COSEL

参考資料

TEST DATA OF CHS804812

Regulated DC Power Supply
September 27, 2011

Approved by : Yoshimichi Hirokawa

Yoshimichi Hirokawa　Design Manager

Prepared by : Sakae Minamide

Sakae Minamide　Design Engineer

COSEL CO.,LTD.

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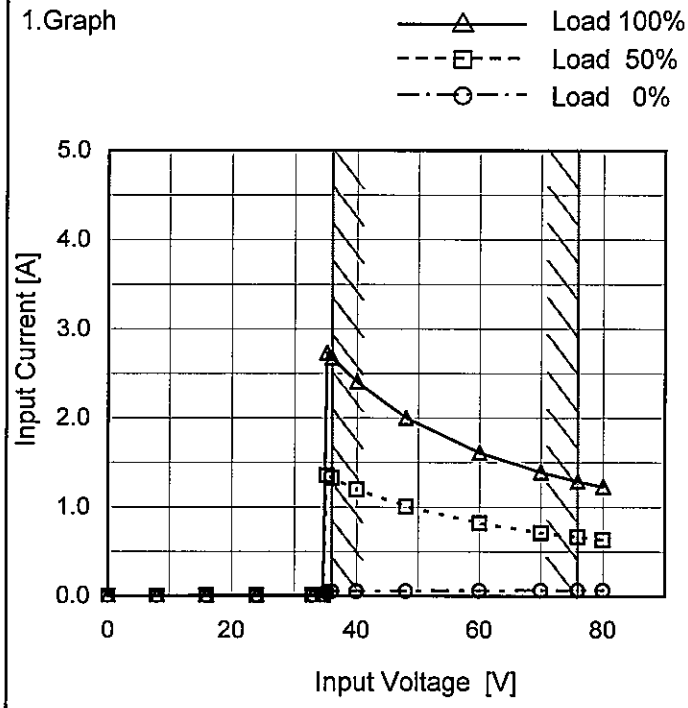
COSEL

Model	CHS804812
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

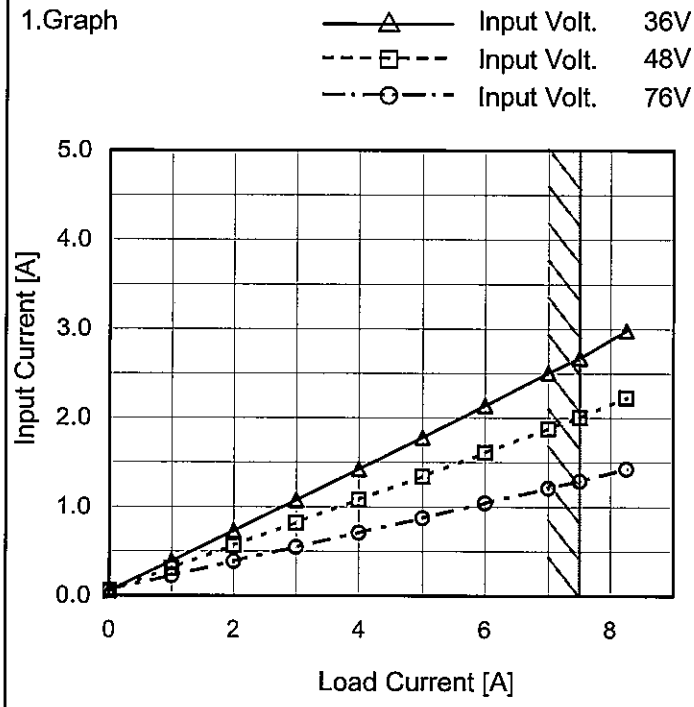
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
8.0	0.000	0.000	0.000
16.0	0.009	0.009	0.009
24.0	0.009	0.009	0.009
33.0	0.009	0.009	0.009
34.6	0.009	0.009	0.009
35.2	0.052	1.354	2.734
36.0	0.052	1.324	2.674
40.0	0.054	1.195	2.406
48.0	0.058	1.006	2.004
60.0	0.061	0.819	1.614
70.0	0.063	0.713	1.394
76.0	0.065	0.663	1.289
80.0	0.065	0.633	1.228
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	CHS804812
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

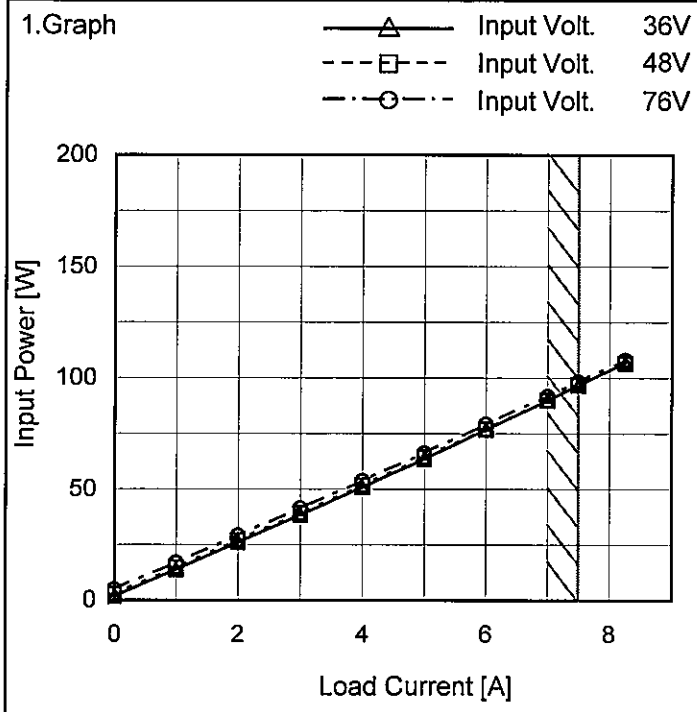
Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	0.052	0.058	0.065
1.00	0.388	0.309	0.224
2.00	0.729	0.563	0.384
3.00	1.074	0.820	0.546
4.00	1.421	1.080	0.709
5.00	1.778	1.341	0.874
6.00	2.138	1.609	1.042
7.00	2.504	1.880	1.210
7.50	2.674	2.004	1.289
8.25	2.976	2.228	1.426
--	-	-	-

COSEL

Model	CHS804812
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

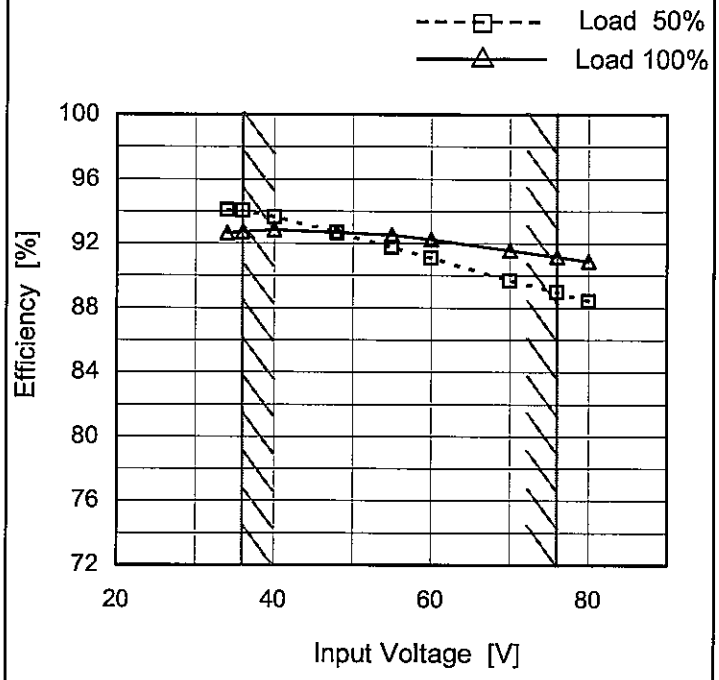
Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	1.9	2.8	5.0
1.00	13.9	14.8	17.0
2.00	26.1	27.0	29.1
3.00	38.5	39.3	41.4
4.00	51.0	51.7	53.8
5.00	63.7	64.3	66.3
6.00	76.8	77.0	79.1
7.00	89.9	90.0	91.8
7.50	96.8	96.8	98.3
8.25	106.9	106.6	108.1
--	-	-	-

COSEL

Model	CHS804812
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	94.1	92.7
36	94.0	92.7
40	93.6	92.8
48	92.7	92.7
55	91.8	92.5
60	91.1	92.2
70	89.7	91.6
76	89.0	91.2
80	88.4	90.9

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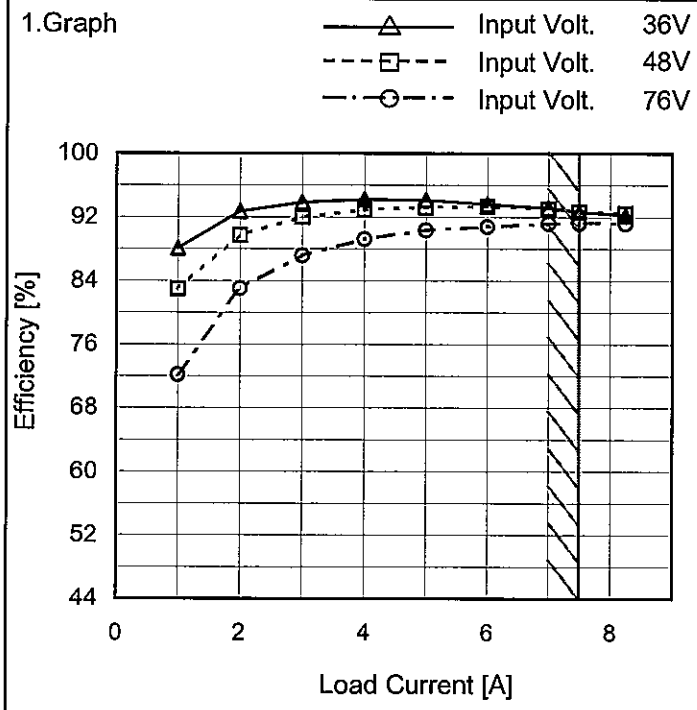
Model	CHS804812
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

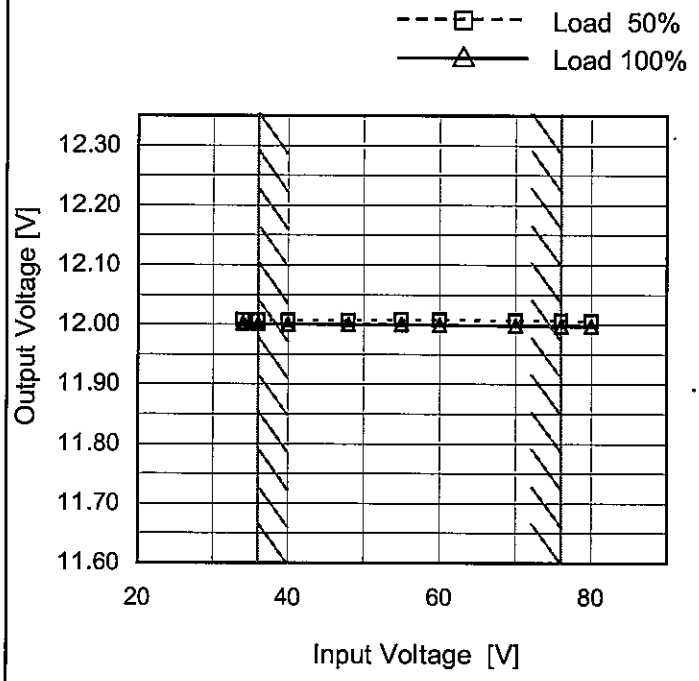
Load Current [A]	Efficiency [%]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	-	-	-
1.00	88.1	83.0	72.2
2.00	92.7	89.7	83.0
3.00	93.8	92.0	87.2
4.00	94.2	92.9	89.2
5.00	94.1	93.2	90.3
6.00	93.6	93.3	90.8
7.00	93.1	93.0	91.2
7.50	92.7	92.7	91.2
8.25	92.2	92.5	91.2
---	-	-	-

COSEL

Model	CHS804812
Item	Line Regulation
Object	+12V7.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

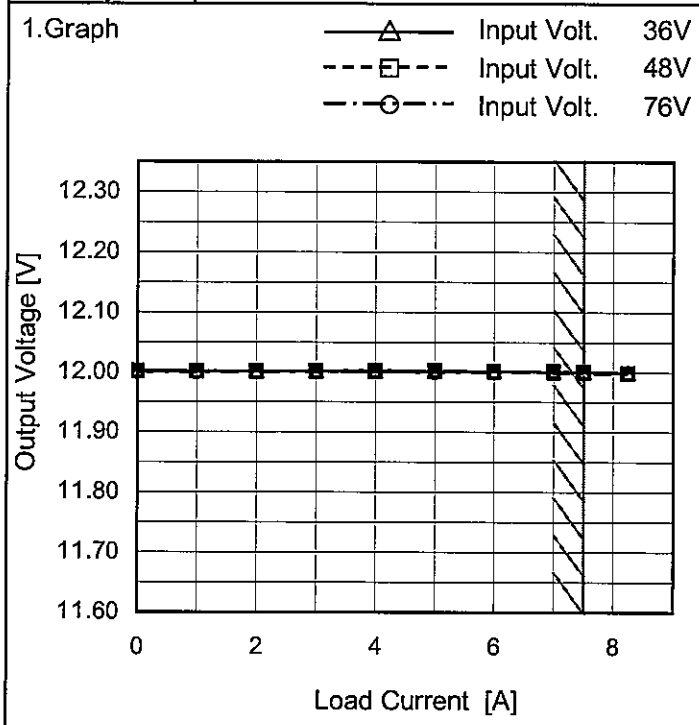
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	12.007	12.002
36	12.007	12.001
40	12.007	12.001
48	12.007	12.000
55	12.007	12.000
60	12.007	11.999
70	12.007	11.998
76	12.007	11.998
80	12.006	11.997

COSEL

Model	CHS804812
Item	Load Regulation
Object	+12V7.5A

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	12.002	12.002	12.000
1.00	12.002	12.002	12.000
2.00	12.002	12.002	12.000
3.00	12.002	12.002	12.000
4.00	12.002	12.002	12.000
5.00	12.002	12.002	12.000
6.00	12.002	12.002	12.000
7.00	12.001	12.001	11.999
7.50	12.001	12.000	11.998
8.25	12.000	11.999	11.997
--	-	-	-

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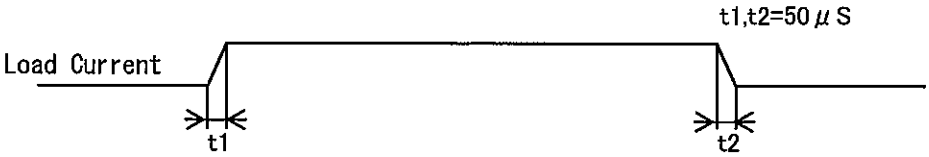
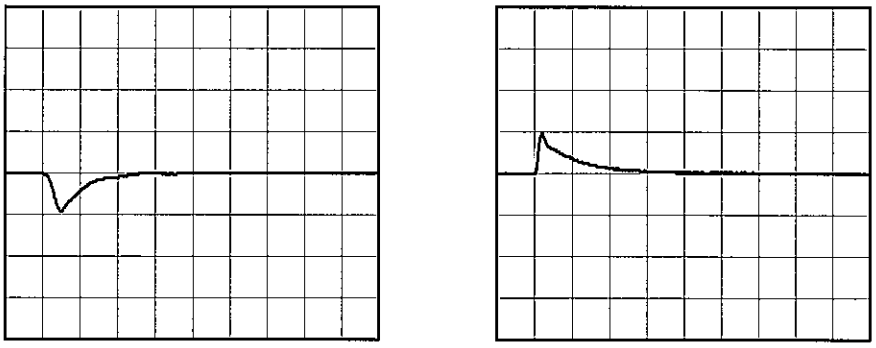
Model	CHS804812
Item	Dynamic Load Response
Object	+12V7.5A

Temperature 25°C
Testing Circuitry Figure A

Input Volt. 48 V
Cycle 5 ms



Min. Load (0A) ⟷
Load 100% (7.5A)

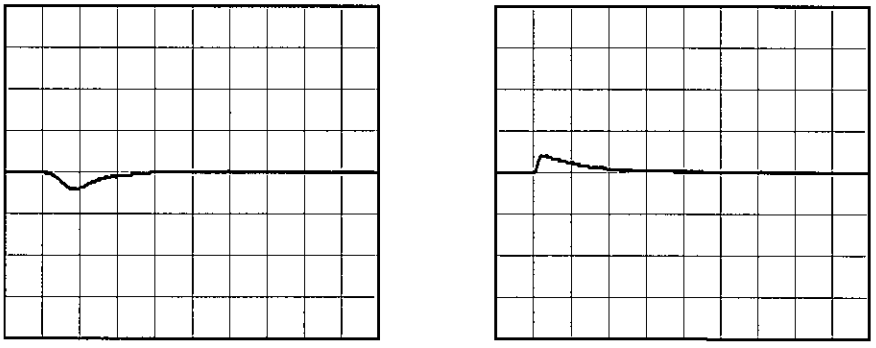


200mV/div

200 μ s/div

200 μ s/div

Min. Load (0A) ⟷
Load 50% (3.75A)

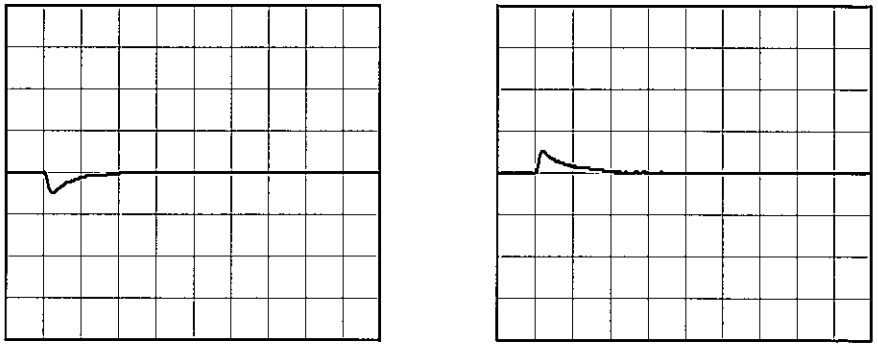


200mV/div

200 μ s/div

200 μ s/div

Load 50% (3.75A) ⟷
Load 100% (7.5A)



200mV/div

200 μ s/div

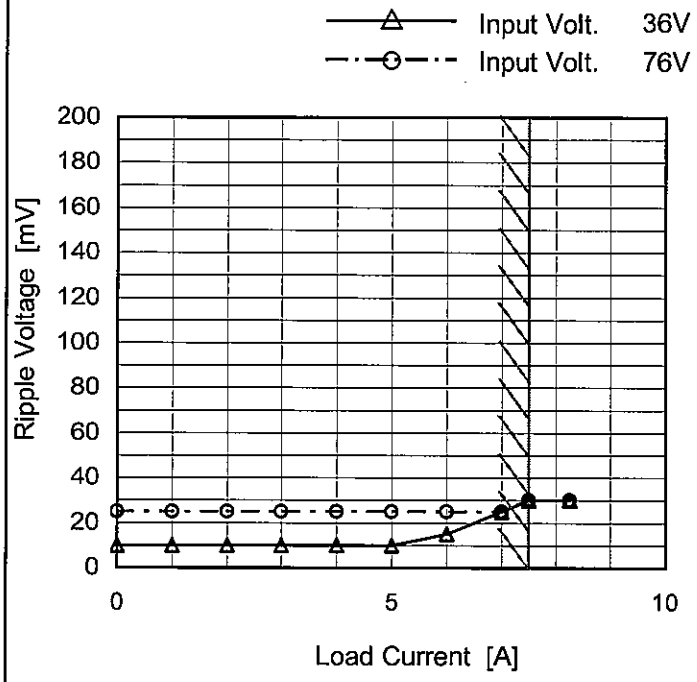
200 μ s/div

COSEL

Model	CHS804812
Item	Ripple Voltage (by Load Current)
Object	+12V7.5A

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.

T1: Due to AC Input Line
T2: Due to Switching

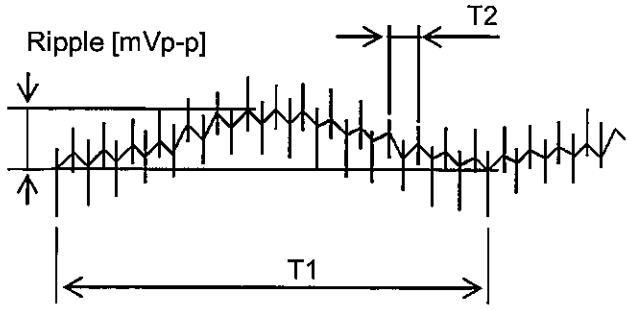


Fig. Complex Ripple Wave Form

2.Values

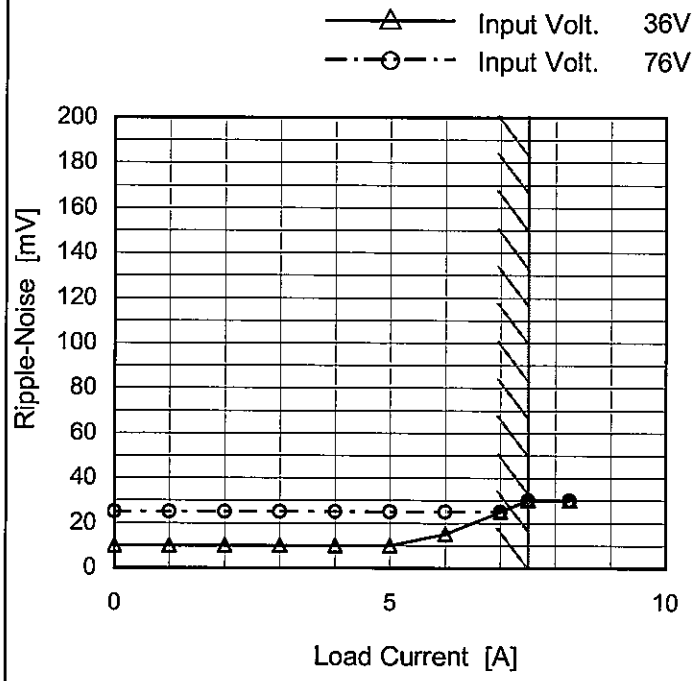
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	10	25
1.00	10	25
2.00	10	25
3.00	10	25
4.00	10	25
5.00	10	25
6.00	15	25
7.00	25	25
7.50	30	30
8.25	30	30
--	-	-

COSEL

Model	CHS804812
Item	Ripple-Noise
Object	+12V7.5A

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.

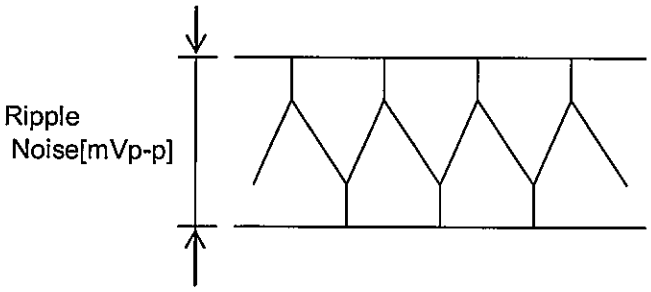


Fig.Complex Ripple Noise Wave Form

2.Values

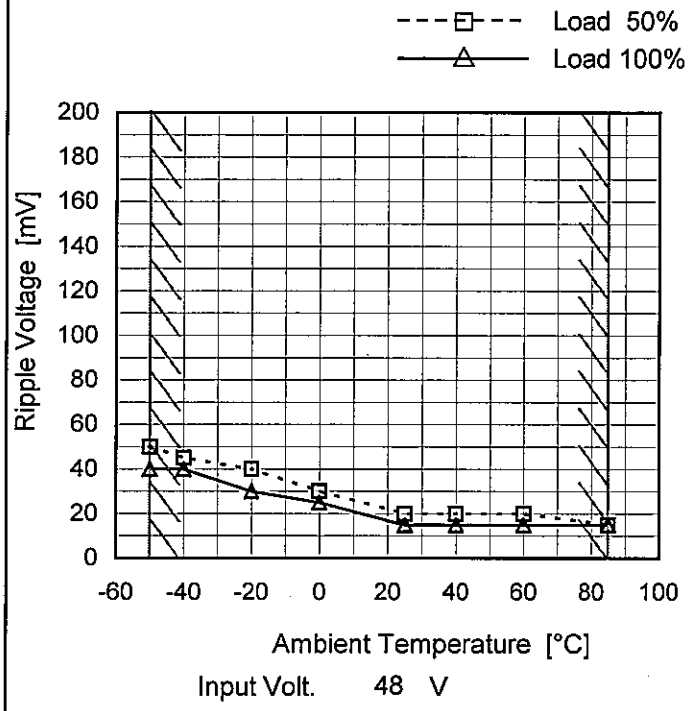
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	10	25
1.00	10	25
2.00	10	25
3.00	10	25
4.00	10	25
5.00	10	25
6.00	15	25
7.00	25	25
7.50	30	30
8.25	30	30
--	-	-

COSEL

Model	CHS804812
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V7.5A

Testing Circuitry Figure A

1.Graph



Input Volt. 48 V

Measured by 100 MHz Oscilloscope.

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

2.Values

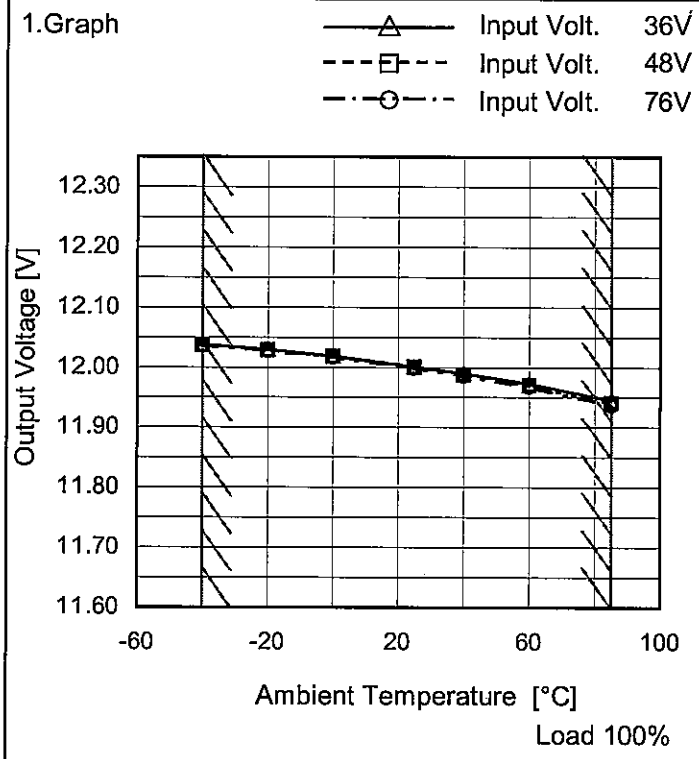
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-50	50	40
-40	45	40
-20	40	30
0	30	25
25	20	15
40	20	15
60	20	15
85	15	15
--	-	-
--	-	-
--	-	-

COSEL

Model	CHS804812
Item	Ambient Temperature Drift
Object	+12V7.5A

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]
-40	12.038	12.037	12.036
-20	12.029	12.028	12.027
0	12.019	12.017	12.016
25	12.001	12.000	11.999
40	11.990	11.988	11.986
60	11.973	11.970	11.968
85	11.945	11.941	11.937
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	CHS804812	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+12V7.5A	

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 - 85°C
Input Voltage : 36 - 76V
Load Current : 0 - 7.5A

* 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

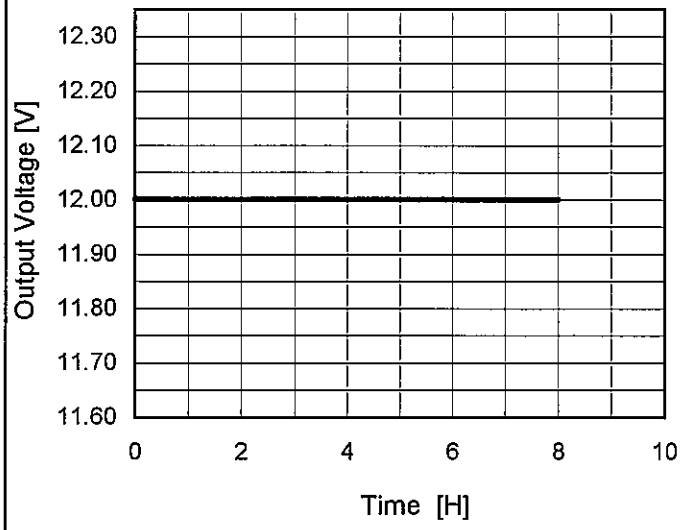
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-40	76	0	12.039	±51	±0.4
Minimum Voltage	85	76	7.5	11.937		

COSEL

Model	CHS804812
Item	Time Lapse Drift
Object	+12V7.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 48V
Load 100%

2.Values

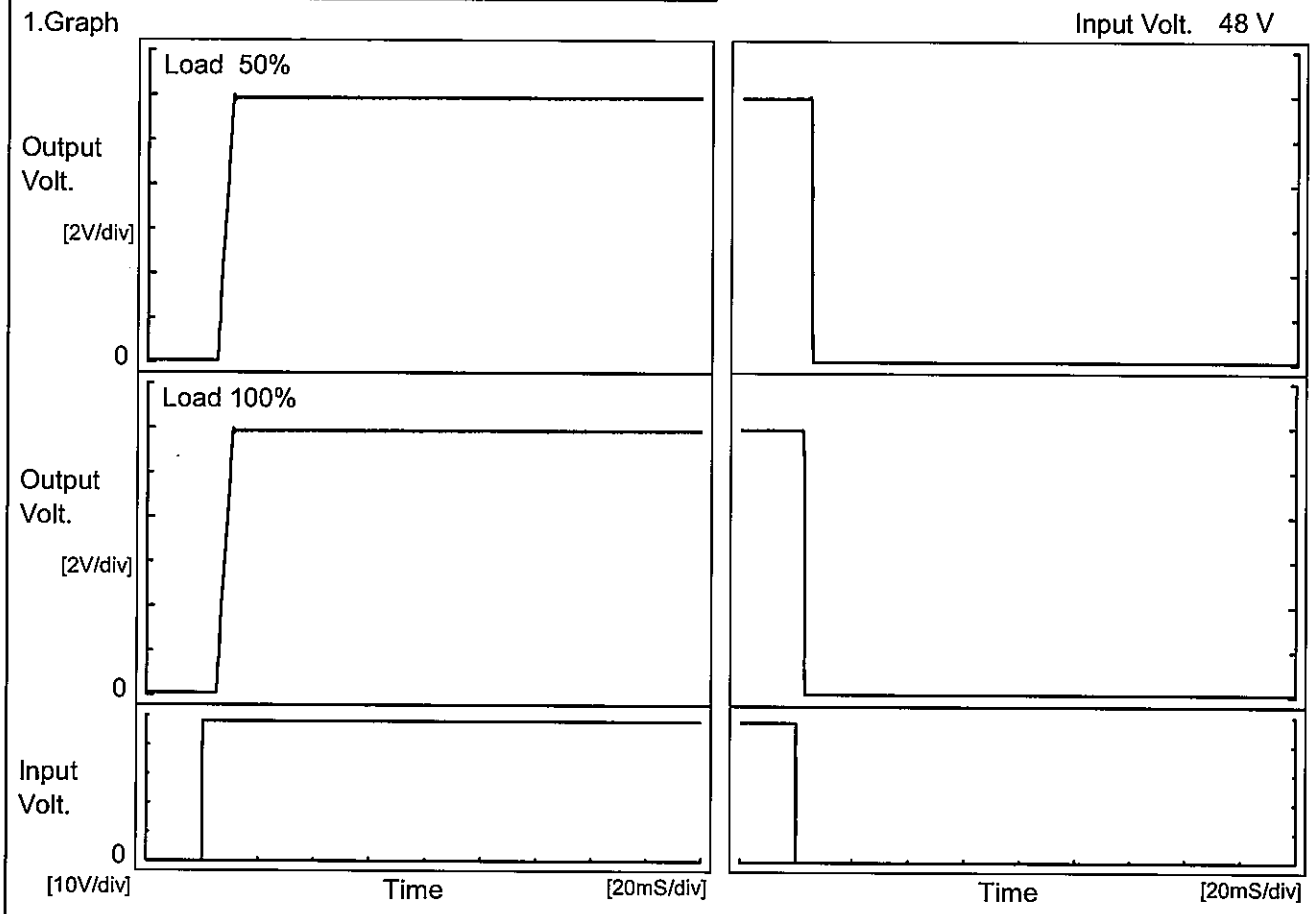
Time since start [H]	Output Voltage [V]
0.0	12.001
0.5	12.001
1.0	12.001
2.0	12.001
3.0	12.001
4.0	12.001
5.0	12.001
6.0	12.001
7.0	12.001
8.0	12.001

COSEL

Model	CHS804812
Item	Rise and Fall Time
Object	+12V7.5A

Temperature 25°C
Testing Circuitry Figure A

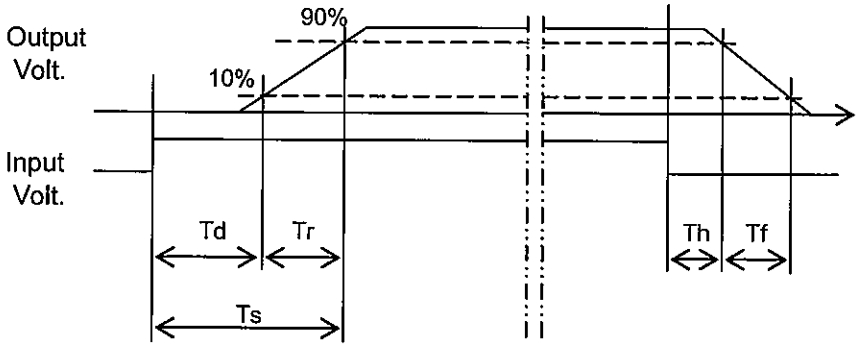
1.Graph



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	4.8	4.4	9.2	4.8	0.4
100 %	4.9	4.6	9.5	2.5	0.4

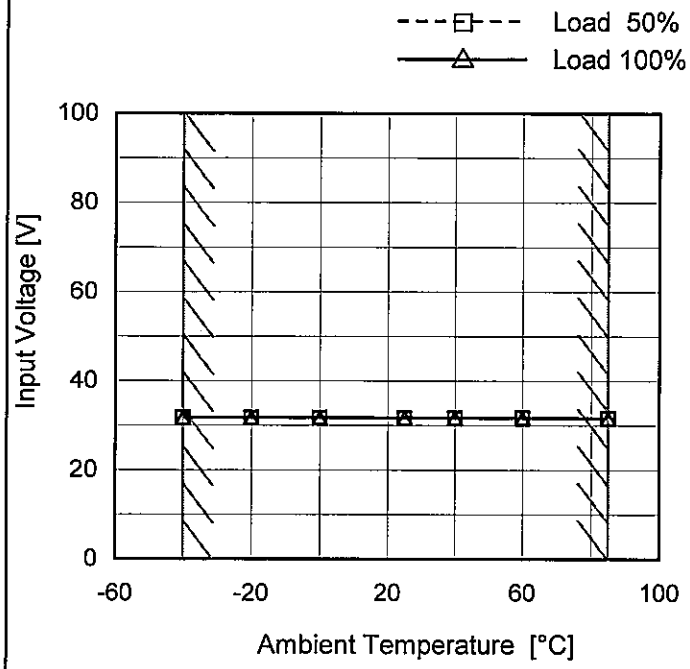


COSEL

Model	CHS804812
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V7.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

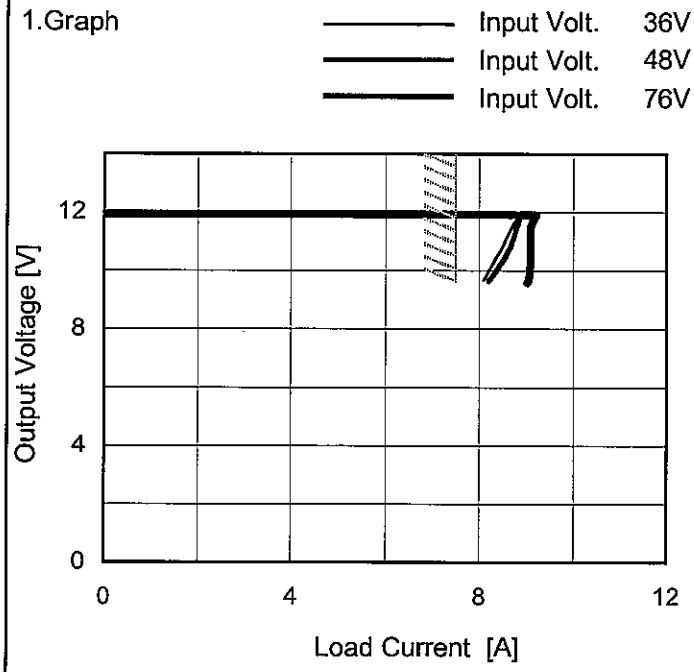
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	31.7	31.8
-20	31.7	31.8
0	31.7	31.8
25	31.7	31.8
40	31.7	31.8
60	31.7	31.7
85	31.6	31.7
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	CHS804812
Item	Overcurrent Protection
Object	+12V7.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

Intermittent operation occurs when the output voltage drops down 9.6V or less.

2.Values

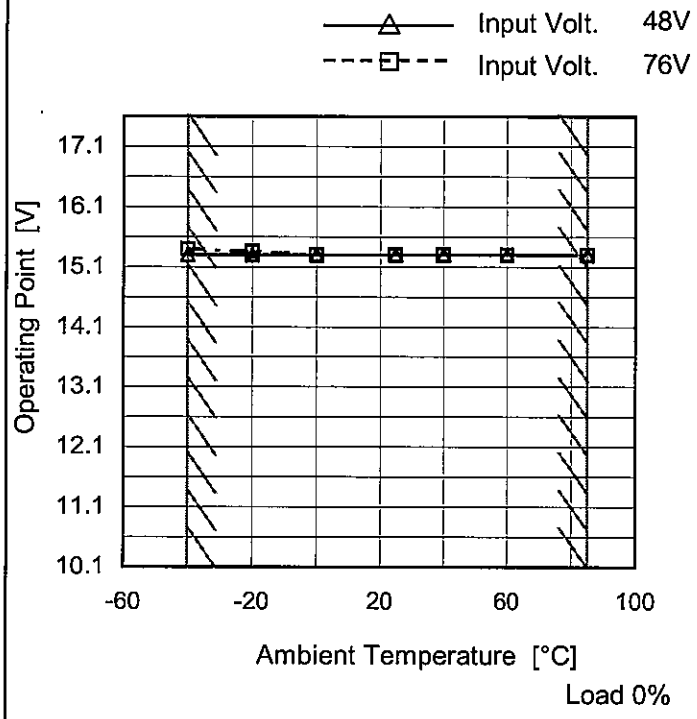
Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
12.0	7.54	7.54	7.54
11.4	8.64	8.80	9.10
10.8	8.53	8.67	9.09
9.6	8.09	8.10	9.05
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	CHS804812
Item	Overvoltage Protection
Object	+12V7.5A

Testing Circuitry Figure A

1.Graph



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. 76[V]
-40	15.30	15.40
-20	15.30	15.35
0	15.30	15.30
25	15.30	15.30
40	15.30	15.30
60	15.30	15.30
85	15.30	15.30
--	-	-
--	-	-
--	-	-
--	-	-

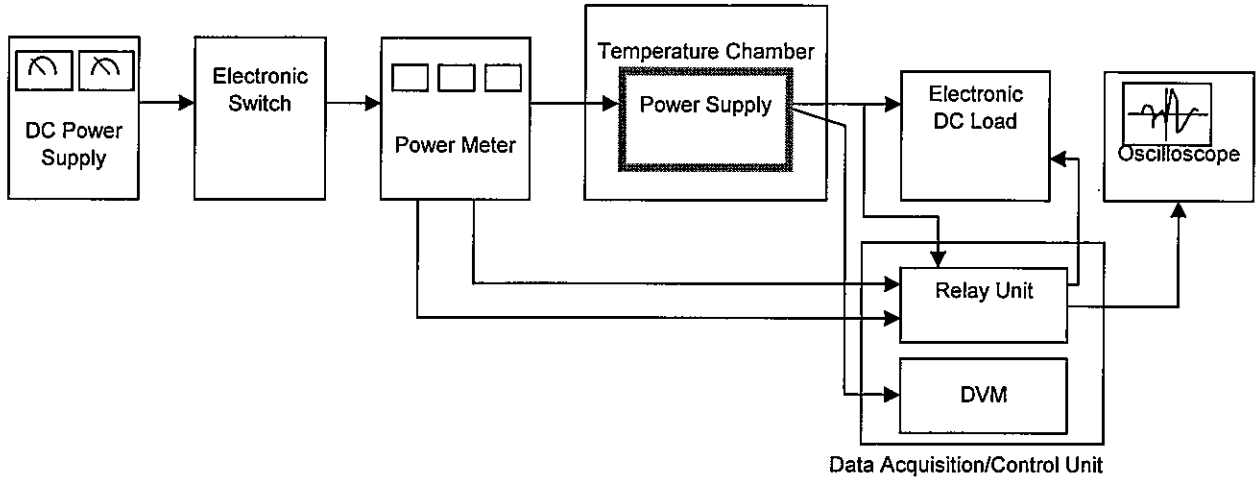


Figure A

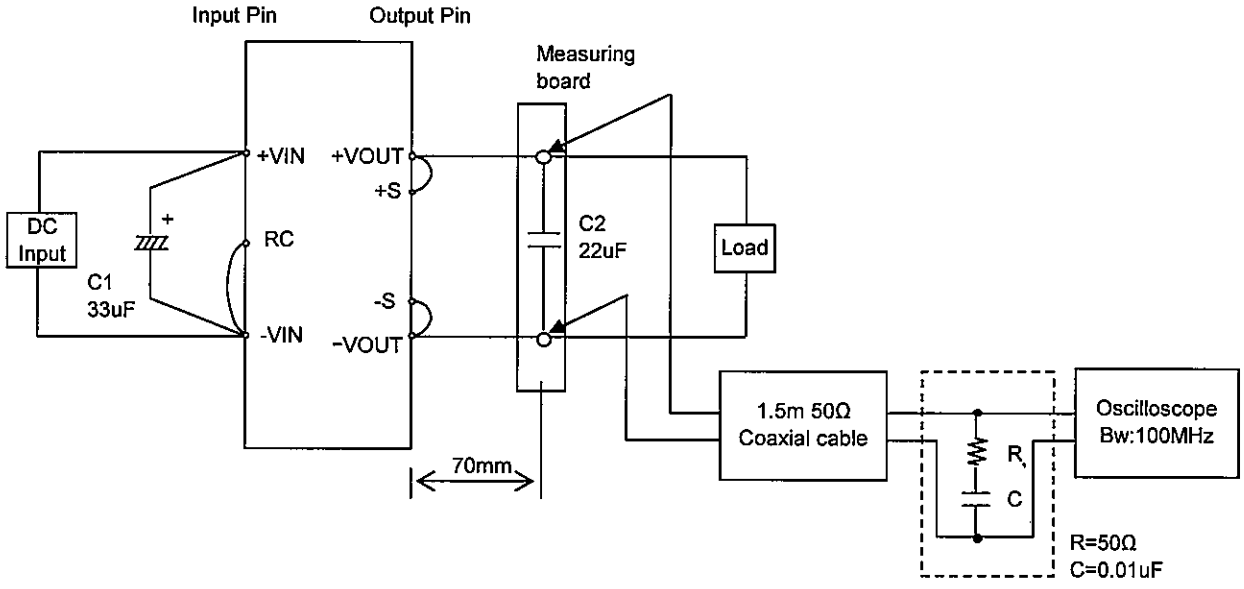


Figure B