参考資料

COSEL

TEST DATA OF SUS64812
SUCS64812

Regulated DC Power Supply
Feb 17, 2005

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COSEL CO.,LTD.

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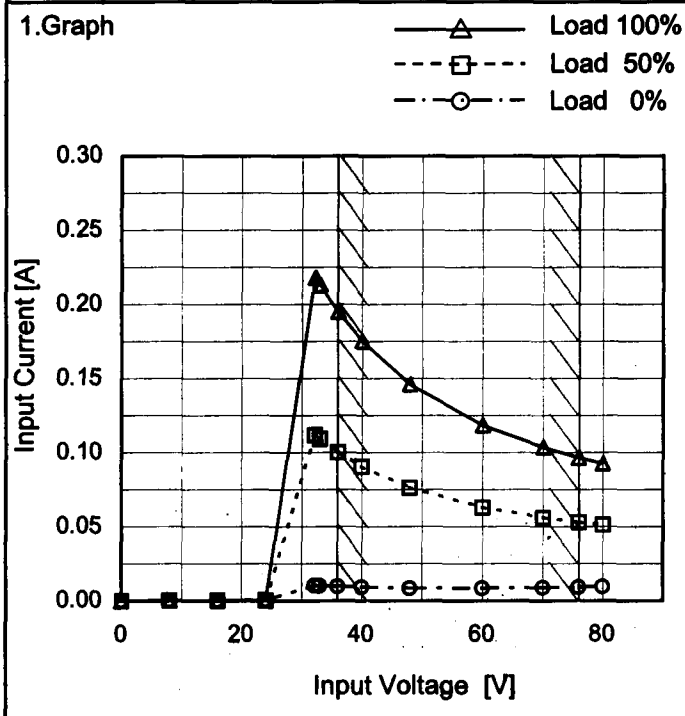
Model	SUS64812/SUCS64812
Item	Input Current (by Input Voltage)
Object	————————

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	0.000	0.000	0.000
8.0	0.000	0.000	0.000
16.0	0.000	0.000	0.000
24.0	0.001	0.001	0.001
32.2	0.010	0.112	0.218
33.0	0.010	0.109	0.213
36.0	0.010	0.100	0.195
40.0	0.009	0.091	0.175
48.0	0.009	0.076	0.146
60.0	0.008	0.063	0.119
70.0	0.009	0.056	0.104
76.0	0.009	0.053	0.097
80.0	0.009	0.051	0.093
–	-	-	-
–	-	-	-
–	-	-	-

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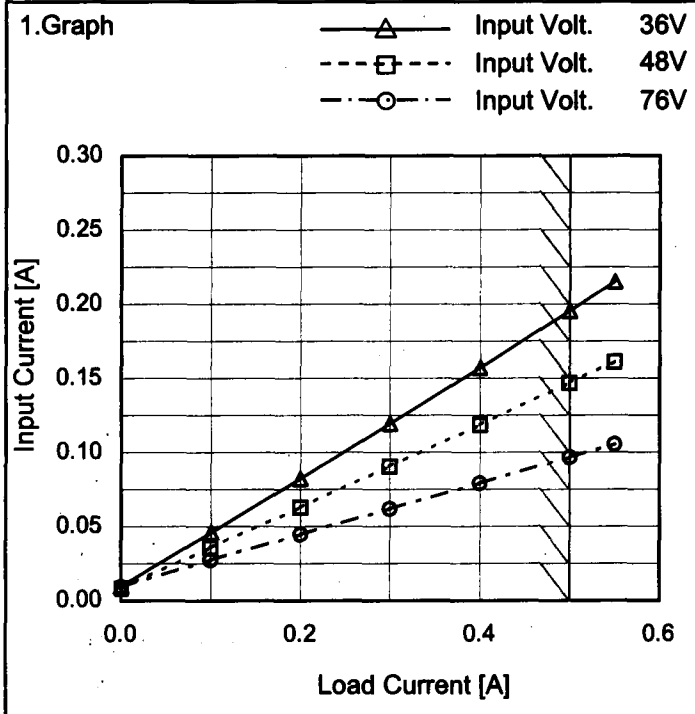
Model	SUS64812/SUCS64812
Item	Input Current (by Load Current)
Object	———————

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]
0.00	0.010	0.008	0.009
0.10	0.046	0.036	0.027
0.20	0.082	0.063	0.045
0.30	0.120	0.091	0.062
0.40	0.157	0.119	0.079
0.50	0.196	0.147	0.097
0.55	0.215	0.161	0.105
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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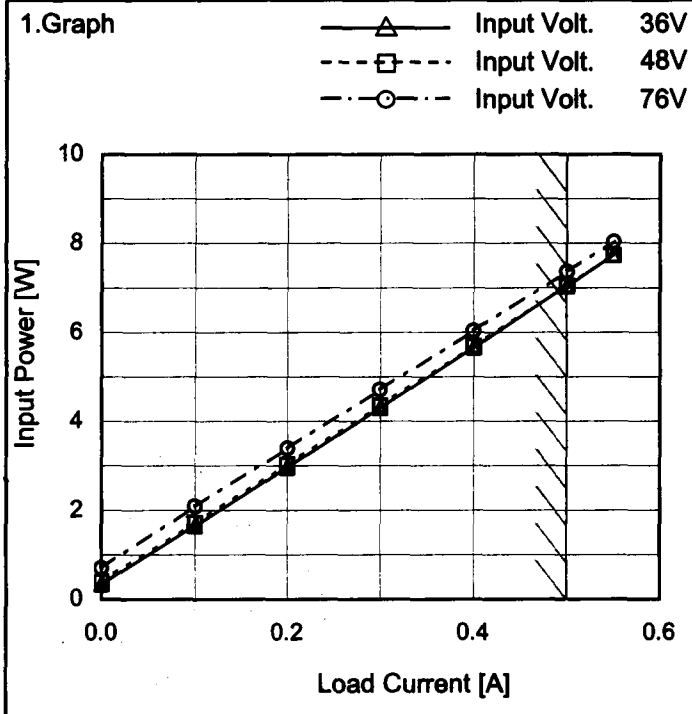
Model	SUS64812/SUCS64812
Item	Input Power (by Load Current)
Object	———————

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]
0.00	0.35	0.41	0.71
0.10	1.65	1.72	2.09
0.20	2.97	3.03	3.40
0.30	4.30	4.35	4.71
0.40	5.66	5.69	6.03
0.50	7.04	7.05	7.36
0.55	7.74	7.73	8.03
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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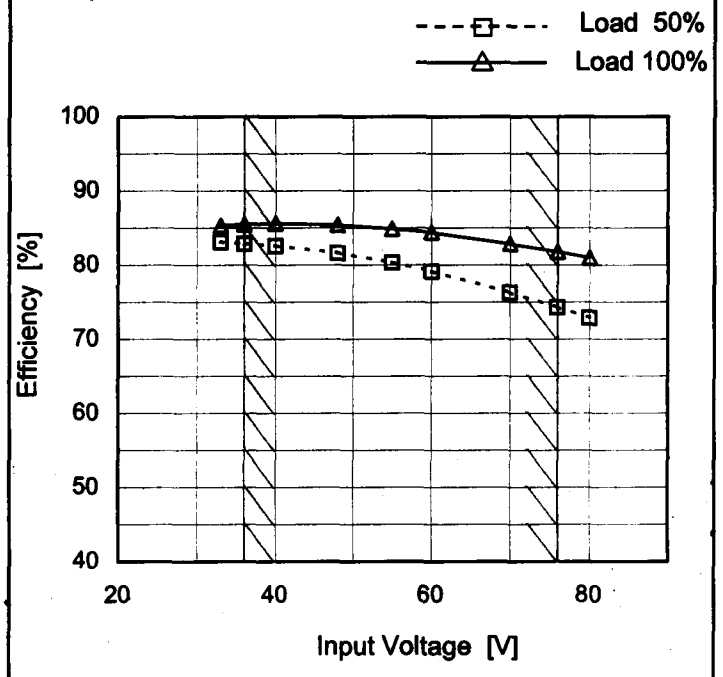
Model	SUS64812/SUCS64812
Item	Efficiency (by Input Voltage)
Object	————————

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%
33	83.1	85.3
36	82.9	85.5
40	82.6	85.6
48	81.7	85.4
55	80.3	84.9
60	79.1	84.4
70	76.3	82.8
76	74.3	81.8
80	72.9	81.0

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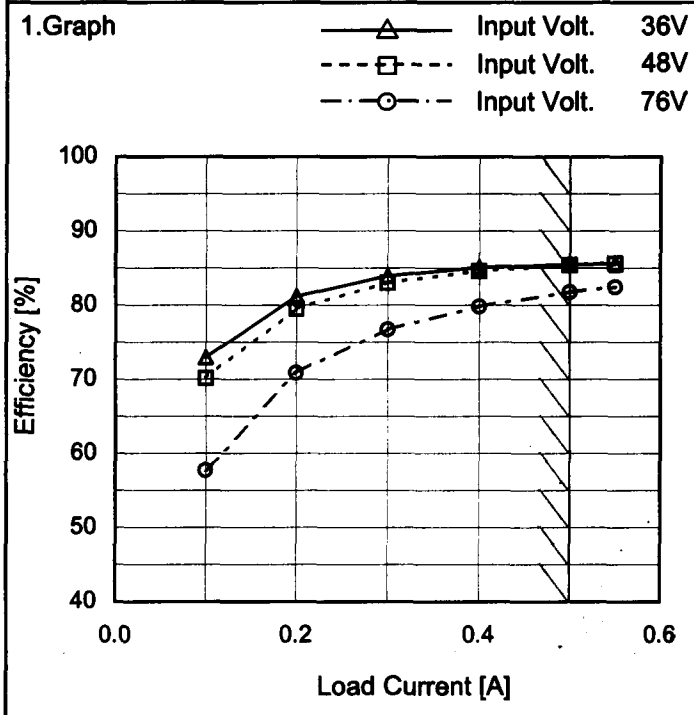
Model	SUS64812/SUCS64812
Item	Efficiency (by Load Current)
Object	————————

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]
0.00	-	-	-
0.10	73.0	70.2	57.7
0.20	81.2	79.5	70.9
0.30	84.0	83.0	76.7
0.40	85.1	84.6	79.8
0.50	85.5	85.4	81.8
0.55	85.6	85.7	82.4
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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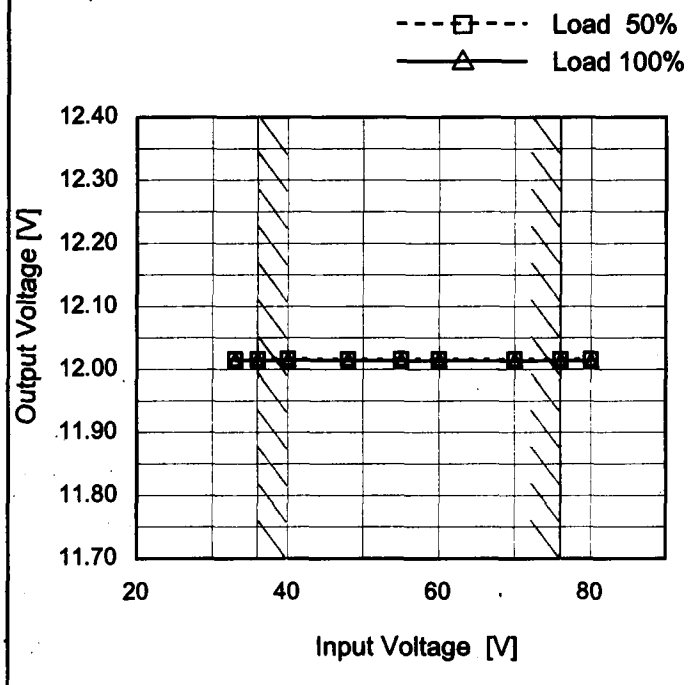
Model	SUS64812/SUCS64812
Item	Line Regulation
Object	+12V0.5A

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%
33	12.016	12.015
36	12.016	12.015
40	12.017	12.015
48	12.016	12.015
55	12.016	12.014
60	12.016	12.014
70	12.016	12.014
76	12.016	12.014
80	12.016	12.014

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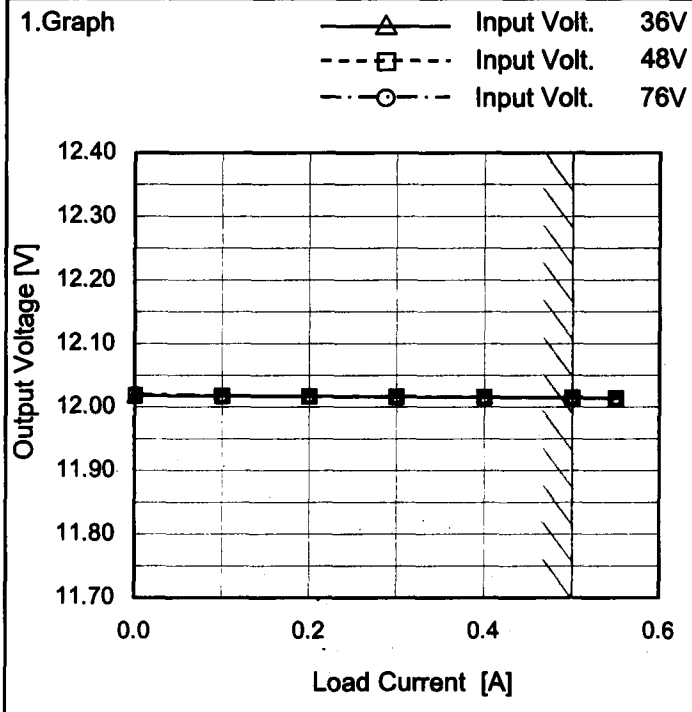
Model	SUS64812/SUCS64812
Item	Load Regulation
Object	+12V0.5A

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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	12.018	12.019	12.020
0.10	12.018	12.018	12.018
0.20	12.017	12.017	12.017
0.30	12.016	12.016	12.016
0.40	12.016	12.016	12.016
0.50	12.015	12.015	12.015
0.55	12.015	12.014	12.014
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SUS64812/SUCS64812
Item	Dynamic Load Response
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure A

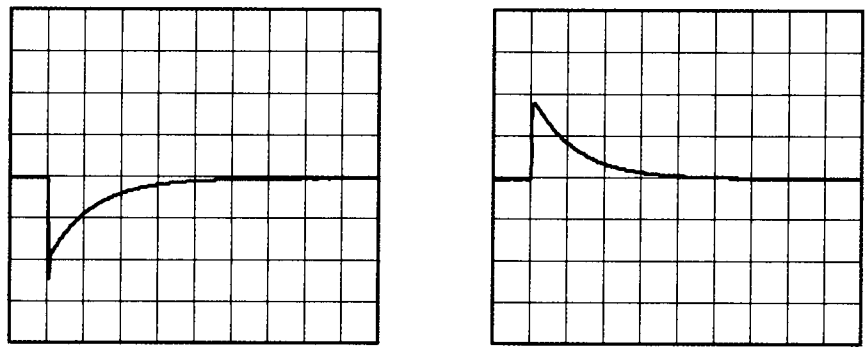
Input Volt. 48 V
Cycle 100 mS

t_1、t_2 = 50μs

Load Current

t_1 t_2

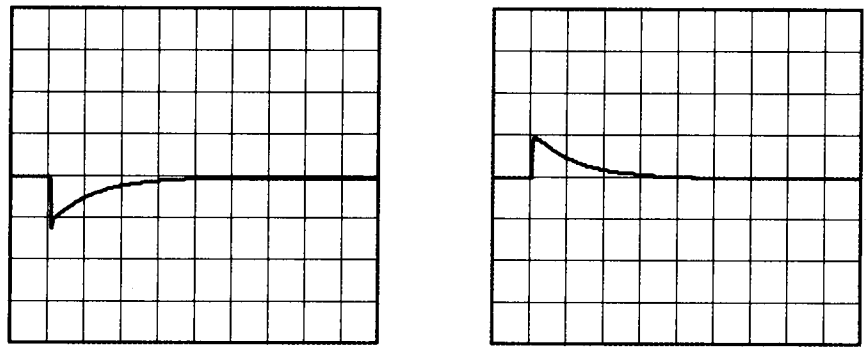
Min. Load (0A) ⟷ Load 100% (0.5A)



200mV/div

1ms/div 1ms/div

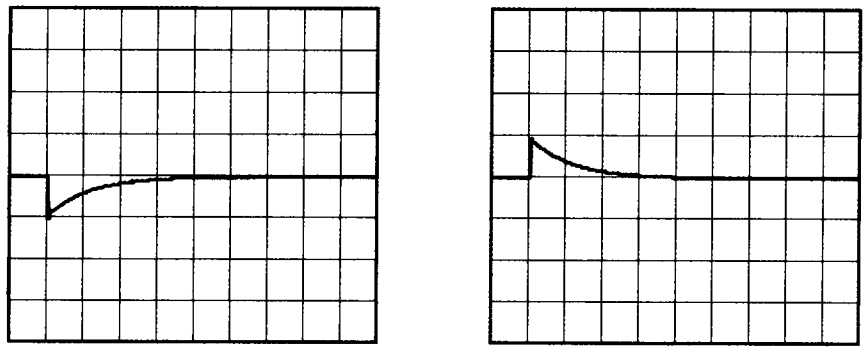
Min. Load (0A) ⟷ Load 50% (0.25A)



200mV/div

1ms/div 1ms/div

Load 50% (0.25A) ⟷ Load 100% (0.5A)



200mV/div

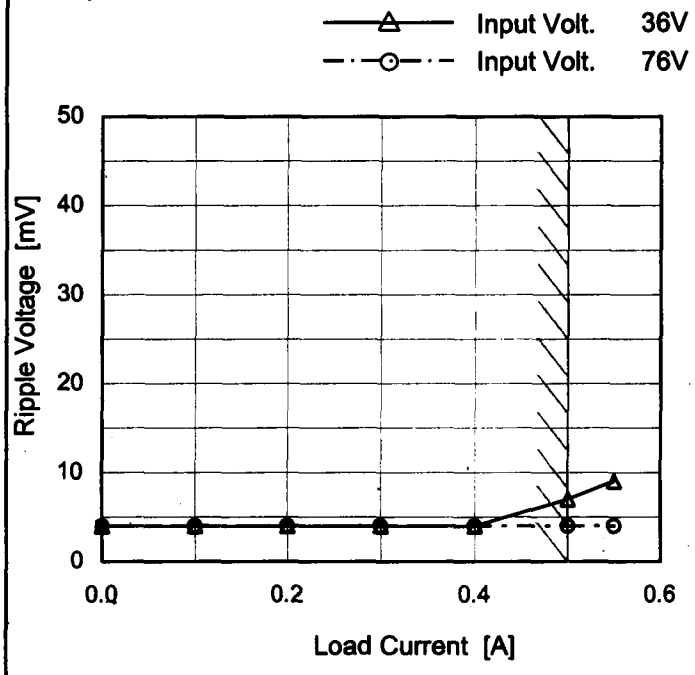
1ms/div 1ms/div

COSEL

Model	SUS64812/SUCS64812
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]

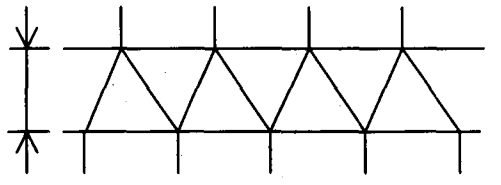


Fig.Complex Ripple Wave Form

2.Values

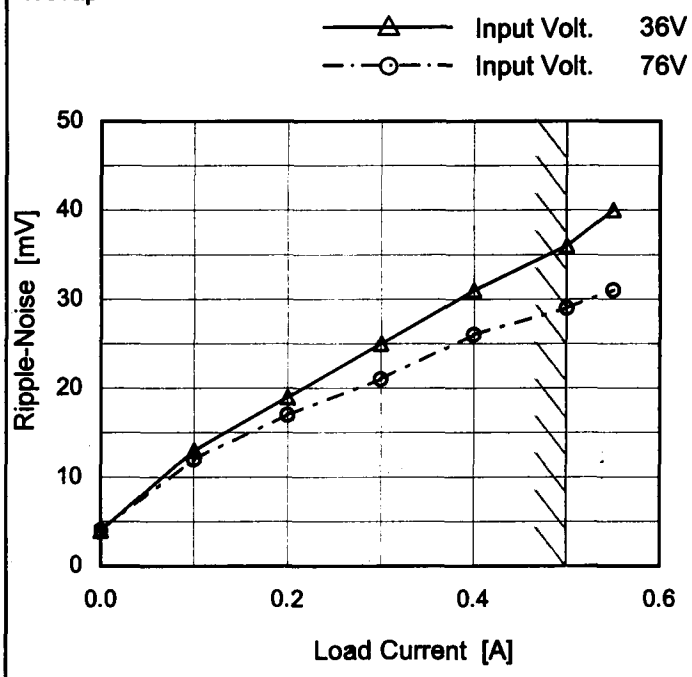
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	4	4
0.10	4	4
0.20	4	4
0.30	4	4
0.40	4	4
0.50	7	4
0.55	9	4
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUS64812/SUCS64812
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.

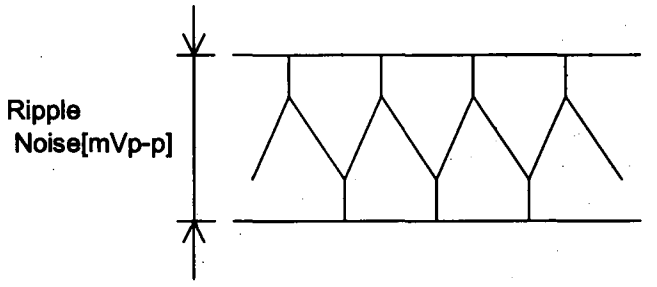


Fig.Complex Ripple Noise Wave Form

2.Values

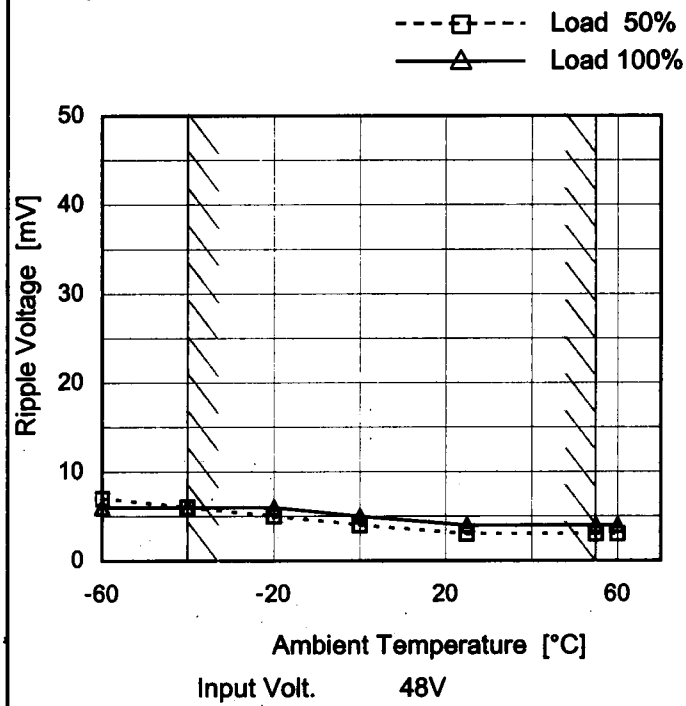
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	4	4
0.10	13	12
0.20	19	17
0.30	25	21
0.40	31	26
0.50	36	29
0.55	40	31
–	-	-
–	-	-
–	-	-
–	-	-

COSEL

Model	SUS64812/SUCS64812
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V0.5A

Testing Circuitry Figure B

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%
-60	7	6
-40	6	6
-20	5	6
0	4	5
25	3	4
55	3	4
60	3	4
–	-	-
–	-	-
–	-	-
–	-	-

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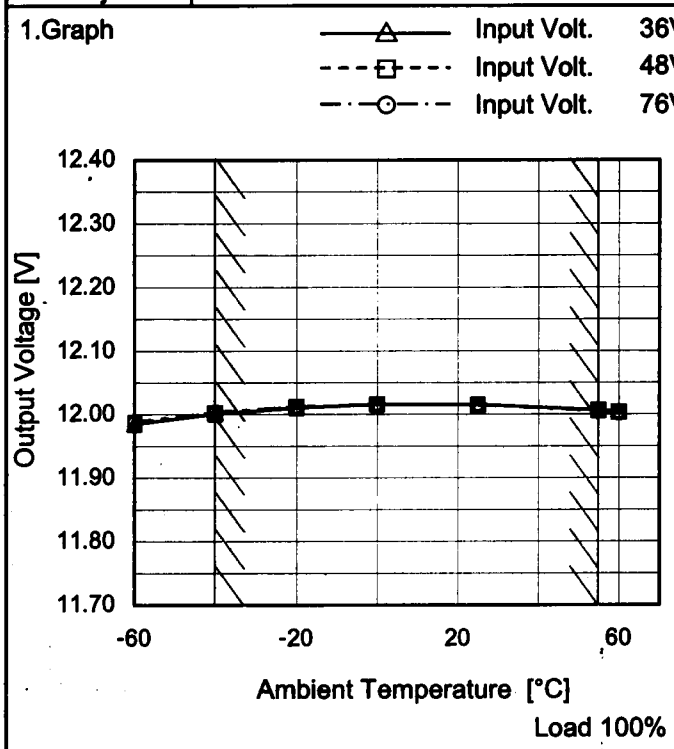
Model	SUS64812/SUCS64812
Item	Ambient Temperature Drift
Object	+12V0.5A

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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-60	11.985	11.987	11.988
-40	12.001	12.002	12.003
-20	12.011	12.012	12.012
0	12.016	12.016	12.016
25	12.016	12.015	12.015
55	12.007	12.006	12.005
60	12.004	12.003	12.002
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SUS64812/SUCS64812	
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 : 36 - 76V
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	76	0	12.021	±10	±0.1
Minimum Voltage	-40	36	0.5	12.001		

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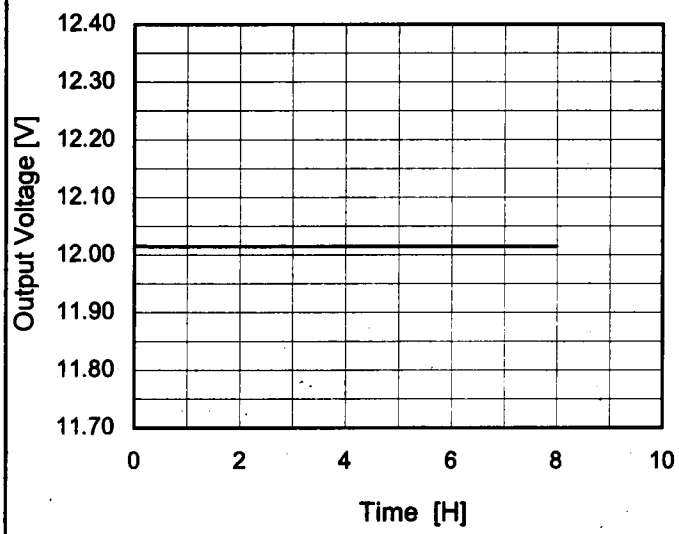
Model	SUS64812/SUCS64812
Item	Time Lapse Drift
Object	+12V0.5A

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	12.016
0.5	12.015
1.0	12.015
2.0	12.015
3.0	12.015
4.0	12.015
5.0	12.015
6.0	12.015
7.0	12.015
8.0	12.015

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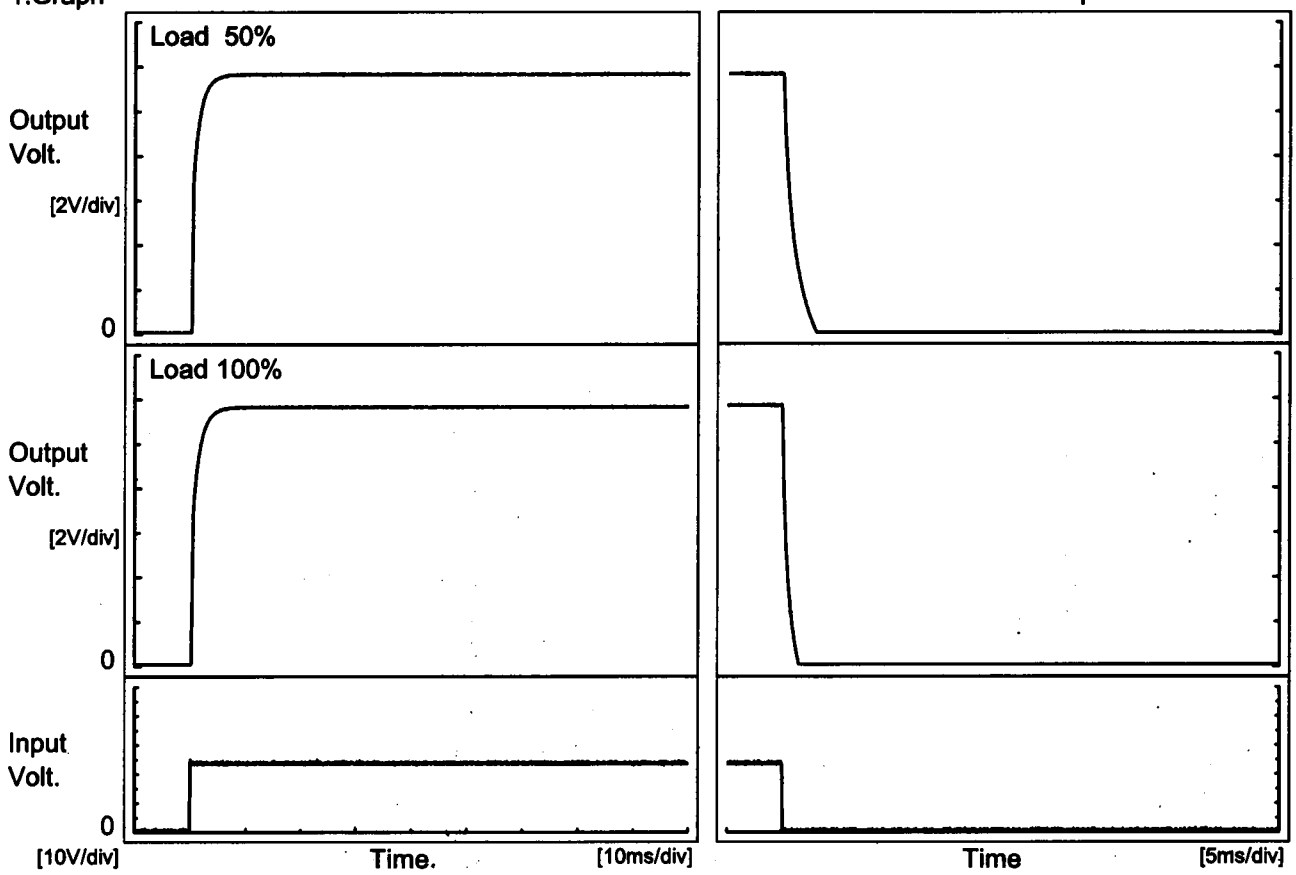
Model	SUS64812/SUCS64812
Item	Rise and Fall Time
Object	+12V0.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

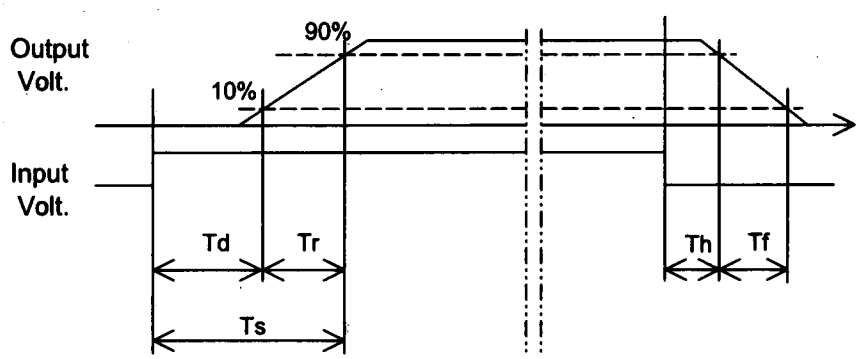
Input Volt. 48 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	0.3	2.6	2.9	0.1	2.1
100 %	0.3	2.7	3.0	0.1	1.0

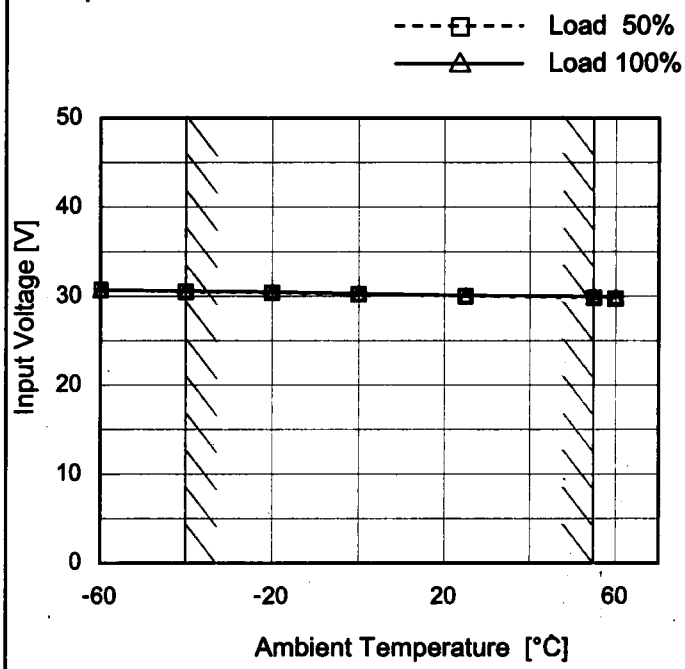


COSEL

Model	SUS64812/SUCS64812
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

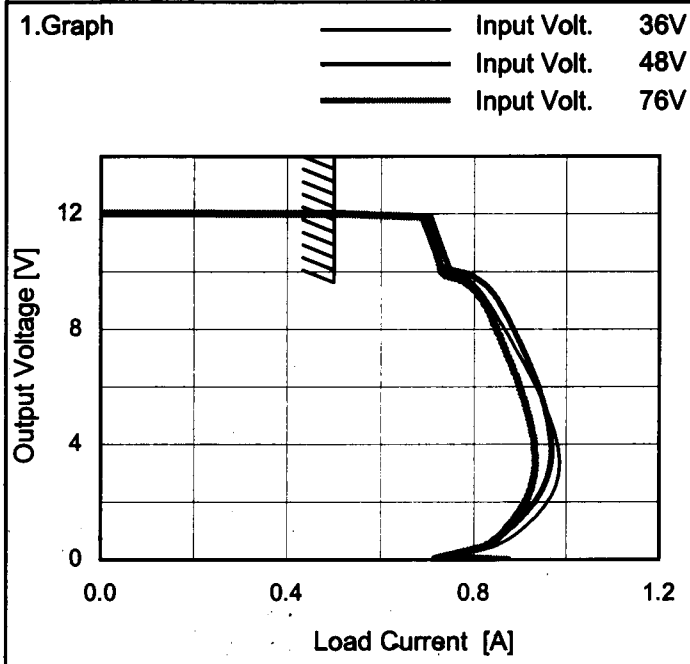
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	30.7	30.7
-40	30.5	30.6
-20	30.4	30.5
0	30.2	30.3
25	30.0	30.1
55	29.8	30.0
60	29.7	29.9
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUS64812/SUCS64812
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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
12.0	0.50	0.50	0.50
11.4	0.70	0.72	0.71
10.8	0.71	0.73	0.72
9.6	0.80	0.82	0.79
8.4	0.85	0.87	0.84
7.2	0.90	0.91	0.87
6.0	0.93	0.94	0.90
4.8	0.97	0.96	0.92
3.6	0.99	0.97	0.93
2.4	0.97	0.95	0.92
1.2	0.92	0.89	0.88
0.0	0.85	0.84	0.87

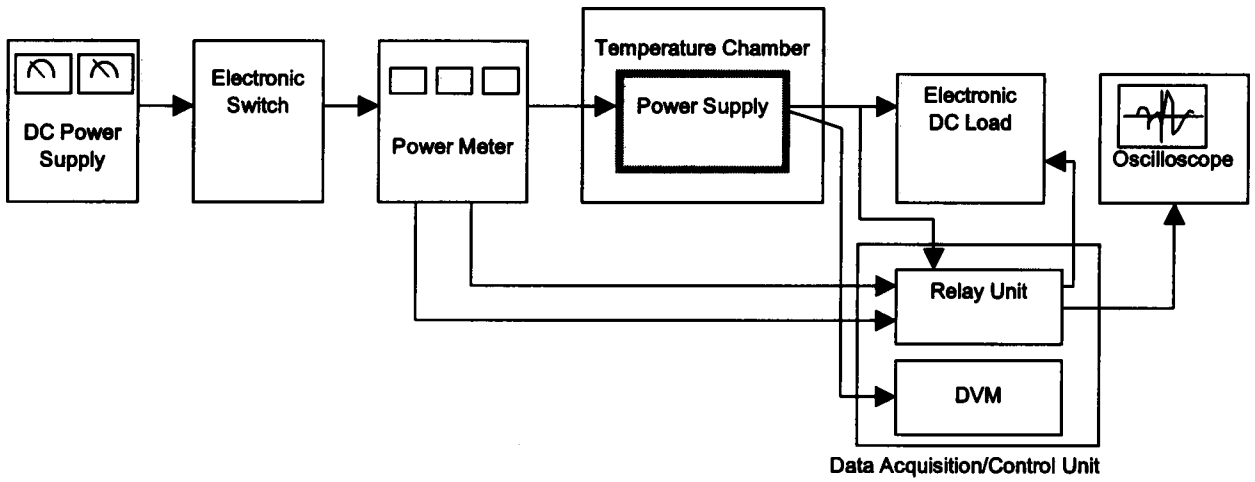


Figure A

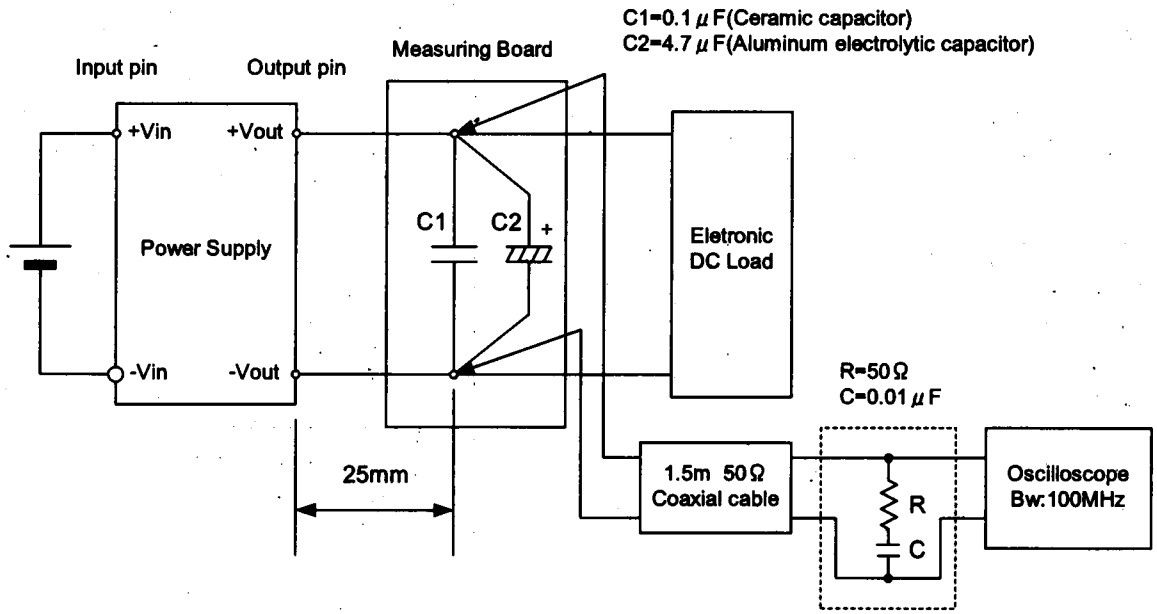


Figure B (Ripple and Ripple noise Characteristic)