参考資料

COSEL

TEST DATA OF DBS700B24

Regulated DC Power Supply
Jun 30, 2008

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COSEL CO.,LTD.

COSEL

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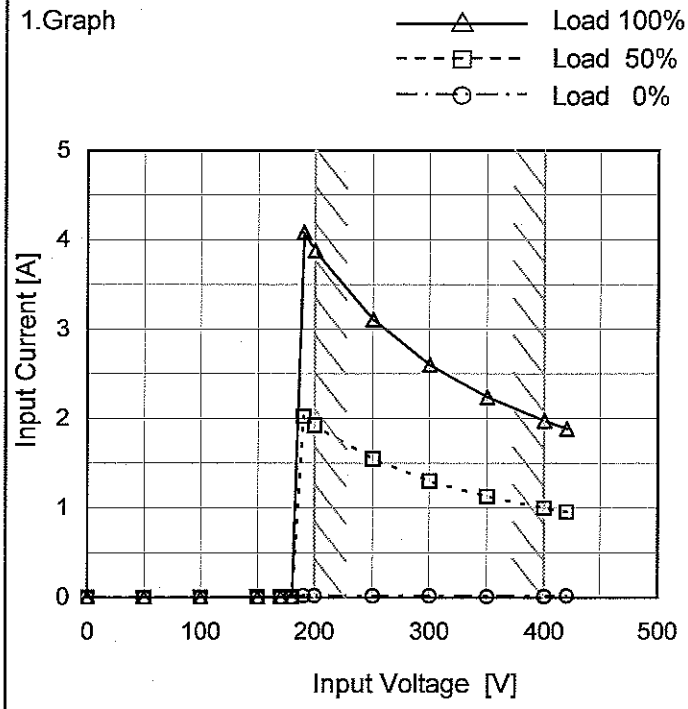
Model	DBS700B24
Item	Input Current (by Input Voltage)
Object	———————

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	0.003	0.003	0.003
170	0.003	0.003	0.003
180	0.003	0.003	0.003
190	0.020	2.026	4.084
200	0.020	1.926	3.881
250	0.018	1.550	3.106
300	0.017	1.302	2.600
350	0.012	1.129	2.242
400	0.012	0.998	1.974
420	0.017	0.954	1.884
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---	-	-	-
---	-	-	-
---	-	-	-
---	-	-	-

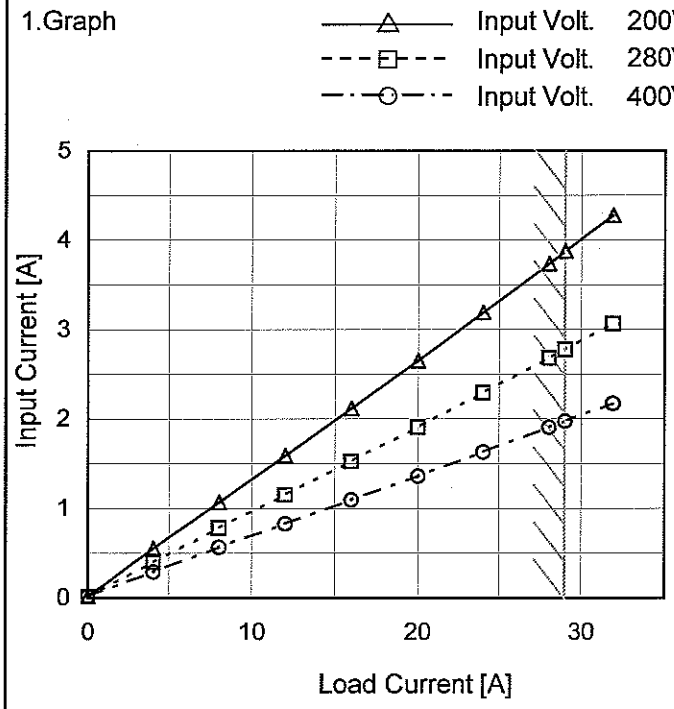
BC-10175

COSEL

Model	DBS700B24
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]
0.0	0.020	0.017	0.017
4.0	0.555	0.399	0.291
8.0	1.072	0.782	0.568
12.0	1.590	1.153	0.830
16.0	2.118	1.527	1.094
20.0	2.656	1.912	1.362
24.0	3.194	2.294	1.631
28.0	3.740	2.682	1.906
29.0	3.878	2.778	1.974
31.9	4.278	3.064	2.174
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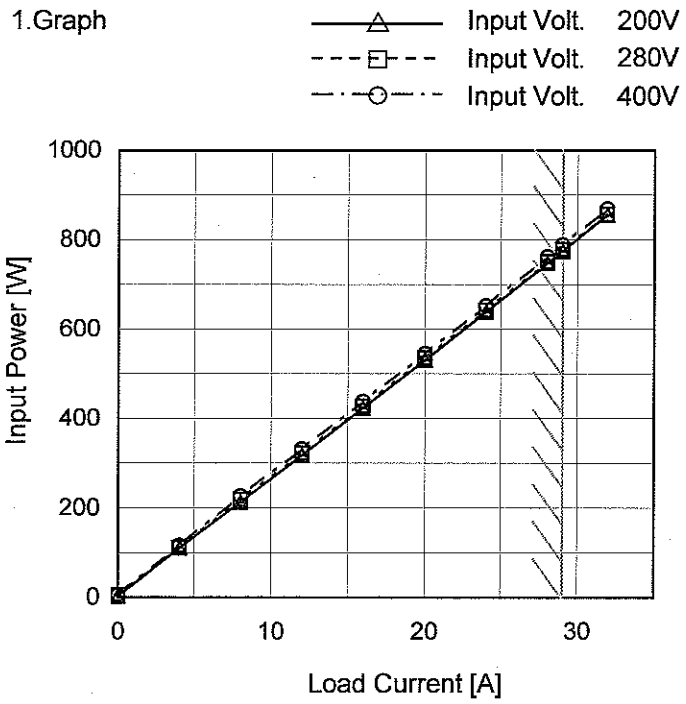
COSEL

Model	DBS700B24
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]
0.0	3.9	4.8	6.7
4.0	111.0	111.6	116.1
8.0	214.3	219.0	227.0
12.0	318.0	322.8	332.2
16.0	424.0	427.7	438.0
20.0	531.0	535.0	545.0
24.0	639.0	642.0	652.0
28.0	748.0	751.0	762.0
29.0	775.0	778.0	789.0
31.9	856.0	857.0	869.0
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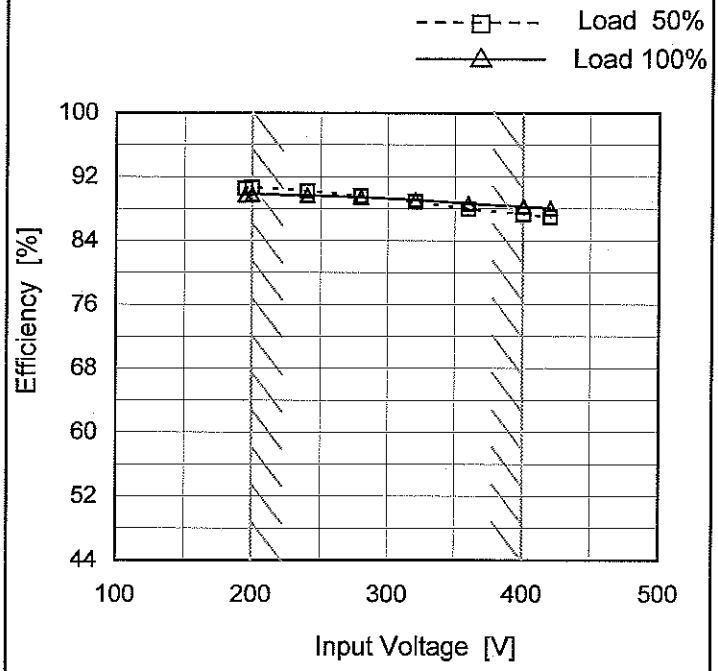
BC-10175

COSEL

Model	DBS700B24
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	90.6	89.7
200	90.7	89.8
240	90.2	89.7
280	89.6	89.5
320	88.9	89.1
360	88.0	88.7
400	87.3	88.3
420	87.0	88.1
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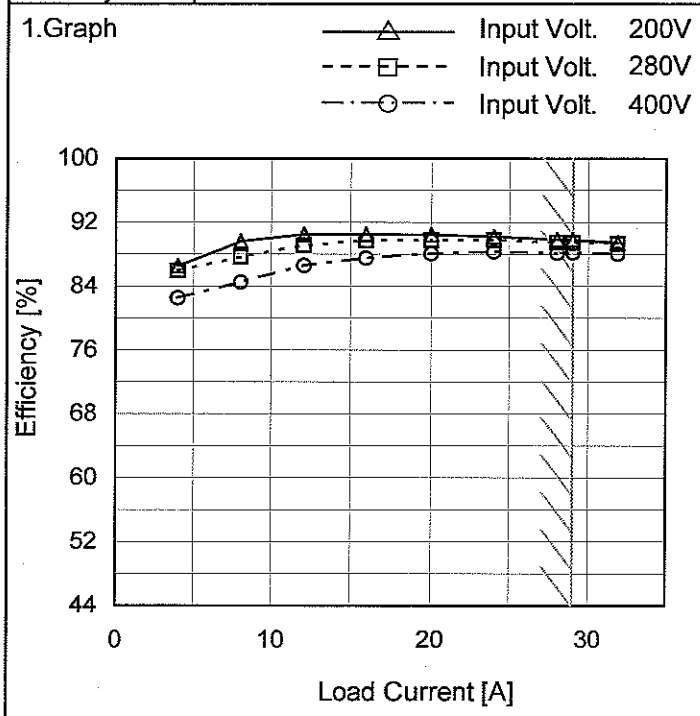
Model	DBS700B24
Item	Efficiency (by Load Current)
Object	————————

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]
0.0	-	-	-
4.0	86.5	86.0	82.5
8.0	89.6	87.6	84.5
12.0	90.5	89.2	86.6
16.0	90.5	89.7	87.5
20.0	90.5	89.8	88.1
24.0	90.2	89.8	88.3
28.0	89.9	89.5	88.2
29.0	89.8	89.5	88.2
31.9	89.5	89.3	88.1
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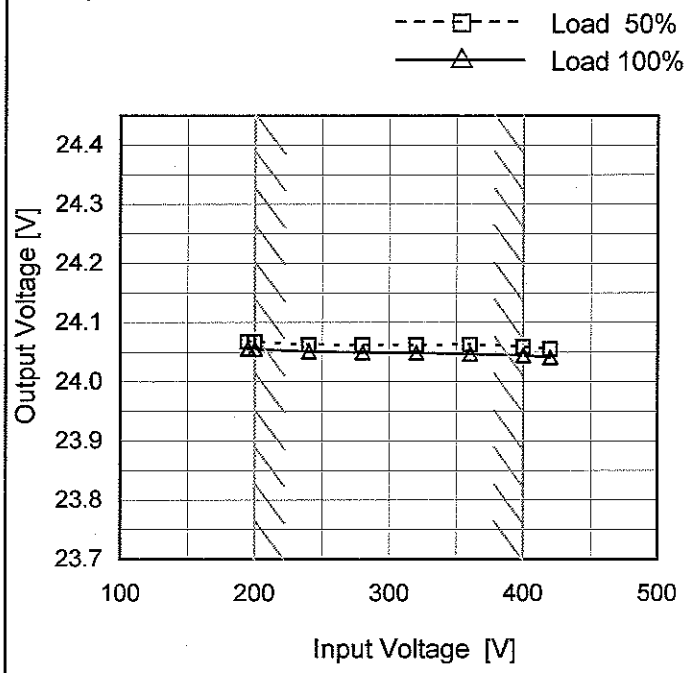
Model	DBS700B24
Item	Line Regulation
Object	+24V29A

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	24.067	24.056
200	24.067	24.055
240	24.063	24.052
280	24.062	24.050
320	24.062	24.049
360	24.063	24.047
400	24.059	24.045
420	24.055	24.042
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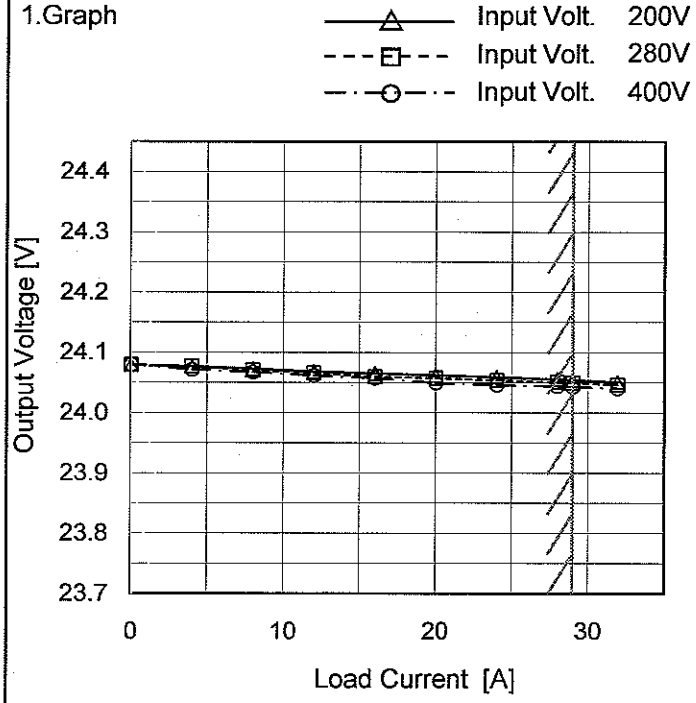
COSEL

Model	DBS700B24
Item	Load Regulation
Object	+24V29A

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]
0.0	24.080	24.080	24.080
4.0	24.077	24.077	24.072
8.0	24.073	24.071	24.068
12.0	24.068	24.066	24.062
16.0	24.065	24.060	24.058
20.0	24.062	24.058	24.050
24.0	24.059	24.054	24.047
28.0	24.056	24.051	24.044
29.0	24.055	24.050	24.044
31.9	24.051	24.047	24.041
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COSEL

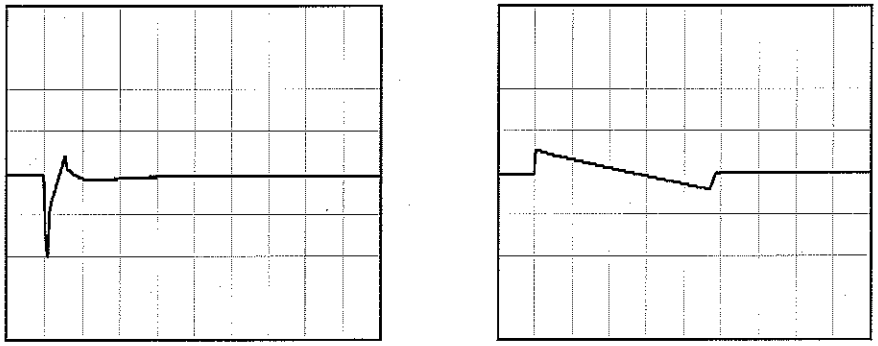
Model	DBS700B24
Item	Dynamic Load Response
Object	+24V29A

Temperature 25°C
Testing Circuitry Figure A

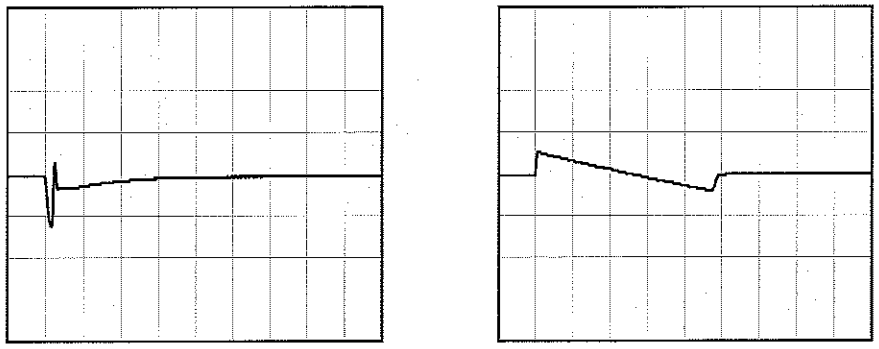
Input Volt. 280 V
Cycle 1000 ms

Load Current
29A / 40 μ s

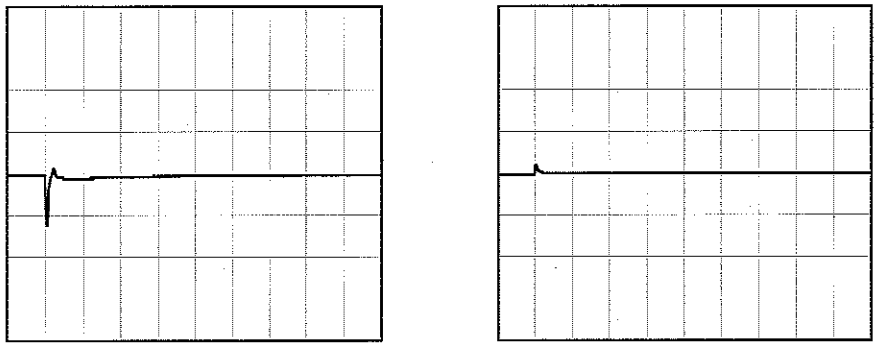
Min. Load (0A) ⟷
Load 100% (29A)



Min. Load (0A) ⟷
Load 50% (14.5A)



Load 10% (2.9A) ⟷
Load 100% (29A)

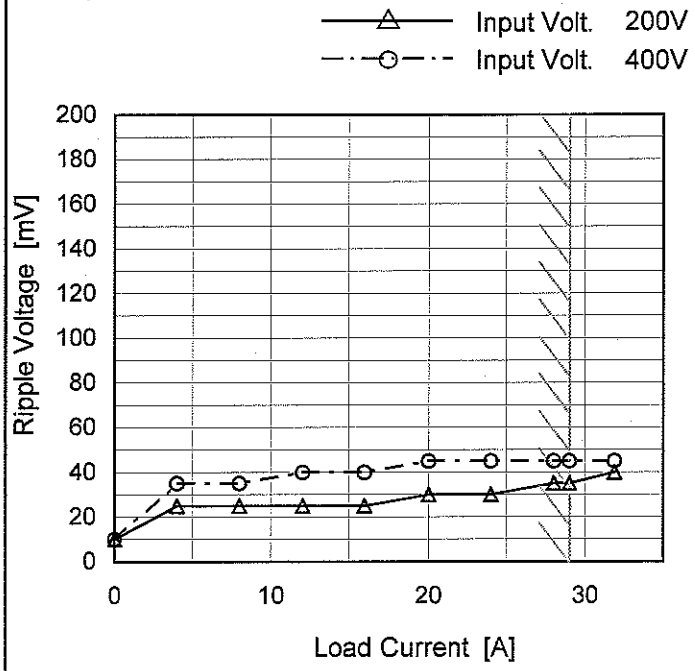


COSEL

Model	DBS700B24
Item	Ripple Voltage (by Load Current)
Object	+24V29A

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]

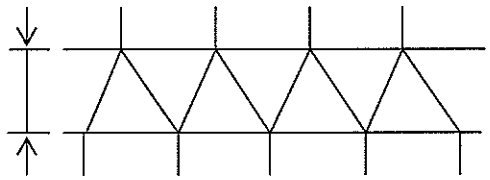


Fig.Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 200 [V]	Input Volt. 400 [V]
0.0	10	10
4.0	25	35
8.0	25	35
12.0	25	40
16.0	25	40
20.0	30	45
24.0	30	45
28.0	35	45
29.0	35	45
31.9	40	45
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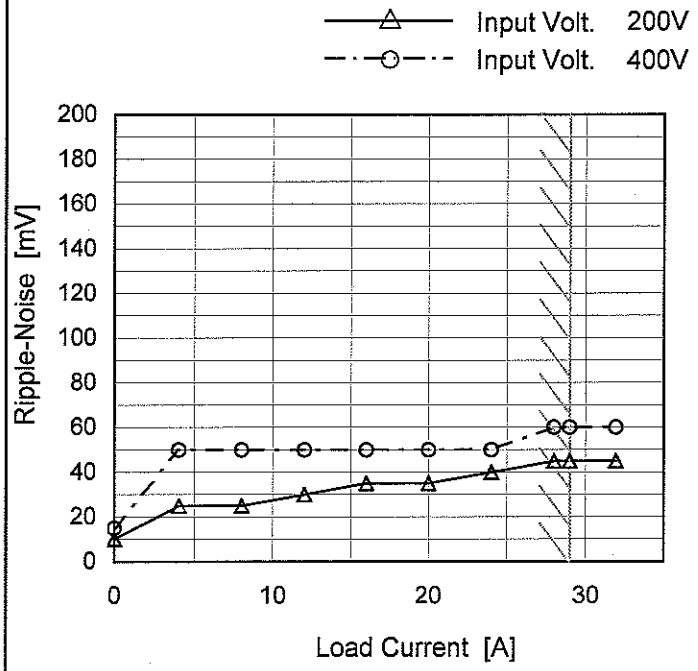
COSEL

Model	DBS700B24
Item	Ripple-Noise
Object	+24V29A

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.

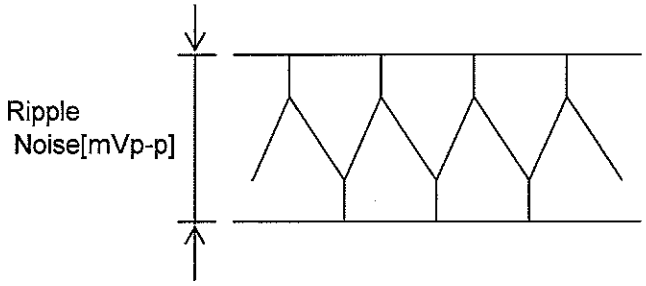


Fig.Complex Ripple Noise Wave Form

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 200 [V]	Input Volt. 400 [V]
0.0	10	15
4.0	25	50
8.0	25	50
12.0	30	50
16.0	35	50
20.0	35	50
24.0	40	50
28.0	45	60
29.0	45	60
31.9	45	60
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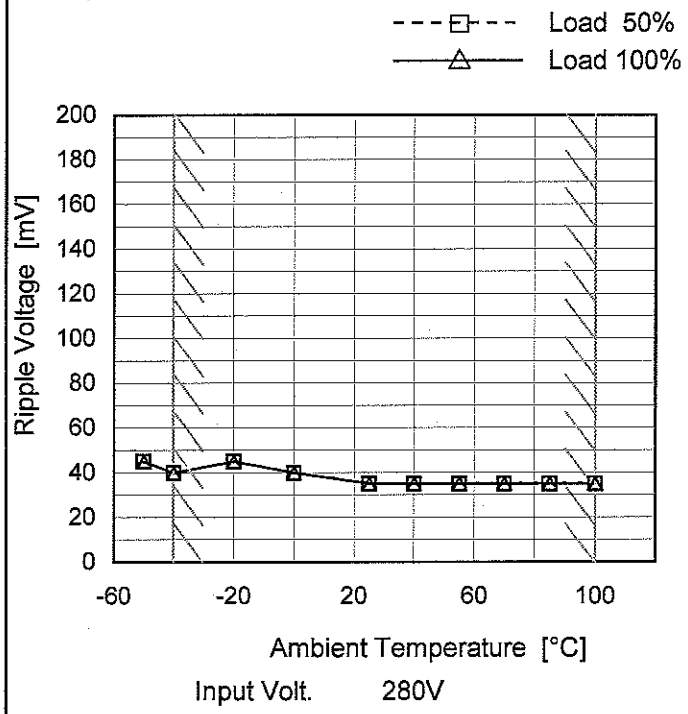
COSEL

Model	DBS700B24
Item	Ripple Voltage (by Ambient Temp.)
Object	+24V29A

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%
-50	45	45
-40	40	40
-20	45	45
0	40	40
25	35	35
40	35	35
55	35	35
70	35	35
85	35	35
100	35	35
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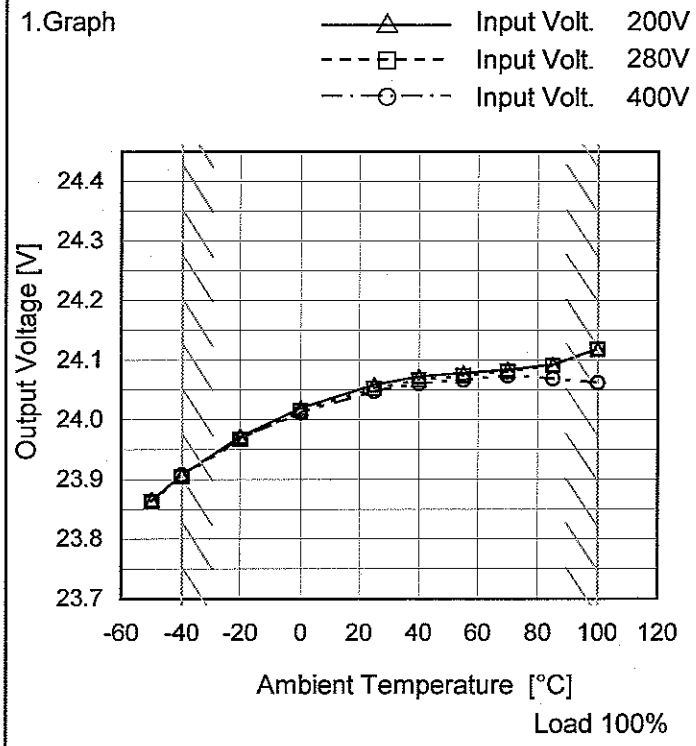
COSEL

Model	DBS700B24
Item	Ambient Temperature Drift
Object	+24V29A

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]
-50	23.866	23.863	23.864
-40	23.908	23.905	23.908
-20	23.972	23.968	23.969
0	24.020	24.015	24.012
25	24.059	24.053	24.048
40	24.073	24.067	24.061
55	24.079	24.074	24.067
70	24.084	24.081	24.074
85	24.093	24.091	24.069
100	24.119	24.118	24.062
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COSEL

Model	DBS700B24	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+24V29A	

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 - 100°C
Input Voltage : 200 - 400V
Load Current : 0 - 29A

* 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

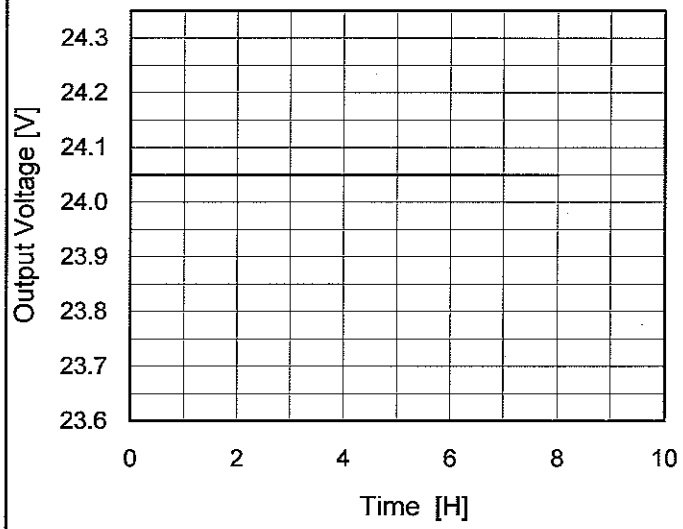
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	100	200	0	24.151	±123	±0.5
Minimum Voltage	-40	280	29	23.905		

COSEL

Model	DBS700B24
Item	Time Lapse Drift
Object	+24V29A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 280V
Load 100%

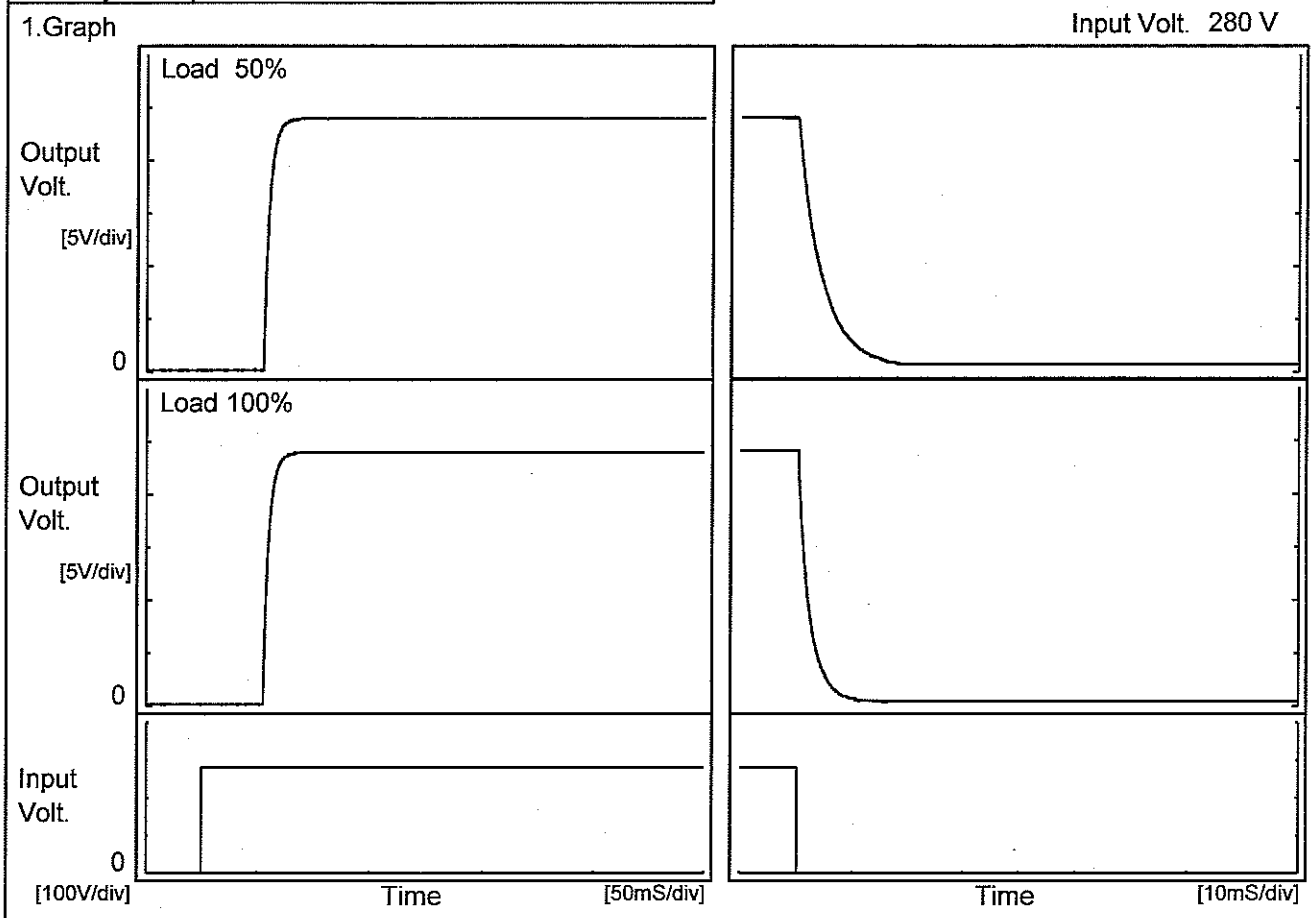
2.Values

Time since start [H]	Output Voltage [V]
0.0	24.050
0.5	24.050
1.0	24.050
2.0	24.050
3.0	24.050
4.0	24.050
5.0	24.050
6.0	24.050
7.0	24.050
8.0	24.050

COSEL

Model	DBS700B24	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+24V29A	

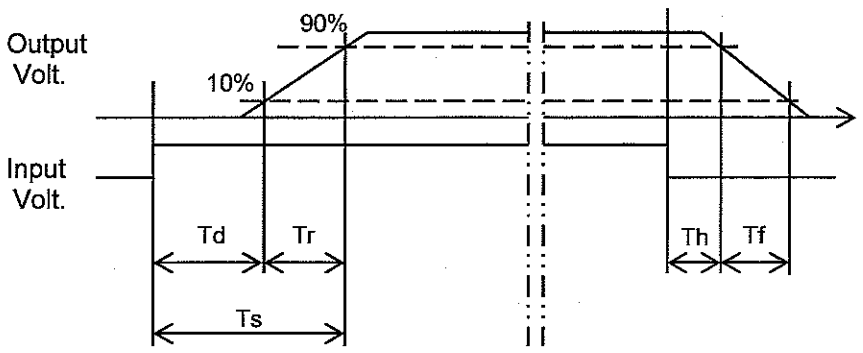
1.Graph



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	55.8	11.0	66.8	0.6	9.8
100 %	55.8	11.0	66.8	0.3	4.2

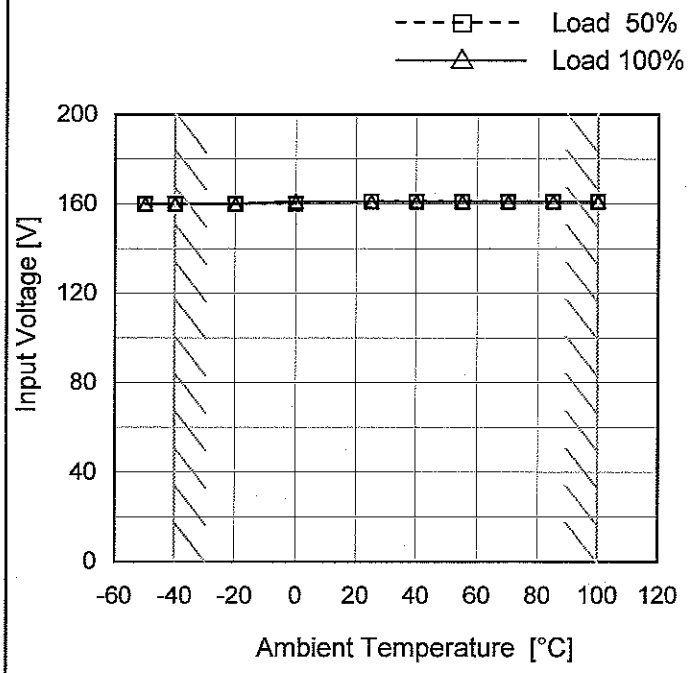


COSEL

Model	DBS700B24
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+24V29A

Testing Circuitry Figure A

1.Graph



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

2.Values

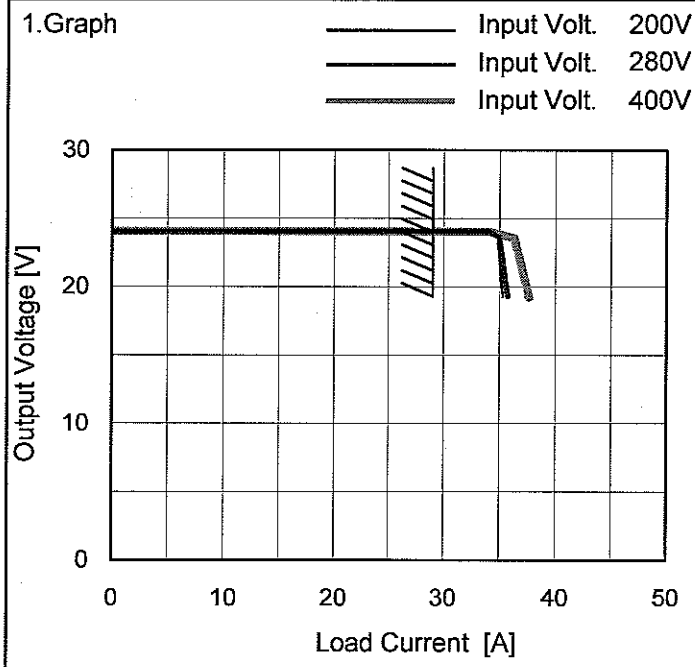
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-50	160	160
-40	160	160
-20	160	160
0	160	161
25	161	161
40	161	161
55	161	161
70	161	161
85	161	161
100	161	161
--	-	-

COSEL

Model	DBS700B24
Item	Overcurrent Protection
Object	+24V29A

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 19.2V to 0V.

2.Values

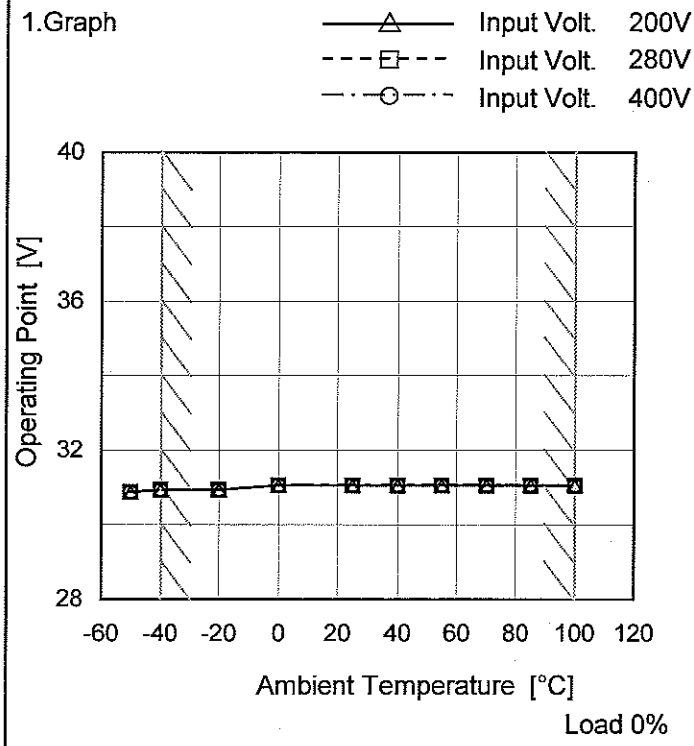
Output Voltage [V]	Load Current [A]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
24.0	29.46	29.42	29.41
22.8	34.95	35.14	36.57
21.6	35.04	35.33	36.94
19.2	35.31	35.77	37.64
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	DBS700B24
Item	Overvoltage Protection
Object	+24V29A

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. 280[V]	Input Volt. 400[V]
-50	30.88	30.88	30.88
-40	30.94	30.94	30.94
-20	30.94	30.94	30.94
0	31.06	31.06	31.06
25	31.06	31.06	31.06
40	31.06	31.06	31.06
55	31.06	31.06	31.06
70	31.06	31.06	31.06
85	31.06	31.06	31.06
100	31.06	31.06	31.05
--	-	-	-

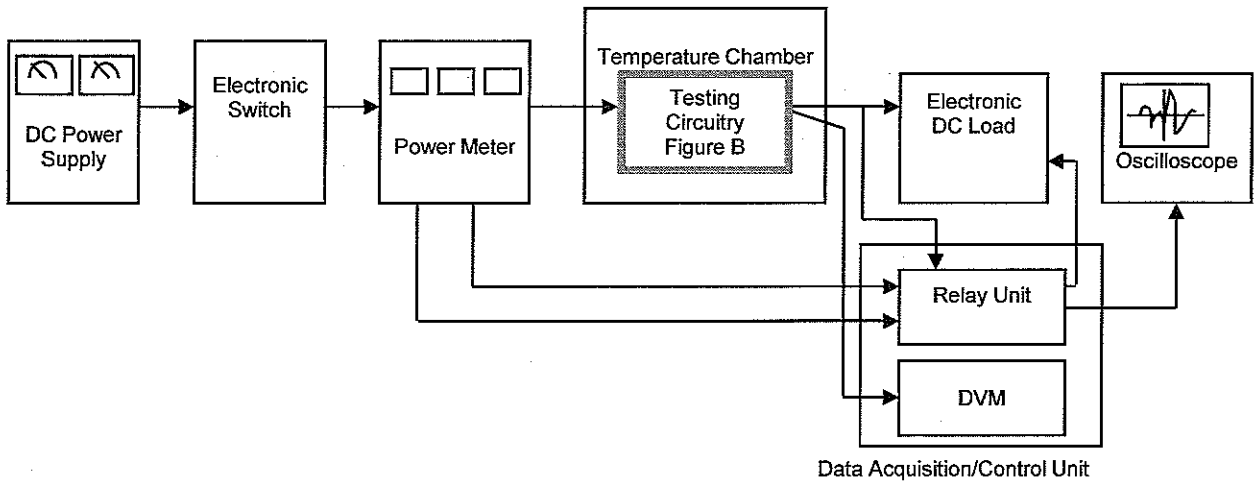


Figure A

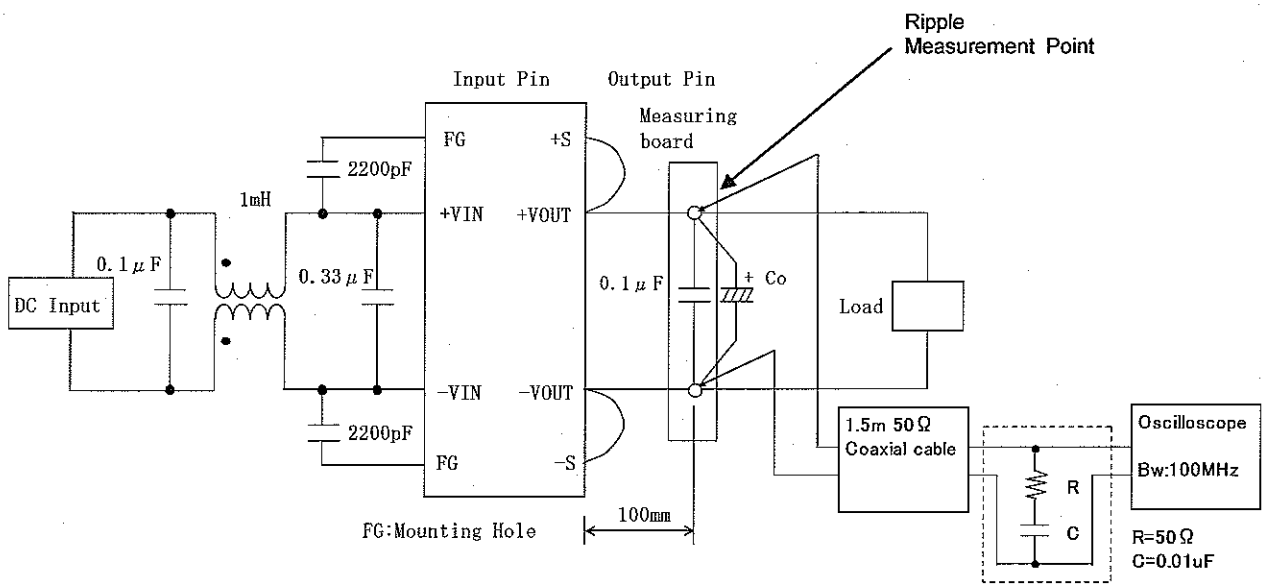


Figure B

Co[μF]	
Base plate temperature: Tc=-20℃～+100℃	Base plate temperature: Tc=-40℃～+100℃
2200	2200×3