参考資料

COSEL

TEST DATA OF CES48120-6

Regulated DC Power Supply
Dec. 20, 2005

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COSEL CO.,LTD.

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COSEL

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Object	————————

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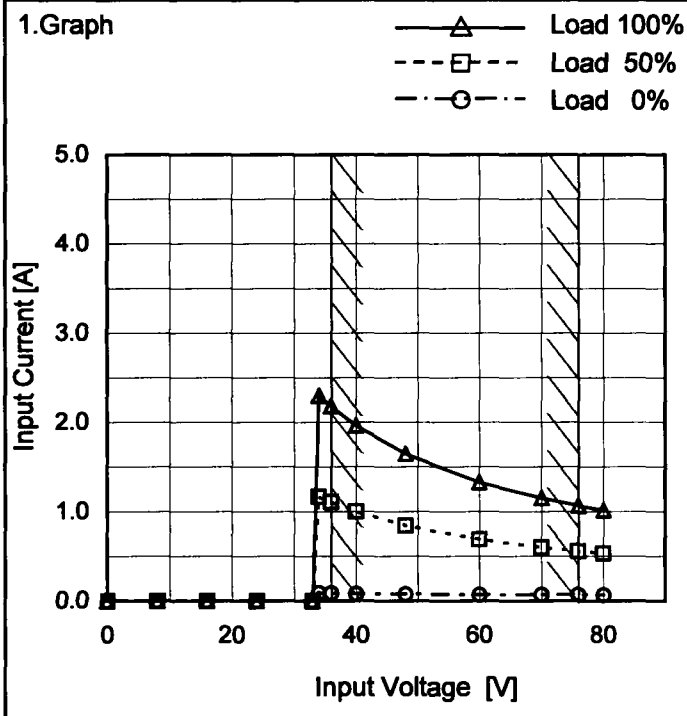


Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
8	0.000	0.000	0.000
16	0.000	0.000	0.000
24	0.000	0.000	0.000
33	0.000	0.000	0.000
34	0.089	1.167	2.303
36	0.087	1.111	2.185
40	0.079	1.002	1.966
48	0.074	0.844	1.648
60	0.070	0.688	1.330
70	0.068	0.599	1.152
76	0.067	0.557	1.066
80	0.066	0.532	1.016
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

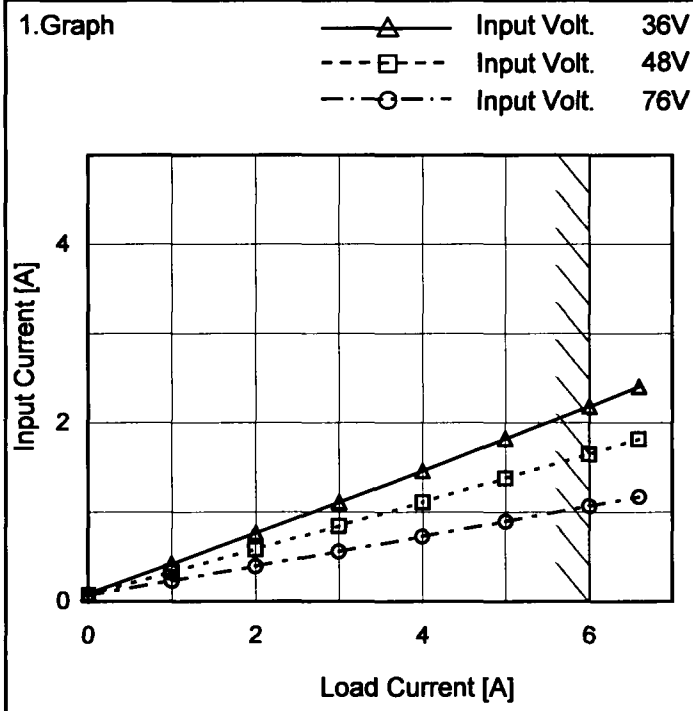
BC-10036

COSEL

Model	CES48120-6
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

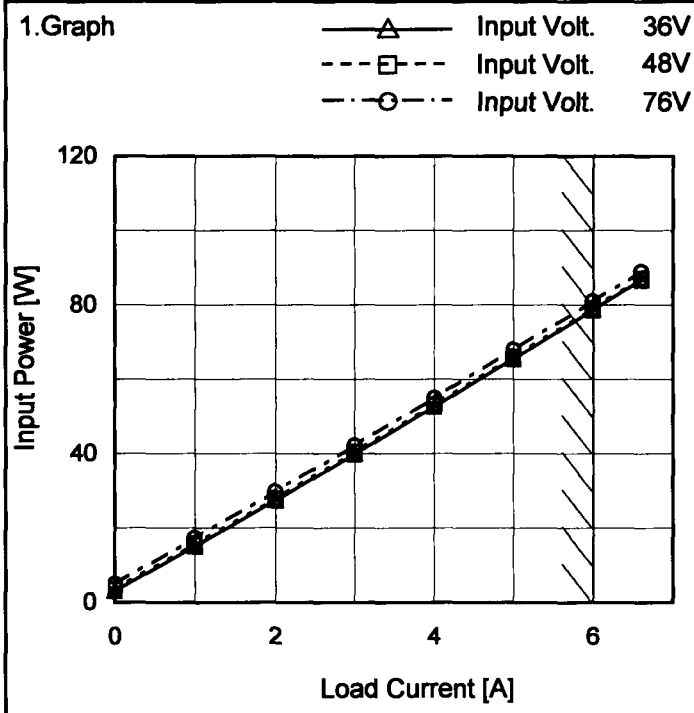
Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.087	0.073	0.066
1.0	0.420	0.328	0.228
2.0	0.764	0.584	0.393
3.0	1.111	0.844	0.557
4.0	1.460	1.110	0.724
5.0	1.823	1.381	0.894
6.0	2.185	1.649	1.067
6.6	2.408	1.817	1.173
—	-	-	-
—	-	-	-
—	-	-	-

COSEL

Model	CES48120-6
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]
0.0	3.11	3.50	5.02
1.0	15.10	15.69	17.34
2.0	27.41	27.93	29.83
3.0	39.93	40.51	42.25
4.0	52.64	53.22	55.04
5.0	65.52	66.10	67.98
6.0	78.67	79.17	81.01
6.6	86.72	87.12	89.01
—	-	-	-
—	-	-	-
—	-	-	-

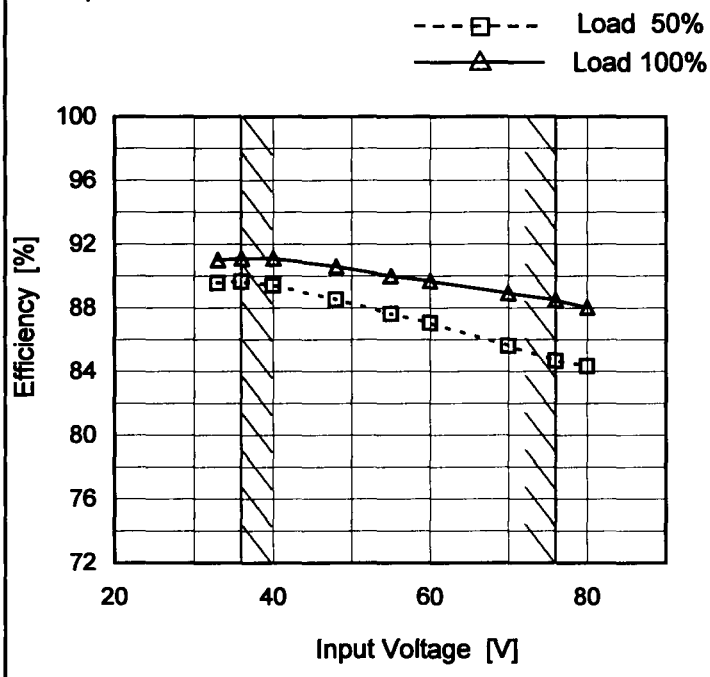
BC-10036

COSEL

Model	CES48120-6
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	89.6	91.0
36	89.7	91.1
40	89.4	91.1
48	88.5	90.6
55	87.6	90.0
60	87.0	89.7
70	85.6	88.9
76	84.7	88.5
80	84.4	88.0

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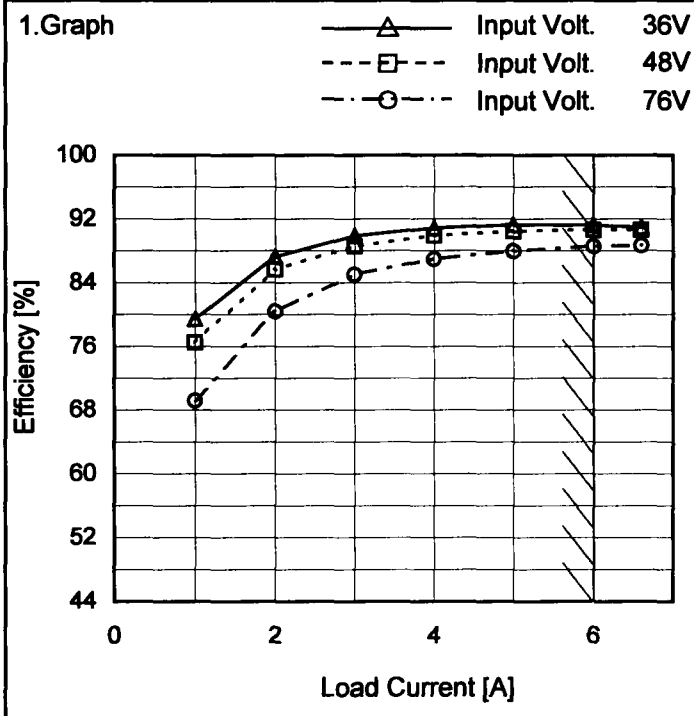
Model	CES48120-6
Item	Efficiency (by Load Current)
Object	———————

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]
0.0	-	-	-
1.0	79.5	76.5	69.2
2.0	87.3	85.7	80.4
3.0	89.9	88.6	85.0
4.0	90.9	89.9	87.0
5.0	91.3	90.5	88.0
6.0	91.2	90.6	88.6
6.6	91.0	90.6	88.7
—	-	-	-
—	-	-	-
—	-	-	-

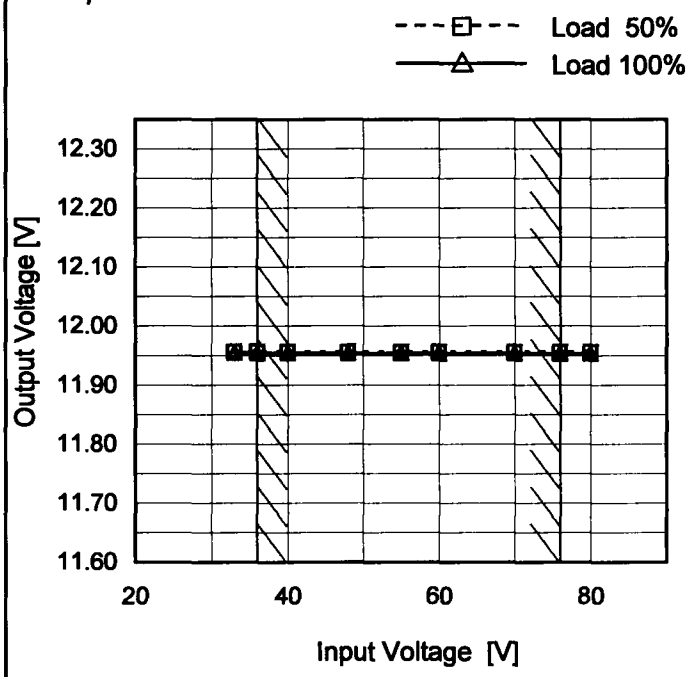
BC-10036

COSEL

Model	CES48120-6
Item	Line Regulation
Object	+12V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

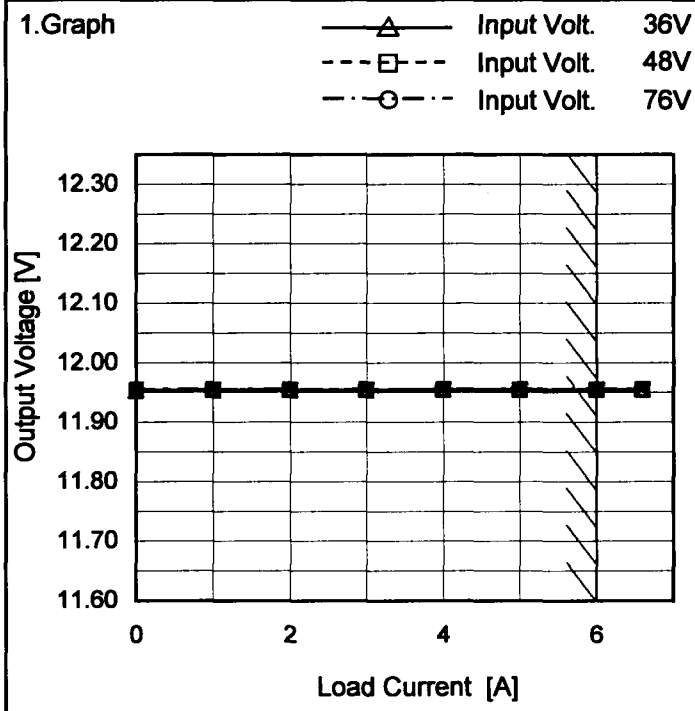
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
33	11.957	11.955
36	11.957	11.955
40	11.957	11.955
48	11.956	11.954
55	11.956	11.954
60	11.956	11.954
70	11.956	11.954
76	11.956	11.954
80	11.956	11.953

COSEL

Model	CES48120-6
Item	Load Regulation
Object	+12V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

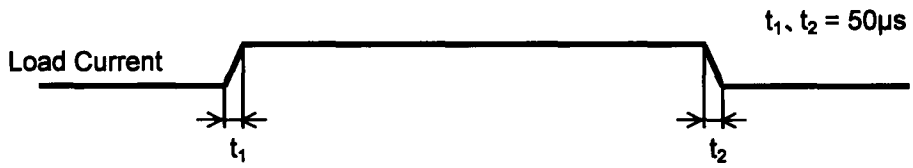
Load Current [A]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	11.954	11.954	11.955
1.0	11.954	11.955	11.955
2.0	11.954	11.955	11.955
3.0	11.955	11.955	11.955
4.0	11.955	11.955	11.955
5.0	11.955	11.955	11.955
6.0	11.955	11.955	11.955
6.6	11.955	11.955	11.955
—	-	-	-
—	-	-	-
—	-	-	-

COSEL

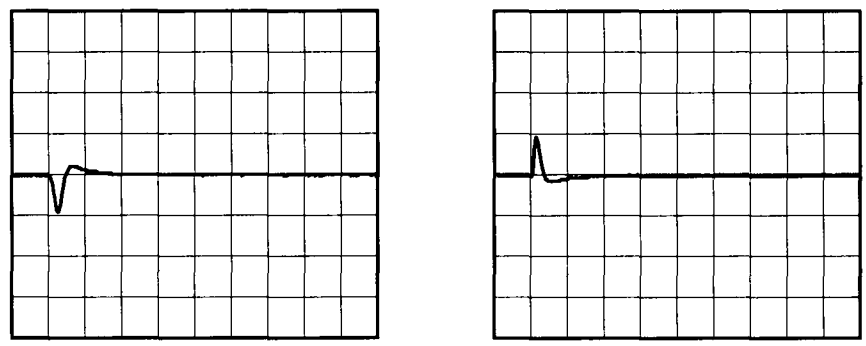
Model	CES48120-6
Item	Dynamic Load Response
Object	+12V6A

Temperature 25°C
Testing Circuitry Figure A

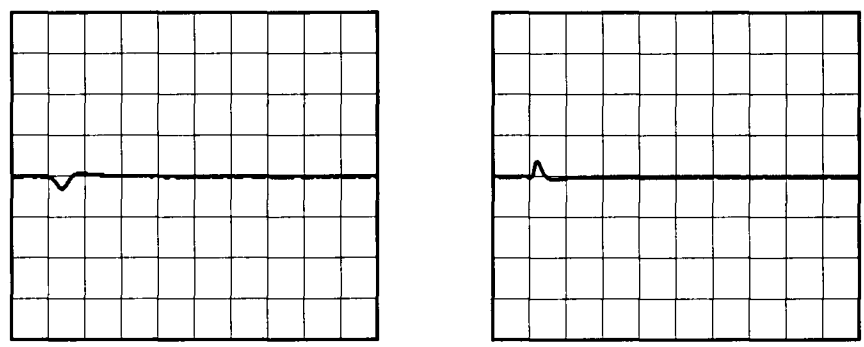
Input Volt. 48 V
Cycle 100 mS



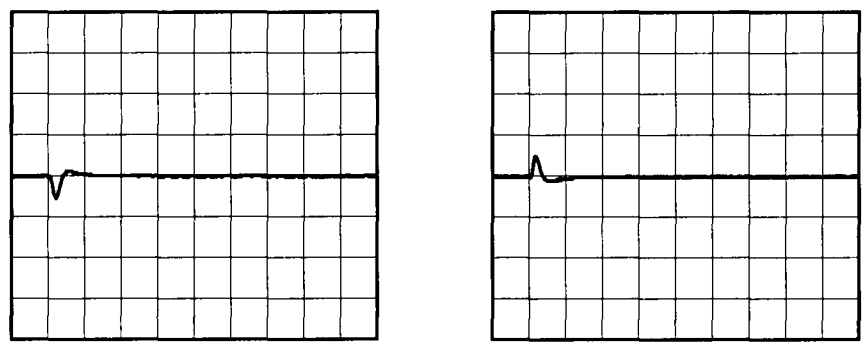
Min. Load (0A) ⟷ Load 100% (6A)



Min. Load (0A) ⟷ Load 50% (3A)



Load 50% (3A) ⟷ Load 100% (6A)

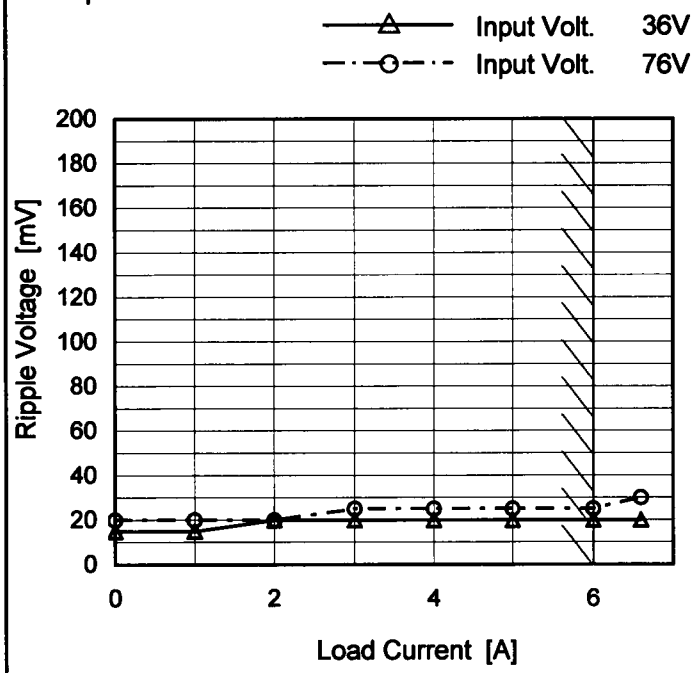


COSEL

Model	CES48120-6
Item	Ripple Voltage (by Load Current)
Object	+12V6A

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]

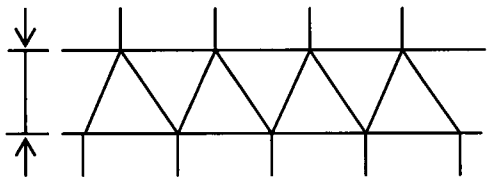


Fig.Complex Ripple Wave Form

2.Values

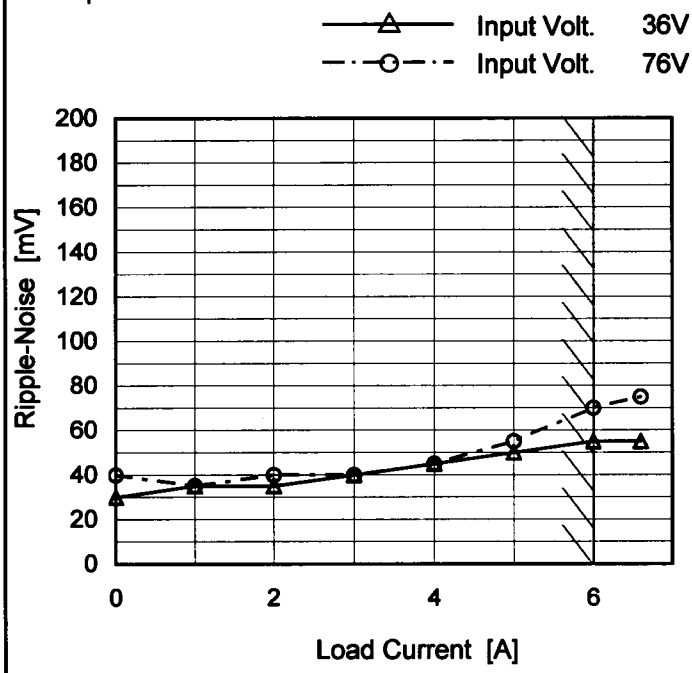
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	15	20
1.0	15	20
2.0	20	20
3.0	20	25
4.0	20	25
5.0	20	25
6.0	20	25
6.6	20	30
--	-	-
--	-	-
--	-	-

COSEL

Model	CES48120-6
Item	Ripple-Noise
Object	+12V6A

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.

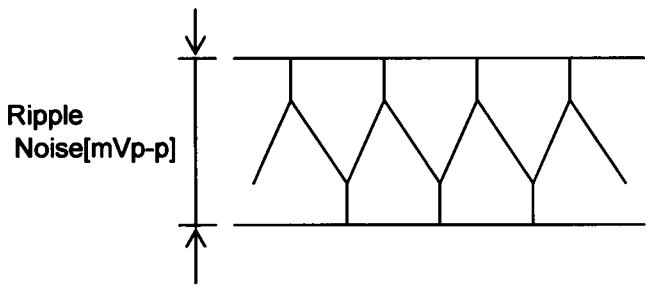


Fig.Complex Ripple Noise Wave Form

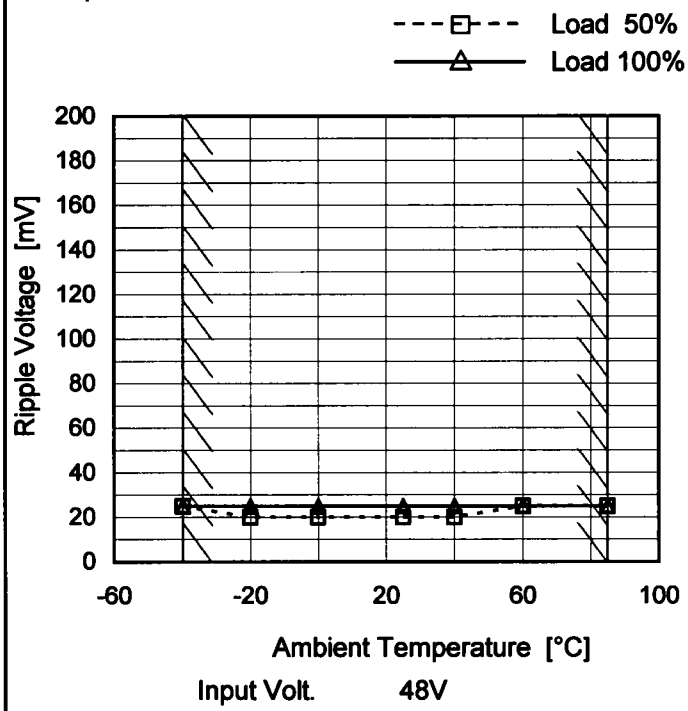
2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	30	40
1.0	35	35
2.0	35	40
3.0	40	40
4.0	45	45
5.0	50	55
6.0	55	70
6.6	55	75
–	-	-
–	-	-
–	-	-

COSEL

Model	CES48120-6	
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry Figure B
Object	+12V6A	

1.Graph



Input Volt. 48V

Measured by 100 MHz Oscilloscope.

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

2.Values

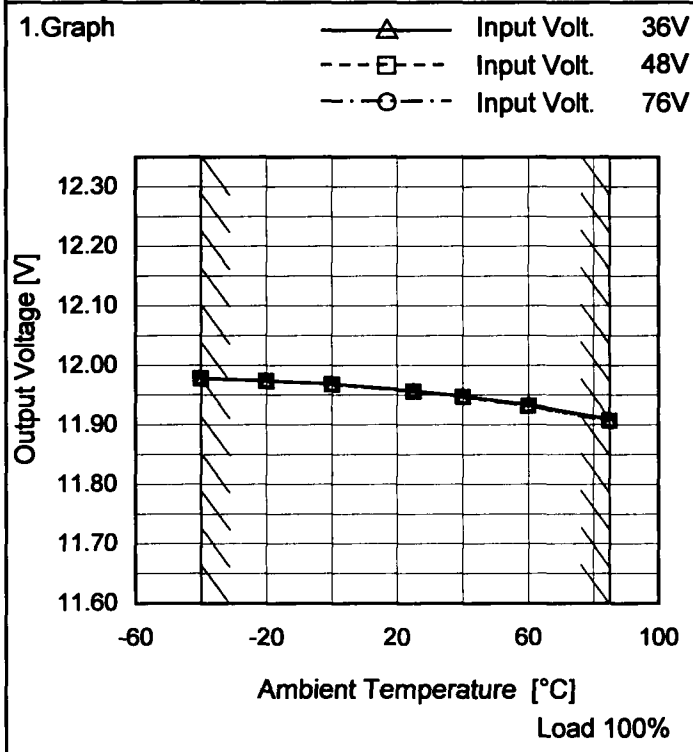
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	25	25
-20	20	25
0	20	25
25	20	25
40	20	25
60	25	25
85	25	25
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	CES48120-6
Item	Ambient Temperature Drift
Object	+12V6A

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	11.978	11.978	11.978
-20	11.974	11.974	11.974
0	11.969	11.968	11.968
25	11.957	11.956	11.956
40	11.948	11.947	11.947
60	11.934	11.932	11.932
85	11.909	11.907	11.906
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

COSEL

Model	CES48120-6	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+12V6A	

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 - 6A

* 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

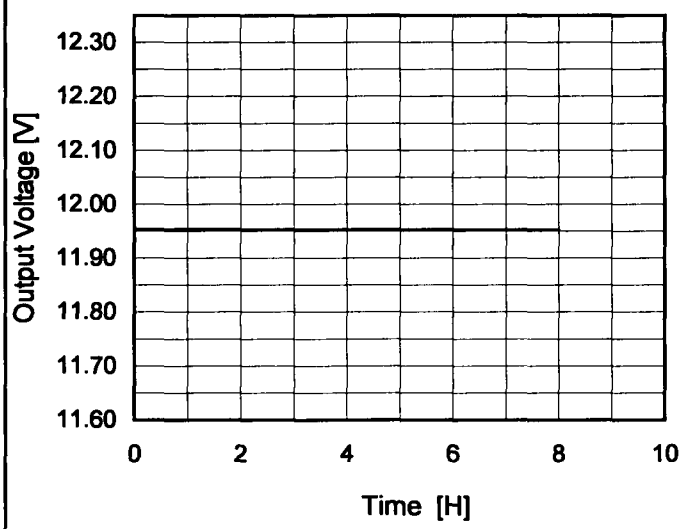
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-40	76	6	11.978	±36	±0.3
Minimum Voltage	85	76	6	11.906		

COSEL

Model	CES48120-6
Item	Time Lapse Drift
Object	+12V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 48V
Load 100%

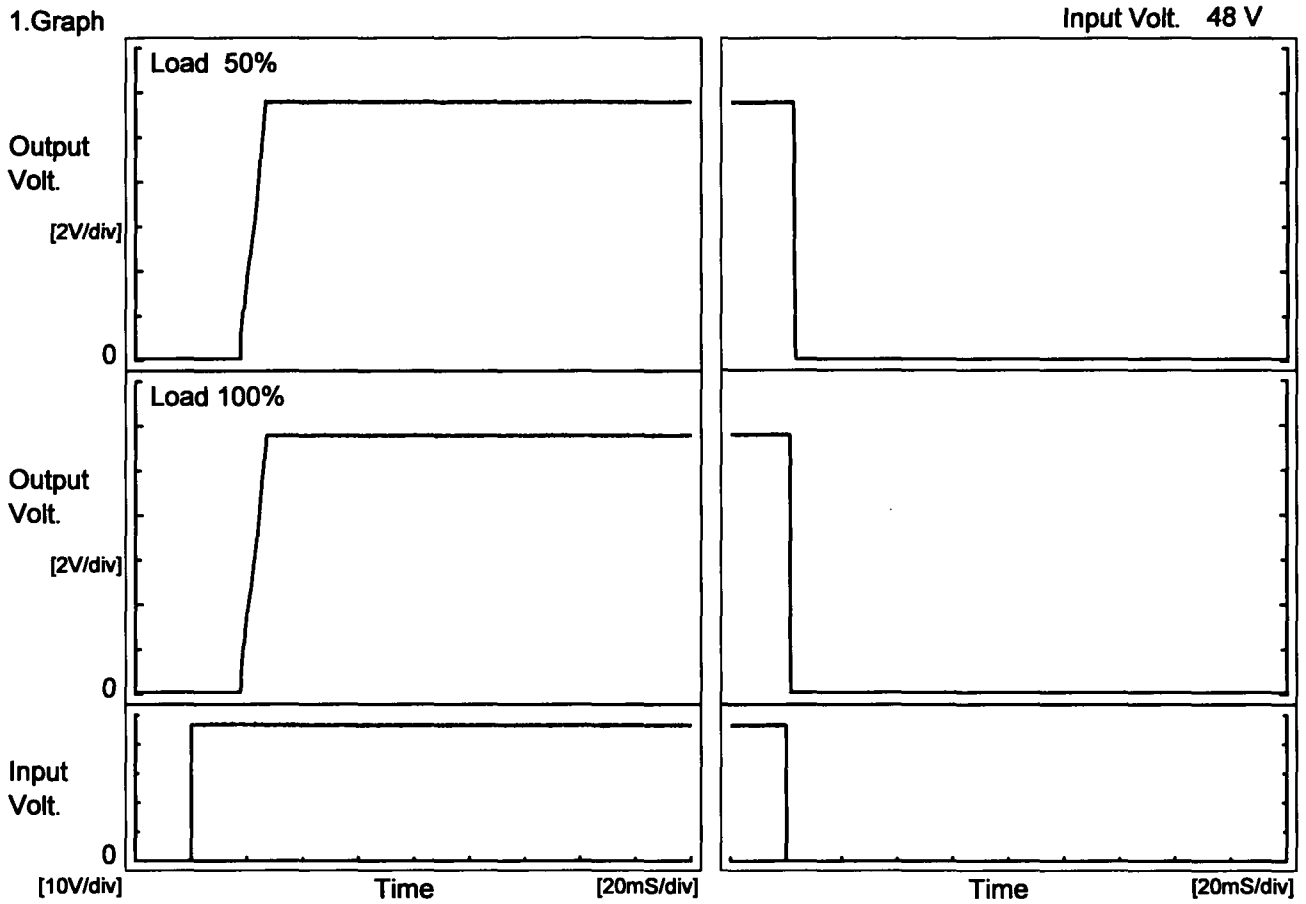
2.Values

Time since start [H]	Output Voltage [V]
0.0	11.957
0.5	11.953
1.0	11.953
2.0	11.953
3.0	11.953
4.0	11.953
5.0	11.953
6.0	11.953
7.0	11.953
8.0	11.953

COSEL

Model	CES48120-6		
Item	Rise and Fall Time	Temperature	25°C
Object	+12V6A	Testing Circuitry	Figure A

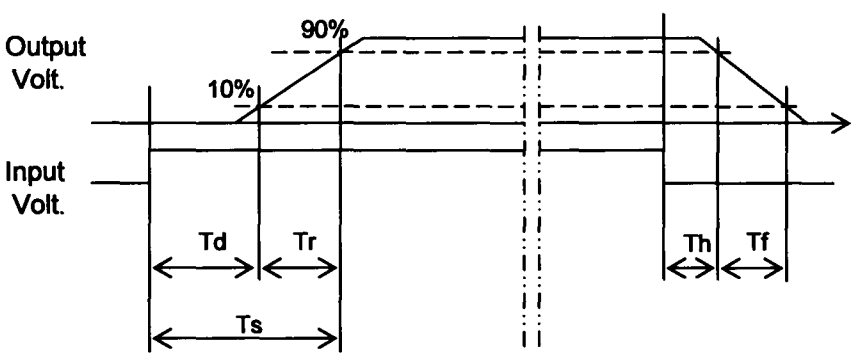
1.Graph



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	17.9	8.4	26.3	2.4	0.6
100 %	18.0	8.5	26.5	1.2	0.3

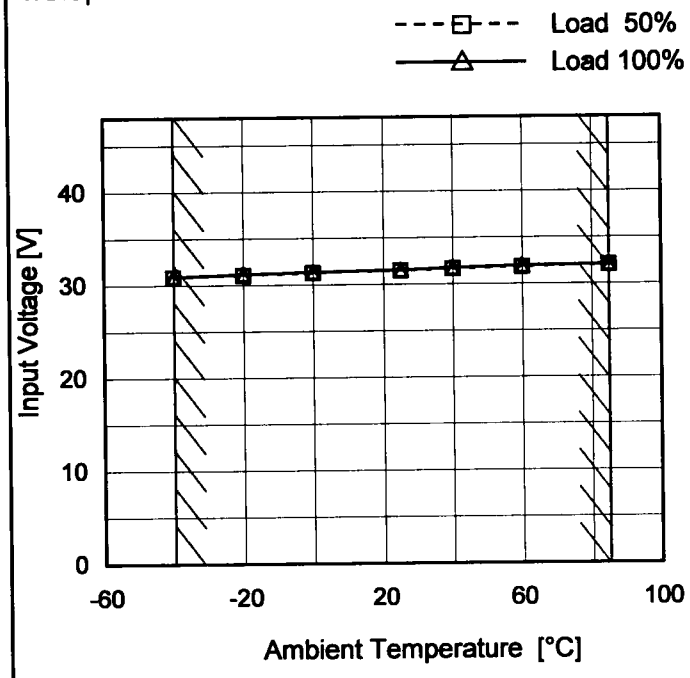


COSEL

Model	CES48120-6
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V6A

Testing Circuitry Figure A

1.Graph



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

2.Values

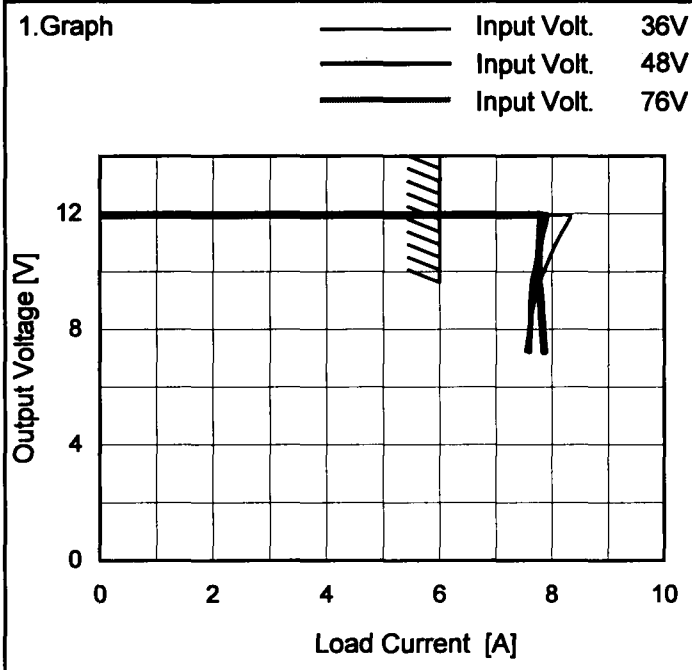
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	30.9	31.0
-20	31.1	31.2
0	31.3	31.4
25	31.5	31.6
40	31.7	31.8
60	31.9	32.0
85	32.1	32.1
—	-	-
—	-	-
—	-	-
—	-	-

COSEL

Model	CES48120-6
Item	Overcurrent Protection
Object	+12V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

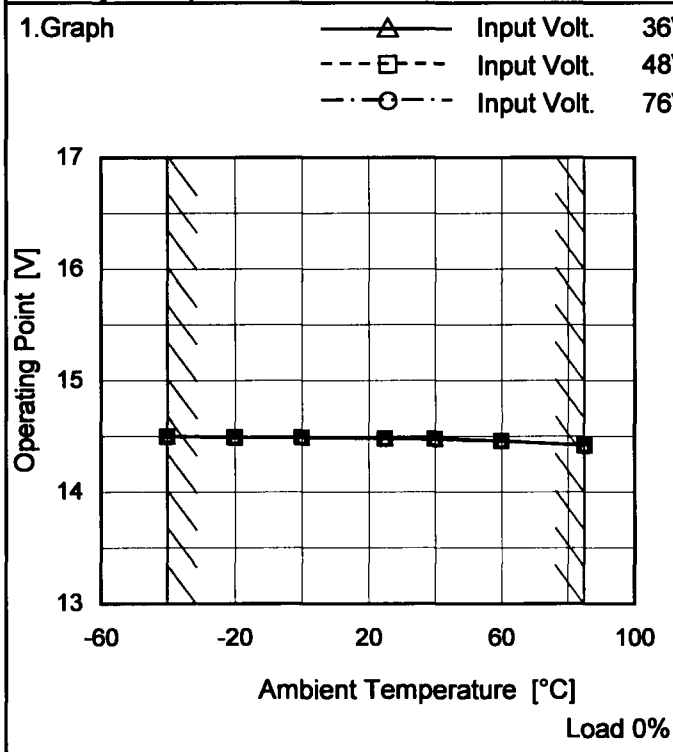
Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
12.0	8.20	7.90	7.80
11.4	8.19	7.84	7.79
10.8	8.03	7.77	7.77
9.6	7.78	7.66	7.78
8.4	7.63	7.62	7.82
7.2	7.53	7.59	7.86
–	-	-	-
–	-	-	-
–	-	-	-
–	-	-	-
–	-	-	-
–	-	-	-

COSEL

Model	CES48120-6
Item	Overvoltage Protection
Object	+12V6A

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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-40	14.50	14.50	14.50
-20	14.49	14.49	14.49
0	14.49	14.49	14.49
25	14.48	14.48	14.48
40	14.48	14.48	14.47
60	14.46	14.46	14.46
85	14.42	14.42	14.42
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

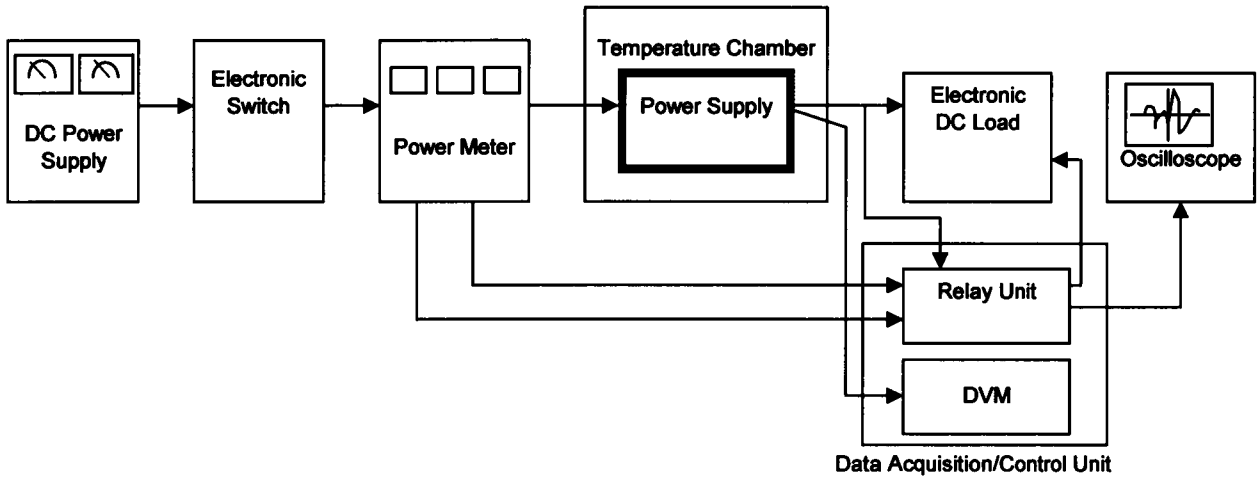


Figure A

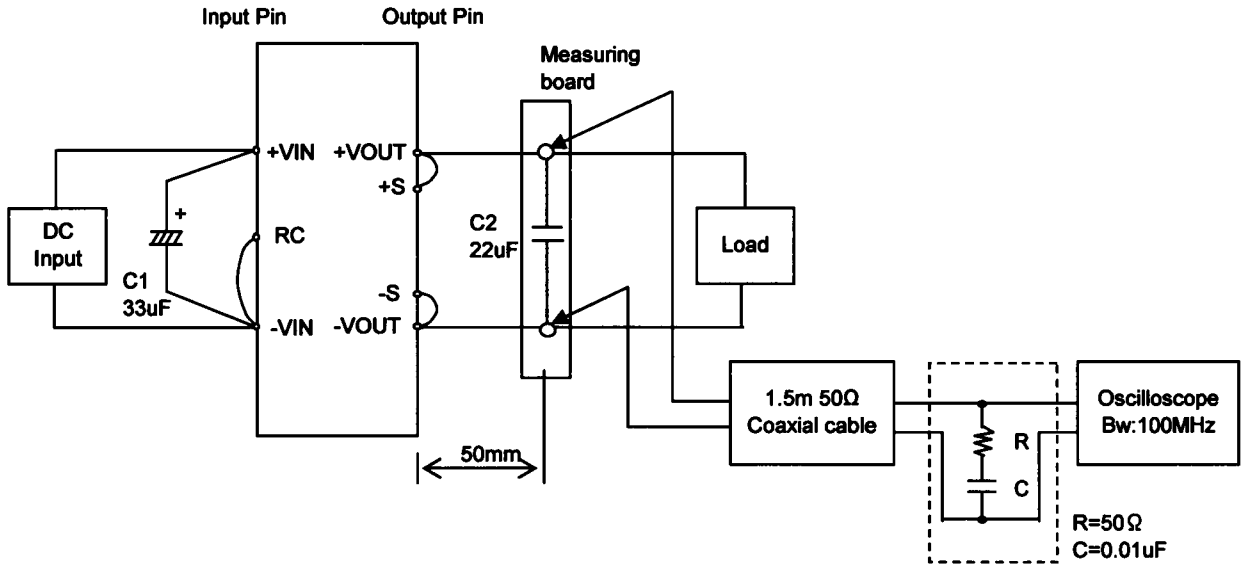


Figure B