COSEL

TEST DATA OF DBS150A12
(DC110V INPUT)

Regulated DC Power Supply
Feb. 4. 2003

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COSEL CO.,LTD.

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--- ⊡ --- Load 50%
—△— Load 100%

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

(注) 斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
60	12.217	12.213
66	12.217	12.214
80	12.217	12.214
95	12.217	12.214
110	12.217	12.214
125	12.217	12.213
145	12.217	12.213
160	12.217	12.213
170	12.216	12.212

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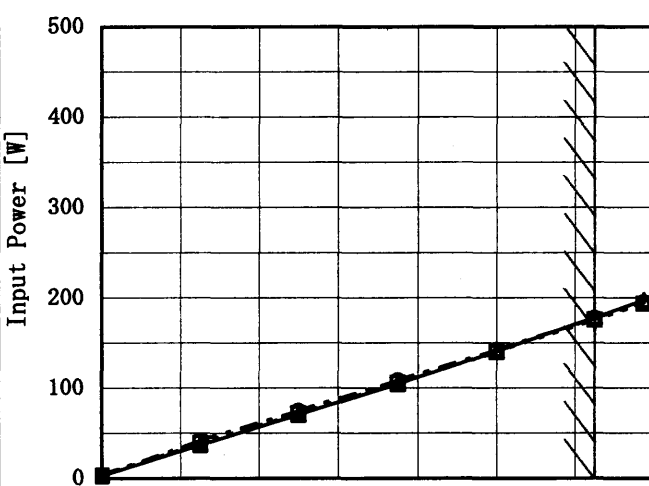
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Model	DBS150A12		
Item	Input Current (by Input Voltage) 入力電流（入力電圧特性）		
Object			

		Temperature	25℃
		Testing Circuitry	Figure A

1. Graph

Load 100% (△)
Load 50% (□)
Load 0% (○)

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

（注）斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
20	0.000	0.000	0.000
40	0.016	0.016	0.015
59	0.044	1.486	3.054
60	0.043	1.460	2.986
66	0.039	1.328	2.703
80	0.036	1.100	2.206
100	0.030	0.885	1.758
110	0.028	0.809	1.598
130	0.024	0.691	1.355
150	0.022	0.606	1.179
160	0.022	0.572	1.115
170	0.021	0.542	1.048
─	─	─	─
─	─	─	─
─	─	─	─

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Model	DBS150A12
Item	Input Current (by Load Current) 入力電流 (負荷特性)
Object	

Temperature   25℃
Testing Circuitry   Figure A

1. Graph

—△— Input Volt. 66V
---□--- Input Volt. 110V
—·—○—·— Input Volt. 160V

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

(注) 斜線は定格負荷電流範囲を示す。

2. Values

Load Current [A]	Input Current [A]		
	Input Volt. 66[V]	Input Volt. 110[V]	Input Volt. 160[V]
0.00	0.040	0.028	0.022
2.50	0.560	0.356	0.262
5.00	1.066	0.653	0.466
7.50	1.593	0.962	0.677
10.00	2.146	1.278	0.892
12.50	2.722	1.602	1.110
13.75	3.021	1.767	1.221
―	―	―	―
―	―	―	―
―	―	―	―
―	―	―	―

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Model	DBS150A12
Item	Input Power (by Load Current) 入力電力（負荷特性）
Object	————

Temperature　　　　　25℃
Testing Circuitry　　Figure A

1．Graph

————△———— Input Volt.　66V
---☐--- Input Volt. 110V
—・—○—・— Input Volt. 160V

2．Values

Input Power [W]

Input Power [W] — Load Current [A]

Load Current [A]	Input Power　[W]		
	Input Volt. 66[V]	Input Volt. 110[V]	Input Volt. 160[V]
0.00	2.7	3.1	3.5
2.50	36.9	39.1	41.9
5.00	70.2	71.7	74.5
7.50	104.6	105.6	108.2
10.00	140.7	140.1	142.3
12.50	178.1	175.6	177.2
13.75	197.4	193.6	194.9
---	—	—	—
---	—	—	—
---	—	—	—
---	—	—	—

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

（注）斜線は定格負荷電流範囲を示す。

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Model	DBS150A12
Item	Efficiency (by Input Voltage) 効率（入力電圧特性）
Object	

Temperature   25℃
Testing Circuitry   Figure A

1. Graph

2. Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
60	87.0	84.5
66	87.2	85.3
80	86.8	86.1
95	86.4	86.3
110	85.9	86.6
125	85.2	86.5
145	84.3	86.1
160	83.5	85.7
170	82.8	85.3

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

（注）斜線は定格入力電圧範囲を示す。

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Model	DBS150A12
Item	Efficiency (by Load Current) 効率 (負荷特性)
Object	

Temperature　　25℃
Testing Circuitry　　Figure A

1. Graph

———△——— Input Volt. 66V
---◻--- Input Volt. 110V
—·—◯—·· Input Volt. 160V

Efficiency [%] vs Load Current [A]

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

（注）斜線は定格負荷電流範囲を示す。

2. Values

Load Current [A]	Efficiency [%]		
	Input Volt. 66[V]	Input Volt. 110[V]	Input Volt. 160[V]
0.00	—	—	—
2.50	82.5	77.8	72.5
5.00	86.7	84.8	81.7
7.50	87.2	86.4	84.3
10.00	86.4	86.8	85.4
12.50	85.4	86.6	85.8
13.75	84.7	86.3	85.7
--	—	—	—
--	—	—	—
--	—	—	—
--	—	—	—

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Model	DBS150A12
Item	Load Regulation 静的負荷変動
Object	+12V12.5A

Temperature　　　　25℃
Testing Circuitry　　Figure A

1. Graph

————△———— Input Volt.　66V
- - -□- - - Input Volt.　110V
—·—○—·— Input Volt.　160V

Output Voltage [V] vs Load Current [A]

2. Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 66[V]	Input Volt. 110[V]	Input Volt. 160[V]
0.00	12.221	12.221	12.220
2.50	12.219	12.220	12.219
5.00	12.218	12.218	12.218
7.50	12.216	12.217	12.216
10.00	12.215	12.215	12.214
12.50	12.213	12.214	12.213
13.75	12.213	12.213	12.212
—	—	—	—
—	—	—	—
—	—	—	—

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

(注) 斜線は定格負荷電流範囲を示す。

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Model	DBS150A12
Item	Ripple Voltage (by Load Current) リップル電圧（負荷特性）
Object	+12V12.5A

Temperature　　　　　25℃
Testing Circuitry　　　Figure A

1. Graph

———△——— Input Volt. 66V
— ·—○— ·· — Input Volt. 160V

Ripple Voltage is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

リップル電圧は、下図ｐ－ｐ値で示される。
（注）斜線は定格負荷電流範囲を示す。

Ripple [mVp-p]
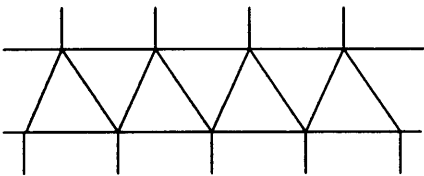
Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 66 [V]	Input Volt. 160 [V]
0.00	5	10
2.50	5	10
5.00	5	10
7.50	5	10
10.00	5	10
12.50	10	10
13.75	10	10
――	―	―
――	―	―
――	―	―
――	―	―

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Model	DBS150A12
Item	Ripple-Noise リップルノイズ
Object	+12V12.5A

Temperature	25℃
Testing Circuitry	Figure A

1. Graph

———△——— Input Volt. 66V
—·—○—·— Input Volt. 160V

Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated
      load current.

リップルノイズは、下図p－p値で示される。
（注）斜線は定格負荷電流範囲を示す。

Ripple
Noise[mVp-p]

Fig. Complex Ripple Noise Wave Form
図　リップルノイズ波形

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 66 [V]	Input Volt. 160 [V]
0.00	15	25
2.50	15	25
5.00	20	25
7.50	20	25
10.00	20	25
12.50	20	30
13.75	20	30
--	—	—
--	—	—
--	—	—
--	—	—

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Model	DBS150A12
Item	Overcurrent Protection 過電流保護
Object	+12V12.5A

Temperature   25℃
Testing Circuitry   Figure A

1. Graph

——————— Input Volt. 66V
——————— Input Volt. 110V
——————— Input Volt. 160V

Output Voltage [V] vs Load Current [A]

Note: Slanted line shows the range of the rated
      load current.
(注) 斜線は定格負荷電流範囲を示す。

Intermittent operation occurs when the output
voltage is from 7.6V to 0V.
7.6V〜0V間は、間欠モードとなる。

2. Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 66[V]	Input Volt. 110[V]	Input Volt. 160[V]
12.0	15.97	15.99	16.40
11.4	16.24	16.14	16.77
10.8	16.28	16.25	16.88
9.6	16.38	16.46	17.08
8.4	16.52	16.70	17.38
--	—	—	—
--	—	—	—
--	—	—	—
--	—	—	—
--	—	—	—
--	—	—	—
--	—	—	—

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CO$EL

Model	DBS150A12
Item	Overvoltage Protection 過電圧保護
Object	+12V12.5A

Testing Circuitry   Figure A

1. Graph

———△——— Input Volt. 66V
---□--- Input Volt. 110V
—·—○—·— Input Volt. 160V

Ambient Temperature [℃]

Load 0%

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

(注) 斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 66[V]	Input Volt. 110[V]	Input Volt. 160[V]
-35	14.75	14.63	14.63
-20	14.75	14.75	14.75
0	14.92	14.92	14.92
15	15.05	15.05	15.05
25	15.05	15.05	15.05
40	15.17	15.17	15.17
55	15.28	15.28	15.28
70	15.34	15.34	15.34
85	15.46	15.45	15.45
90	15.46	15.46	15.46
---	—	—	—

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Model	DBS150A12		
Item	Dynamic Load Response 動的負荷変動	Temperature	25℃
		Testing Circuitry	Figure A
Object	+12V12.5A		

Input Volt.　　　110 V

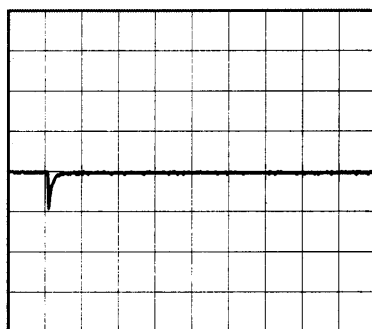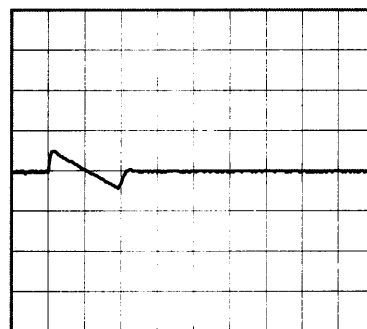Cycle　　　　　1000 ms

Load Current
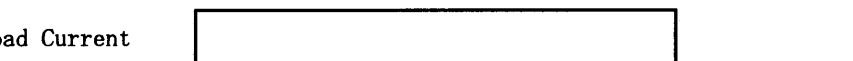
Min. Load (0A) ←→
Load 100% (12.5A)
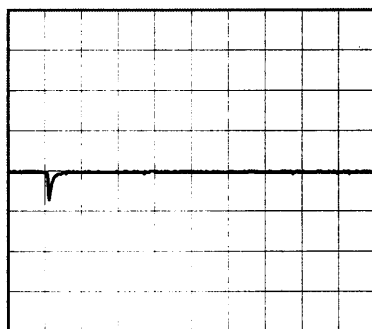
500 mV/div

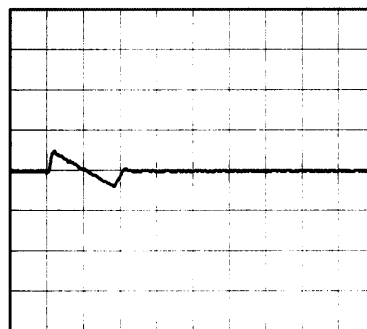5 ms/div　　　　　　　　　5 ms/div

Min. Load (0A) ←→
Load 50% (6.25A)

500 mV/div

5 ms/div　　　　　　　　　5 ms/div
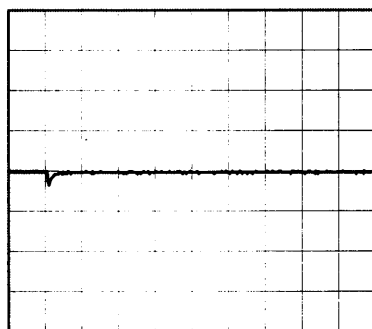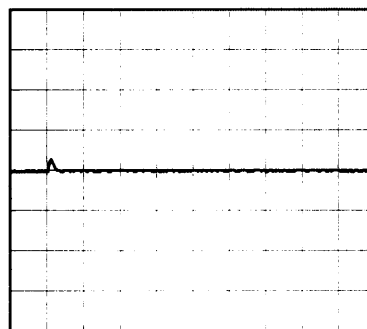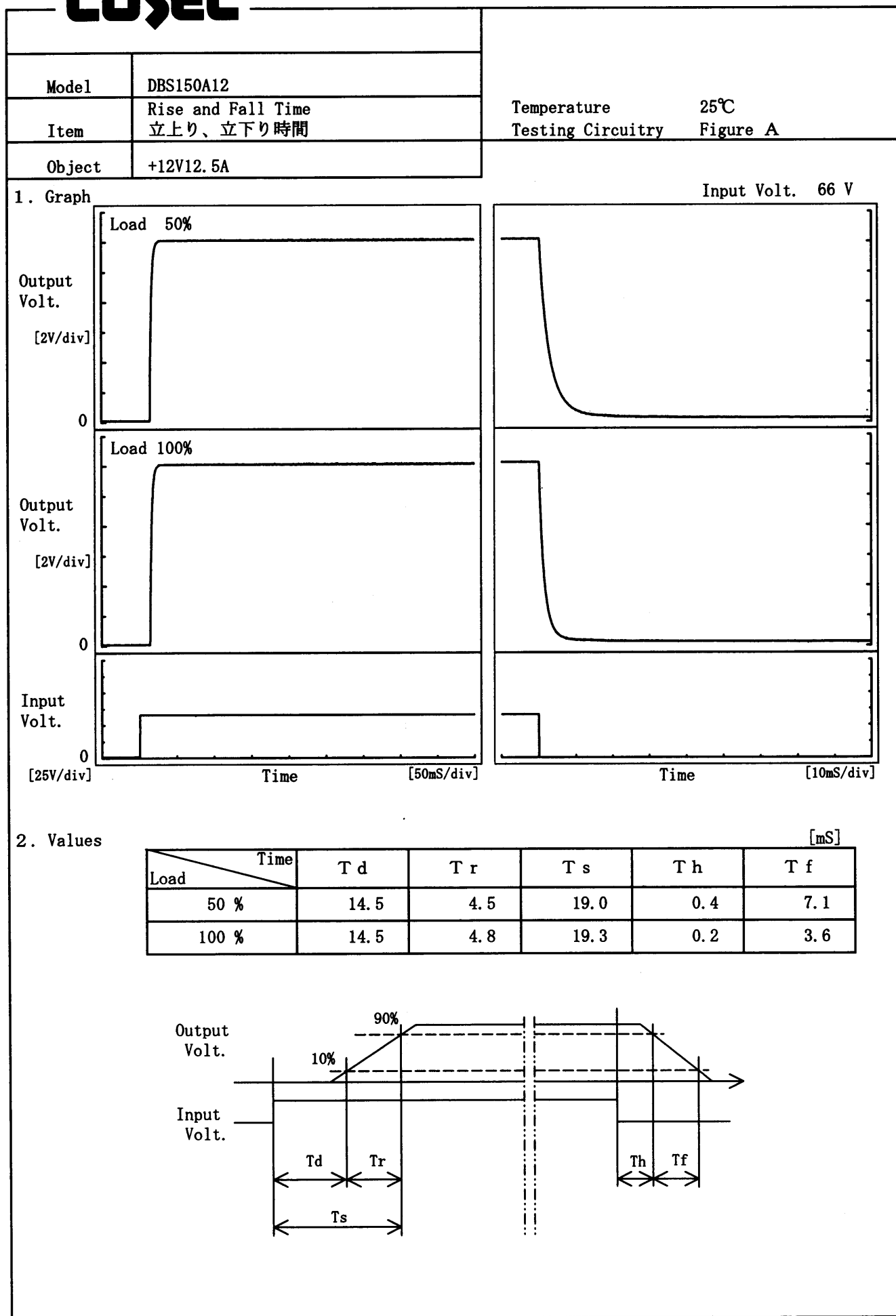
Load 10% (1.25A) ←→
Load 100% (12.5A)

500 mV/div

5 ms/div　　　　　　　　　5 ms/div

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Model	DBS150A12		
Item	Rise and Fall Time 立上り、立下り時間	Temperature	25℃
		Testing Circuitry	Figure A
Object	+12V12.5A		

1. Graph

Input Volt.　66 V

Load　50%

Output Volt.

[2V/div]

0

Load 100%

Output Volt.

[2V/div]

0

Input Volt.

0

[25V/div]

Time

[50mS/div]

Time

[10mS/div]

2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	14.5	4.5	19.0	0.4	7.1
100 %	14.5	4.8	19.3	0.2	3.6

Output Volt.

90%

10%

Input Volt.

Td   Tr

Th   Tf

Ts

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Model	DBS150A12
Item	Ambient Temperature Drift 周囲温度変動
Object	+12V12.5A

Testing Circuitry   Figure A

1. Graph

———△——— Input Volt. 66V
---☐--- Input Volt. 110V
—・—○—・— Input Volt. 160V

Ambient Temperature [℃]
Load 100%

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

(注) 斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 66[V]	Input Volt. 110[V]	Input Volt. 160[V]
-35	12.239	12.239	12.239
-20	12.237	12.237	12.237
0	12.233	12.233	12.232
15	12.229	12.229	12.228
25	12.226	12.226	12.225
40	12.219	12.219	12.219
55	12.210	12.209	12.209
70	12.194	12.194	12.193
85	12.177	12.176	12.176
90	12.168	12.167	12.167
—	—	—	—

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Model	DBS150A12
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+12V12.5A
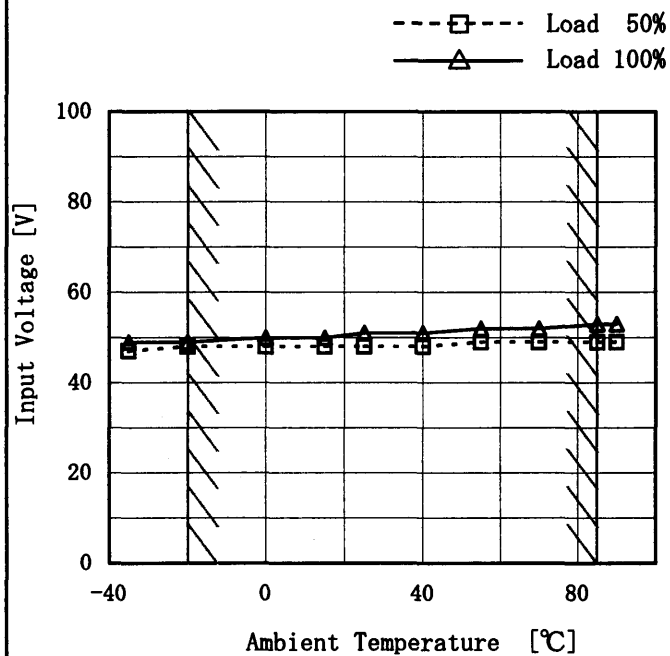
Testing Circuitry　　Figure A

1．Graph

--- ⊟ --- Load 50%
—— △ —— Load 100%

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

（注）斜線は定格周囲温度範囲を示す。

2．Values

Ambient Temperature [℃]	Input Voltage [V]	
	Load　50%	Load　100%
-35	47	49
-20	48	49
0	48	50
15	48	50
25	48	51
40	48	51
55	49	52
70	49	52
85	49	53
90	49	53
―	―	―

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Model	DBS150A12
Item	Ripple Voltage (by Ambient Temp.) リップル電圧（周囲温度特性）
Object	+12V12.5A
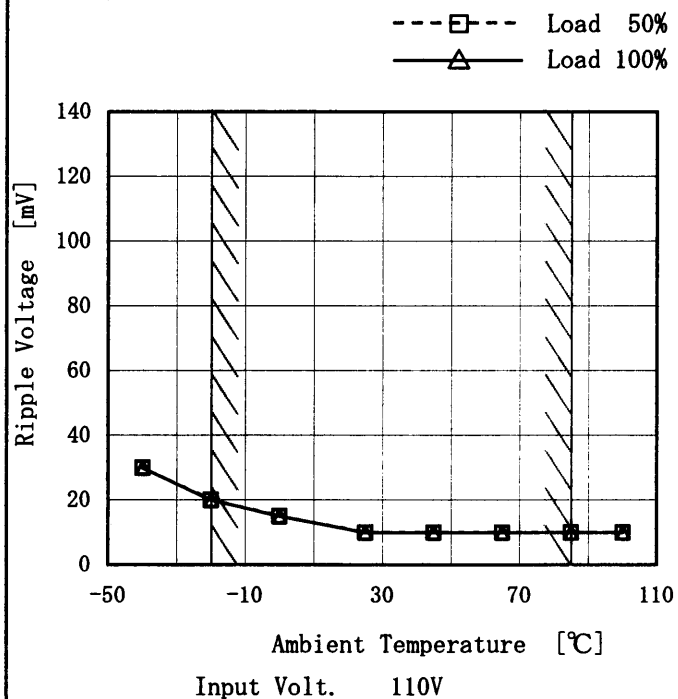
Testing Circuitry   Figure A

1．Graph

--- ⊟ --- Load 50%
—— △ —— Load 100%

Ambient Temperature [℃]

Input Volt.   110V

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

(注) 斜線は定格周囲温度範囲を示す。

2．Values

Ambient Temperature [℃]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	30	30
-20	20	20
0	15	15
25	10	10
45	10	10
65	10	10
85	10	10
100	10	10
--	—	—
--	—	—
--	—	—

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Model	DBS150A12
Item	Time Lapse Drift 経時ドリフト
Object	+12V12.5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph

Input Volt. 110V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	12.226
0.5	12.210
1.0	12.210
2.0	12.210
3.0	12.210
4.0	12.211
5.0	12.211
6.0	12.211
7.0	12.211
8.0	12.211

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Model	DBS150A12
Item	Output Voltage Accuracy 定電圧精度
Object	+12V12.5A

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 ～ 85℃

Input Voltage　：66 ～ 160V

Load Current　　：0 ～ 12.5A

＊Output Voltage Accuracy ＝ ±(Maximum of Output Voltage　－ Minimum of Output Voltage)／2

$$\text{＊Output Voltage Accuracy (Ration)} = \frac{\text{Output Voltage}}{\text{Rated Output Voltage}} \times 100$$

1．定電圧精度

周囲温度、入力電圧、負荷電流を下記仕様内で、任意に変動させたときの出力電圧の変動をいう。

周囲温度　　　：-20 ～ 85℃

入力電圧　　　：66 ～ 160V

負荷電流　　　：0 ～ 12.5A

＊定電圧精度(変動値) ＝ ±(出力電圧の最高値－出力電圧の最低値)／2

$$\text{＊定電圧精度(変動率)} = \frac{\text{変動値}}{\text{定格出力電圧}} \times 100$$

2．Values

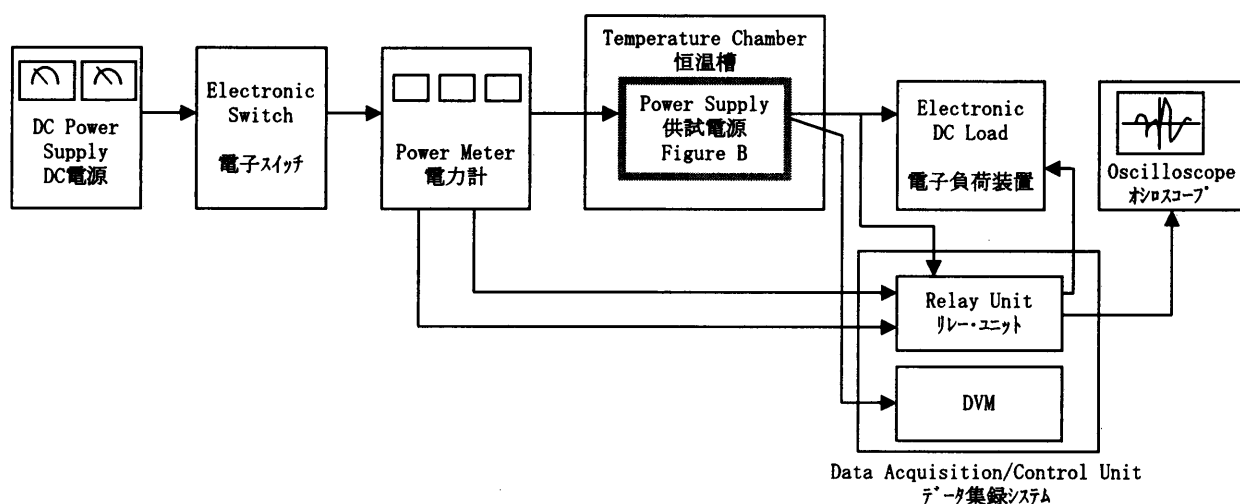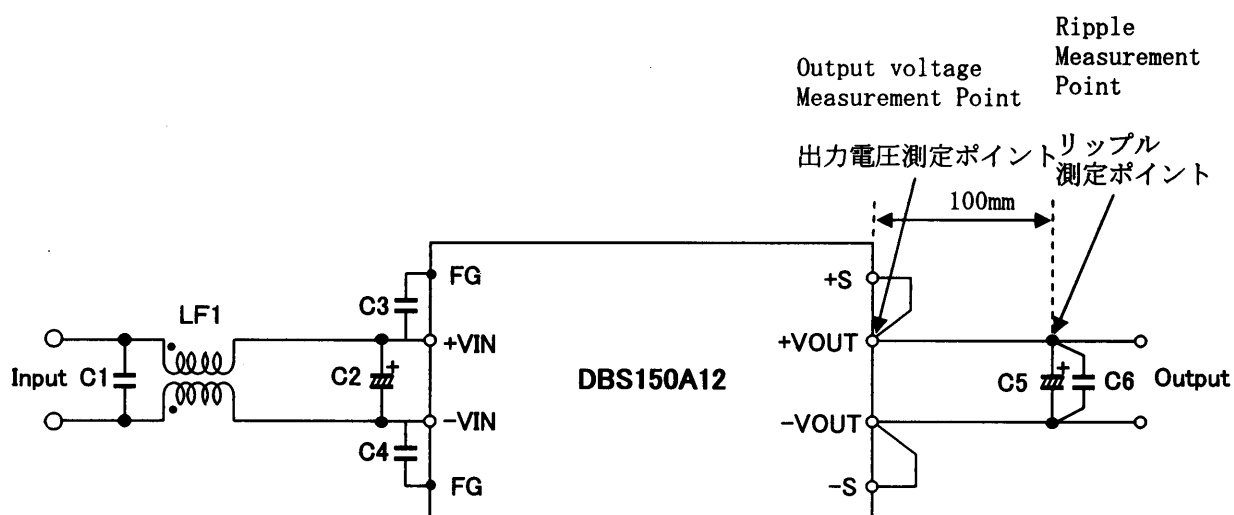| Item	Temperature [℃]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-20	66	0	12.243	±35	±0.3
Minimum Voltage	85	160	12.5	12.173		

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Figure A

Figure B   (General Electric Characteristic)
一般電気特性

C1   : 0.1μF 250V Film capacitor
C2   : 47μF 250V Electric capacitor
C3、C4   : 2200pF 250V Ceramic capacitor
C5   : 1000μF 25V Electric capacitor
C6   : 0.1μF 50V Film capacitor
LF1   : 1mH 3A Common mode Choke Coil

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