COSEL

TEST DATA OF SFLS30482R5

Regulated DC Power Supply
May 12, 2007

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COSEL CO.,LTD.

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Model	SFLS30482R5
Item	Input Current (by Input Voltage)
Object	

Temperature 25°C
Testing Circuitry Figure A

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	0.001	0.001	0.001
33	0.002	0.002	0.002
34	0.036	0.419	0.820
36	0.032	0.399	0.787
40	0.026	0.356	0.698
48	0.022	0.298	0.584
60	0.024	0.243	0.468
70	0.024	0.213	0.405
76	0.025	0.198	0.376
80	0.025	0.189	0.357
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SFLS30482R5
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

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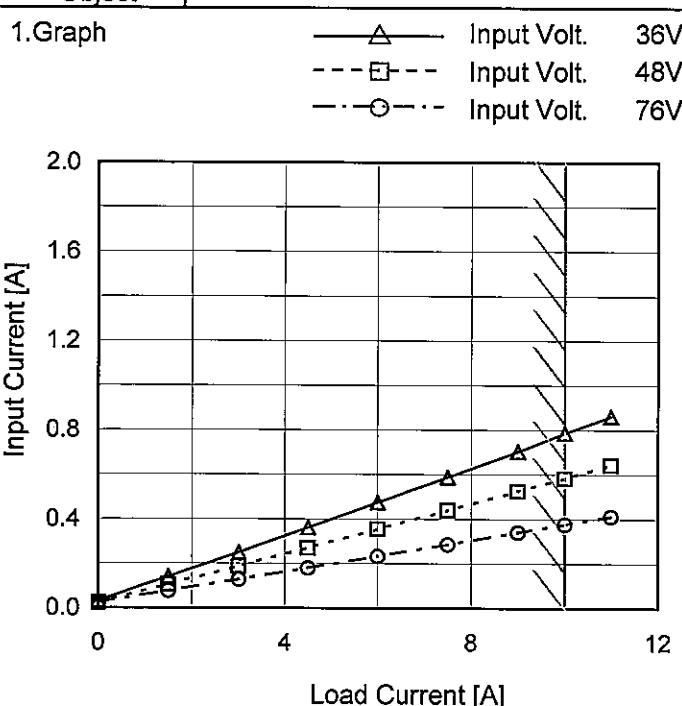
2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.032	0.022	0.025
1.5	0.141	0.104	0.076
3.0	0.250	0.187	0.128
4.5	0.362	0.270	0.180
6.0	0.475	0.355	0.233
7.5	0.589	0.440	0.286
9.0	0.704	0.526	0.340
10.0	0.787	0.584	0.376
11.0	0.862	0.643	0.412
--	-	--	-
---	-	-	-

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Model	SFLS30482R5
Item	Input Power (by Load Current)
Object	———————
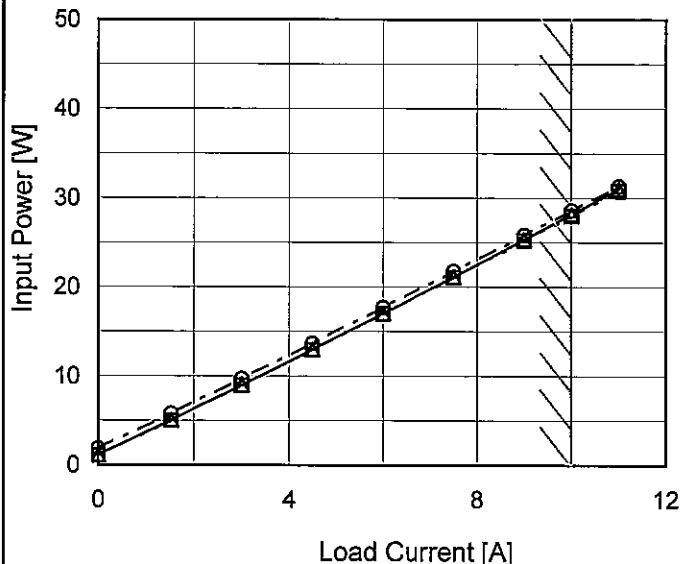
Temperature   25°C
Testing Circuitry   Figure A

1.Graph

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

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	1.15	1.07	1.86
1.5	5.05	5.00	5.78
3.0	8.99	8.95	9.71
4.5	12.99	12.95	13.70
6.0	17.05	16.99	17.71
7.5	21.17	21.08	21.76
9.0	25.35	25.22	25.84
10.0	28.20	27.99	28.58
11.0	31.03	30.80	31.34
--	-	-	-
--	-	-	-

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Model	SFLS30482R5
Item	Efficiency (by Input Voltage)
Object	

Temperature	25°C
Testing Circuitry	Figure A

1.Graph

- - -▱- - - Load 50%
———△——— Load 100%

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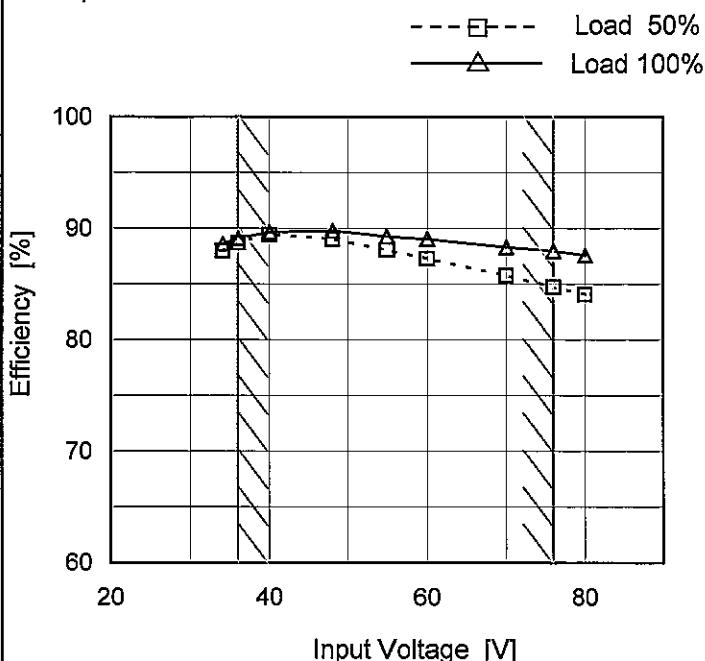
2.Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
34	88.0	88.6
36	88.7	89.1
40	89.4	89.7
48	89.1	89.8
55	88.1	89.3
60	87.3	89.1
70	85.8	88.3
76	84.7	88.0
80	84.1	87.6

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Model	SFLS30482R5
Item	Efficiency (by Load Current)
Object	

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.

2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	-	-	-
1.5	76.5	77.2	66.9
3.0	85.3	85.7	79.0
4.5	88.3	88.6	83.8
6.0	89.4	89.7	86.1
7.5	89.6	90.0	87.3
9.0	89.5	90.0	87.8
10.0	89.1	89.8	88.0
11.0	88.8	89.5	88.0
--	-	-	-
--	-	-	-

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Model	SFLS30482R5
Item	Line Regulation
Object	+2.5V10A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

--🔲-- Load 50%
--△-- Load 100%

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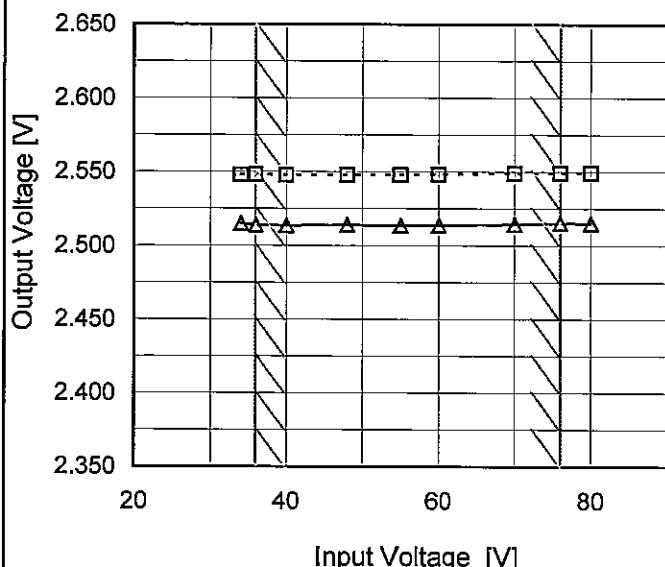
2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	2.548	2.515
36	2.548	2.514
40	2.548	2.514
48	2.548	2.514
55	2.548	2.514
60	2.548	2.514
70	2.549	2.515
76	2.549	2.515
80	2.550	2.515

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

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Model	SFLS30482R5
Item	Load Regulation
Object	+2.5V10A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

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

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	2.584	2.582	2.585
1.5	2.572	2.571	2.573
3.0	2.561	2.561	2.562
4.5	2.551	2.551	2.552
6.0	2.541	2.541	2.543
7.5	2.531	2.531	2.532
9.0	2.521	2.521	2.523
10.0	2.514	2.514	2.515
11.0	2.506	2.506	2.508
--	-	-	-
--	-	-	-

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

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Model	SFLS30482R5
Item	Dynamic Load Response
Object	+2.5V10A

Temperature	25°C
Testing Circuitry	Figure A

Input Volt. 48 V

Cycle 1000 mS

Load Current 10A / 200 µ sec

Min. Load (0A) ←→
Load 100% (10A)

100mV/div

200 µs/div
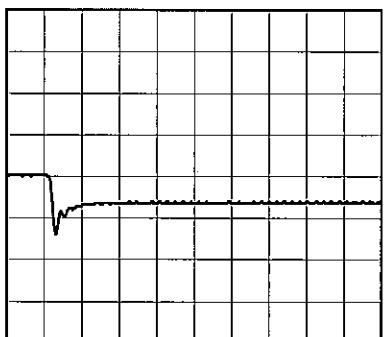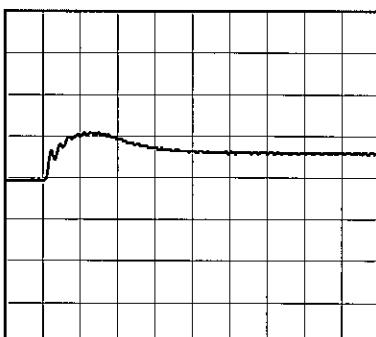
200 µs/div

Min. Load (0A) ←→
Load 50% (5A)

100mV/div

200 µs/div
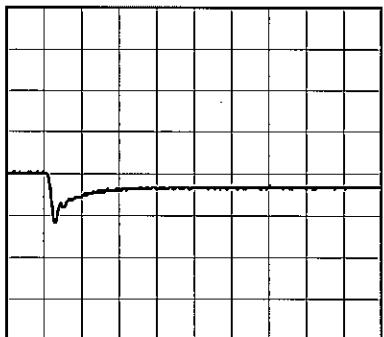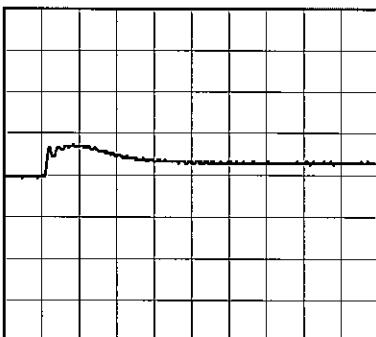
200 µs/div

Load 50% (5A) ←→
Load 100% (10A)

100mV/div

200 µs/div

200 µs/div

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Model	SFLS30482R5
Item	Ripple Voltage (by Load Current)
Object	+2.5V10A

Temperature	25°C
Testing Circuitry	Figure C

1.Graph

——△—— Input Volt. 36V
— · —○— · · Input Volt. 76V

Load Current [A]

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0	4	5
2	4	5
4	4	5
6	4	5
8	4	5
10	4	5
11	4	6
---	-	-
---	-	-
---	-	-
---	-	-

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

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Model	SFLS30482R5
Item	Ripple-Noise
Object	+2.5V10A

Temperature　　25°C
Testing Circuitry　Figure C

1.Graph

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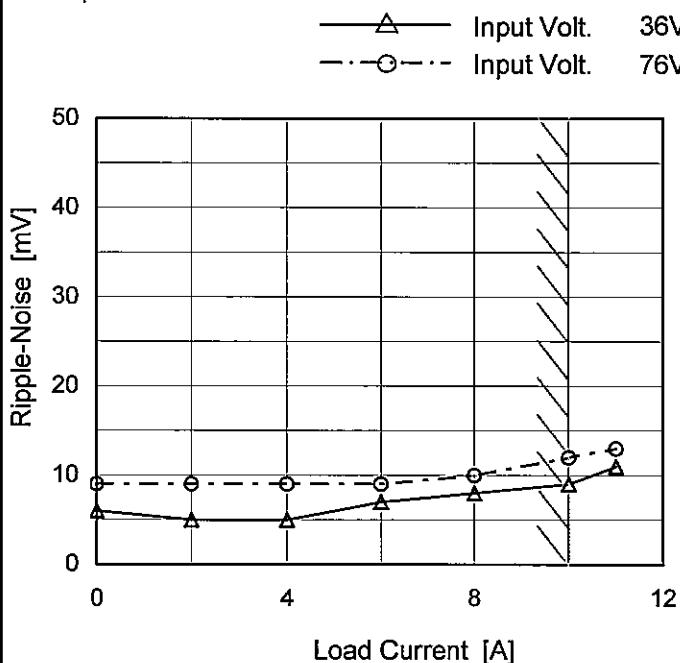
Load Current [A]

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	6	9
2	5	9
4	5	9
6	7	9
8	8	10
10	9	12
11	11	13
--	-	-
--	-	-
--	-	-
--	-	-
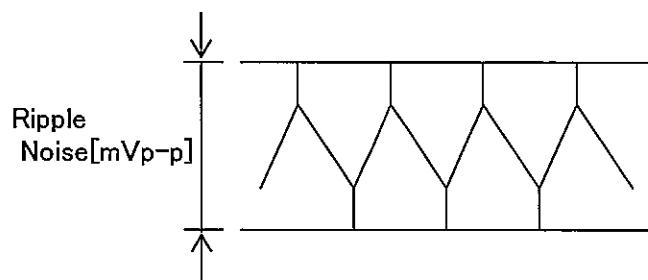
Ripple
Noise[mVp-p]

Fig.Complex Ripple Noise Wave Form

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Model	SFLS30482R5		
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry	Figure C
Object	+2.5V10A		

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.
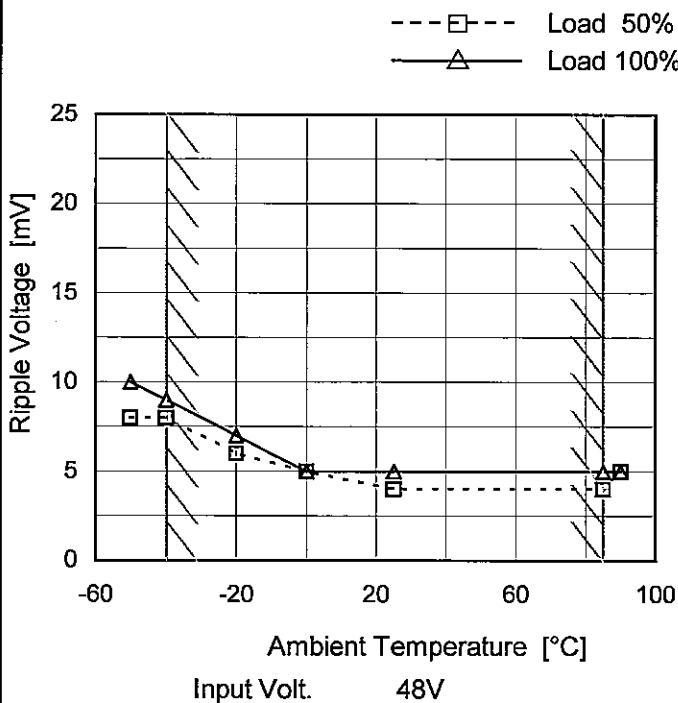
2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-50	8	10
-40	8	9
-20	6	7
0	5	5
25	4	5
85	4	5
90	5	5
--	-	--
--	-	-
--	-	-
--	-	--

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Model	SFLS30482R5
Item	Ambient Temperature Drift
Object	+2.5V10A
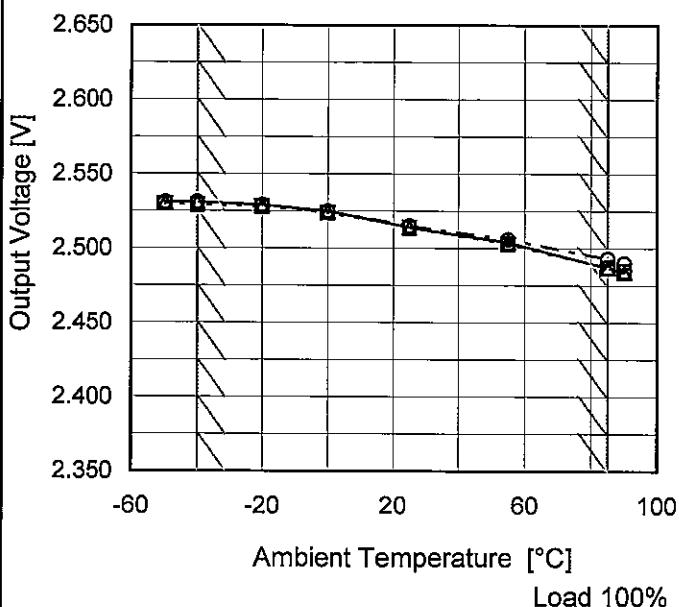
Testing Circuitry   Figure A

1.Graph

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

Output Voltage [V] vs 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]
-50	2.531	2.530	2.531
-40	2.531	2.529	2.531
-20	2.529	2.528	2.529
0	2.525	2.524	2.525
25	2.514	2.514	2.515
55	2.504	2.503	2.506
85	2.487	2.487	2.493
90	2.484	2.485	2.490
--	-	-	-
--	-	-	-
---	-	-	-

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Model	SFLS30482R5
Item	Output Voltage Accuracy
Object	+2.5V10A

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 - 10A

* 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	2.586	±50	±2.0
Minimum Voltage	85	36	10	2.487		

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Model	SFLS30482R5
Item	Time Lapse Drift
Object	+2.5V10A

Temperature	25°C
Testing Circuitry	Figure A

1.Graph
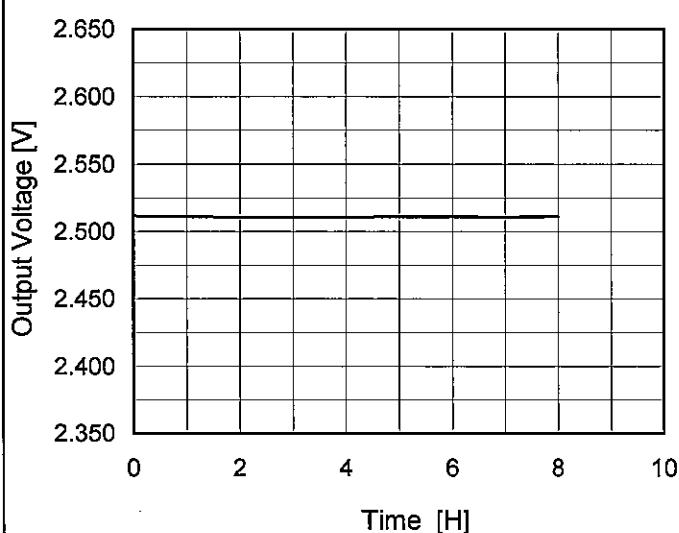
Input Volt.   48V
Load   100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	2.513
0.5	2.511
1.0	2.511
2.0	2.511
3.0	2.511
4.0	2.511
5.0	2.511
6.0	2.511
7.0	2.511
8.0	2.511

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Model	SFLS30482R5
Item	Rise and Fall Time
Object	+2.5V10A

Temperature	25°C
Testing Circuitry	Figure A

1.Graph

Input Volt. 48 V

Load 50%

Output Volt.
[0.5V/div]

0

Load 100%

Output Volt.
[0.5V/div]

0

Input Volt.

0

[10V/div]   Time   [50mS/div]

Time   [10mS/div]
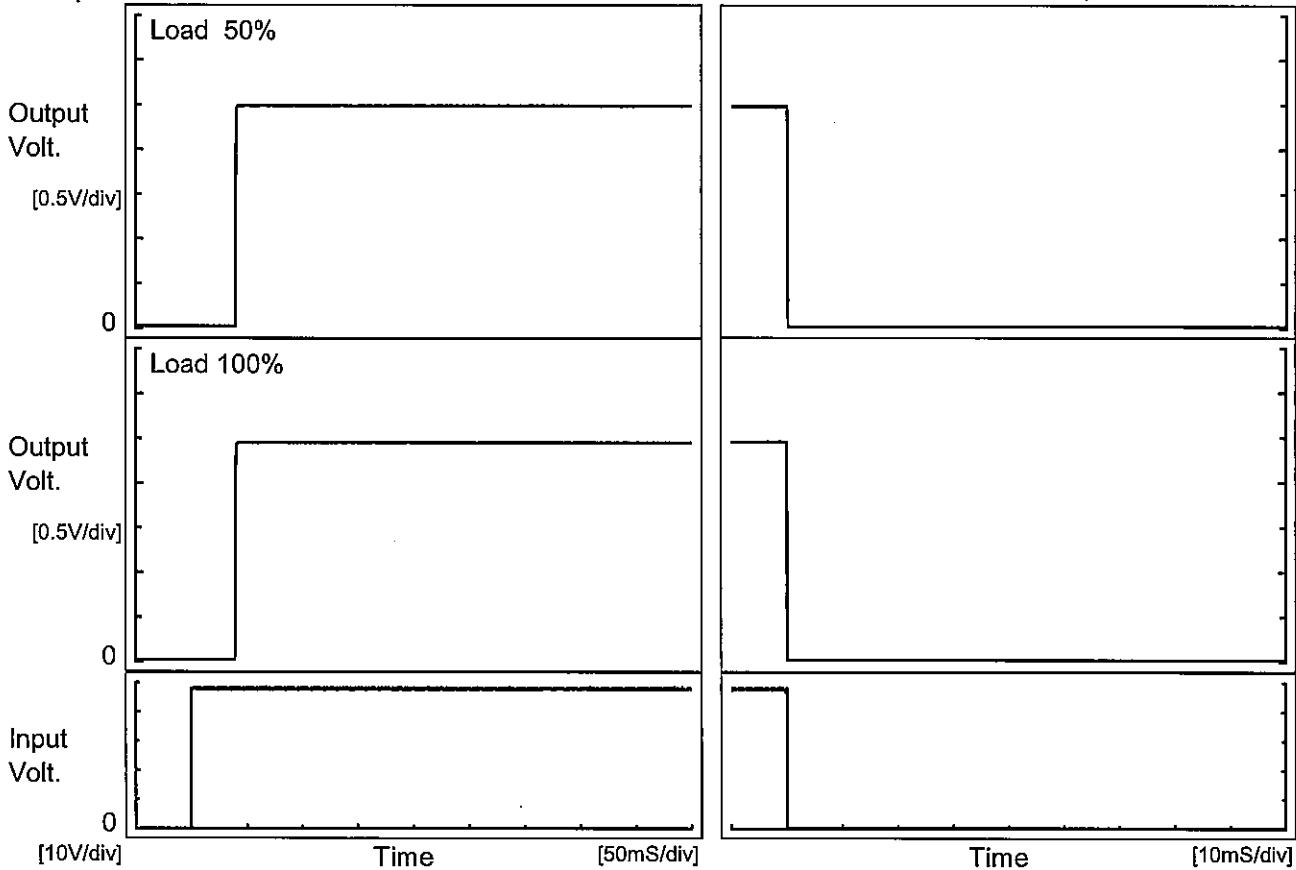
2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	39.8	0.5	40.3	0.0	0.1
100 %	39.3	0.5	39.8	0.0	0.1

Output Volt.

90%

10%

Input Volt.

Td   Tr   Th   Tf

Ts

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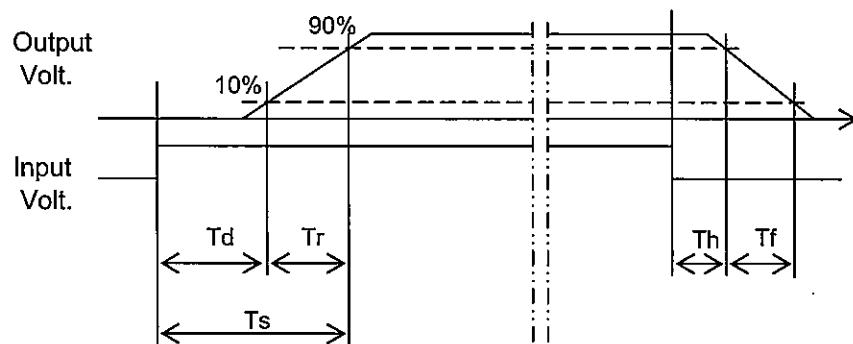
Model	SFLS30482R5
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+2.5V10A

Testing Circuitry   Figure A

1.Graph

--- ⊟ --- Load 50%
—— △ —— Load 100%

Ambient Temperature [°C]

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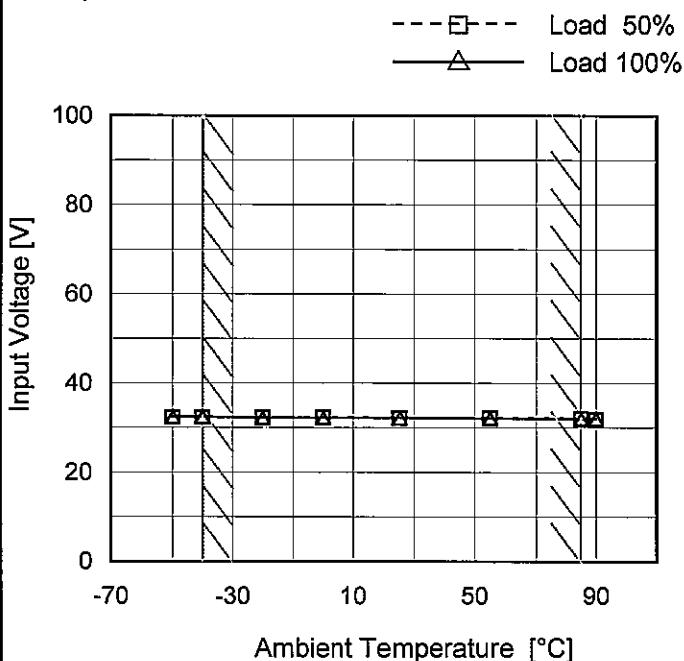
2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-50	32.4	32.5
-40	32.4	32.5
-20	32.4	32.3
0	32.4	32.3
25	32.2	32.3
55	32.2	32.1
85	32.2	32.1
90	32.0	32.1
---	-	-
---	-	-
---	-	-

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Model	SFLS30482R5
Item	Overcurrent Protection
Object	+2.5V10A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

———— Input Volt. 36V
———— Input Volt. 48V
———— Input Volt. 76V
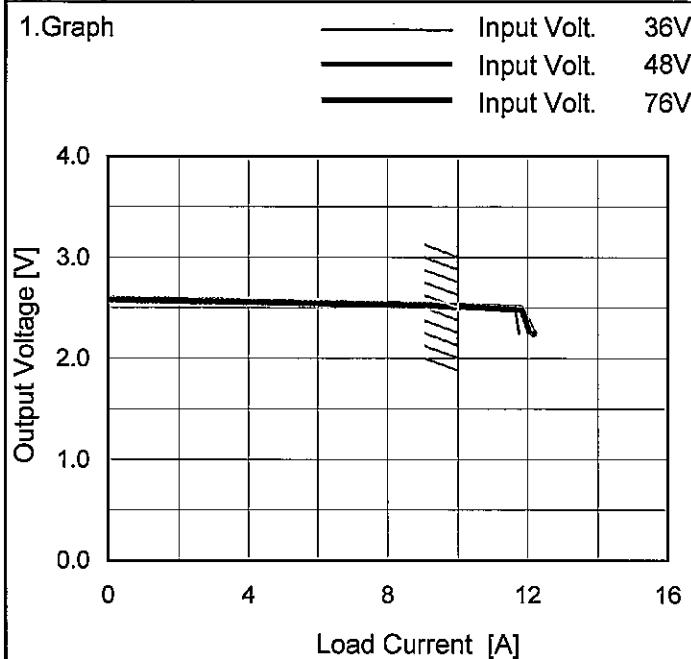
Load Current [A]

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

When the output voltage fell to less than 2.33V ,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]
2.50	10.10	10.11	10.11
2.38	11.69	11.93	11.98
2.25	11.75	12.06	12.15
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SFLS30482R5
Item	Overvoltage Protection
Object	+2.5V10A
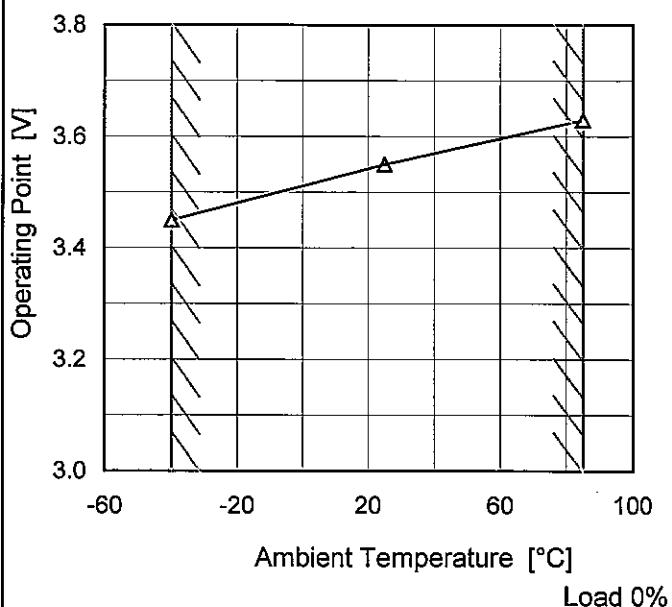
Testing Circuitry   Figure A

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	3.45	-	-
25	3.55	-	-
85	3.63	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Figure A

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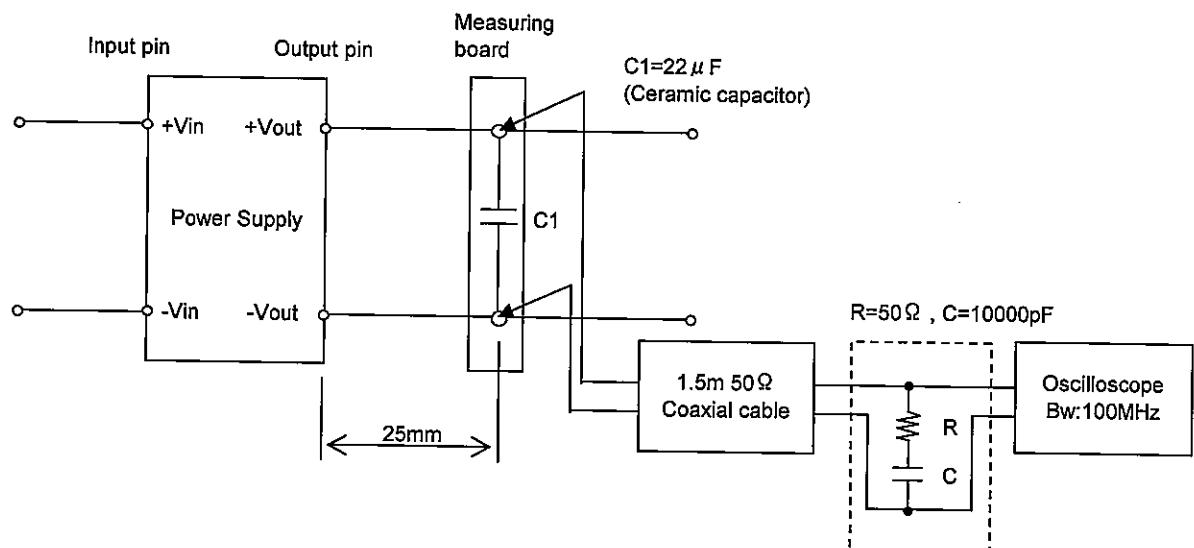
Figure C (Ripple and Ripple noise Characteristic)

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