COSEL

参考資料

TEST DATA OF SNDHS100B28

Regulated DC Power Supply
June 30, 2011

Approved by : Takahiro Yoneda
Takahiro Yoneda Design Manager

Prepared by : Tadashi Arai
Tadasi Arai Design Engineer

COSEL CO.,LTD.

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CONTENTS

1.Input Current (by Input Voltage) ・・・・・・・・・・・・・・・・・・・・・・・・ 1
2.Input Current (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・・ 2
3.Input Power (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・・・ 3
4.Efficiency (by Input Voltage) ・・・・・・・・・・・・・・・・・・・・・・・・ 4
5.Efficiency (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・・・ 5
6.Line Regulation ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 6
7.Load Regulation ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 7
8.Dynamic Load Response ・・・・・・・・・・・・・・・・・・・・・・・・・・・ 8
9.Ripple Voltage (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・ 9
10.Ripple-Noise ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 10
11.Ripple Voltage (by Ambient Temperature) ・・・・・・・・・・・・・・・・・・ 11
12.Ambient Temperature Drift ・・・・・・・・・・・・・・・・・・・・・・・・・ 12
13.Output Voltage Accuracy ・・・・・・・・・・・・・・・・・・・・・・・・・・ 13
14.Time Lapse Drift ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 14
15.Rise and Fall Time ・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 15
16.Minimum Input Voltage for Regulated Output Voltage ・・・・・・・・・・・・ 16
17.Overcurrent Protection ・・・・・・・・・・・・・・・・・・・・・・・・・・ 17
18.Overvoltage Protection ・・・・・・・・・・・・・・・・・・・・・・・・・・ 18
19.Figure of Testing Circuitry ・・・・・・・・・・・・・・・・・・・・・・・・ 19

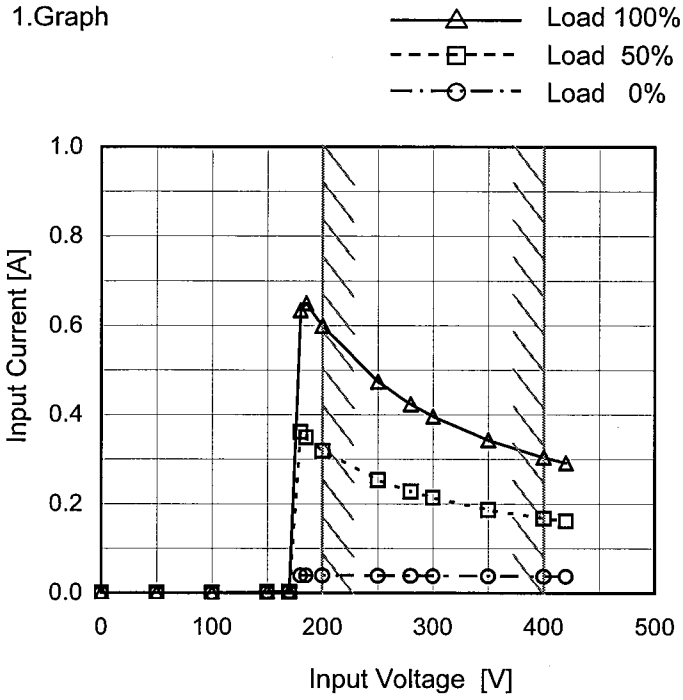
(Final Page 19)

COSEL

Model	SNDHS100B28
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
50	0.000	0.000	0.000
100	0.000	0.000	0.000
150	0.002	0.002	0.002
170	0.003	0.003	0.003
180	0.040	0.361	0.634
185	0.040	0.349	0.650
200	0.039	0.319	0.599
250	0.039	0.254	0.474
280	0.039	0.228	0.424
300	0.038	0.214	0.397
350	0.038	0.187	0.344
400	0.037	0.167	0.305
420	0.037	0.162	0.292
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

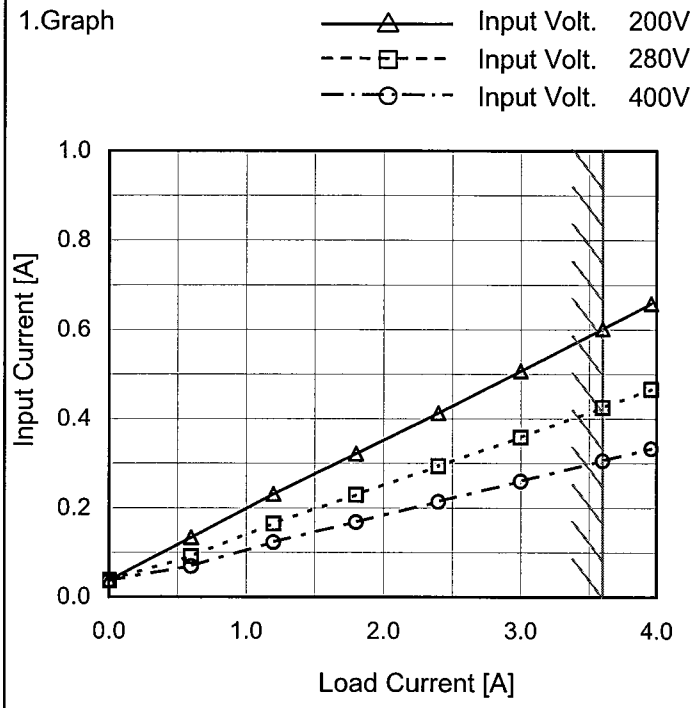
BC-10590

COSEL

Model	SNDHS100B28
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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.00	0.038	0.037	0.037
0.60	0.134	0.090	0.069
1.20	0.231	0.164	0.123
1.80	0.322	0.229	0.168
2.40	0.413	0.294	0.214
3.00	0.507	0.359	0.260
3.60	0.602	0.425	0.306
3.96	0.659	0.466	0.333
--	-	-	-
--	-	-	-
--	-	-	-

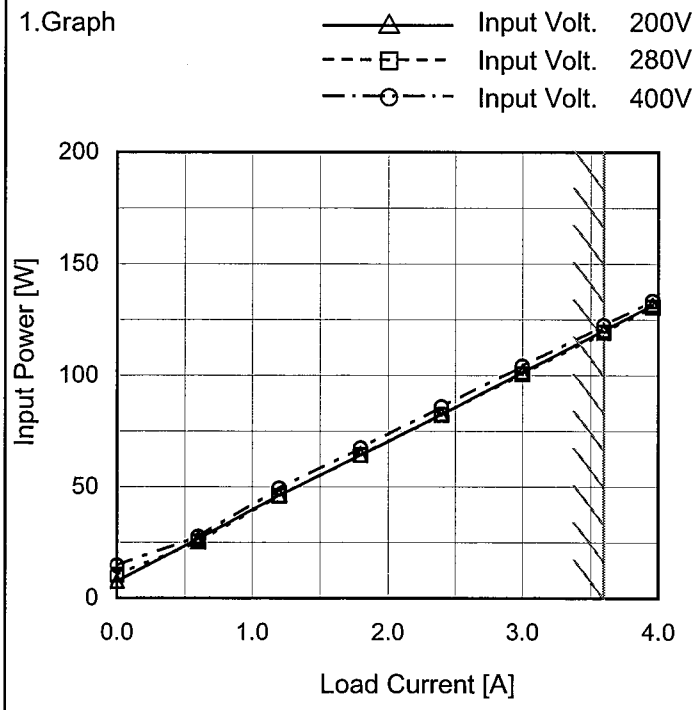
BC-10590

COSEL

Model	SNDHS100B28
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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.00	7.6	10.4	14.7
0.60	26.7	25.3	27.6
1.20	46.3	46.0	49.3
1.80	64.3	64.2	67.4
2.40	82.6	82.3	85.9
3.00	101.4	100.6	104.2
3.60	120.3	119.2	122.4
3.96	131.8	130.6	133.4
--	-	-	-
--	-	-	-
--	-	-	-

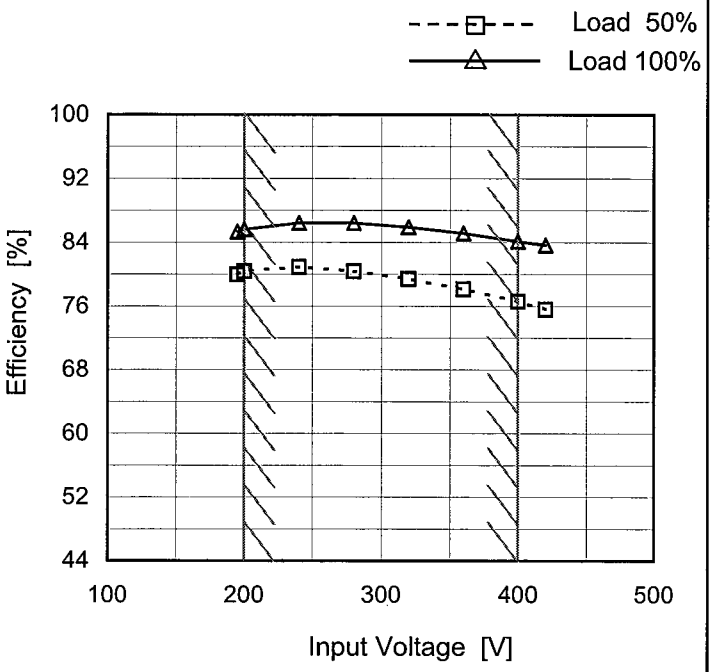
BC-10590

COSEL

Model	SNDHS100B28
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

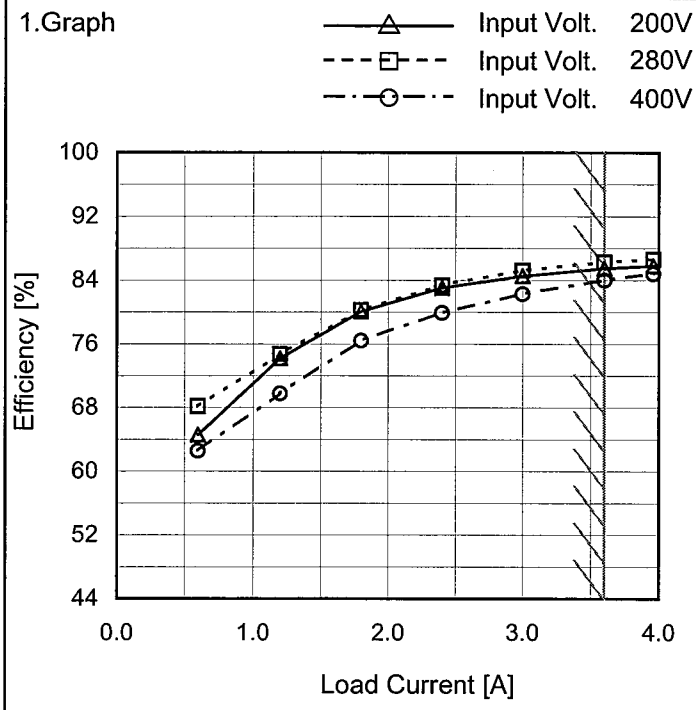
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
195	79.9	85.4
200	80.4	85.7
240	80.9	86.4
280	80.4	86.4
320	79.4	85.9
360	78.1	85.2
400	76.6	84.1
420	75.6	83.7
--	-	-

COSEL

Model	SNDHS100B28
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

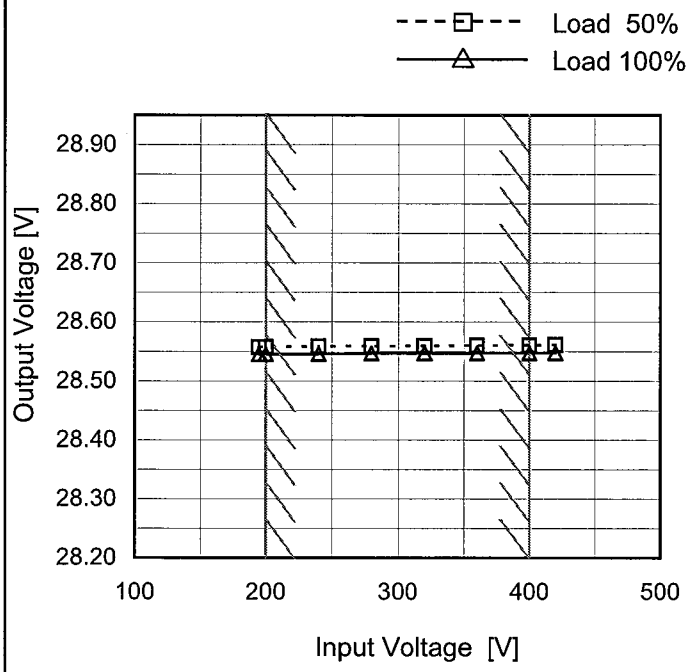
Load Current [A]	Efficiency [%]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.00	-	-	-
0.60	64.6	68.2	62.6
1.20	74.2	74.7	69.8
1.80	80.1	80.2	76.4
2.40	83.1	83.4	79.9
3.00	84.6	85.2	82.3
3.60	85.5	86.3	84.0
3.96	85.8	86.6	84.8
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SNDHS100B28
Item	Line Regulation
Object	+28V3.6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

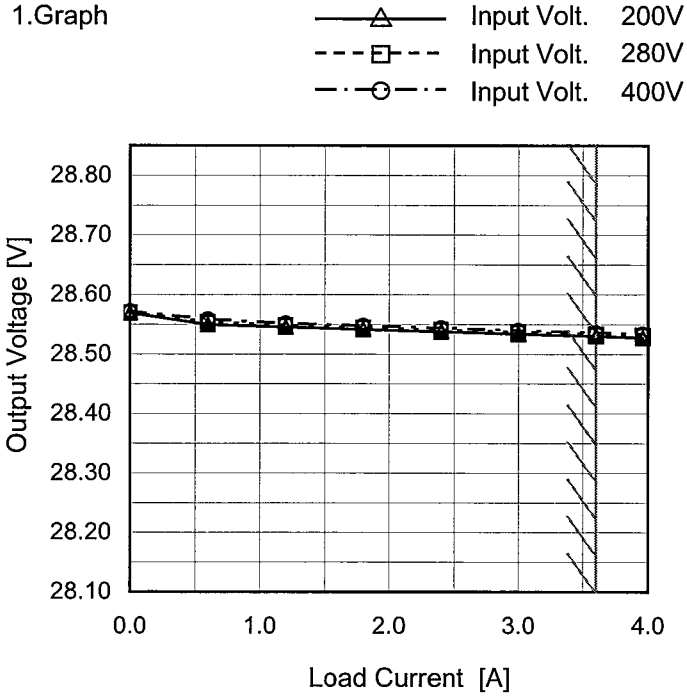
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
195	28.558	28.545
200	28.558	28.546
240	28.558	28.546
280	28.559	28.547
320	28.560	28.547
360	28.560	28.548
400	28.561	28.548
420	28.561	28.548
--	-	-

COSEL

Model	SNDHS100B28
Item	Load Regulation
Object	+28V3.6A

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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.00	28.570	28.570	28.572
0.60	28.550	28.553	28.558
1.20	28.545	28.548	28.552
1.80	28.542	28.545	28.548
2.40	28.538	28.541	28.544
3.00	28.534	28.537	28.540
3.60	28.530	28.533	28.536
3.96	28.528	28.532	28.534
--	-	-	-
--	-	-	-
--	-	-	-

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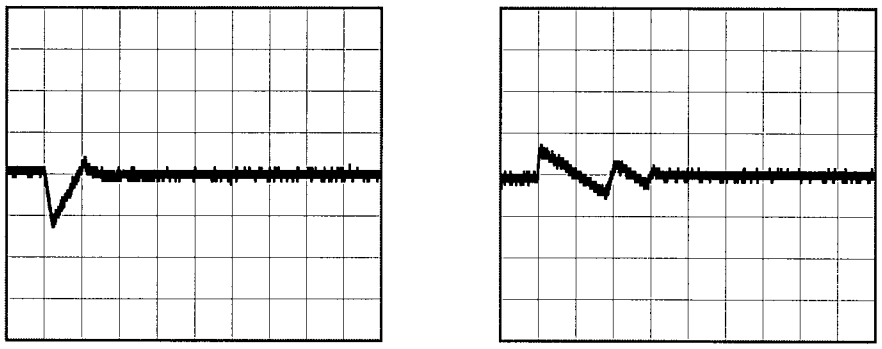
Model	SNDHS100B28
Item	Dynamic Load Response
Object	+28V1.8A

Temperature 25°C
Testing Circuitry Figure A

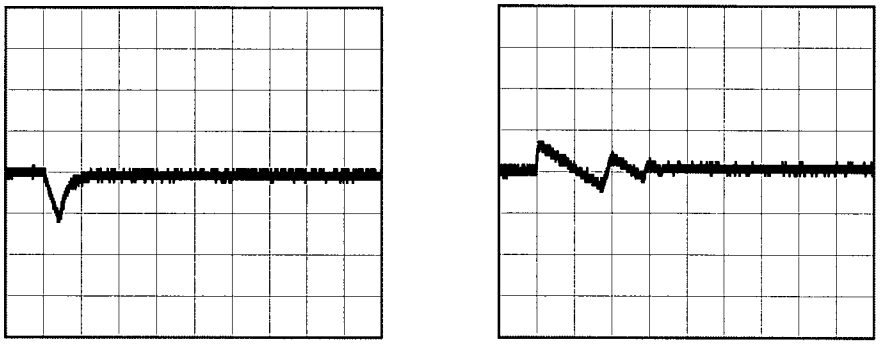
Input Volt. 280 V
Cycle 1000 ms

Load Current
1.8A/50 μs

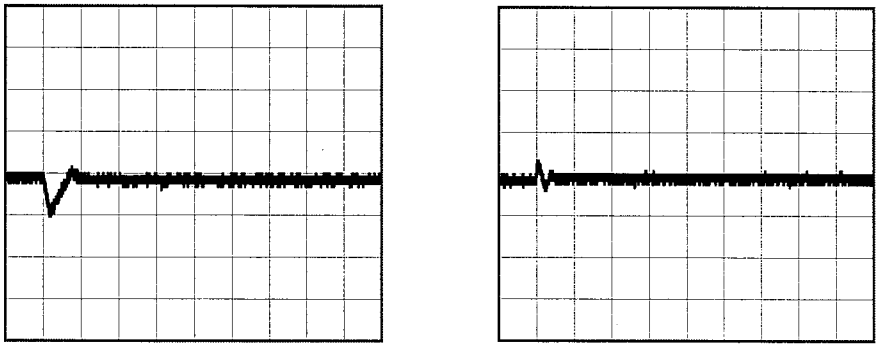
Min. Load (0A) ⟷
Load 100% (1.8A)



Min. Load (0A) ⟷
Load 50% (0.9A)



Load 10% (0.18A) ⟷
Load 100% (1.8A)

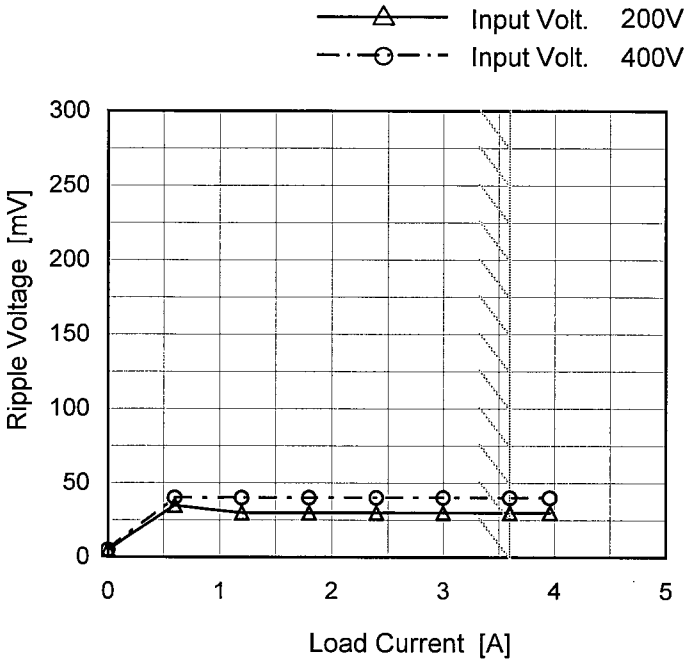


COSEL

Model	SNDHS100B28
Item	Ripple Voltage (by Load Current)
Object	+28V3.6A

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]

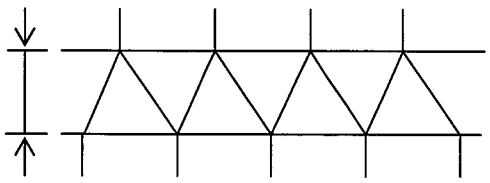


Fig.Complex Ripple Wave Form

2.Values

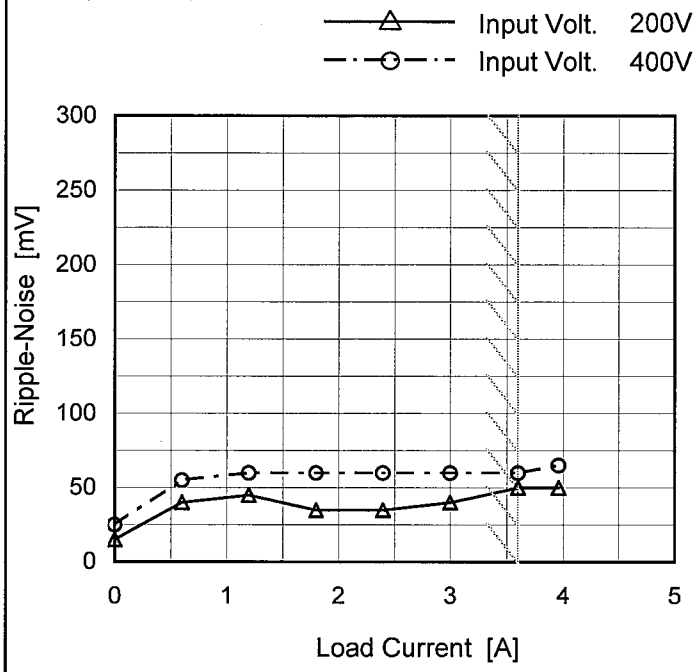
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 200 [V]	Input Volt. 400 [V]
0.00	5	5
0.60	35	40
1.20	30	40
1.80	30	40
2.40	30	40
3.00	30	40
3.60	30	40
3.96	30	40
--	-	-
--	-	-
--	-	-

COSEL

Model	SNDHS100B28
Item	Ripple-Noise
Object	+28V3.6A

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.

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 200 [V]	Input Volt. 400 [V]
0.00	15	25
0.60	40	55
1.20	45	60
1.80	35	60
2.40	35	60
3.00	40	60
3.60	50	60
3.96	50	65
--	-	-
--	-	-
--	-	-

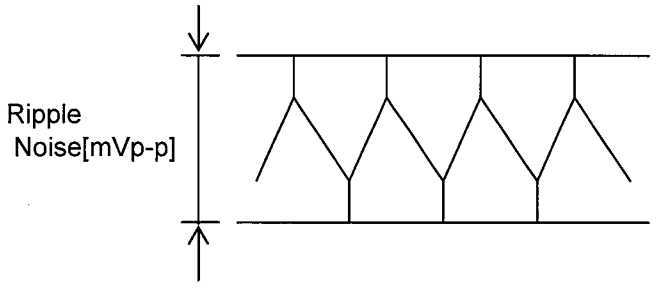


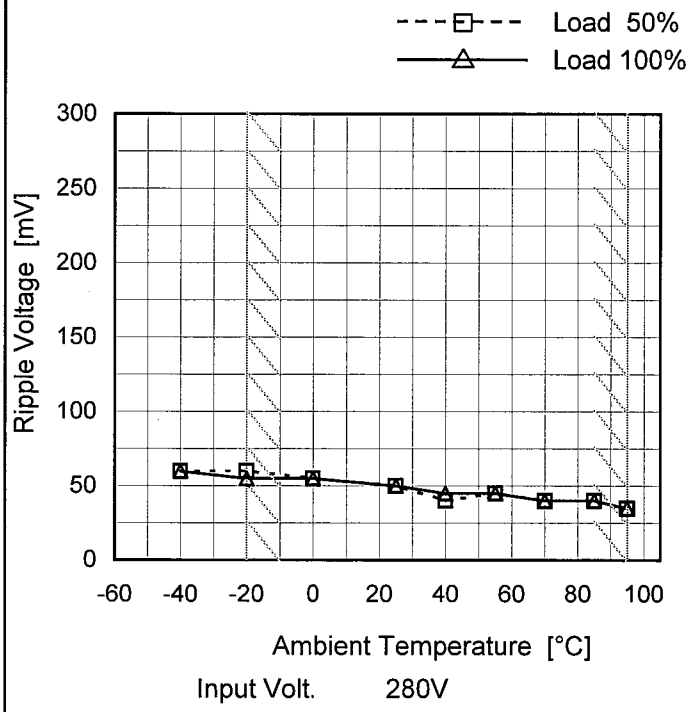
Fig.Complex Ripple Noise Wave Form

COSEL

Model	SNDHS100B28
Item	Ripple Voltage (by Ambient Temp.)
Object	+28V3.6A

Testing Circuitry Figure B

1.Graph



Input Volt. 280V

Measured by 100 MHz Oscilloscope.

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

2.Values

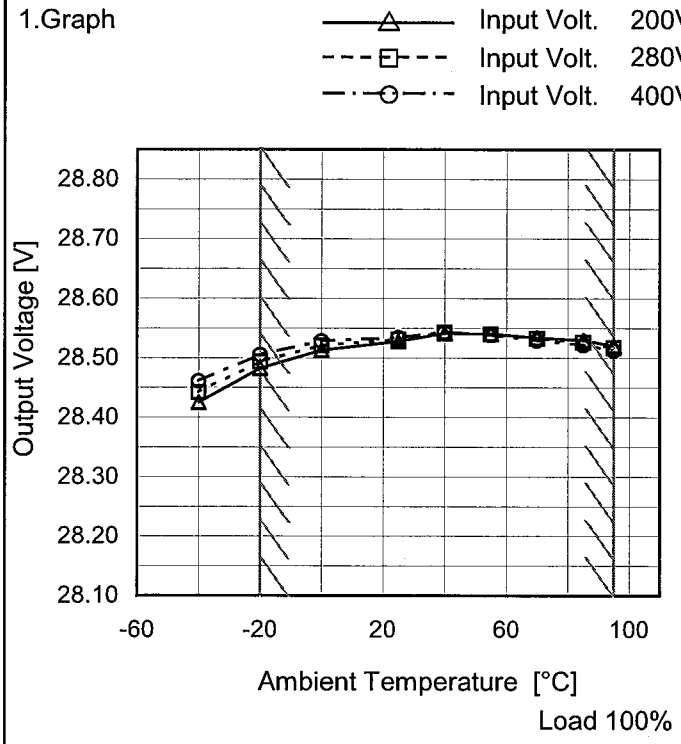
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	75	75
-20	60	55
0	55	55
25	50	50
40	40	45
55	45	45
70	40	40
85	40	40
95	35	35
--	-	-
--	-	-

COSEL

Model	SNDHS100B28
Item	Ambient Temperature Drift
Object	+28V3.6A

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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
-40	28.425	28.442	28.461
-20	28.482	28.493	28.505
0	28.513	28.521	28.528
25	28.528	28.531	28.534
40	28.542	28.543	28.543
55	28.541	28.540	28.539
70	28.535	28.533	28.530
85	28.530	28.526	28.522
95	28.521	28.517	28.513
--	-	-	-
--	-	-	-

COSEL

Model	SNDHS100B28	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+28V3.6A	

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 : -20 - 95°C
Input Voltage : 200 - 400V
Load Current : 0 - 3.6A

* 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

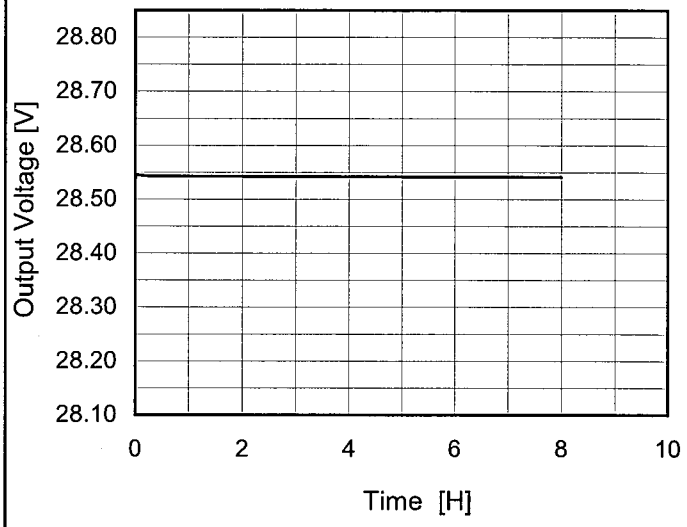
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	280	0	28.586	±52	±0.2
Minimum Voltage	-20	200	3.6	28.482		

COSEL

Model	SNDHS100B28
Item	Time Lapse Drift
Object	+28V3.6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 280V
Load 100%

2.Values

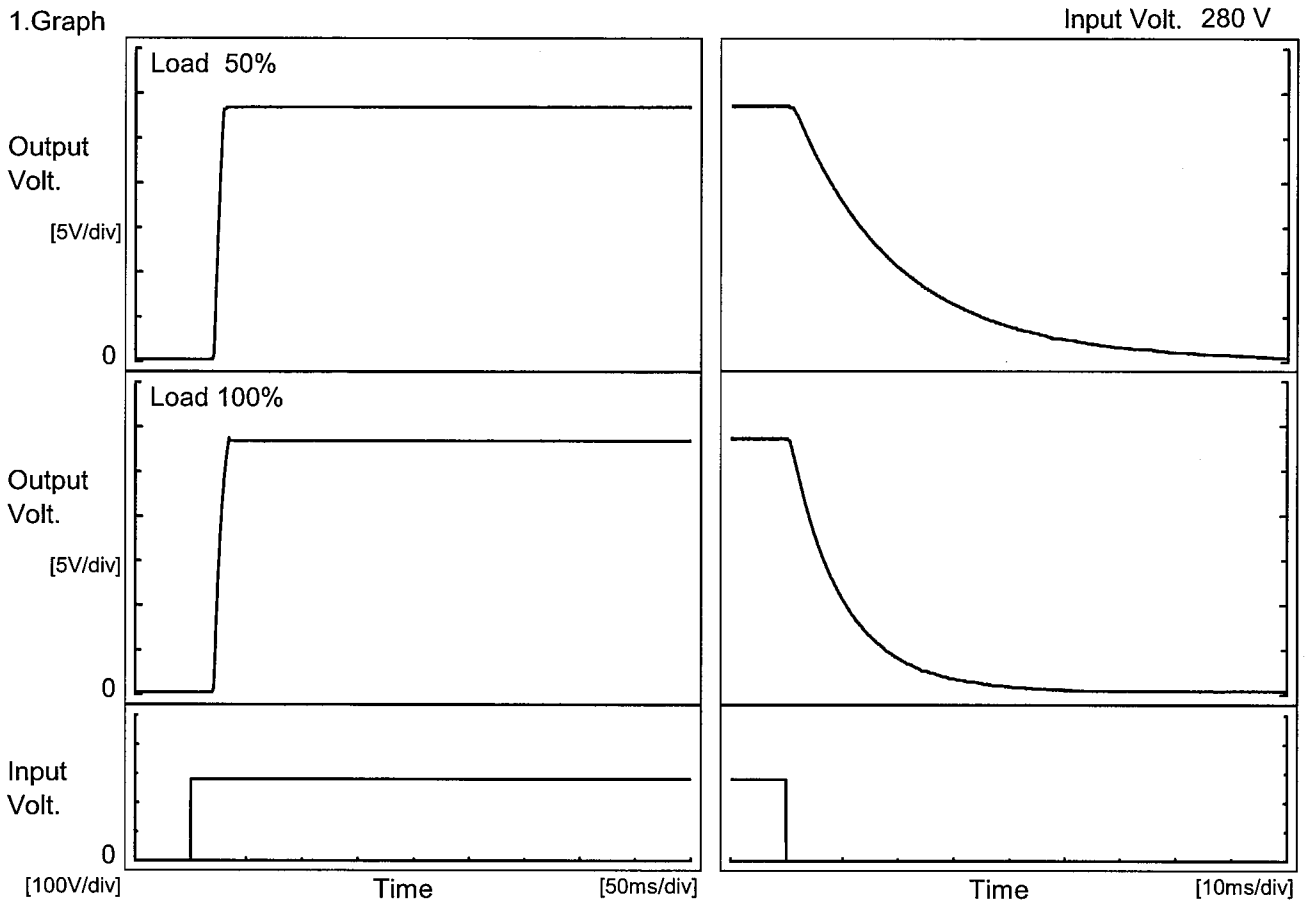
Time since start [H]	Output Voltage [V]
0.0	28.539
0.5	28.543
1.0	28.543
2.0	28.543
3.0	28.542
4.0	28.542
5.0	28.542
6.0	28.542
7.0	28.542
8.0	28.542

COSEL

Model	SNDHS100B28
Item	Rise and Fall Time
Object	+28V3.6A

Temperature 25°C
Testing Circuitry Figure A

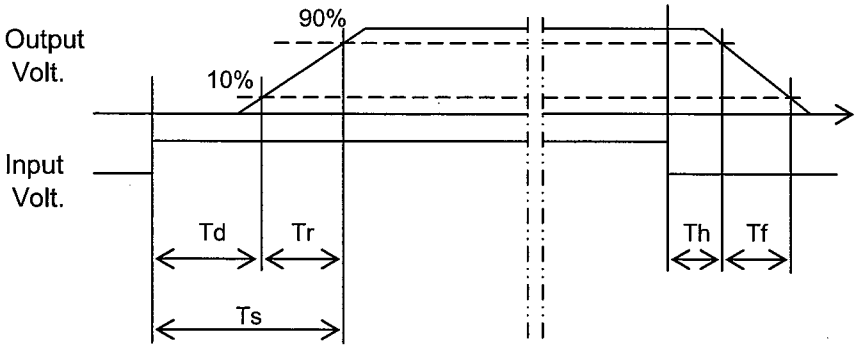
1.Graph



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	21.3	6.8	28.1	3.3	43.0
100 %	21.5	9.5	31.0	1.7	21.8

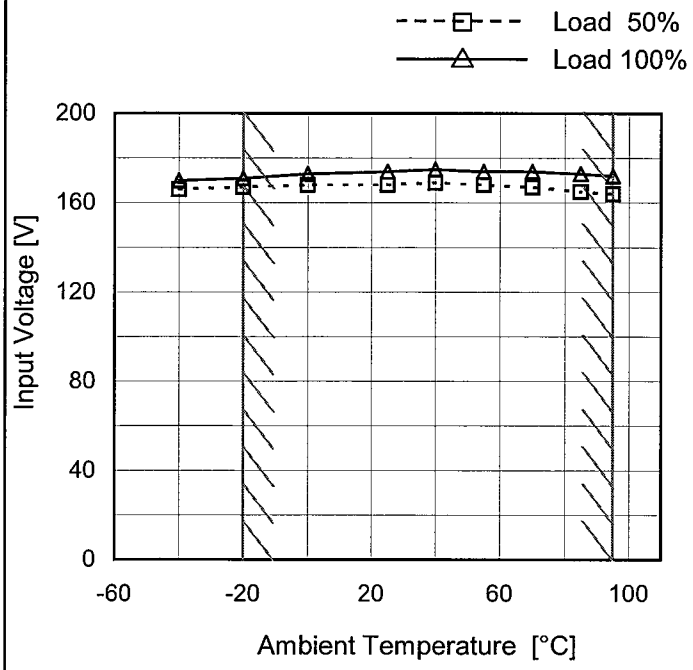


COSEL

Model	SNDHS100B28
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+28V3.6A

Testing Circuitry Figure A

1.Graph



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

2.Values

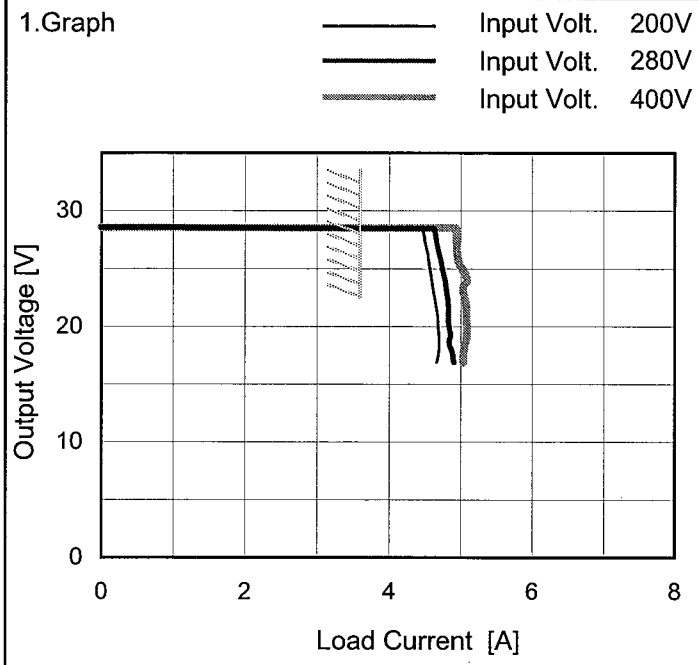
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	166	170
-20	167	171
0	168	173
25	168	174
40	169	175
55	168	174
70	167	174
85	165	173
95	164	172
--	-	-
--	-	-

COSEL

Model	SNDHS100B28
Item	Overcurrent Protection
Object	+28V3.6A

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 is from 16.8V to 0V.

2.Values

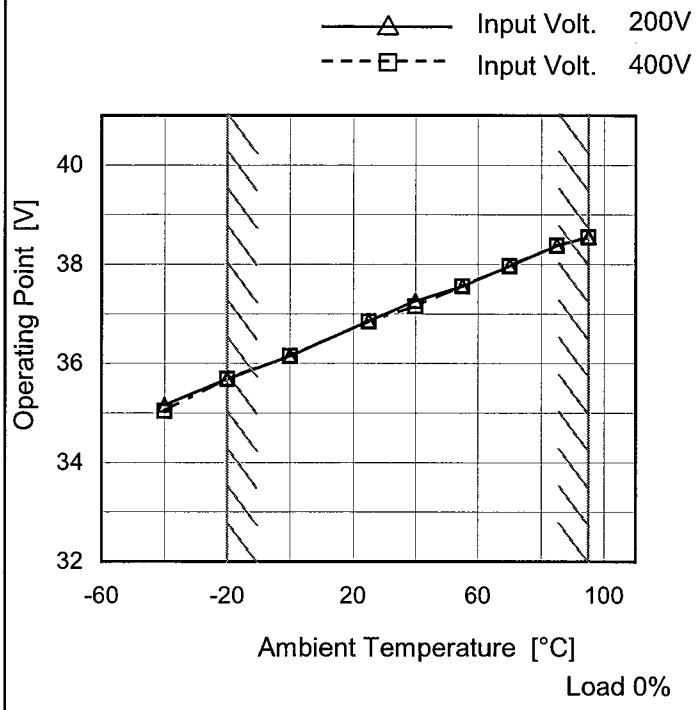
Output Voltage [V]	Load Current [A]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
26.6	4.52	4.69	4.95
25.2	4.55	4.73	4.98
22.4	4.63	4.82	5.05
19.6	4.69	4.85	5.09
16.8	4.66	4.91	5.04
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SNDHS100B28
Item	Overvoltage Protection
Object	+28V3.6A

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. 200[V]	Input Volt. 400[V]
-40	35.16	35.04
-20	35.69	35.69
0	36.15	36.15
25	36.86	36.85
40	37.26	37.15
55	37.56	37.56
70	37.97	37.97
85	38.38	38.38
95	38.55	38.55
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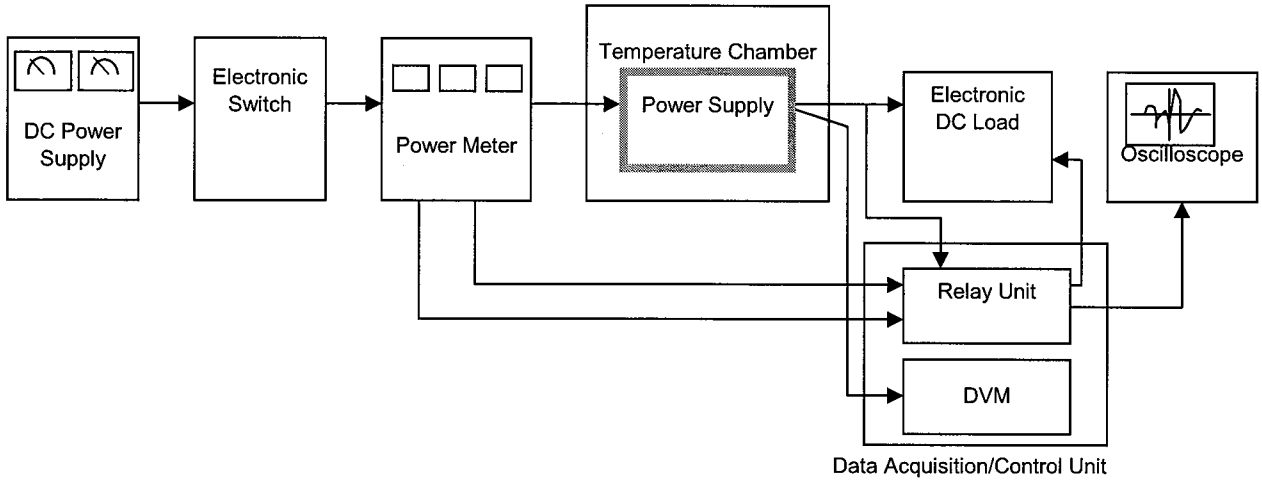

Figure A

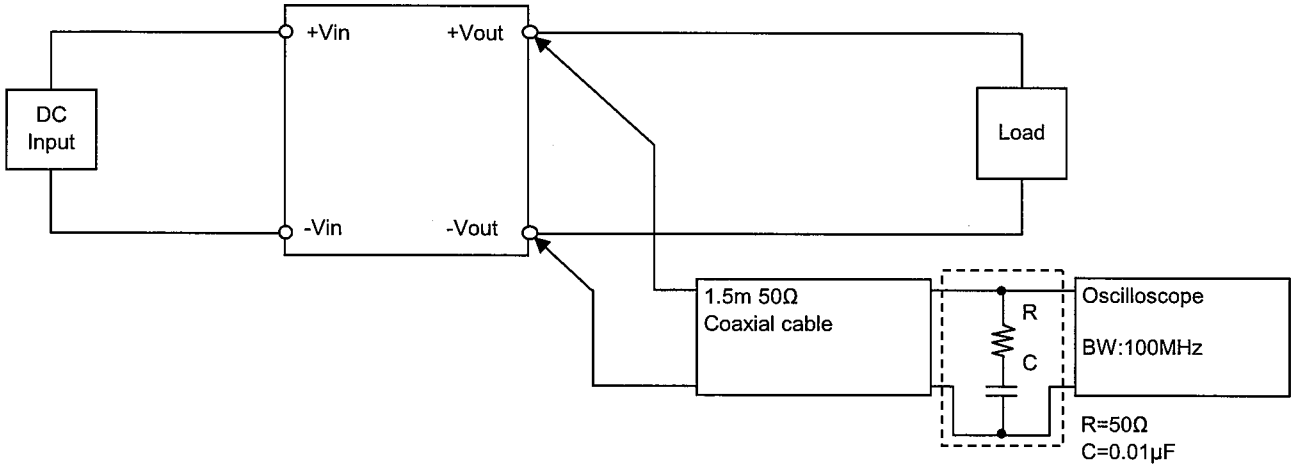

Figure B (Ripple and Ripple noise Characteristic)