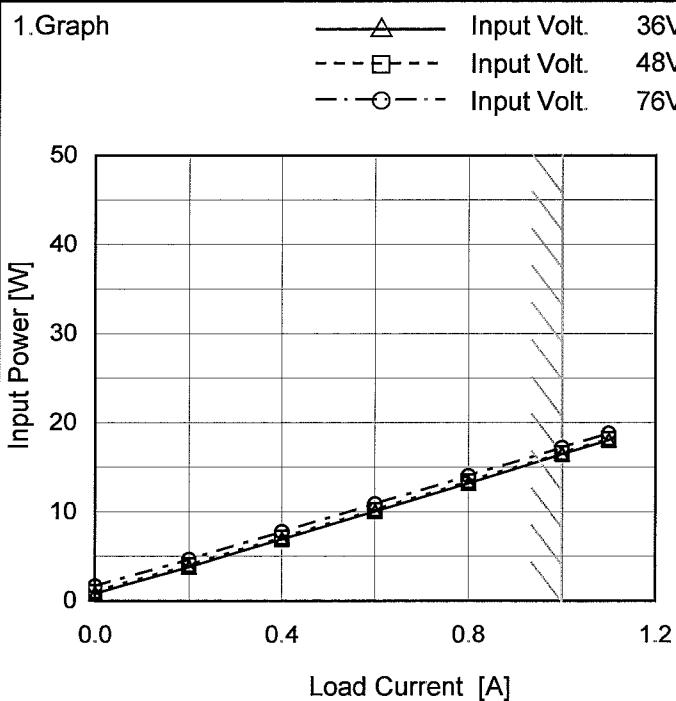
Temperature   25°C
Testing Circuitry   Figure A

1.Graph

————△———— Input Volt.   36V
- - - ⊟ - - - Input Volt.   48V
— · —○— · · Input Volt.   76V

Load Current [A]

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	0.83	1.04	1.65
0.2	3.81	4.02	4.65
0.4	6.92	7.13	7.77
0.6	10.06	10.25	10.89
0.8	13.22	13.42	14.04
1.0	16.47	16.61	17.22
1.1	18.08	18.20	18.81
---	-	-	-
---	-	-	-
---	-	-	-
---	-	-	-

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Model	SFS154815/SFCS154815
Item	Efficiency (by Input Voltage)
Object	————————————
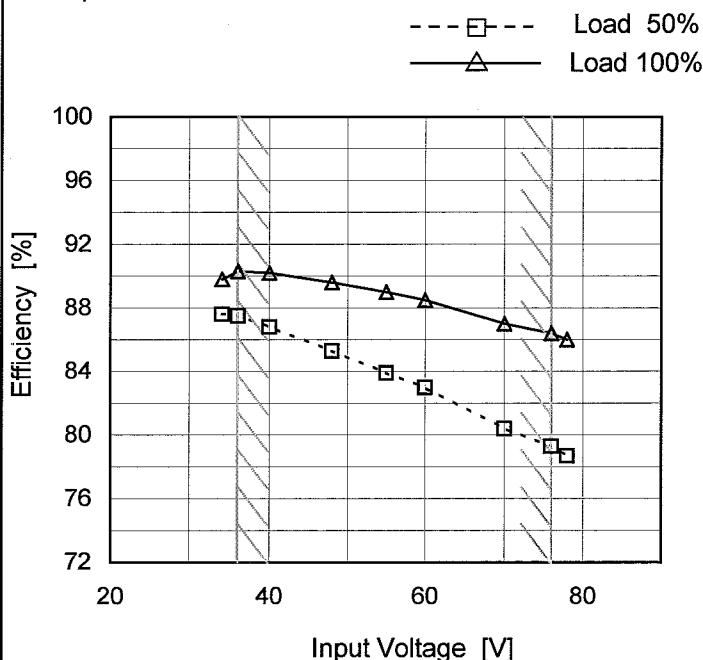
Temperature	25°C
Testing Circuitry	Figure A

1.Graph

- - - ◻ - - -   Load 50%
———△———   Load 100%

Efficiency [%] vs Input Voltage [V]

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

2.Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
34	87.6	89.8
36	87.5	90.3
40	86.8	90.2
48	85.3	89.6
55	83.9	89.0
60	83.0	88.5
70	80.4	87.0
76	79.3	86.4
78	78.7	86.0

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Model	SFS154815/SFCS154815
Item	Efficiency (by Load Current)
Object	
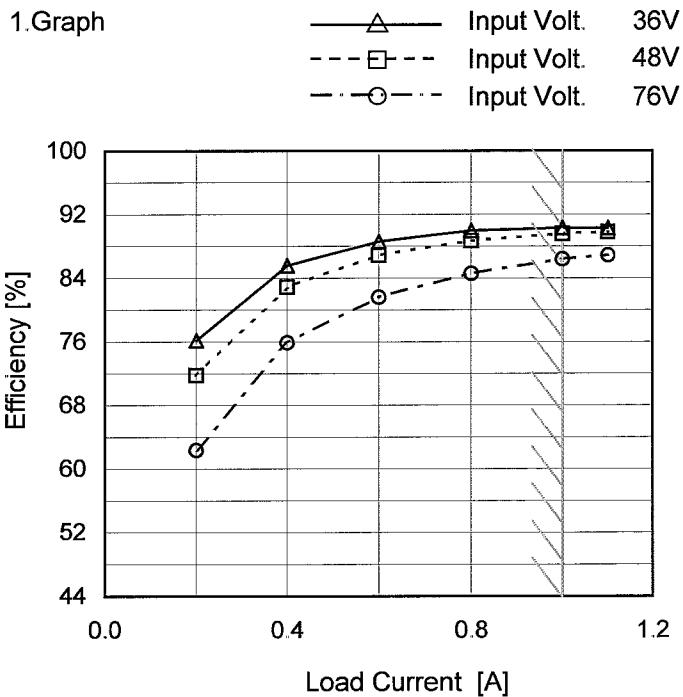
Temperature 25°C
Testing Circuitry Figure A

1.Graph

△——— Input Volt. 36V
- - -曰- - - Input Volt. 48V
— ·—○—·· Input Volt. 76V

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	-	-	-
0.2	76.2	71.8	62.4
0.4	85.6	82.9	75.9
0.6	88.6	86.9	81.6
0.8	90.0	88.7	84.6
1.0	90.3	89.6	86.4
1.1	90.3	89.8	86.9
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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参考資料

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Model	SFS154815/SFCS154815
Item	Line Regulation
Object	+15V1A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

- - -⊟- - - Load 50%
—△— Load 100%

Output Voltage [V] vs Input Voltage [V]

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

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	15.052	14.941
36	15.074	14.963
40	15.090	15.001
48	15.065	14.994
55	15.047	14.989
60	15.037	14.985
70	15.026	14.978
76	15.027	14.979
78	15.029	14.979

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Model	SFS154815/SFCS154815
Item	Load Regulation
Object	+15V1A
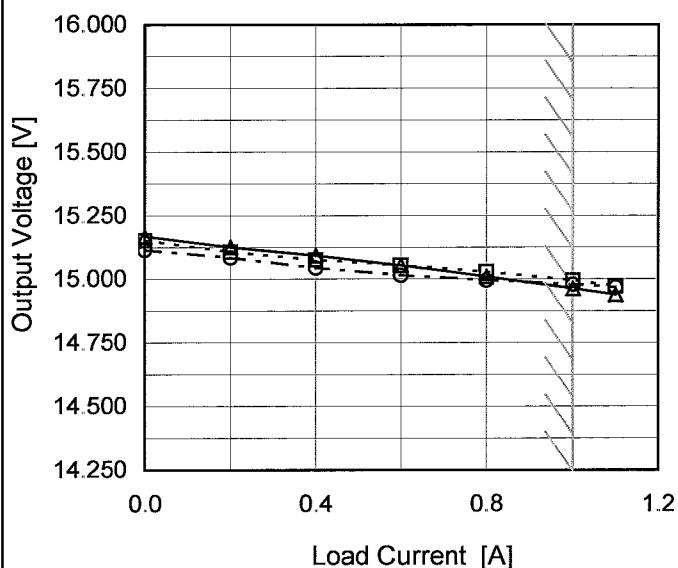
Temperature 25°C
Testing Circuitry Figure A

1.Graph

——△—— Input Volt. 36V
- - -□- - - Input Volt. 48V
— · —○— · · Input Volt. 76V

Load Current [A]

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	15.169	15.153	15.115
0.2	15.126	15.107	15.085
0.4	15.093	15.076	15.045
0.6	15.055	15.055	15.015
0.8	15.011	15.029	14.995
1.0	14.963	14.994	14.979
1.1	14.939	14.973	14.968
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SFS154815/SFCS154815		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	+15V1A		

Input Volt.   48 V

Cycle   1000 mS

Load Current   1A / 200 μ sec

Min. Load (0A) ←→
Load 100% (1A)

500mV/div

200 μs/div
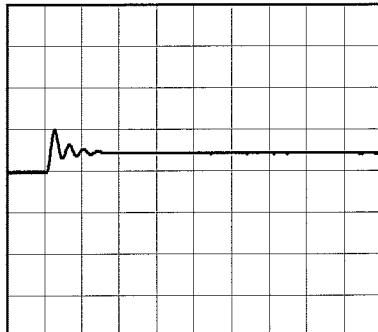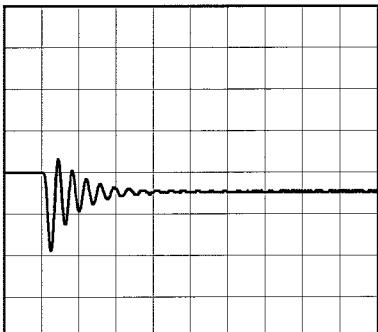
200 μs/div

Min. Load (0A) ←→
Load 50% (0.5A)

500mV/div

200 μs/div
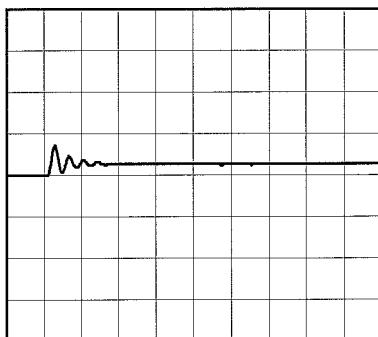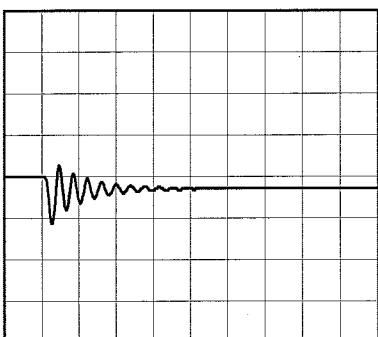
200 μs/div

Load 50% (0.5A) ←→
Load 100% (1A)

500mV/div

200 μs/div

200 μs/div

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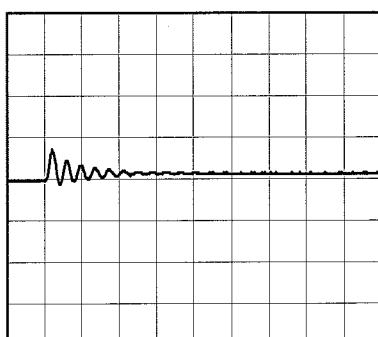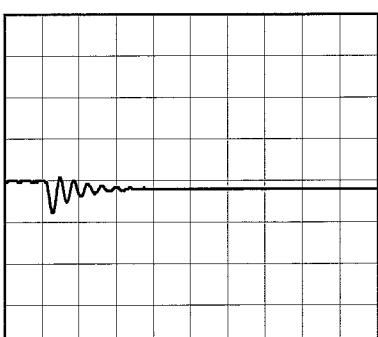
Model	SFS154815/SFCS154815
Item	Ripple Voltage (by Load Current)
Object	+15V1A

Temperature   25°C
Testing Circuitry   Figure C

1.Graph

—△— Input Volt. 36V
—·○—·· Input Volt. 76V
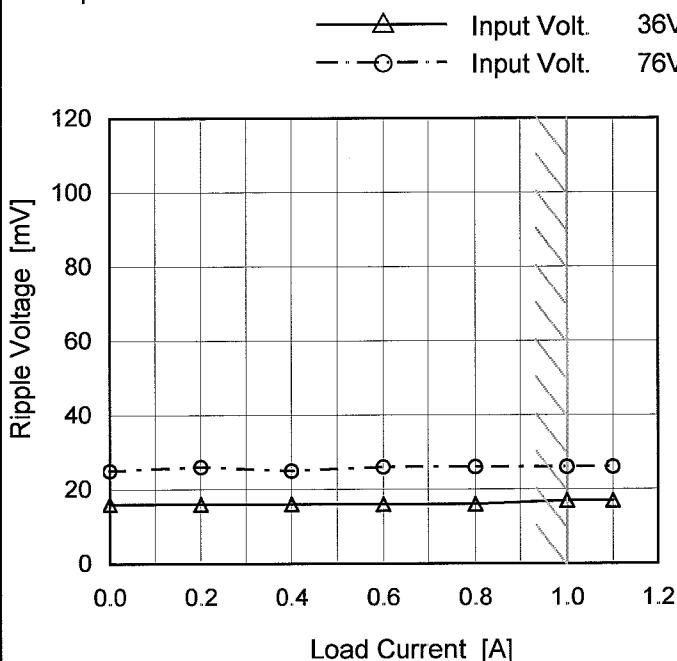
Load Current [A]

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.

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	16	25
0.2	16	26
0.4	16	25
0.6	16	26
0.8	16	26
1.0	17	26
1.1	17	26
--	-	-
--	-	-
--	-	-
--	-	-

Ripple [mVp-p]
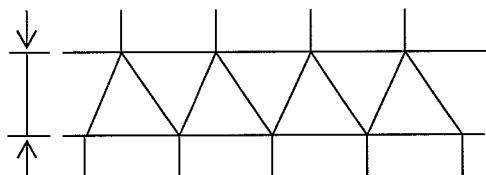
Fig.Complex Ripple Wave Form

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Model	SFS154815/SFCS154815
Item	Ripple-Noise
Object	+15V1A

Temperature   25°C
Testing Circuitry   Figure C

1.Graph

—△— Input Volt. 36V
— ·○— ·· Input Volt. 76V
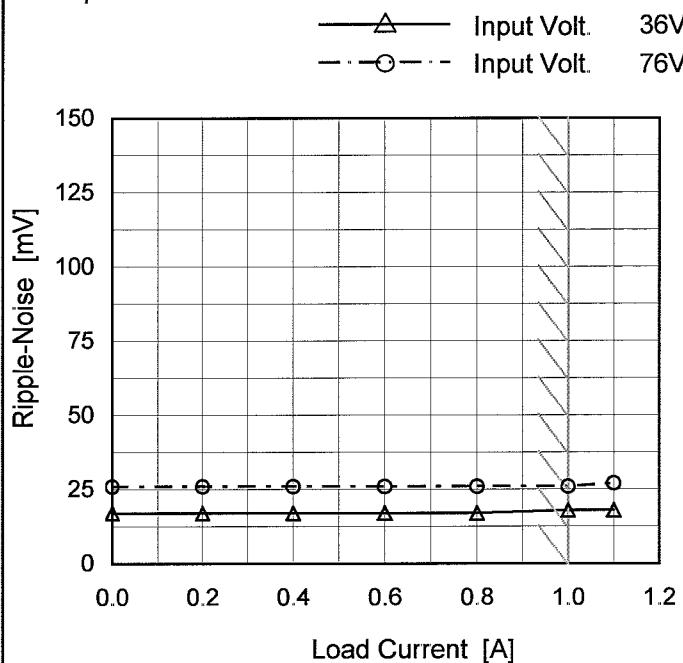
Load Current [A]

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.

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	17	26
0.2	17	26
0.4	17	26
0.6	17	26
0.8	17	26
1.0	18	26
1.1	18	27
--	-	-
--	-	-
--	-	-
--	-	-
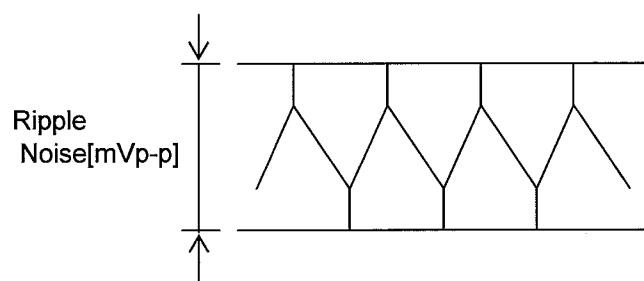
Ripple Noise[mVp-p]

Fig.Complex Ripple Noise Wave Form

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Model	SFS154815/SFCS154815
Item	Ripple Voltage (by Ambient Temp.)
Object	+15V1A

Testing Circuitry　Figure C

1.Graph

--- ⊟ --- Load 50%
——— △ ——— Load 100%

Ambient Temperature [°C]

Input Volt.　　　48V
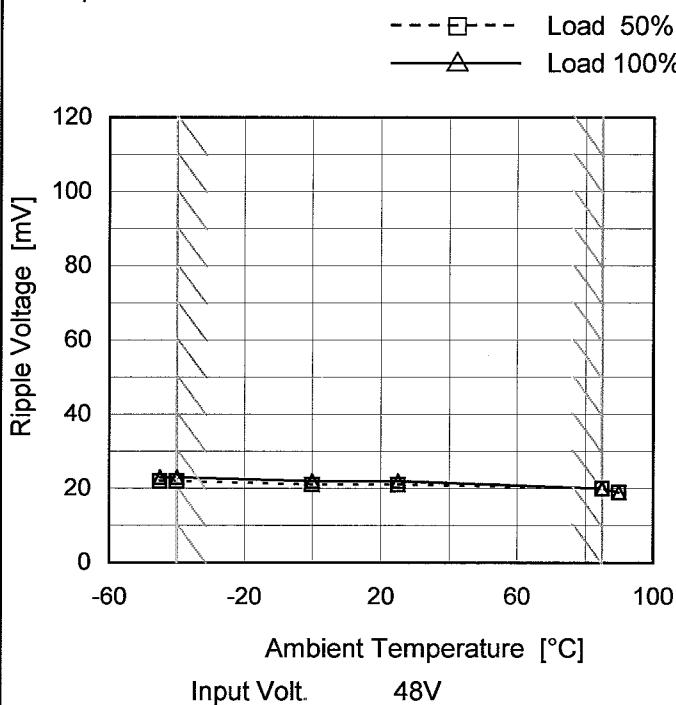
Measured by 100 MHz Oscilloscope.
Note: Slanted line shows the range of the rated
　　　ambient temperature.

2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-45	22	23
-40	22	23
0	21	22
25	21	22
85	20	20
90	19	19
---	-	-
---	-	-
---	-	-
---	-	-
---	-	-

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Model	SFS154815/SFCS154815
Item	Ambient Temperature Drift
Object	+15V1A
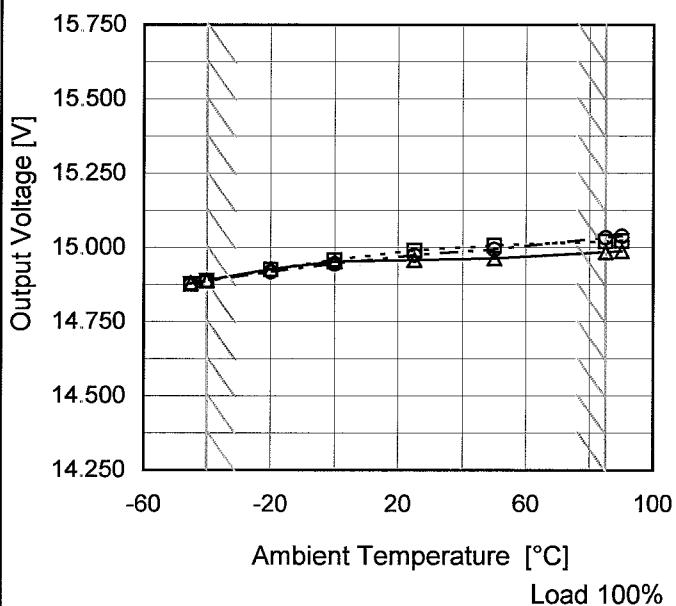
Testing Circuitry   Figure A

1.Graph

——△——	Input Volt.	36V
- - - ⊟ - - -	Input Volt.	48V
— ·—⊖—· -	Input Volt.	76V

Output Voltage [V]

Ambient Temperature [°C]

Load 100%

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	14.880	14.877	14.877
-40	14.890	14.888	14.887
-20	14.928	14.926	14.918
0	14.953	14.958	14.945
25	14.958	14.990	14.974
50	14.963	15.006	14.994
85	14.985	15.021	15.033
90	14.988	15.023	15.039
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SFS154815/SFCS154815
Item	Output Voltage Accuracy
Object	+15V1A

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 - 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	85	36	0	15.236	±174	±1.2
Minimum Voltage	-40	76	1	14.888		

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Model	SFS154815/SFCS154815
Item	Time Lapse Drift
Object	+15V1A

Temperature	25°C
Testing Circuitry	Figure A

1.Graph

Input Volt.   48V
Load   100%
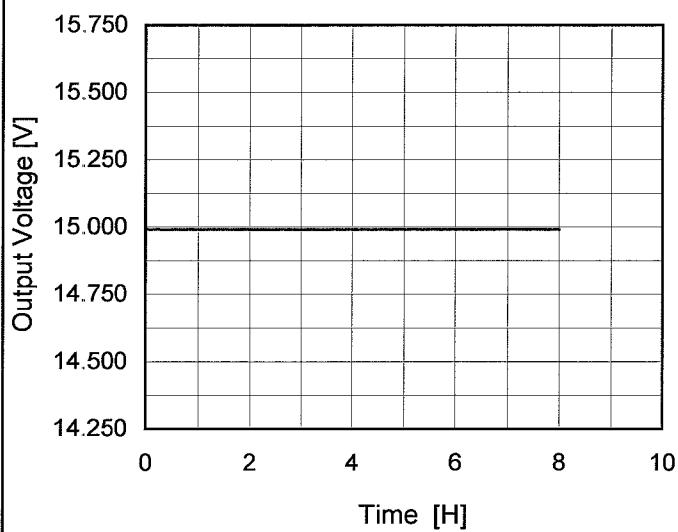
2.Values

Time since start [H]	Output Voltage [V]
0.0	14.986
0.5	14.992
1.0	14.992
2.0	14.992
3.0	14.992
4.0	14.992
5.0	14.992
6.0	14.992
7.0	14.992
8.0	14.992

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参考資料

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Model	SFS154815/SFCS154815
Item	Rise and Fall Time
Object	+15V1A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

Input Volt. 36 V

Load 50%

Output Volt. [2V/div]

0

Load 100%

Output Volt. [2V/div]

0

Input Volt. [10V/div]

0

Time [50mS/div]

Time [50mS/div]
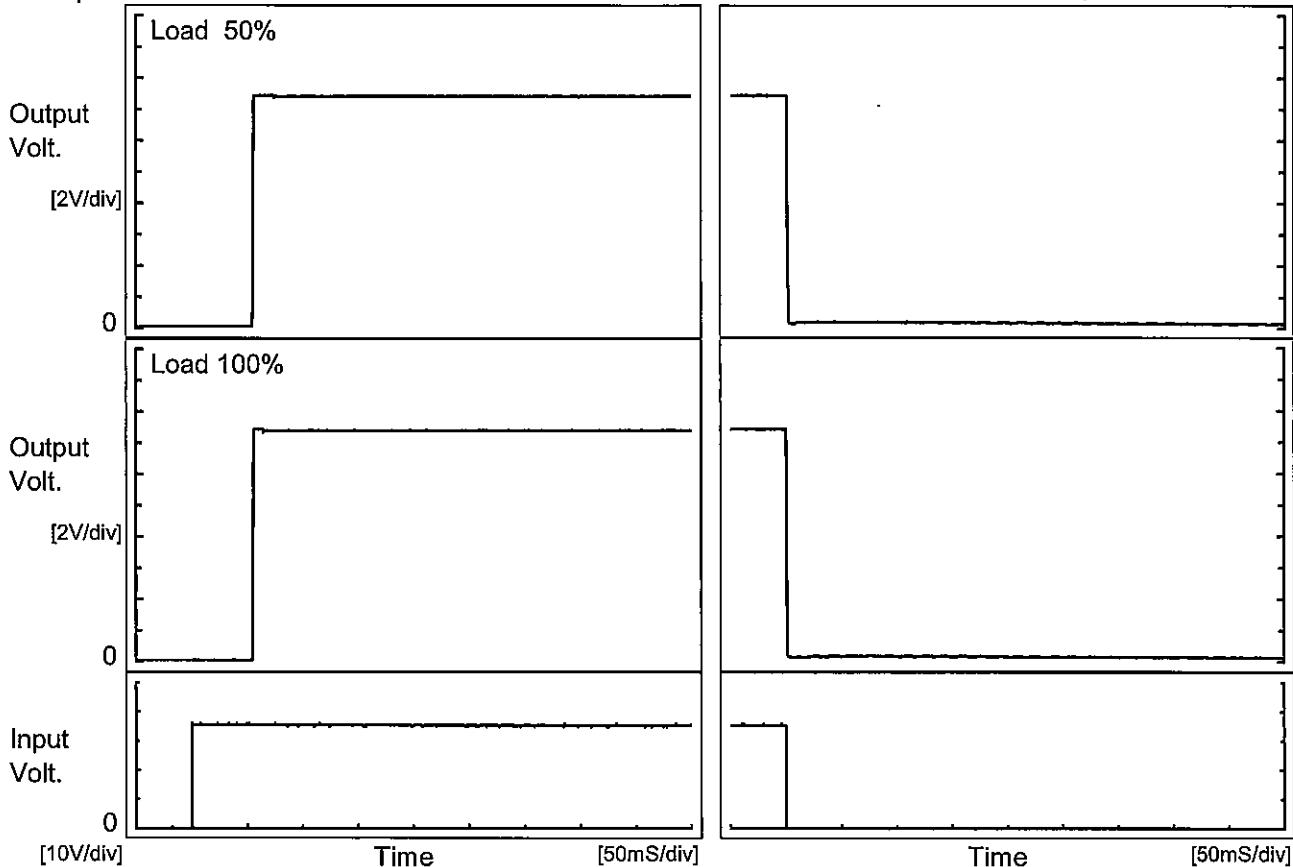
2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	59.8	0.8	60.6	0.3	1.5
100 %	59.8	0.9	60.7	0.3	1.0

Output Volt.

90%

10%

Input Volt.

Td Tr

Ts

Th Tf

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参考資料
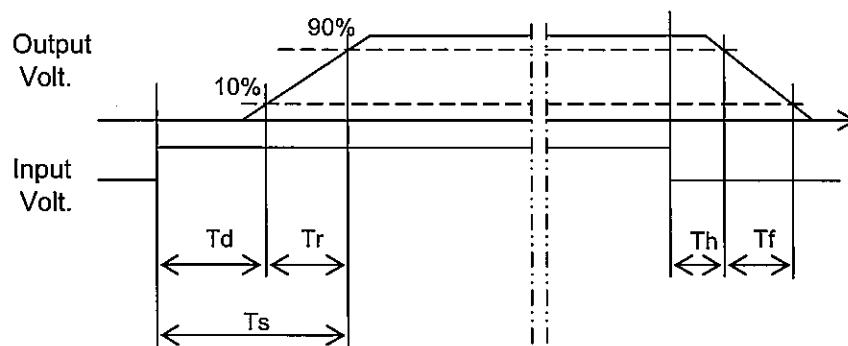
Model SFS154815/SFCS154815

Item Minimum Input Voltage for Regulated Output Voltage

Object +15V1A
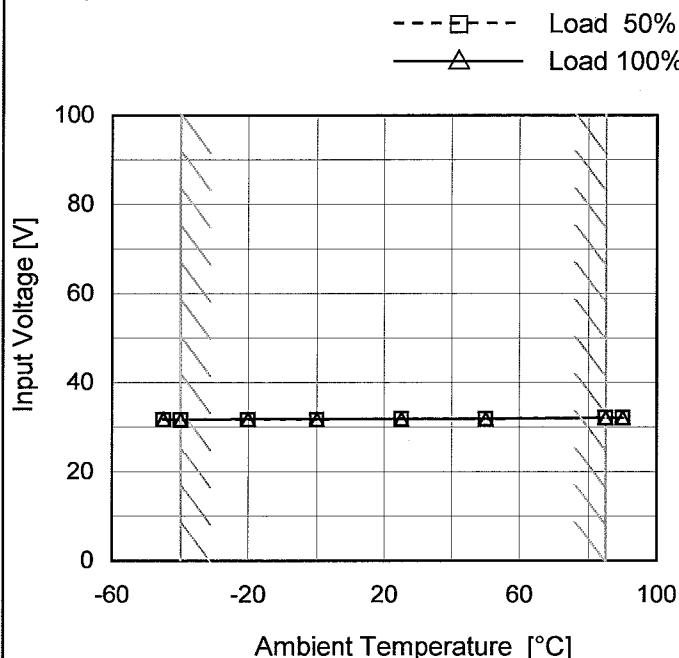
Testing Circuitry Figure A

1.Graph

--□-- Load 50%
—△— Load 100%

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

2.Values

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

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CO$EL

Model	SFS154815/SFCS154815
Item	Overcurrent Protection
Object	+15V1A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

──────── Input Volt.   36V
──────── Input Volt.   48V
═══════ Input Volt.   76V

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	1.02	1.00	1.02
14.3	1.12	1.16	1.26
13.5	1.13	1.17	1.28
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SFS154815/SFCS154815
Item	Overvoltage Protection
Object	+15V1A
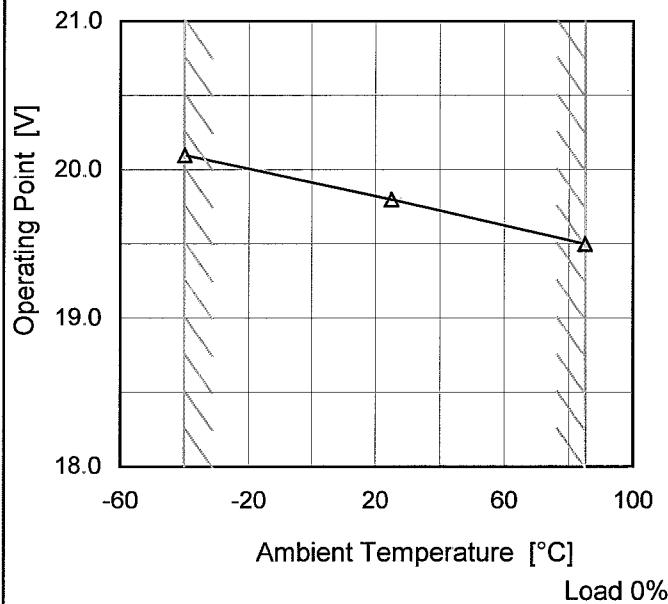
Testing Circuitry Figure A

1.Graph ——△—— Input Volt. 48V

Operating Point [V] vs Ambient Temperature [°C]

Load 0%

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	20.1	-	-
25	19.8	-	-
85	19.5	-	-
		-	-
		-	-
		-	-
		-	-
		-	-
---	-	-	-
---	-	-	-
---	-	-	-

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Figure A

Figure B (General Electric Characteristic)
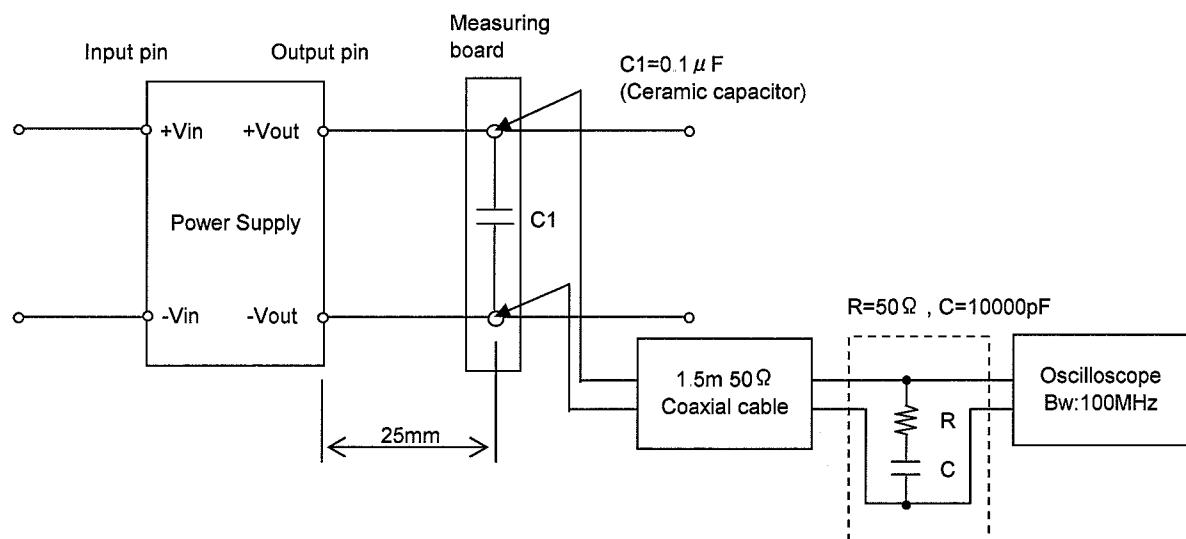
Figure C (Ripple and Ripple noise Characteristic)

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