COSEL

参考資料

TEST DATA OF SFLS154812

Regulated DC Power Supply
Jul 2, 2007

Approved by : Isao Yasuda
Isao Yasuda Design Manager

Prepared by : Toshiyuki Tsuri
Toshiyuki Tsuri Design Engineer

COSEL CO.,LTD.

COSEL

CONTENTS

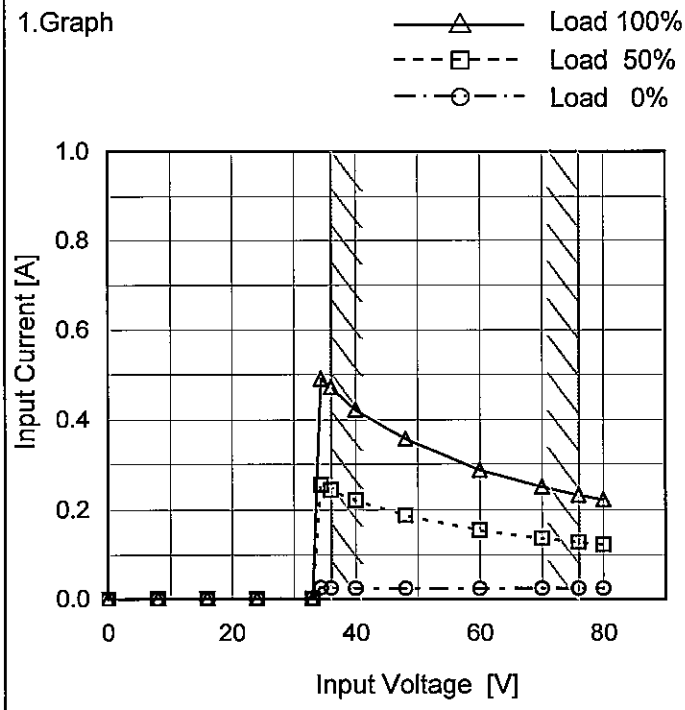
(Final Page 19)

COSEL

Model	SFLS154812
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

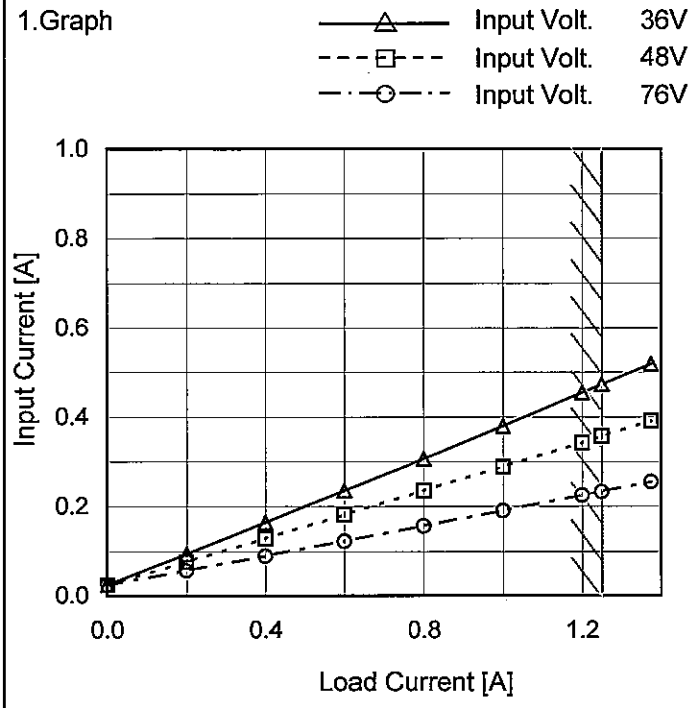
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
8	0.001	0.001	0.001
16	0.001	0.001	0.001
24	0.001	0.001	0.001
33	0.002	0.002	0.002
34	0.026	0.255	0.491
36	0.025	0.244	0.473
40	0.025	0.222	0.423
48	0.024	0.188	0.357
60	0.024	0.155	0.288
70	0.024	0.136	0.251
76	0.024	0.128	0.233
80	0.025	0.123	0.223
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFLS154812
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

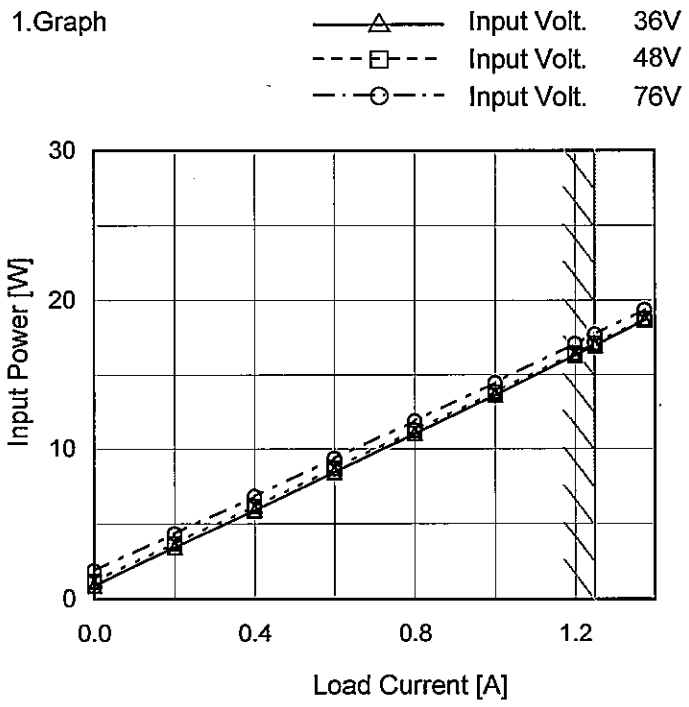
Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.000	0.025	0.024	0.024
0.200	0.094	0.076	0.057
0.400	0.164	0.128	0.090
0.600	0.235	0.181	0.123
0.800	0.307	0.235	0.157
1.000	0.380	0.289	0.190
1.200	0.454	0.343	0.225
1.250	0.473	0.357	0.233
1.375	0.519	0.392	0.255
--	-	-	-
--	-	-	-

COSEL

Model	SFLS154812
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

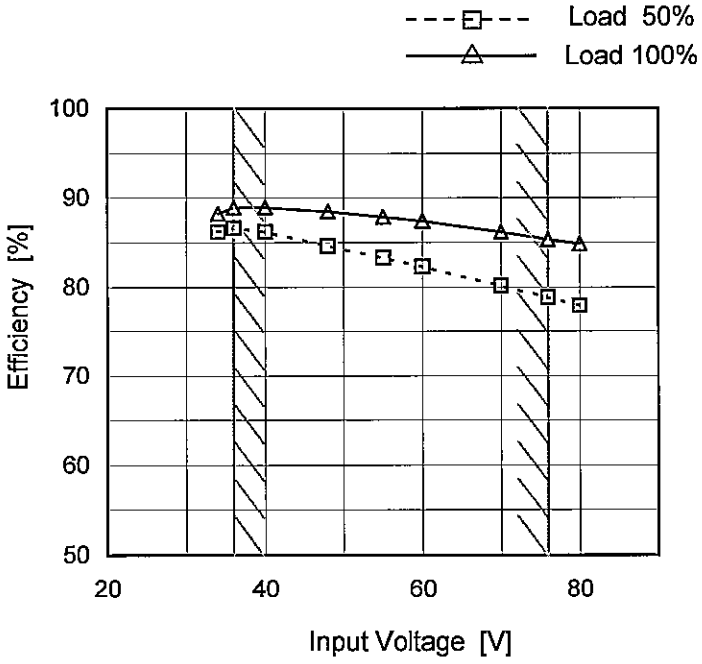
Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.000	0.88	1.14	1.83
0.200	3.39	3.64	4.32
0.400	5.91	6.16	6.83
0.600	8.45	8.69	9.35
0.800	11.03	11.25	11.90
1.000	13.64	13.83	14.47
1.200	16.29	16.43	17.07
1.250	16.96	17.09	17.72
1.375	18.67	18.75	19.36
---	-	-	-
---	-	-	-

COSEL

Model	SFLS154812
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

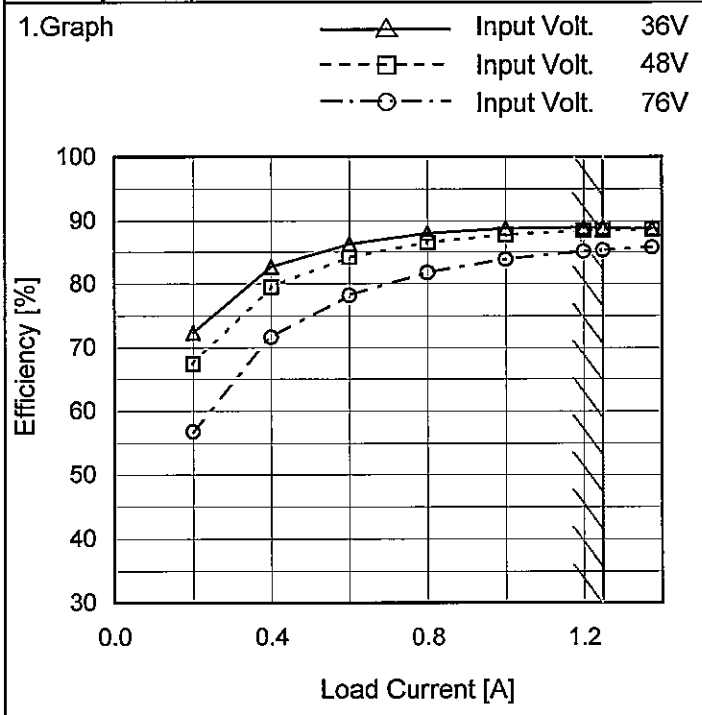
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
34	86.2	88.2
36	86.6	88.9
40	86.2	88.9
48	84.6	88.5
55	83.3	87.9
60	82.3	87.4
70	80.1	86.2
76	78.8	85.3
80	77.9	84.9

COSEL

Model	SFLS154812
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

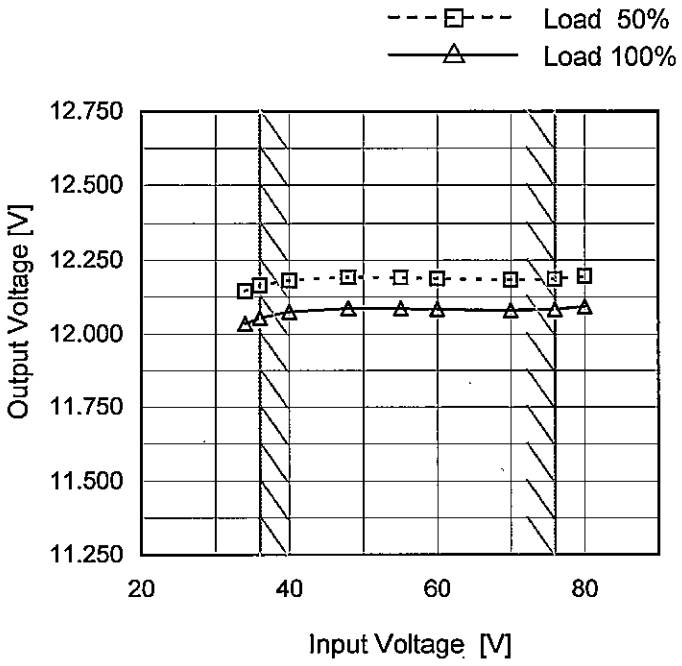
Load Current [A]	Efficiency [%]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.000	-	-	-
0.200	72.3	67.4	56.8
0.400	82.6	79.5	71.7
0.600	86.3	84.2	78.2
0.800	88.1	86.5	81.8
1.000	88.8	87.8	83.9
1.200	89.0	88.4	85.1
1.250	88.9	88.5	85.3
1.375	88.8	88.6	85.8
--	-	-	-
--	-	-	-

COSEL

Model	SFLS154812
Item	Line Regulation
Object	+12V1.25A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

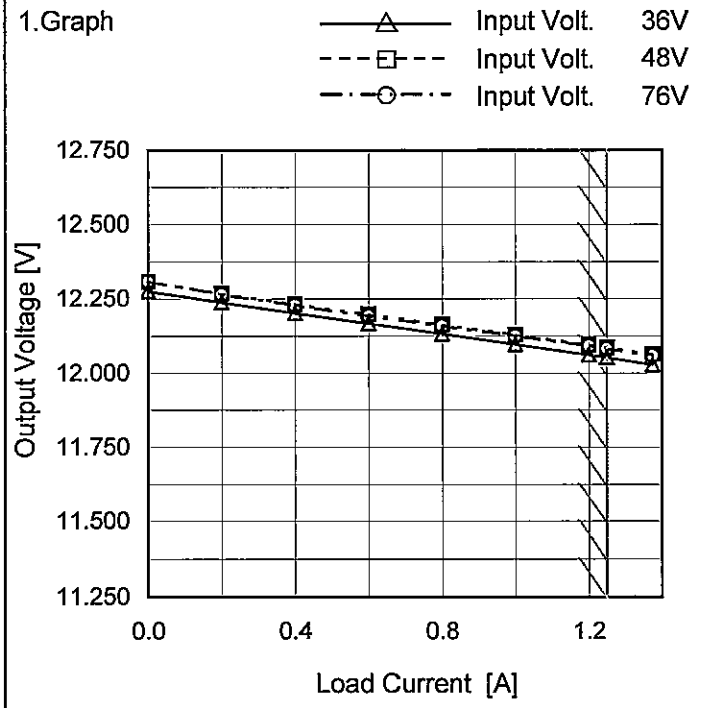
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	12.144	12.035
36	12.164	12.054
40	12.181	12.074
48	12.191	12.086
55	12.191	12.087
60	12.188	12.084
70	12.183	12.080
76	12.186	12.083
80	12.195	12.093

COSEL

Model	SFLS154812
Item	Load Regulation
Object	+12V1.25A

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]
0.000	12.276	12.308	12.309
0.200	12.238	12.268	12.265
0.400	12.202	12.232	12.228
0.600	12.168	12.198	12.193
0.800	12.133	12.164	12.160
1.000	12.098	12.129	12.126
1.200	12.063	12.095	12.092
1.250	12.054	12.086	12.083
1.375	12.029	12.064	12.060
--	-	-	-
--	-	-	-

COSEL

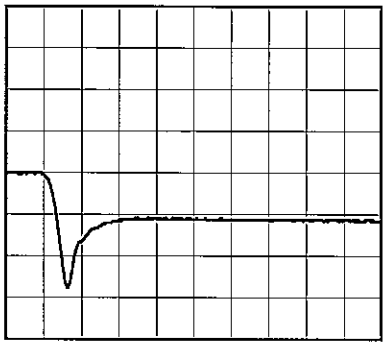
Model	SFLS154812
Item	Dynamic Load Response
Object	+12V1.25A

Temperature 25°C
Testing Circuitry Figure A

Input Volt. 48 V
Cycle 1000 mS

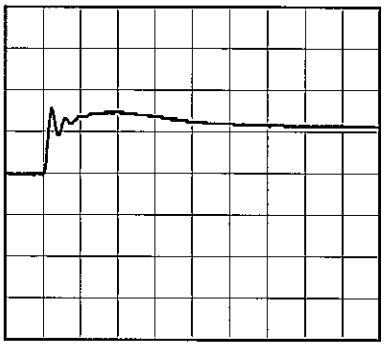
Load Current
1.25A / 200 μ sec

Min. Load (0A) ⟷
Load 100% (1.25A)



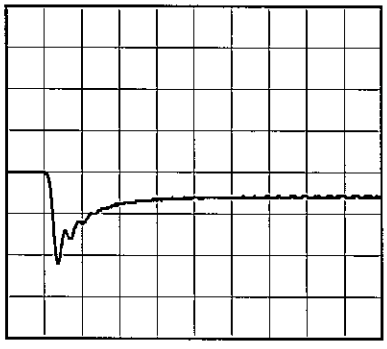
200mV/div

200 μs/div



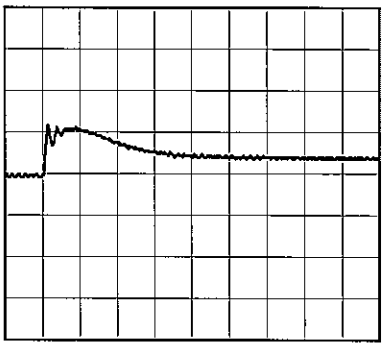
200 μs/div

Min. Load (0A) ⟷
Load 50% (0.625A)



200mV/div

200 μs/div

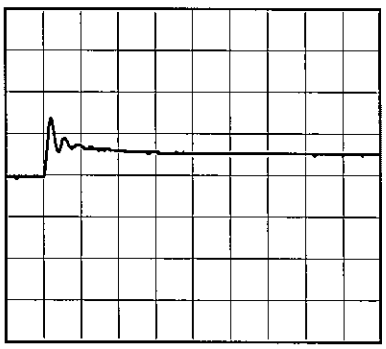


200 μs/div

Load 50% (0.625A) ⟷
Load 100% (1.25A)

200mV/div

200 μs/div



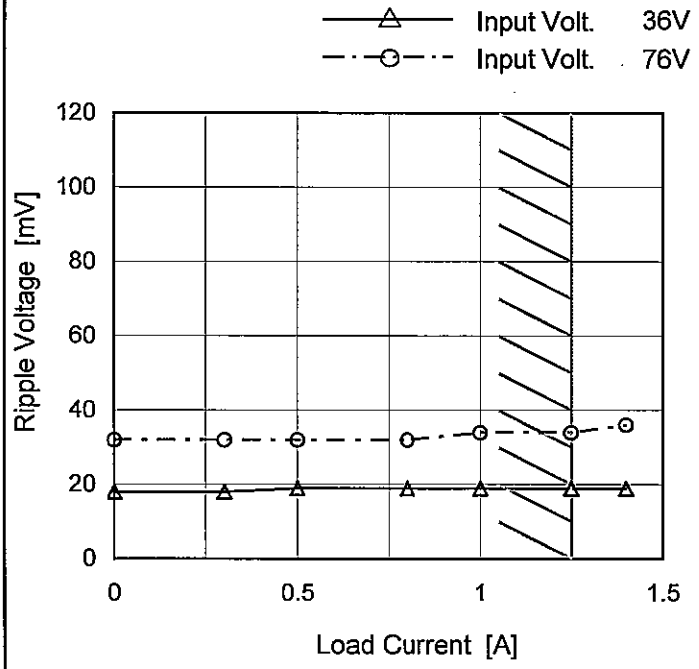
200 μs/div

COSEL

Model	SFLS154812
Item	Ripple Voltage (by Load Current)
Object	+12V1.25A

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]

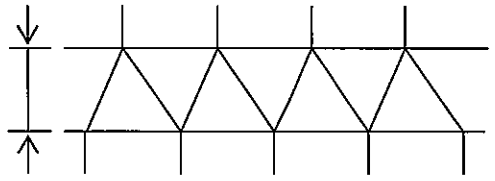


Fig.Complex Ripple Wave Form

2.Values

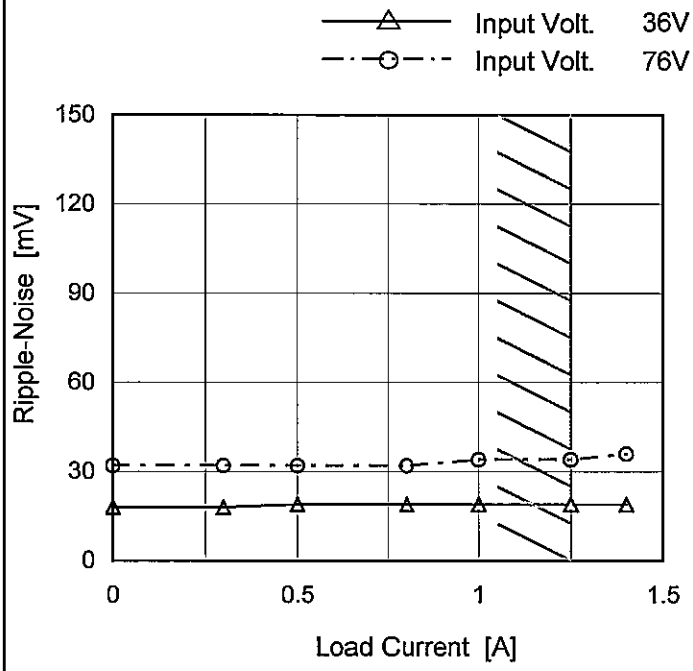
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	18	32
0.30	18	32
0.50	19	32
0.80	19	32
1.00	19	34
1.25	19	34
1.40	19	36
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFLS154812
Item	Ripple-Noise
Object	+12V1.25A

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.

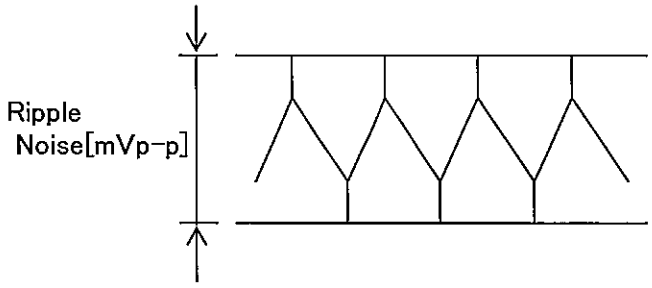


Fig.Complex Ripple Noise Wave Form

2.Values

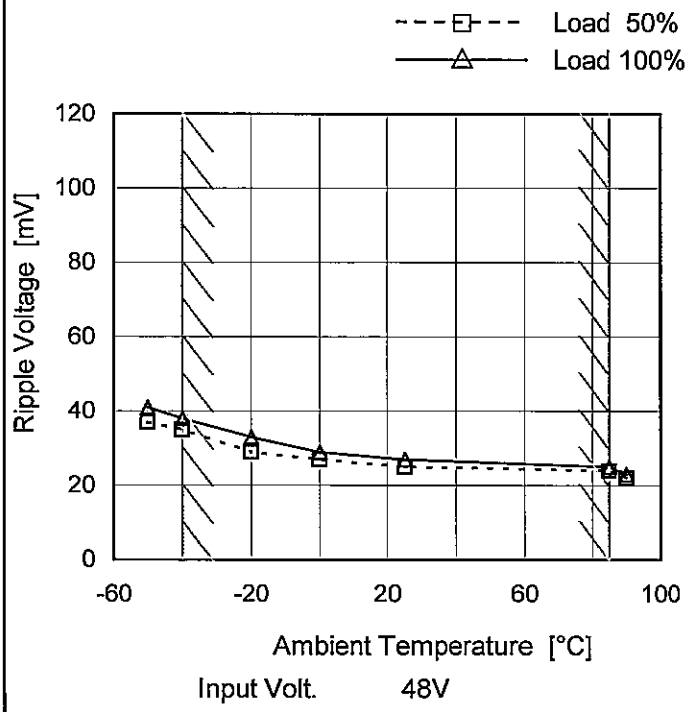
Load Current [A]	Ripple-Noise [mV] Input Volt. 36 [V]	Ripple-Noise [mV] Input Volt. 76 [V]
0.00	18	32
0.30	18	32
0.50	19	32
0.80	19	32
1.00	19	34
1.25	19	34
1.40	19	36
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFLS154812
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V1.25A

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

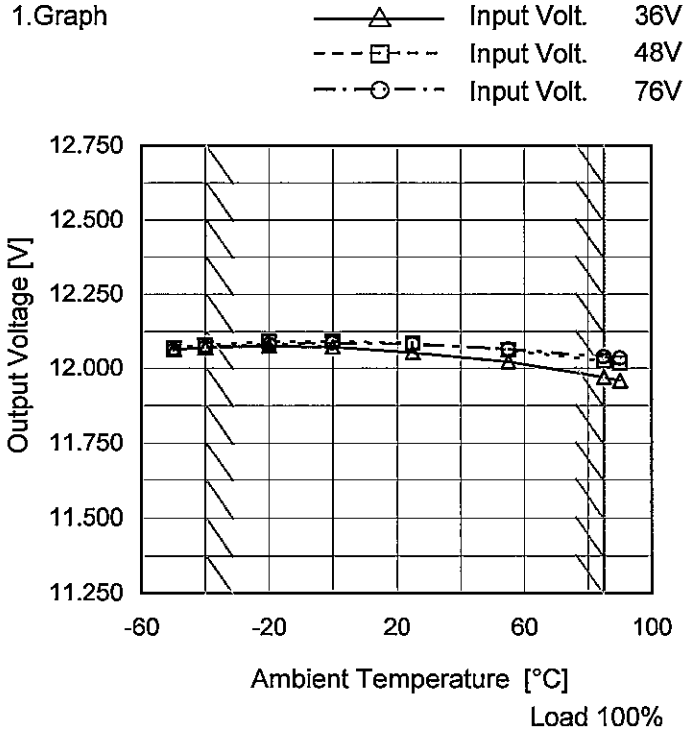
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-50	37	41
-40	35	38
-20	29	33
0	27	29
25	25	27
85	24	25
90	22	23
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFLS154812
Item	Ambient Temperature Drift
Object	+12V1.25A

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]
-50	12.064	12.069	12.061
-40	12.070	12.079	12.071
-20	12.077	12.090	12.082
0	12.073	12.092	12.086
25	12.054	12.086	12.083
55	12.023	12.062	12.066
85	11.970	12.025	12.039
90	11.958	12.017	12.034
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFLS154812	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+12V1.25A	

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 - 1.25A

* 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

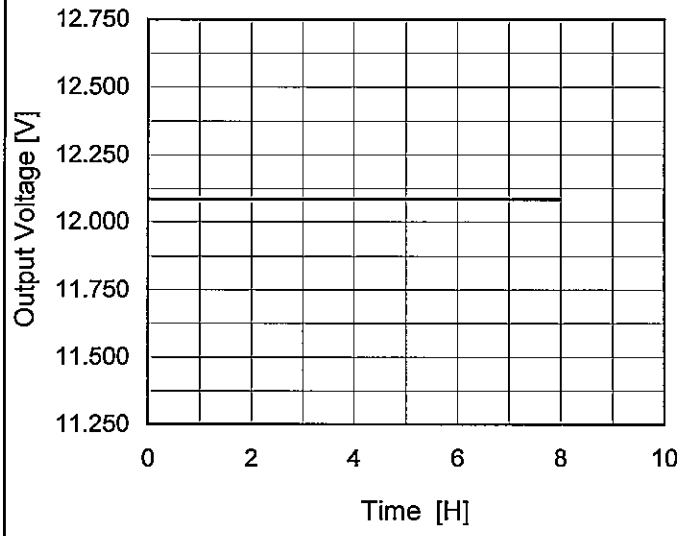
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	85	76	0	12.321	±176	±1.5
Minimum Voltage	85	36	1.25	11.970		

COSEL

Model	SFLS154812
Item	Time Lapse Drift
Object	+12V1.25A

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	12.090
0.5	12.085
1.0	12.085
2.0	12.084
3.0	12.084
4.0	12.084
5.0	12.084
6.0	12.084
7.0	12.084
8.0	12.084

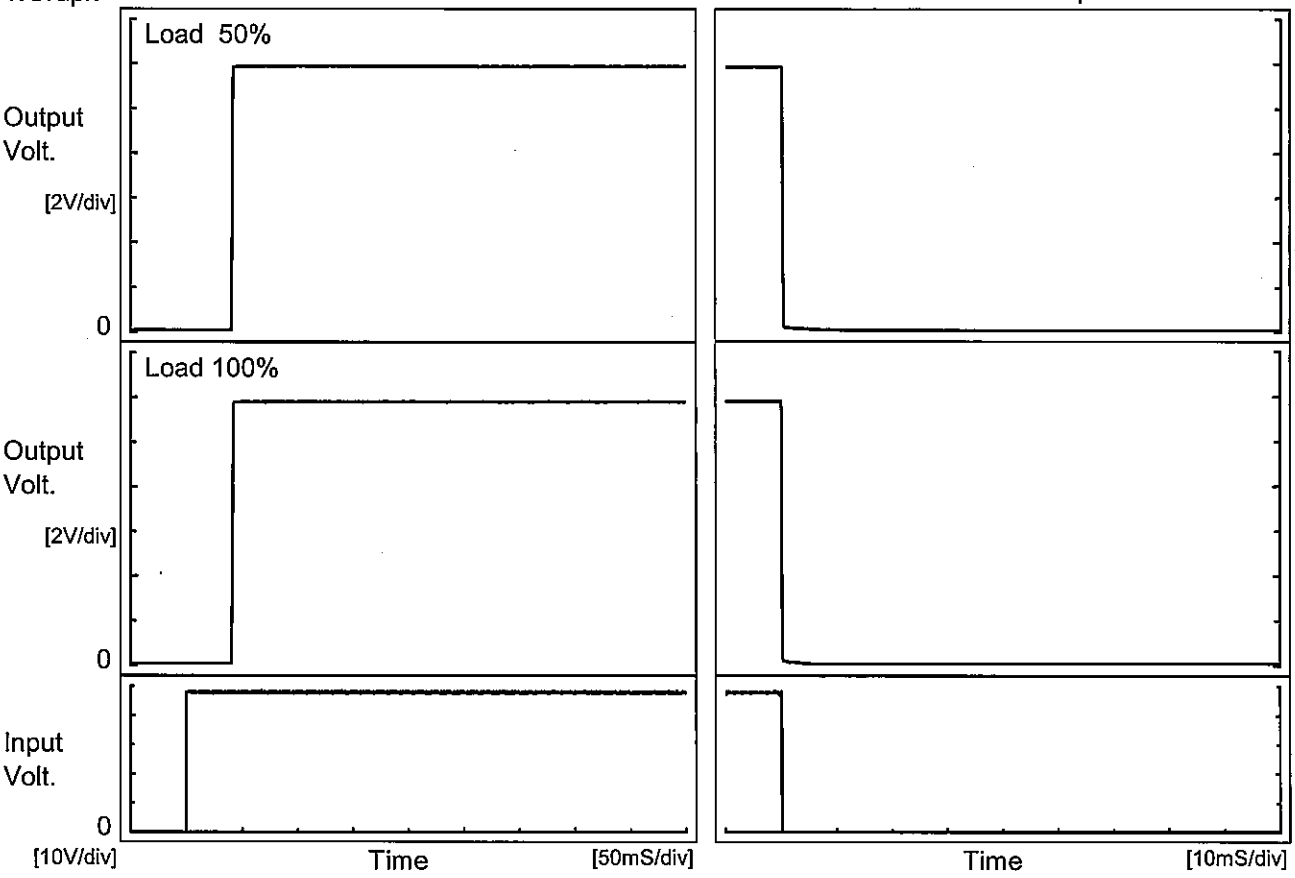
COSEL

Model	SFLS154812
Item	Rise and Fall Time
Object	+12V1.25A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

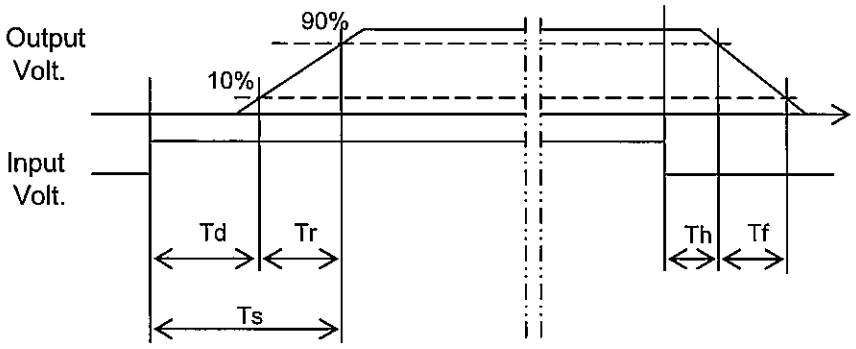
Input Volt. 48 V



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	41.0	0.5	41.5	0.1	0.3
100 %	40.8	0.6	41.4	0.1	0.2



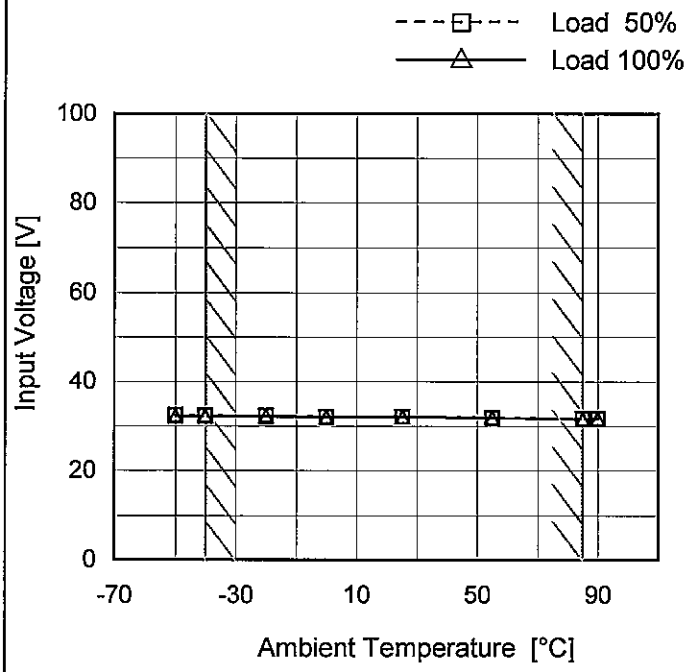
BC-10094

COSEL

Model	SFLS154812
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V1.25A

Testing Circuitry Figure A

1.Graph



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

2.Values

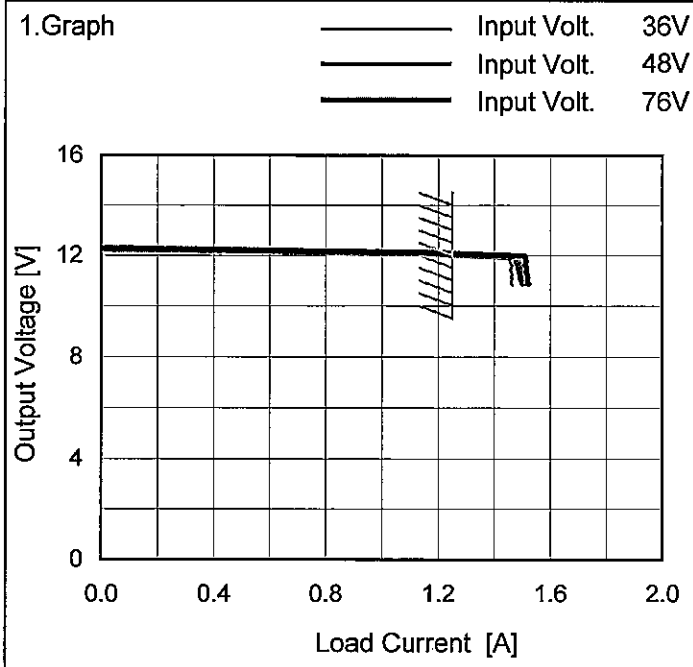
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-50	32.6	32.4
-40	32.4	32.4
-20	32.4	32.4
0	32.2	32.2
25	32.2	32.2
55	32.0	32.0
85	31.8	31.8
90	31.8	31.8
---	-	-
--	-	-
--	-	-

COSEL

Model	SFLS154812
Item	Overcurrent Protection
Object	+12V1.25A

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 11.2V ,the unit shuts off the output by operating low voltage protection .

2.Values

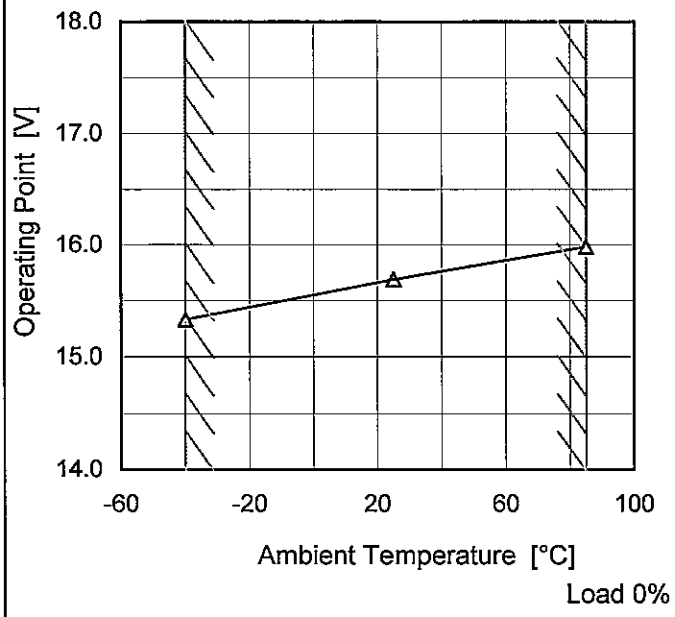
Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
12.0	1.45	1.51	1.48
11.4	1.46	1.52	1.49
10.8	1.47	1.52	1.51
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFLS154812
Item	Overvoltage Protection
Object	+12V1.25A

Testing Circuitry Figure A

1.Graph —△— Input Volt. 48V



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	15.33	-	-
25	15.69	-	-
85	15.98	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

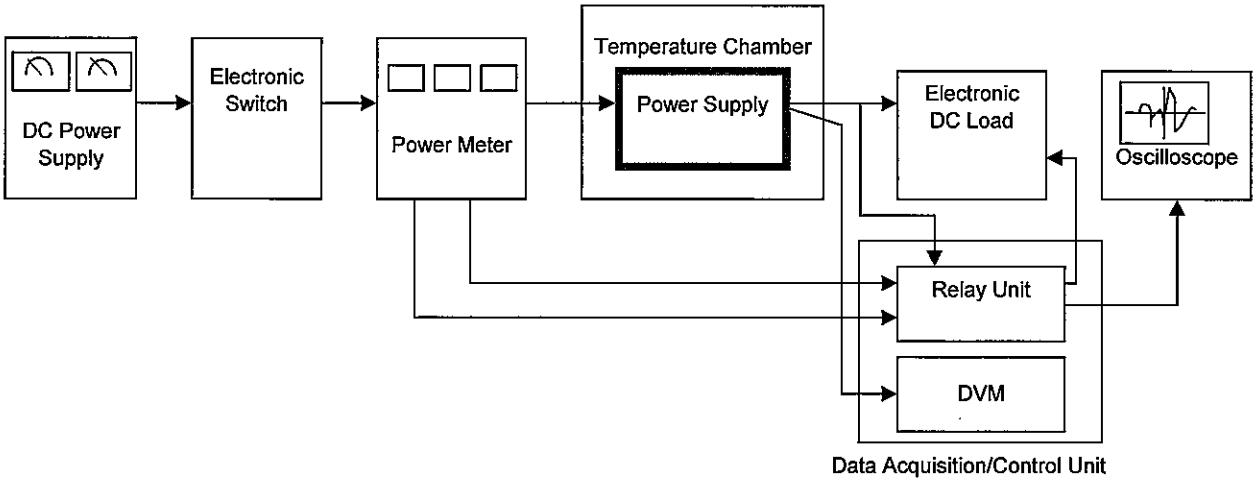


Figure A

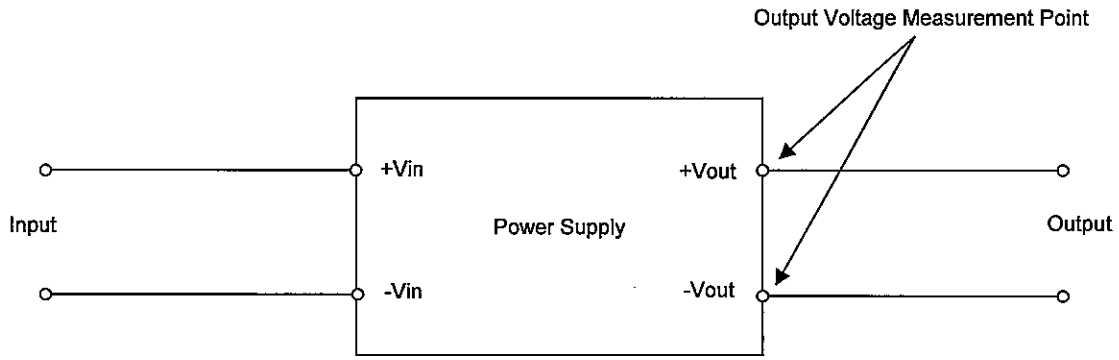


Figure B (General Electric Characteristic)

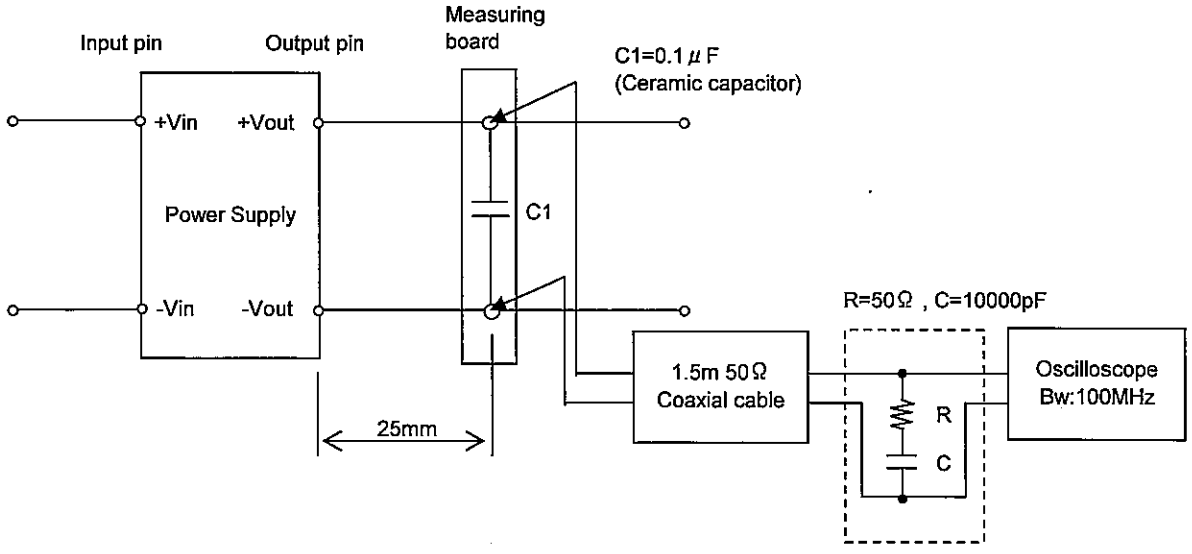


Figure C (Ripple and Ripple noise Characteristic)