参考資料

COSEL

TEST DATA OF SUS61212
SUCS61212

Regulated DC Power Supply
Feb 18, 2005

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COSEL CO.,LTD.

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

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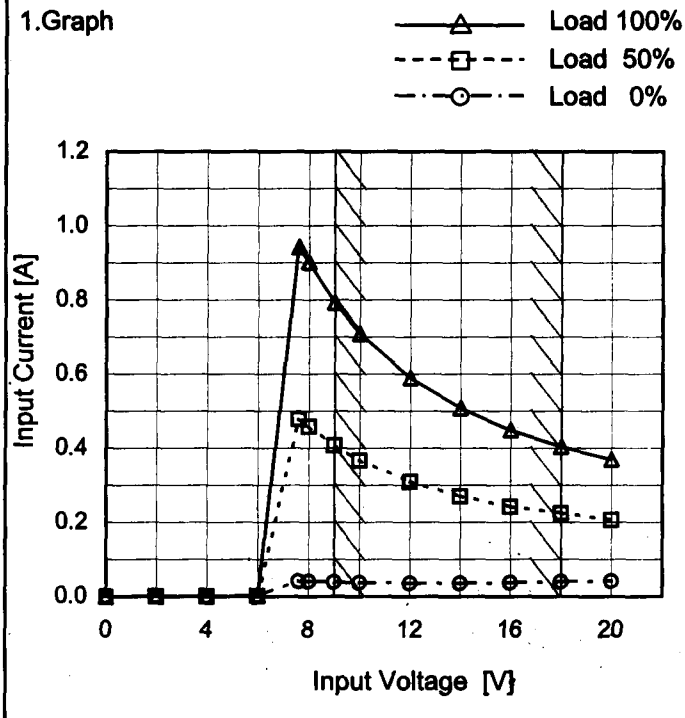
1.Graph



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

2.Values

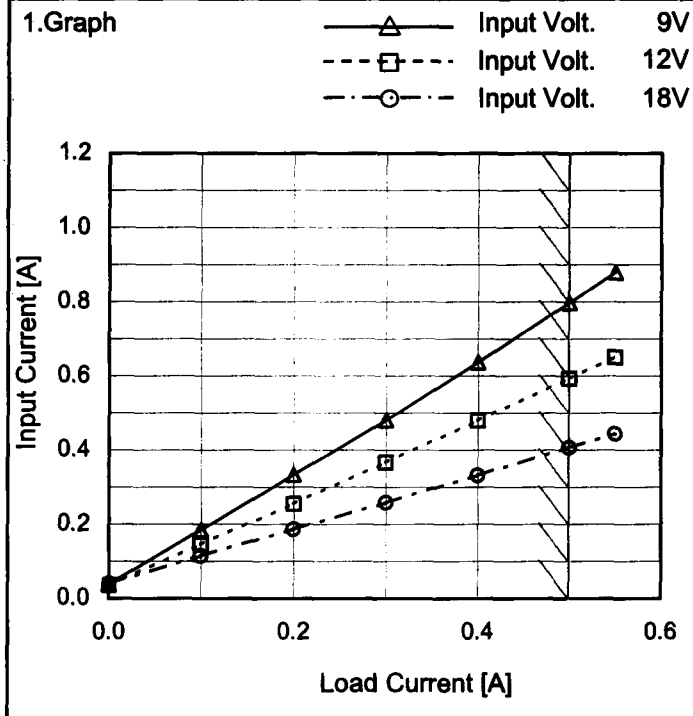
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
2.0	0.001	0.001	0.001
4.0	0.001	0.001	0.001
6.0	0.002	0.002	0.002
7.6	0.042	0.478	0.943
8.0	0.041	0.459	0.902
9.0	0.039	0.407	0.793
10.0	0.037	0.367	0.709
12.0	0.035	0.309	0.590
14.0	0.035	0.271	0.508
16.0	0.037	0.243	0.449
18.0	0.040	0.225	0.405
20.0	0.042	0.207	0.370
–	-	-	-
–	-	-	-
–	-	-	-

COSEL

Model	SUS61212/SUCS61212
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

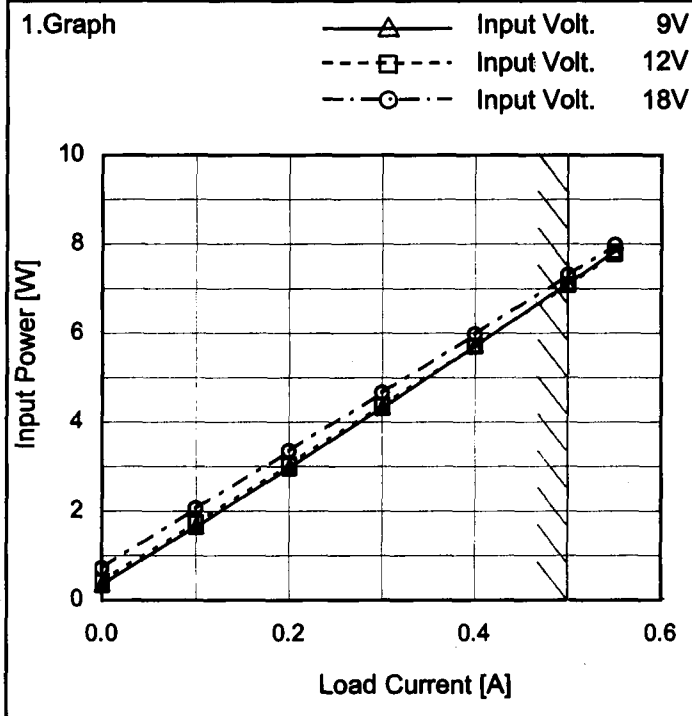
Load Current [A]	Input Current [A]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	0.039	0.035	0.040
0.10	0.185	0.145	0.114
0.20	0.333	0.255	0.186
0.30	0.481	0.367	0.259
0.40	0.637	0.480	0.332
0.50	0.797	0.593	0.407
0.55	0.879	0.651	0.444
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

COSEL

Model	SUS61212/SUCS61212
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

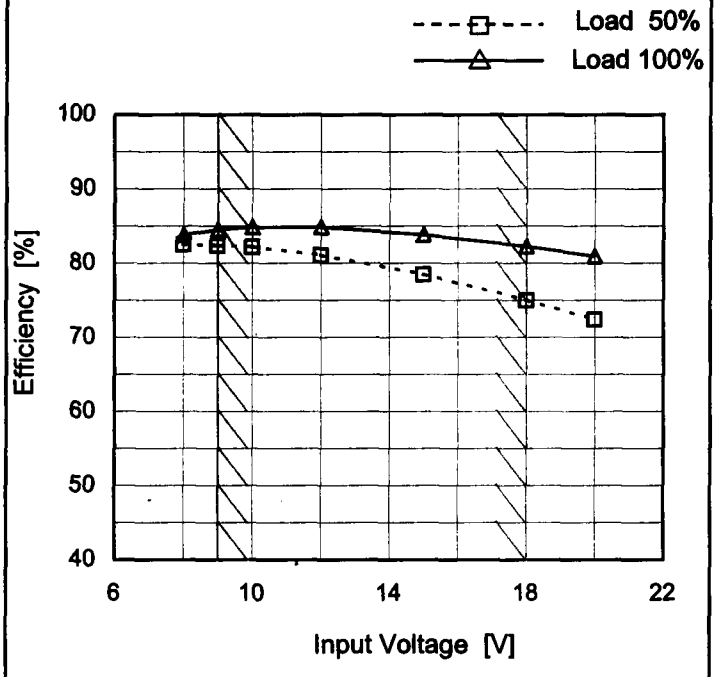
Load Current [A]	Input Power [W]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	0.35	0.42	0.72
0.10	1.65	1.74	2.06
0.20	2.97	3.05	3.36
0.30	4.33	4.38	4.66
0.40	5.71	5.72	5.98
0.50	7.12	7.08	7.31
0.55	7.84	7.78	7.98
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

COSEL

Model	SUS61212/SUCS61212
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

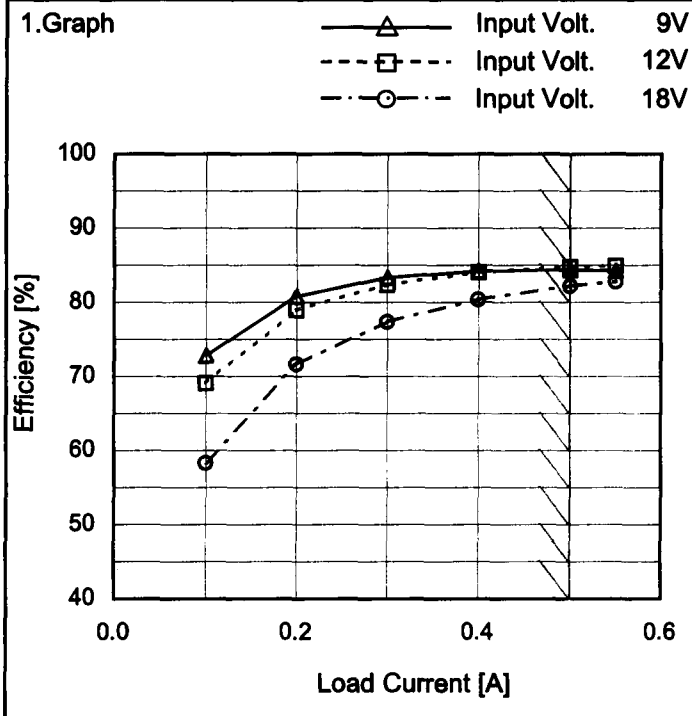
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
8	82.5	83.8
9	82.4	84.5
10	82.2	84.9
12	81.1	84.9
15	78.5	83.8
18	75.0	82.3
20	72.4	80.9
–	-	-
–	-	-

COSEL

Model	SUS61212/SUCS61212
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. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	-	-	-
0.10	72.9	69.1	58.3
0.20	80.8	79.0	71.6
0.30	83.4	82.4	77.4
0.40	84.2	84.0	80.4
0.50	84.4	84.8	82.2
0.55	84.3	84.9	82.8
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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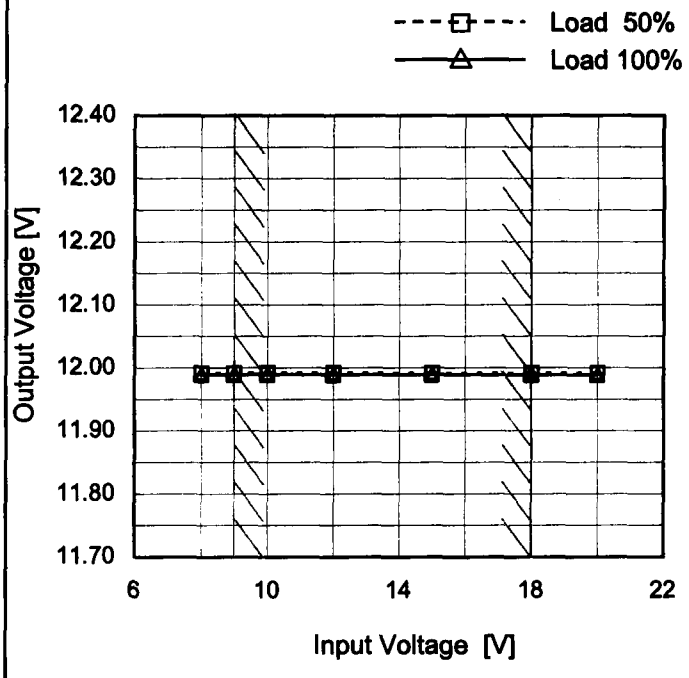
Model	SUS61212/SUCS61212
Item	Line Regulation
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

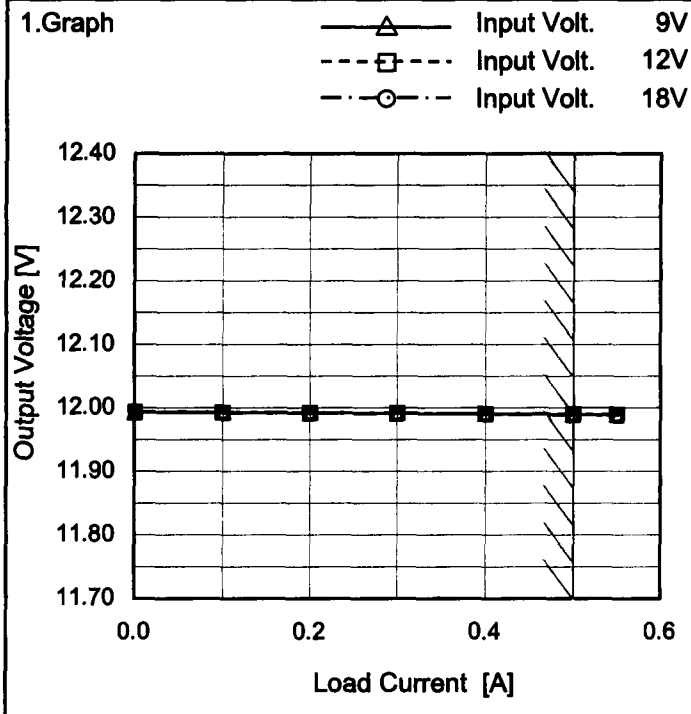
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
8	11.991	11.989
9	11.992	11.990
10	11.992	11.990
12	11.992	11.990
15	11.992	11.989
18	11.991	11.989
20	11.991	11.989
--	-	-
--	-	-

COSEL

Model	SUS61212/SUCS61212
Item	Load Regulation
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

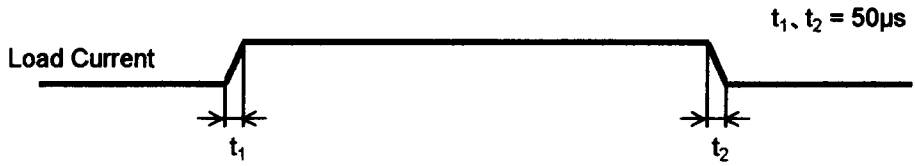
Load Current [A]	Output Voltage [V]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	11.993	11.994	11.994
0.10	11.993	11.993	11.993
0.20	11.992	11.992	11.992
0.30	11.992	11.992	11.991
0.40	11.991	11.991	11.991
0.50	11.990	11.990	11.990
0.55	11.989	11.989	11.989
–	-	-	-
–	-	-	-
–	-	-	-
–	-	-	-

COSEL

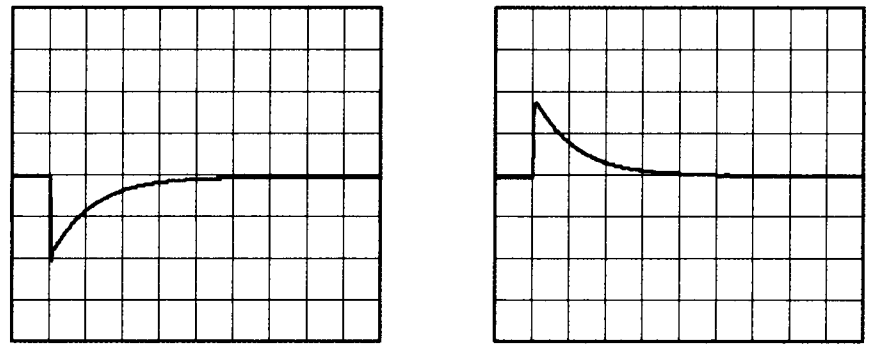
Model	SUS61212/SUCS61212
Item	Dynamic Load Response
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure A

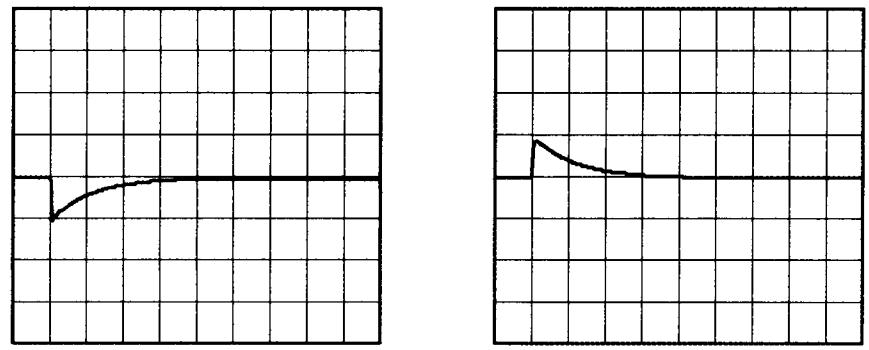
Input Volt. 12 V
Cycle 100 mS



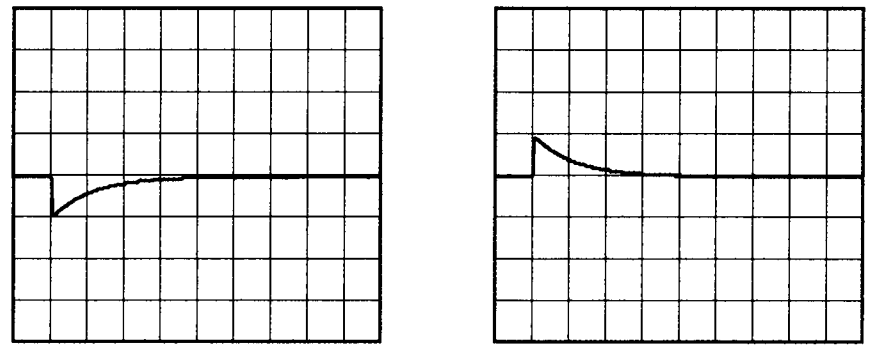
Min. Load (0A) ⟷
Load 100% (0.5A)



Min. Load (0A) ⟷
Load 50% (0.25A)



Load 50% (0.25A) ⟷
Load 100% (0.5A)

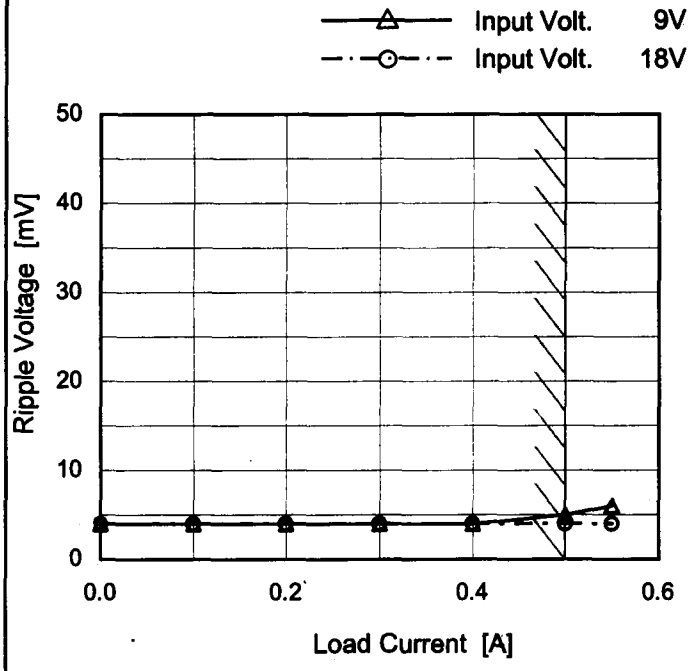


COSEL

Model	SUS61212/SUCS61212
Item	Ripple Voltage (by Load Current)
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure B

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]

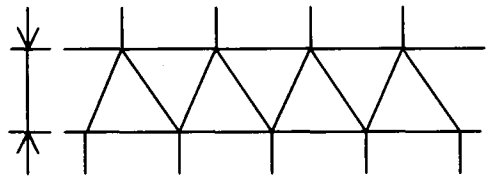


Fig.Complex Ripple Wave Form

2.Values

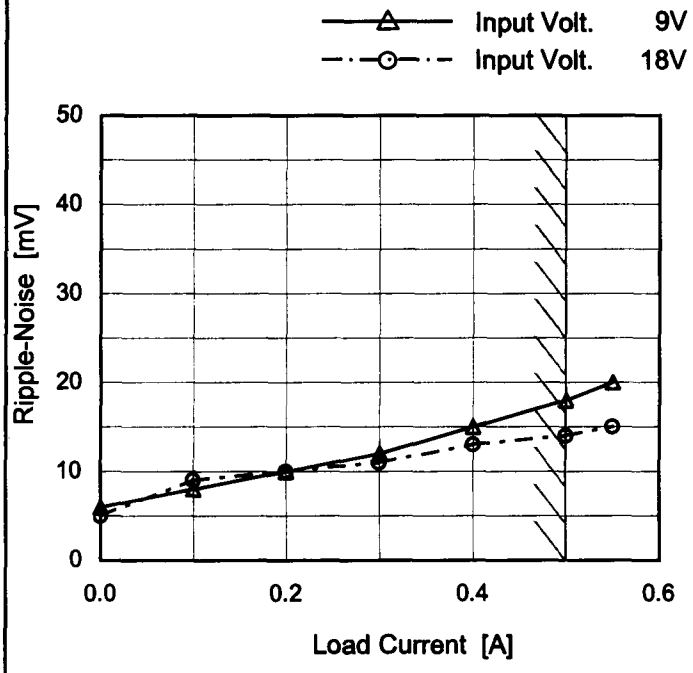
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 9 [V]	Input Volt. 18 [V]
0.00	4	4
0.10	4	4
0.20	4	4
0.30	4	4
0.40	4	4
0.50	5	4
0.55	6	4
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUS61212/SUCS61212
Item	Ripple-Noise
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure B

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.

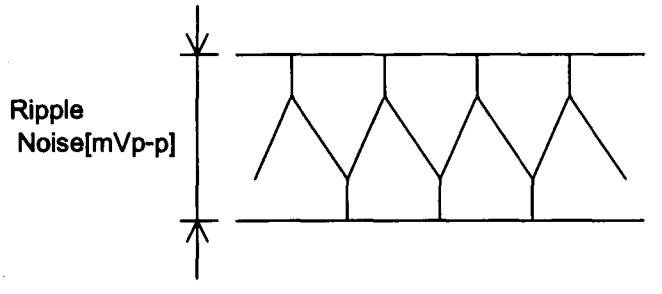


Fig.Complex Ripple Noise Wave Form

2.Values

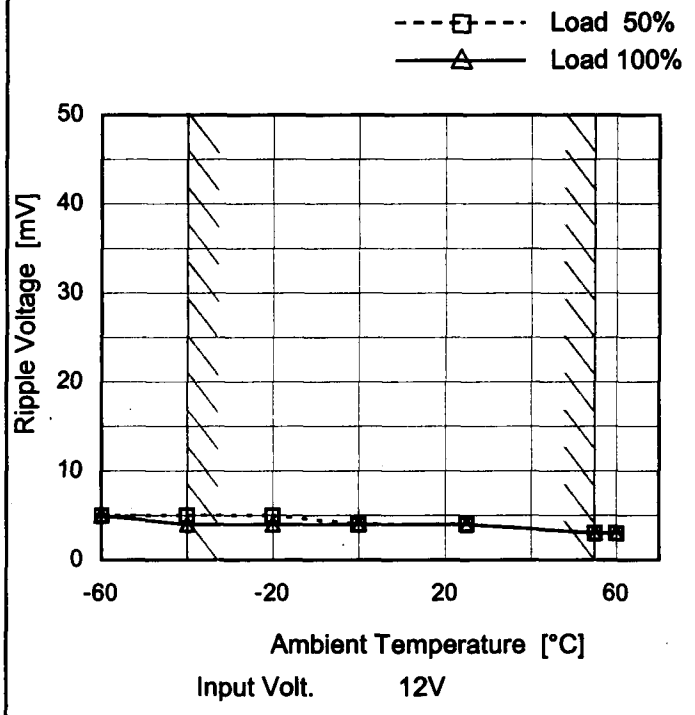
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 9 [V]	Input Volt. 18 [V]
0.00	6	5
0.10	8	9
0.20	10	10
0.30	12	11
0.40	15	13
0.50	18	14
0.55	20	15
–	-	-
–	-	-
–	-	-
–	-	-

COSEL

Model	SUS61212/SUCS61212
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V0.5A

Testing Circuitry Figure B

1.Graph



Input Volt. 12V

Measured by 100 MHz Oscilloscope.

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

2.Values

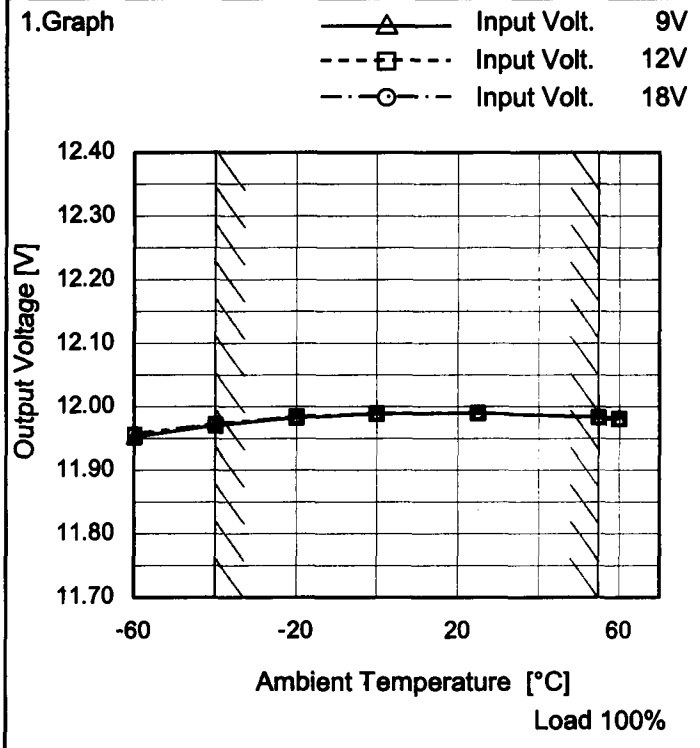
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	5	5
-40	5	4
-20	5	4
0	4	4
25	4	4
55	3	3
60	3	3
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUS61212/SUCS61212
Item	Ambient Temperature Drift
Object	+12V0.5A

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. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
-60	11.953	11.956	11.957
-40	11.971	11.972	11.973
-20	11.983	11.984	11.984
0	11.989	11.989	11.989
25	11.990	11.990	11.990
55	11.984	11.983	11.982
60	11.982	11.981	11.980
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SUS61212/SUCS61212	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+12V0.5A	

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 - 55°C
Input Voltage : 9 - 18V
Load Current : 0 - 0.5A

* 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

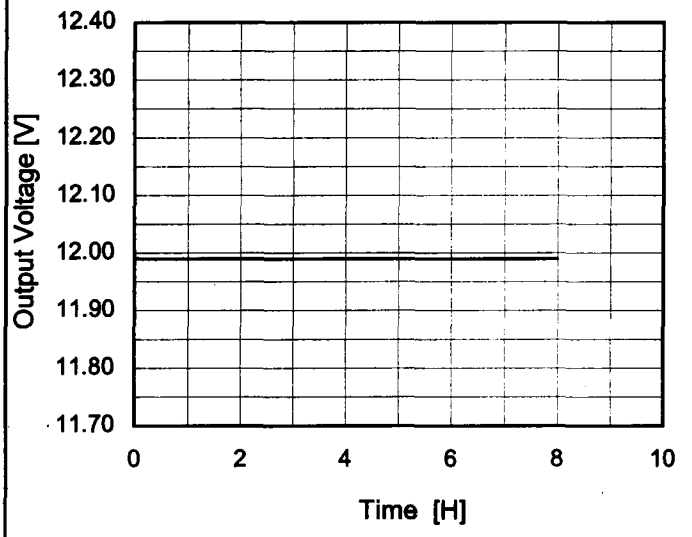
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	25	18	0	11.995	±12	±0.1
Minimum Voltage	-40	9	0.5	11.971		

COSEL

Model	SUS61212/SUCS61212
Item	Time Lapse Drift
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 12V
Load 100%

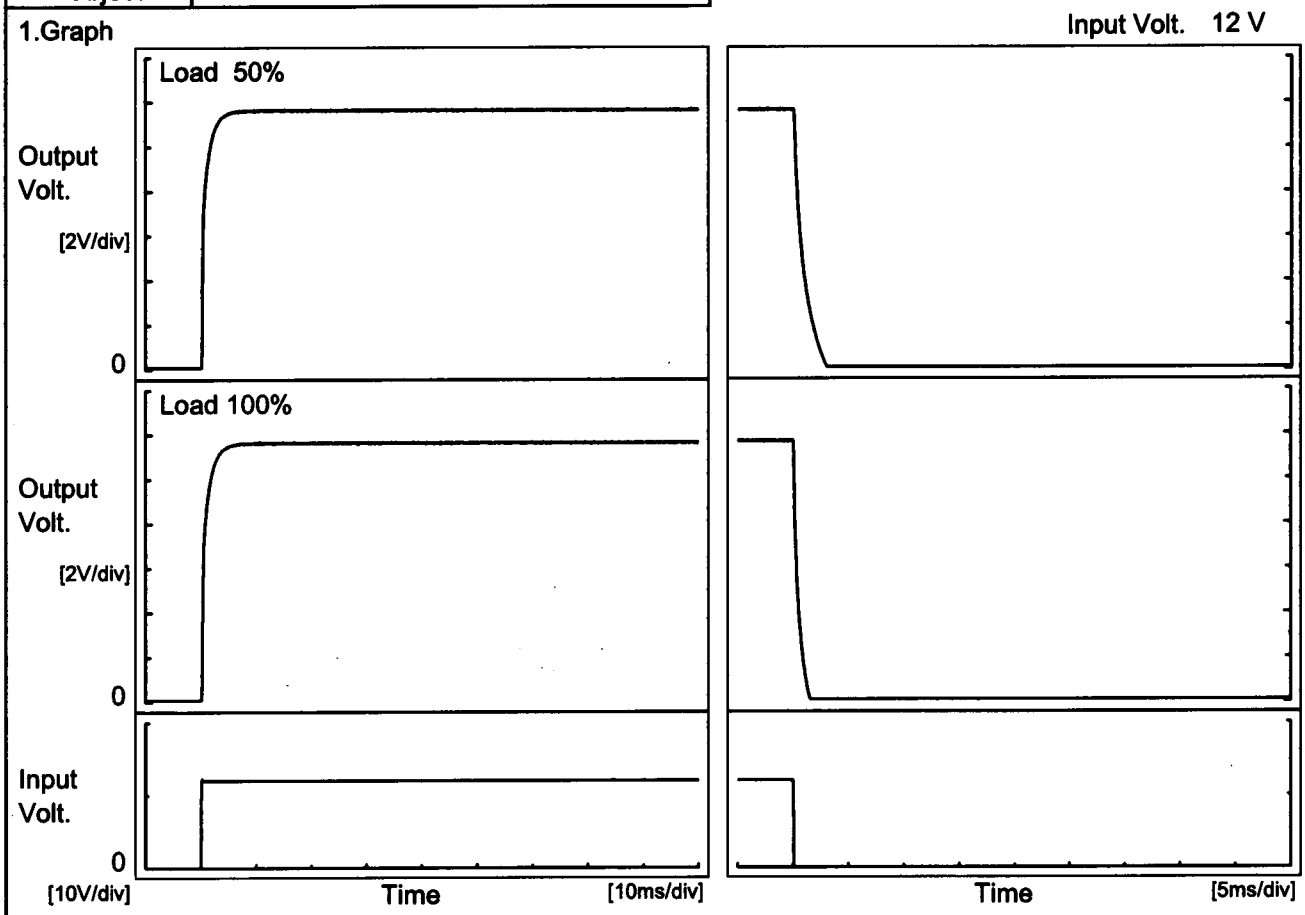
2.Values

Time since start [H]	Output Voltage [V]
0.0	11.992
0.5	11.990
1.0	11.990
2.0	11.990
3.0	11.990
4.0	11.990
5.0	11.990
6.0	11.990
7.0	11.990
8.0	11.990

COSEL

Model	SUS61212/SUCS61212	Temperature 25°C
Item	Rise and Fall Time	Testing Circuitry Figure A
Object	+12V0.5A	

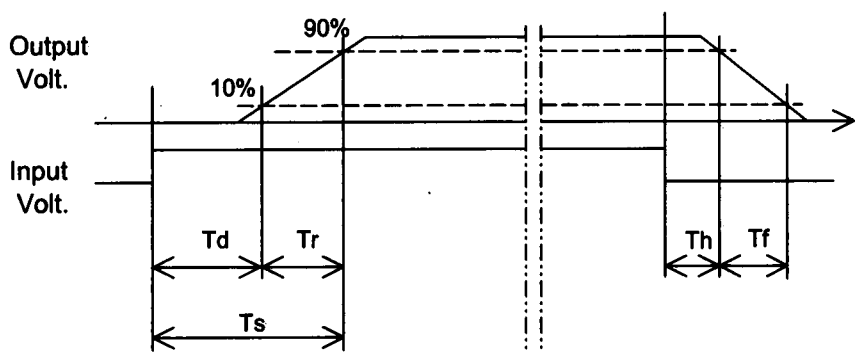
1.Graph



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	0.2	2.5	2.7	0.1	2.1
100 %	0.2	2.7	2.9	0.1	1.1



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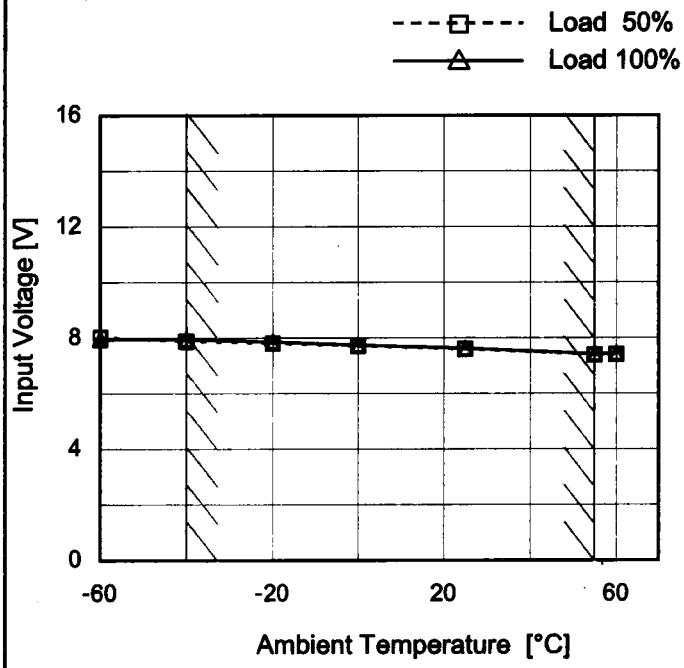
Model	SUS61212/SUCS61212
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V0.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

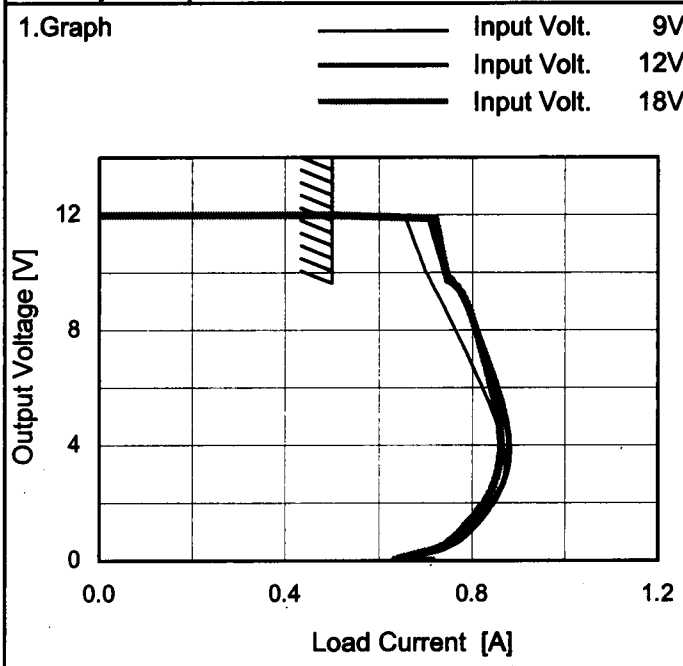
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	8.1	8.0
-40	7.9	8.0
-20	7.9	7.9
0	7.8	7.8
25	7.6	7.7
55	7.4	7.5
60	7.4	7.5
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUS61212/SUCS61212
Item	Overcurrent Protection
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
12.0	0.50	0.50	0.50
11.4	0.67	0.72	0.73
10.8	0.68	0.73	0.73
9.6	0.72	0.76	0.76
8.4	0.75	0.80	0.80
7.2	0.79	0.83	0.82
6.0	0.82	0.85	0.84
4.8	0.85	0.87	0.86
3.6	0.87	0.88	0.86
2.4	0.86	0.86	0.84
1.2	0.81	0.80	0.79
0.0	0.72	0.70	0.72

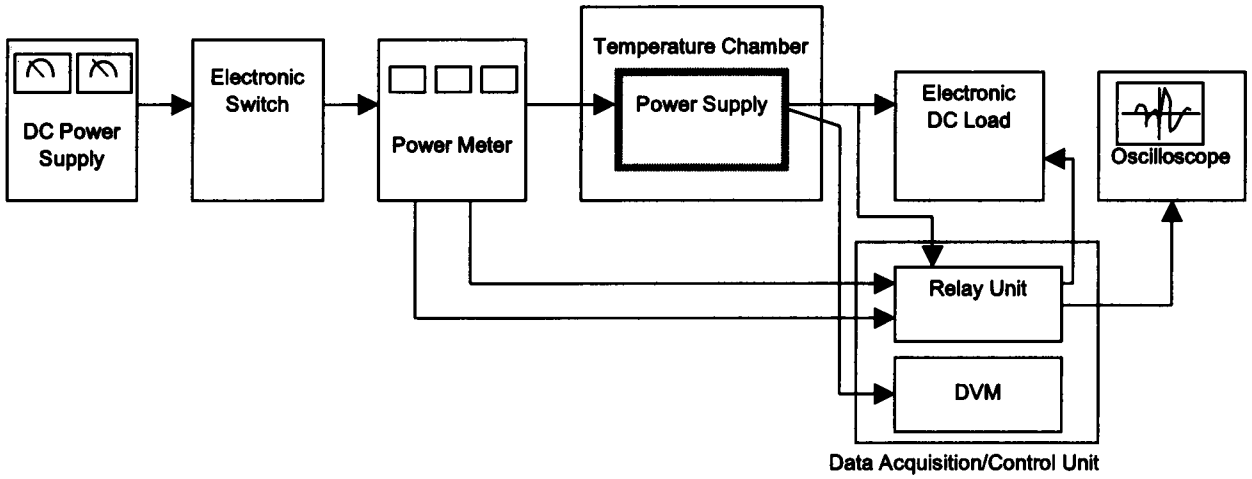


Figure A

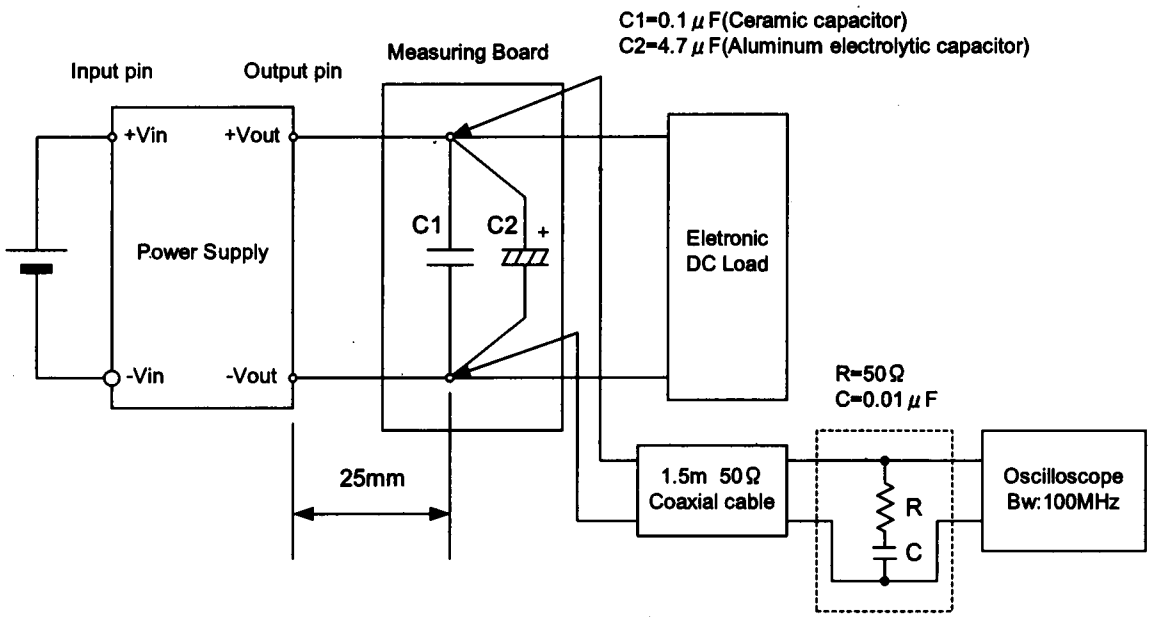


Figure B (Ripple and Ripple noise Characteristic)