COSEL

TEST DATA OF SNDBS700B36

Regulated DC Power Supply
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Model	SNDBS700B36
Item	Input Current (by Input Voltage)
Object	

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

——△—— Load 100%
---⊟--- Load 50%
—·-○—·- Load 0%

Input Current [A] vs Input Voltage [V]

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	0.003	0.003	0.003
170	0.003	0.003	0.003
180	0.003	0.003	0.003
190	0.025	2.038	4.100
200	0.025	1.939	3.890
250	0.022	1.562	3.130
280	0.018	1.402	2.796
300	0.018	1.313	2.626
350	0.015	1.142	2.276
400	0.013	1.009	1.998
420	0.013	0.964	1.910
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SNDBS700B36
Item	Input Current (by Load Current)
Object	

Temperature   25°C
Testing Circuitry   Figure A

1.Graph   —△— Input Volt. 200V
               ---⊟--- Input Volt. 280V
               —·—⊖—·· Input Volt. 400V

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	0.025	0.018	0.013
3.00	0.617	0.464	0.347
6.00	1.206	0.879	0.638
9.00	1.789	1.297	0.935
12.00	2.378	1.718	1.232
15.00	2.974	2.146	1.534
18.00	3.582	2.578	1.842
19.50	3.890	2.796	1.998
21.45	4.302	3.090	2.204
--	-	-	-
--	-	-	-

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Model	SNDBS700B36
Item	Input Power (by Load Current)
Object	————————

Temperature   25°C
Testing Circuitry   Figure A

1.Graph   ——△—— Input Volt. 200V
           - - -⊟- - - Input Volt. 280V
           —·—⊖—·— Input Volt. 400V

Input Power [W] vs Load Current [A]

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	4.9	4.9	5.2
3.00	123.1	129.8	138.5
6.00	240.7	245.9	255.1
9.00	357.4	362.6	373.0
12.00	475.0	481.0	492.0
15.00	594.0	600.0	613.0
18.00	715.0	721.0	736.0
19.50	777.0	782.0	798.0
21.45	860.0	865.0	881.0
--	-	-	-
--	-	-	-

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Model	SNDBS700B36
Item	Efficiency (by Input Voltage)
Object	

Temperature   25°C
Testing Circuitry   Figure A

1.Graph
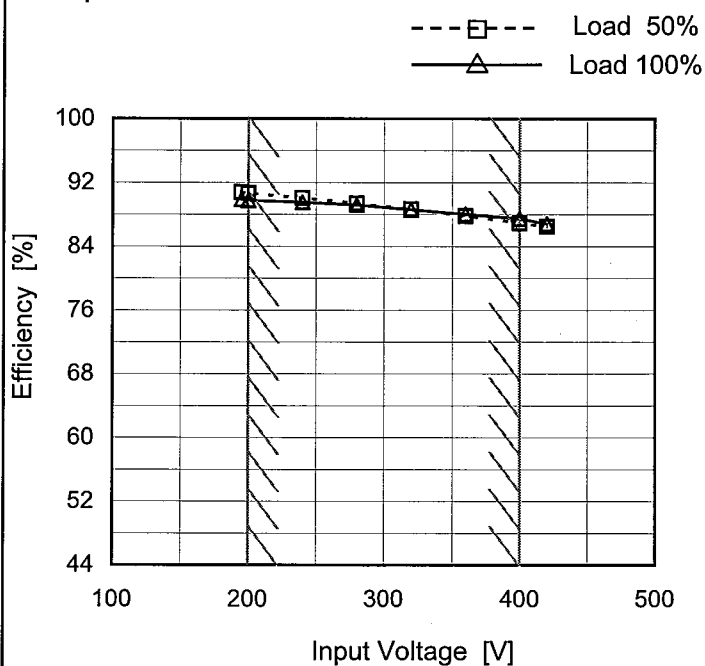
--□--   Load 50%
——△——   Load 100%

Input Voltage [V]

2.Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
195	90.8	89.9
200	90.7	89.8
240	90.0	89.5
280	89.4	89.2
320	88.7	88.6
360	87.8	88.1
400	86.9	87.5
420	86.5	86.9
--	-	-

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

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Model	SNDBS700B36
Item	Efficiency (by Load Current)
Object	

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

——△—— Input Volt.   200V
– – –▣– – – Input Volt.   280V
—·—○—·— Input Volt.   400V

Load Current [A]

2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.00	-	-	-
3.00	87.7	83.2	78.0
6.00	89.5	87.6	84.5
9.00	90.4	89.1	86.6
12.00	90.6	89.5	87.5
15.00	90.5	89.6	87.7
18.00	90.2	89.5	87.6
19.50	89.8	89.2	87.5
21.45	89.5	89.0	87.3
--	-	-	-
--	-	-	-

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

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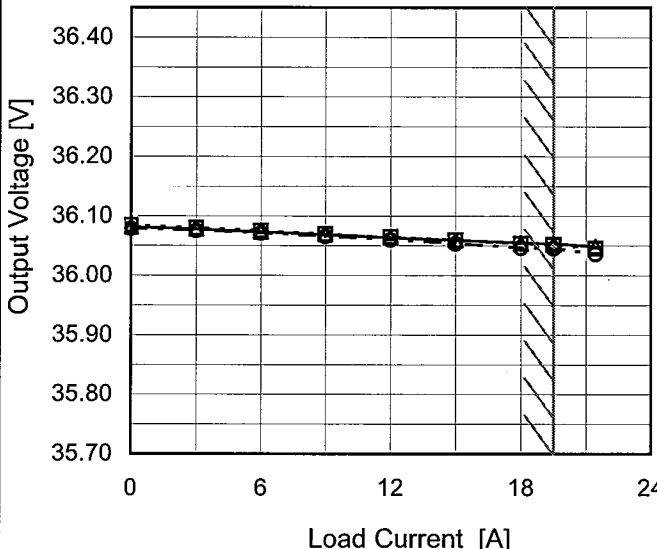
Model	SNDBS700B36
Item	Line Regulation
Object	+36V19.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

- - - ⊟- - - Load 50%
———△——— Load 100%

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

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
195	36.066	36.056
200	36.066	36.054
240	36.071	36.055
280	36.070	36.052
320	36.070	36.050
360	36.070	36.049
400	36.069	36.046
420	36.068	36.044
--	-	-

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Model	SNDBS700B36
Item	Load Regulation
Object	+36V19.5A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

———△——— Input Volt.   200V
– – –⊟– – – Input Volt.   280V
—·—⊖—·– Input Volt.   400V

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	36.082	36.084	36.079
3.00	36.078	36.080	36.075
6.00	36.073	36.075	36.071
9.00	36.069	36.070	36.066
12.00	36.064	36.065	36.060
15.00	36.059	36.059	36.053
18.00	36.055	36.054	36.046
19.50	36.054	36.052	36.046
21.45	36.049	36.046	36.036
--	-	-	-
--	-	-	-

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Input Volt.   280 V
Cycle   1000 ms

Load Current
19.5A/65µs

Min. Load (0A) ←→
Load 100% (19.5A)

500 mV/div

500 µs/div   10 ms/div
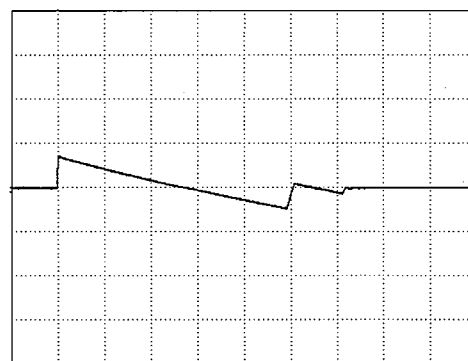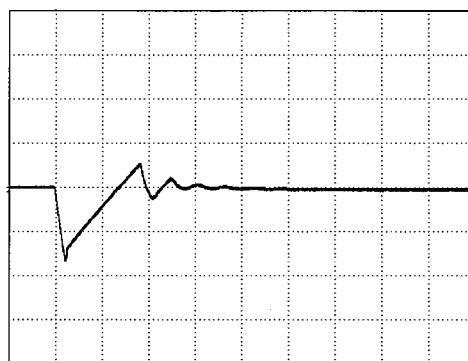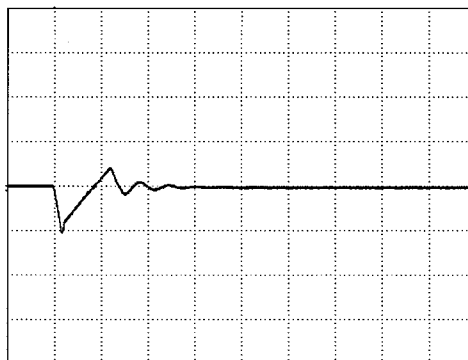
Min. Load (0A) ←→
Load 50% (9.75A)

500 mV/div

500 µs/div   10 ms/div
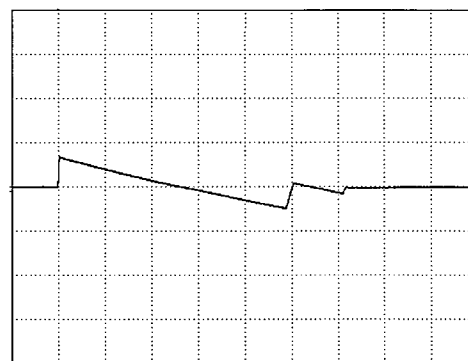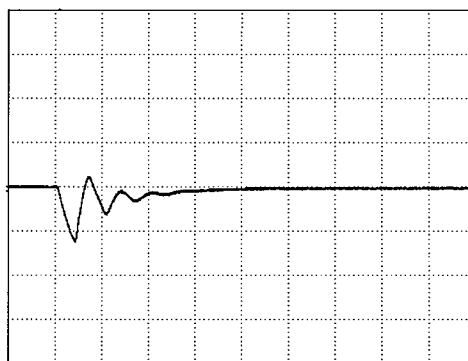
Load 10% (1.95A) ←→
Load 100% (19.5A)

500 mV/div

500 µs/div   10 ms/div

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Model	SNDBS700B36
Item	Ripple Voltage (by Load Current)
Object	+36V19.5A

Temperature   25°C
Testing Circuitry   Figure B

1.Graph

——△—— Input Volt.   200V
—·—○—·— Input Volt.   400V

Load Current [A]

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.

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 200 [V]	Input Volt. 400 [V]
0.00	10	28
3.00	26	36
6.00	30	56
9.00	32	58
12.00	34	58
15.00	36	58
18.00	38	58
19.50	38	58
21.45	38	58
--	-	-
--	-	-

Ripple [mVp-p]

Fig.Complex Ripple Wave Form

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Model	SNDBS700B36
Item	Ripple-Noise
Object	+36V19.5A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

——△—— Input Volt. 200V
—·—○—·— Input Volt. 400V

Load Current [A]

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	30	70
3.00	40	60
6.00	40	68
9.00	50	68
12.00	50	70
15.00	52	74
18.00	54	74
19.50	54	74
21.45	54	74
--	-	-
--	-	-

Ripple
Noise[mVp-p]

Fig.Complex Ripple Noise Wave Form

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Model	SNDBS700B36
Item	Ripple Voltage (by Ambient Temp.)
Object	+36V19.5A

Testing Circuitry　Figure B

1.Graph

- - - ⊟ - - -　Load　50%
———△———　Load 100%

Ambient Temperature [°C]

Input Volt.　　280V
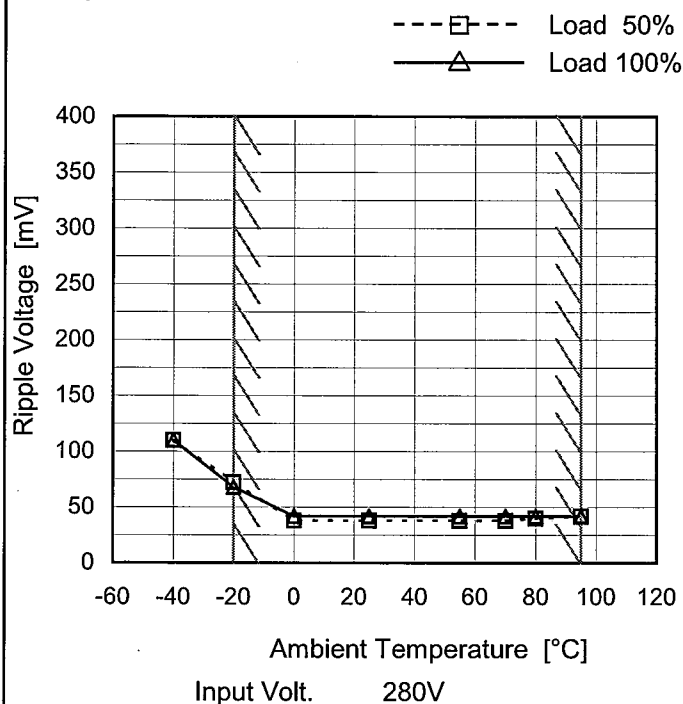
Measured by 100 MHz Oscilloscope.
Note: Slanted line shows the range of the rated
　　　ambient temperature.
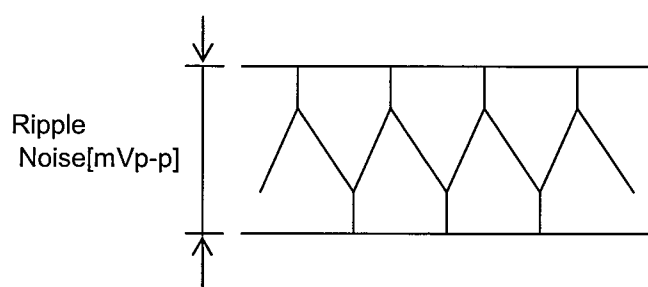
2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load　50%	Load　100%
-40	110	110
-20	72	68
0	38	42
25	38	42
55	38	42
70	38	42
80	40	42
95	42	42
--	-	-
--	-	-
--	-	-

Ripple
Noise[mVp-p]

Fig.Complex Ripple Noise Wave Form

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Model	SNDBS700B36
Item	Ambient Temperature Drift
Object	+36V19.5A
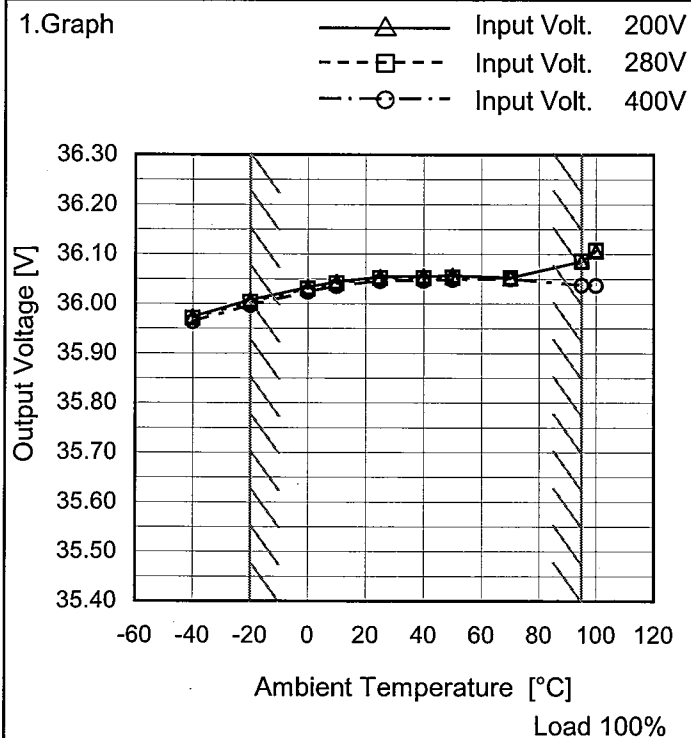
Testing Circuitry   Figure A

1.Graph

——△—— Input Volt. 200V
— — 🔲 — — Input Volt. 280V
—·—⊖—·— Input Volt. 400V

Output Voltage [V]

Ambient Temperature [°C]

Load 100%

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	35.974	35.971	35.964
-20	36.008	36.003	35.997
0	36.034	36.030	36.024
10	36.045	36.042	36.036
25	36.054	36.052	36.046
40	36.055	36.052	36.047
50	36.057	36.053	36.049
70	36.053	36.052	36.050
95	36.086	36.086	36.038
100	36.107	36.108	36.037
--	-	-	-

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Model	SNDBS700B36
Item	Output Voltage Accuracy
Object	+36V19.5A

Testing Circuitry   Figure A

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 - 19.5A

* 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	95	400	0	36.143	±64	±0.2
Minimum Voltage	-20	400	19.5	36.016		

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Model	SNDBS700B36
Item	Time Lapse Drift
Object	+36V19.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

Output Voltage [V] vs Time [H]

Input Volt. 280V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	36.065
0.5	36.036
1.0	36.036
2.0	36.036
3.0	36.037
4.0	36.037
5.0	36.038
6.0	36.038
7.0	36.039
8.0	36.039

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Model	SNDBS700B36
Item	Rise and Fall Time
Object	+36V19.5A

Temperature	25°C
Testing Circuitry	Figure A

1.Graph

Input Volt. 280 V

Load 50%

Output Volt.

[5V/div]

0

Load 100%

Output Volt.

[5V/div]

0

Input Volt.

0

[100V/div]

Time   [50ms/div]

Time   [10ms/div]

2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	61.0	37.8	98.8	1.2	26.1
100 %	61.0	37.8	98.8	0.6	12.8

Output Volt.

90%

10%

Input Volt.

Td   Tr

Th   Tf

Ts

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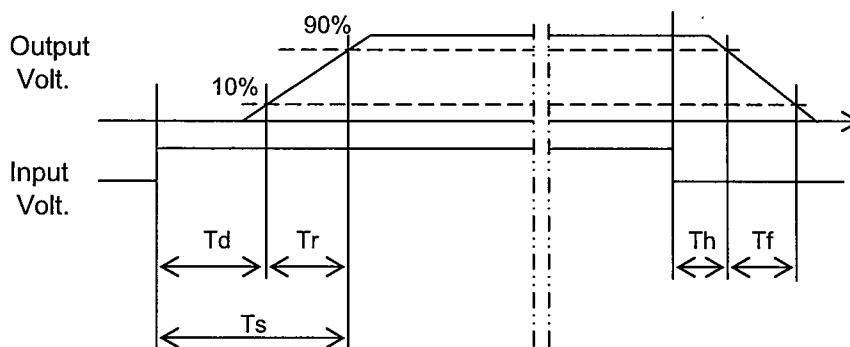
Model	SNDBS700B36
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+36V19.5A

1.Graph

--- ◻ --- Load 50%
——— △ ——— Load 100%

Input Voltage [V] vs Ambient Temperature [°C]

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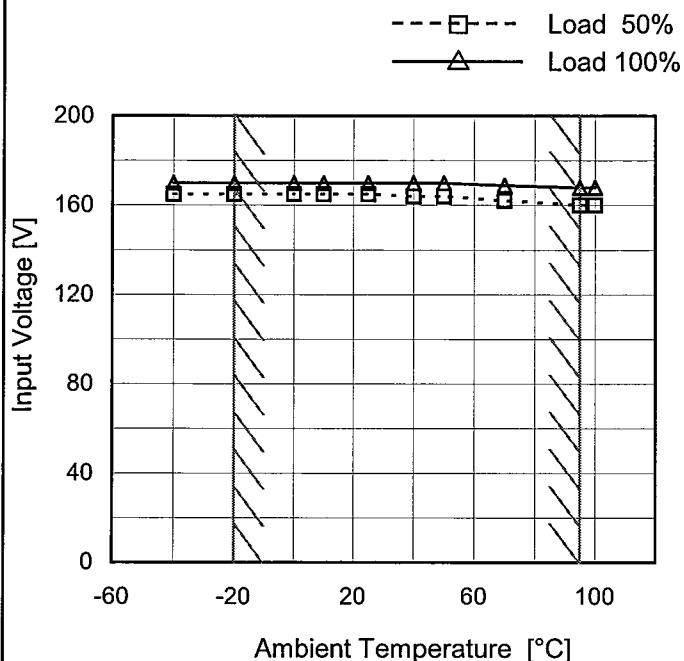
2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	165	170
-20	165	170
0	165	170
10	165	170
25	165	170
40	164	170
50	164	170
70	162	169
95	160	168
100	160	168
--	-	-

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Model	SNDBS700B36
Item	Overcurrent Protection
Object	+36V19.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

— Input Volt. 200V
— Input Volt. 280V
▬ Input Volt. 400V
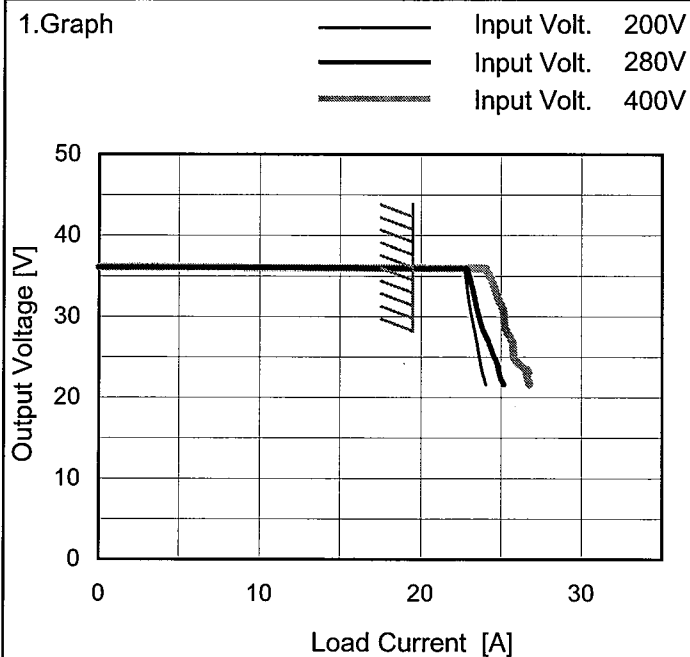
Load Current [A]

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

Intermittent operation occurs when the output voltage is from 21.6V to 0V.

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
34.2	22.86	23.13	24.49
32.4	22.95	23.31	24.74
28.8	23.26	23.75	25.21
25.2	23.62	24.53	25.77
21.6	24.05	25.17	26.79
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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Model	SNDBS700B36
Item	Overvoltage Protection
Object	+36V19.5A
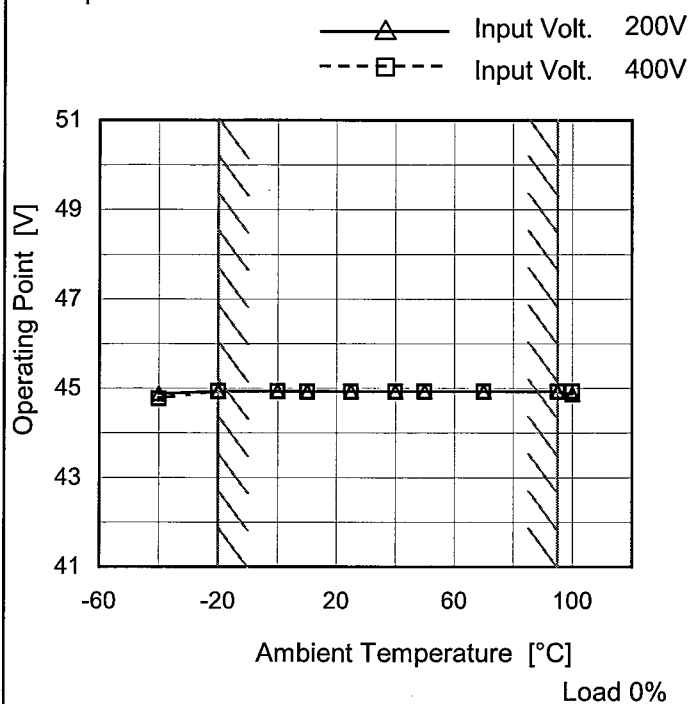
1. Graph

———△——— Input Volt. 200V

– – –□– – – Input Volt. 400V

Ambient Temperature [°C]

Load 0%

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

2. Values

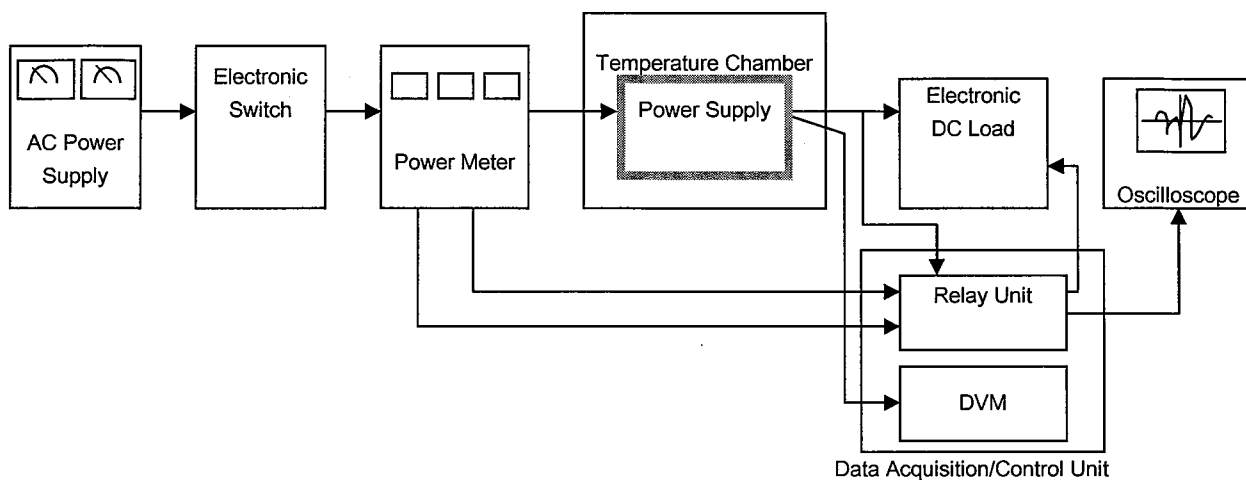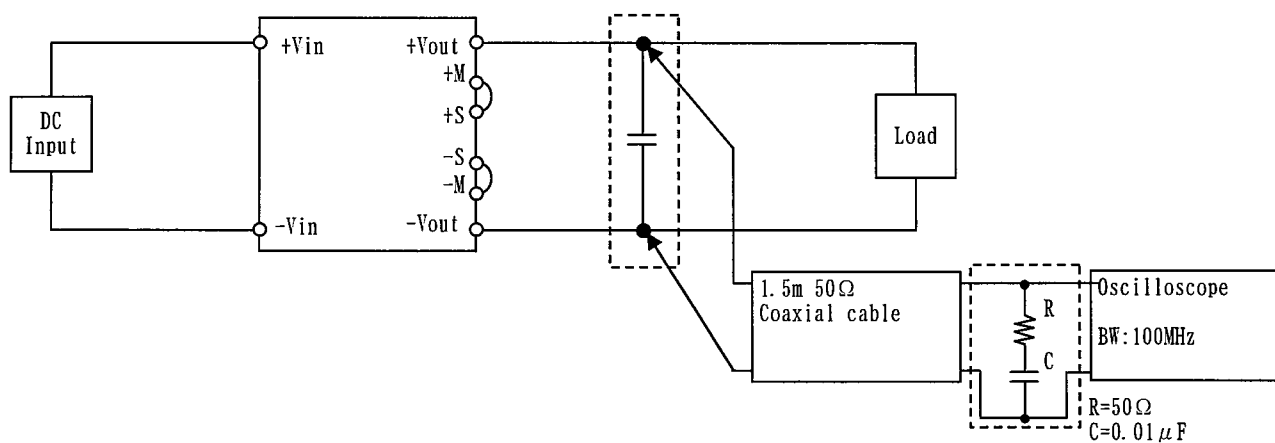| Ambient Temperature [°C]	Operating Point [V]	
	Input Volt. 200[V]	Input Volt. 400[V]
-40	44.88	44.77
-20	44.94	44.94
0	44.94	44.94
10	44.93	44.93
25	44.93	44.93
40	44.93	44.93
50	44.93	44.93
70	44.93	44.93
95	44.93	44.93
100	44.87	44.93
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Figure A

Figure B (Ripple and Ripple noise Characteristic)

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