

TEST DATA OF BRDS100

Regulated DC Power Supply
Oct 26, 2015

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COSEL CO.,LTD.



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.Figure of Testing Circuitry · · · · ·	18

(Final Page 18)

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Model	BRDS100	Temperature	25°C																																																																														
Item	Input Current (by Input Voltage)	Testing Circuitry	Figure A																																																																														
Object	+1.2V100A																																																																																
1. Graph		2. Values																																																																															
<p>Graph showing Input Current [A] vs Input Voltage [V] for BRDS100 at 25°C. The graph plots Input Current against Input Voltage for three load conditions: Load 0% (dashed line with open circles), Load 50% (dashed line with open squares), and Load 100% (solid line with open triangles). The input voltage range is 0 to 16V, and current ranges from 0 to 50A. A slanted line indicates the rated input voltage range.</p>		<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="3">Input Current [A]</th> </tr> <tr> <th>Load 0%</th> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>2.0</td><td>0.004</td><td>0.004</td><td>0.003</td></tr> <tr><td>4.0</td><td>0.035</td><td>0.036</td><td>0.035</td></tr> <tr><td>4.5</td><td>0.208</td><td>14.535</td><td>30.372</td></tr> <tr><td>5.0</td><td>0.221</td><td>13.015</td><td>27.326</td></tr> <tr><td>5.2</td><td>0.226</td><td>12.495</td><td>26.233</td></tr> <tr><td>6.0</td><td>0.228</td><td>10.830</td><td>22.997</td></tr> <tr><td>8.0</td><td>0.231</td><td>8.248</td><td>17.062</td></tr> <tr><td>10.0</td><td>0.236</td><td>6.622</td><td>13.626</td></tr> <tr><td>12.0</td><td>0.244</td><td>5.552</td><td>11.329</td></tr> <tr><td>14.0</td><td>0.249</td><td>4.798</td><td>9.769</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Input Voltage [V]	Input Current [A]			Load 0%	Load 50%	Load 100%	0.0	0.000	0.000	0.000	2.0	0.004	0.004	0.003	4.0	0.035	0.036	0.035	4.5	0.208	14.535	30.372	5.0	0.221	13.015	27.326	5.2	0.226	12.495	26.233	6.0	0.228	10.830	22.997	8.0	0.231	8.248	17.062	10.0	0.236	6.622	13.626	12.0	0.244	5.552	11.329	14.0	0.249	4.798	9.769	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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Note: Slanted line shows the range of the rated input voltage.

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Item	Input Current (by Load Current)	Testing Circuitry	Figure A																																																			
Object	+1.2V/100A																																																					
1.Graph	<p>Legend:</p> <ul style="list-style-type: none"> Input Volt. 4.5V Input Volt. 12V Input Volt. 14V <p>Note: Slanted line shows the range of the rated load current.</p>																																																					
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Item	Input Power (by Load Current)																												
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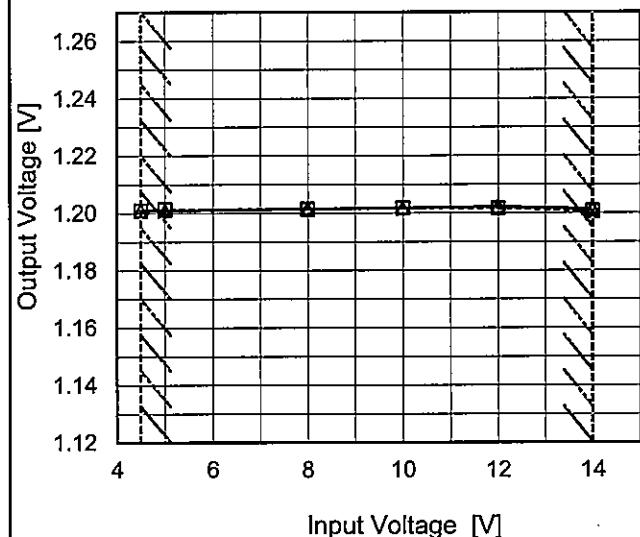
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Model	BRDS100
Item	Line Regulation
Object	+1.2V100A

1. Graph

--- □ --- Load 50%
 —△— Load 100%



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

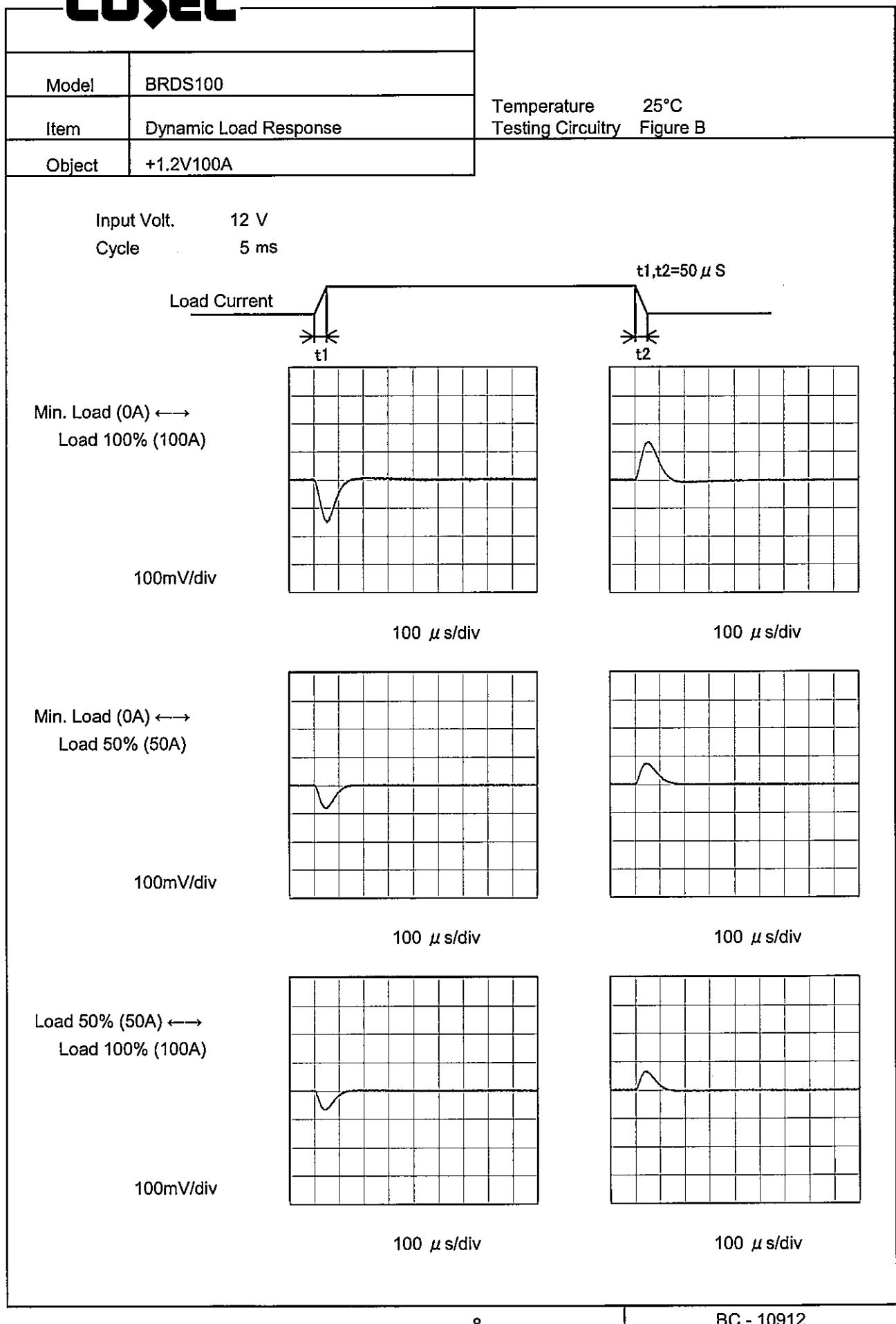
Temperature 25°C
 Testing Circuitry Figure A

2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
4.5	1.201	1.201
5.0	1.201	1.201
8.0	1.202	1.202
10.0	1.202	1.202
12.0	1.202	1.202
14.0	1.201	1.201
--	-	-
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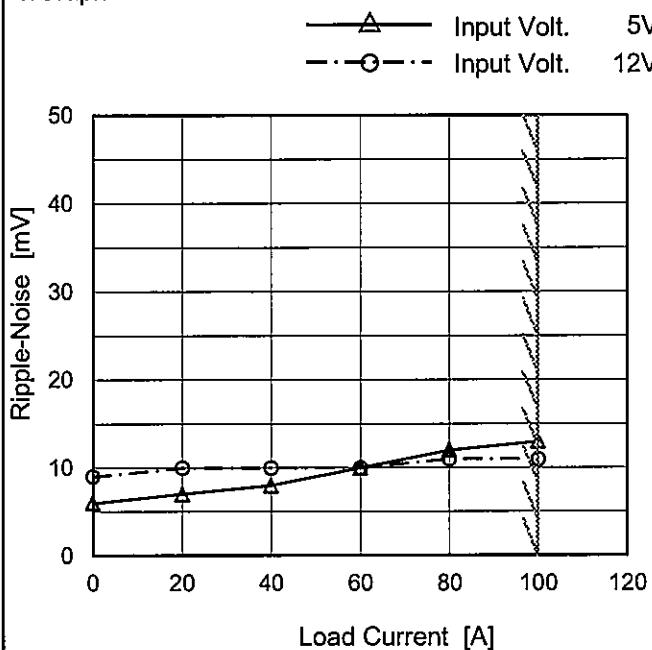
Model	BRDS100	
Item	Ripple Voltage (by Load Current)	Temperature 25°C Testing Circuitry Figure C
Object	+1.2V100A	
1.Graph		
<p>Measured by 20 MHz Oscilloscope. Ripple Voltage is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>		
<p>Fig.Complex Ripple Wave Form</p>		
2.Values		
Load Current [A]	Ripple Voltage [mV]	
Input Volt.	Input Volt.	
5 [V]	12 [V]	
0	1	1
20	2	2
40	2	2
60	3	2
80	3	2
100	4	2
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	BRDS100
Item	Ripple-Noise
Object	+1.2V100A

Temperature 25°C
Testing Circuitry Figure C

1.Graph



Measured by 20 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. 5 [V]	Input Volt. 12 [V]
0	6	9
20	7	10
40	8	10
60	10	10
80	12	11
100	13	11
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

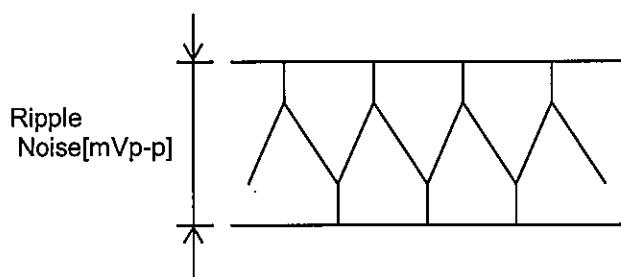
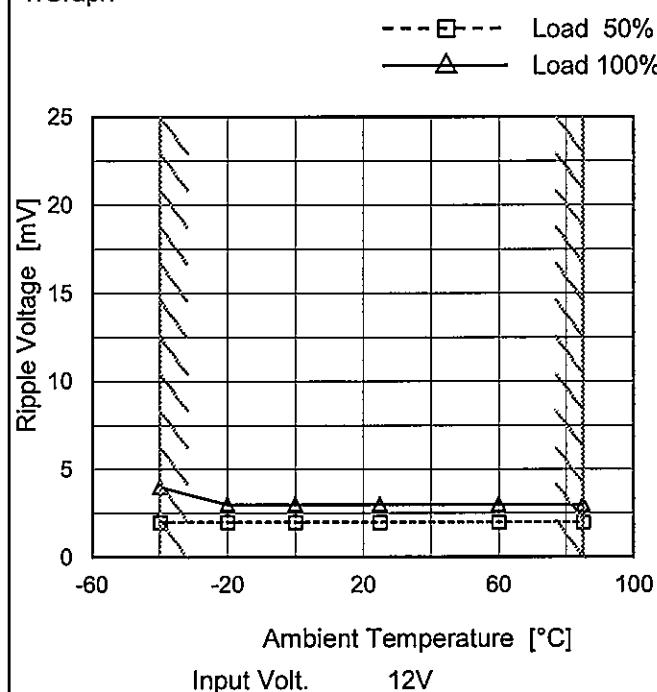


Fig.Complex Ripple Noise Wave Form

COSEL

Model	BRDS100
Item	Ripple Voltage (by Ambient Temp.)
Object	+1.2V100A

1. Graph



Measured by 20 MHz Oscilloscope.

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

Ripple [mVp-p]

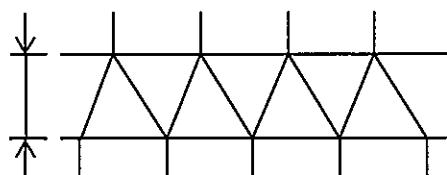


Fig. Complex Ripple Wave Form

Testing Circuitry Figure C

2. Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	2	4
-20	2	3
0	2	3
25	2	3
60	2	3
85	2	3
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-



Model	BRDS100	Testing Circuitry Figure A			
Item	Ambient Temperature Drift				
Object	+1.2V100A				
1.Graph	<p>—▲— Input Volt. 4.5V - - □ - - Input Volt. 12V - - ○ - - Input Volt. 14V</p> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>				
2.Values					
		Ambient Temperature [°C]	Output Voltage [V]		
			Input Volt. 4.5[V]	Input Volt. 12[V]	Input Volt. 14[V]
-40			1.201	1.202	1.201
-20			1.201	1.202	1.201
0			1.201	1.202	1.201
25			1.201	1.202	1.201
60			1.201	1.201	1.200
85			1.200	1.201	1.199
--			-	-	-
--			-	-	-
--			-	-	-
--			-	-	-
--			-	-	-

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



Model	BRDS100	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+1.2V100A	

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 : 4.5 - 14V

Load Current : 0 - 100A

* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	85	12	100	1.202	±2	±0.2
Minimum Voltage	85	14	100	1.199		

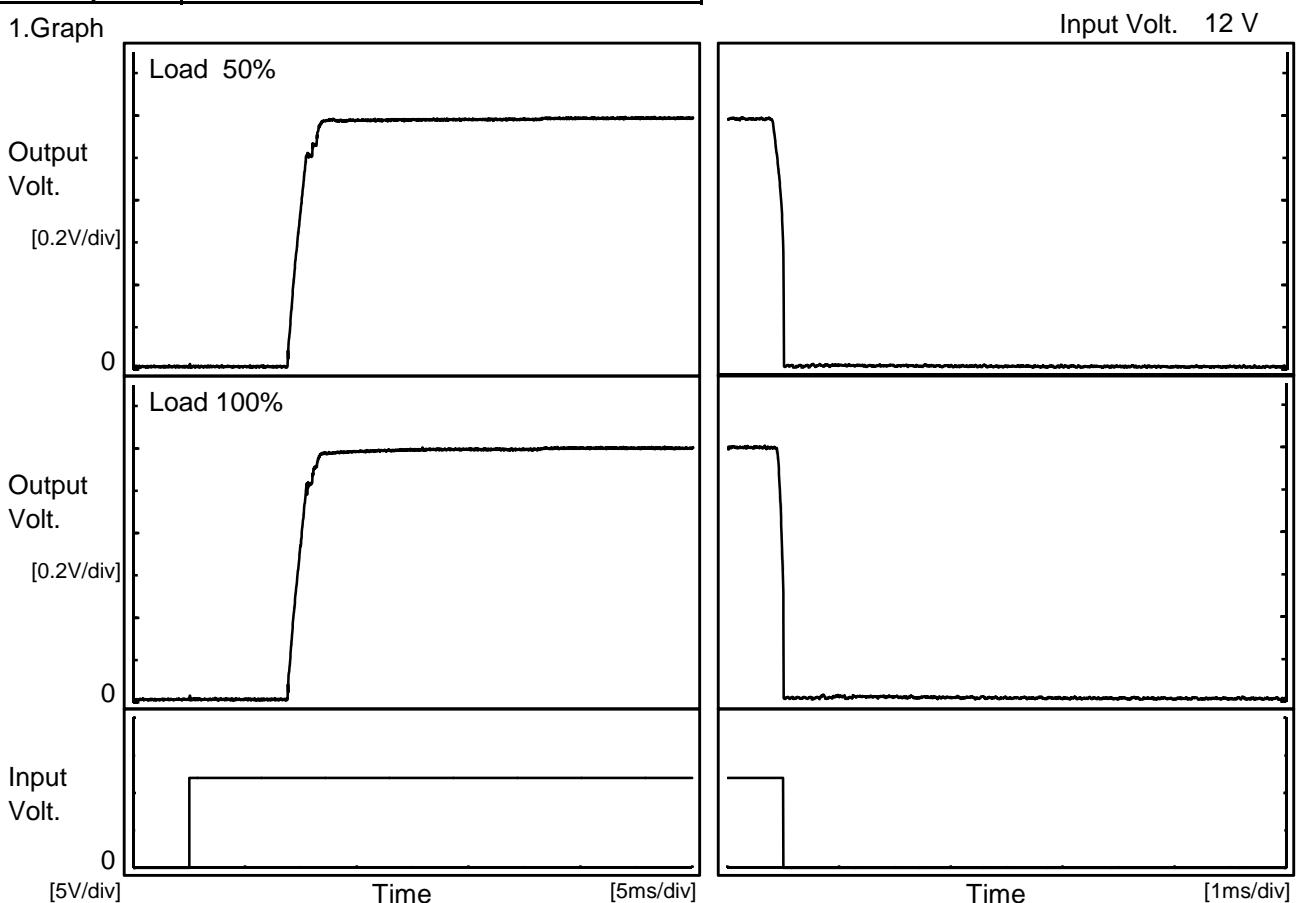
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Model	BRDS100	Temperature 25°C Testing Circuitry Figure A																						
Item	Time Lapse Drift																							
Object	+1.2V100A																							
1.Graph		2.Values																						
<p>Output Voltage [V]</p> <p>Time [H]</p> <p>Input Volt. 12V Load 100%</p>		<table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>1.202</td></tr> <tr><td>0.5</td><td>1.202</td></tr> <tr><td>1.0</td><td>1.202</td></tr> <tr><td>2.0</td><td>1.202</td></tr> <tr><td>3.0</td><td>1.202</td></tr> <tr><td>4.0</td><td>1.202</td></tr> <tr><td>5.0</td><td>1.202</td></tr> <tr><td>6.0</td><td>1.202</td></tr> <tr><td>7.0</td><td>1.202</td></tr> <tr><td>8.0</td><td>1.202</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	1.202	0.5	1.202	1.0	1.202	2.0	1.202	3.0	1.202	4.0	1.202	5.0	1.202	6.0	1.202	7.0	1.202	8.0	1.202
Time since start [H]	Output Voltage [V]																							
0.0	1.202																							
0.5	1.202																							
1.0	1.202																							
2.0	1.202																							
3.0	1.202																							
4.0	1.202																							
5.0	1.202																							
6.0	1.202																							
7.0	1.202																							
8.0	1.202																							

COSEL

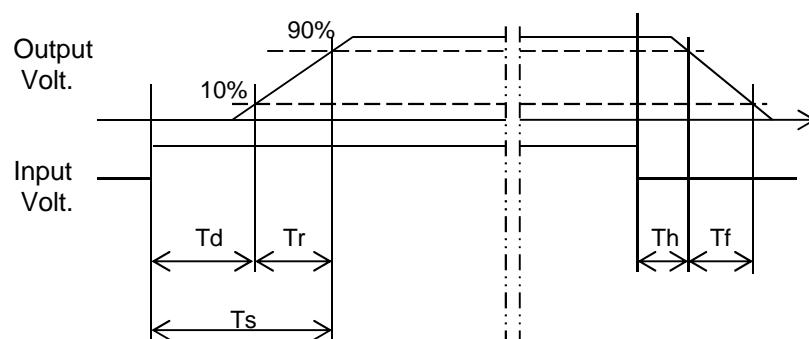
Model	BRDS100	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+1.2V100A		

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		8.9	2.2	11.1	0.1	0.2	
100 %		8.9	2.2	11.1	0.1	0.2	



COSEL

<p>Model BRDS100</p> <p>Item Minimum Input Voltage for Regulated Output Voltage</p> <p>Object +1.2V100A</p>	Testing Circuitry Figure A																																						
	1. Graph	2. Values																																					
	<p>Input Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Legend: ---□--- Load 50% —△— Load 100%</p>	<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Input Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>-40</td><td>4.02</td><td>4.04</td> </tr> <tr> <td>-20</td><td>4.03</td><td>4.06</td> </tr> <tr> <td>0</td><td>4.04</td><td>4.05</td> </tr> <tr> <td>25</td><td>4.04</td><td>4.06</td> </tr> <tr> <td>60</td><td>4.04</td><td>4.06</td> </tr> <tr> <td>85</td><td>4.04</td><td>4.06</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> </tbody> </table>	Ambient Temperature [°C]	Input Voltage [V]		Load 50%	Load 100%	-40	4.02	4.04	-20	4.03	4.06	0	4.04	4.05	25	4.04	4.06	60	4.04	4.06	85	4.04	4.06	--	-	-	--	-	-	--	-	-	--	-	-	--	-
Ambient Temperature [°C]	Input Voltage [V]																																						
	Load 50%	Load 100%																																					
-40	4.02	4.04																																					
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Note: Slanted line shows the range of the rated ambient temperature.

COSEL

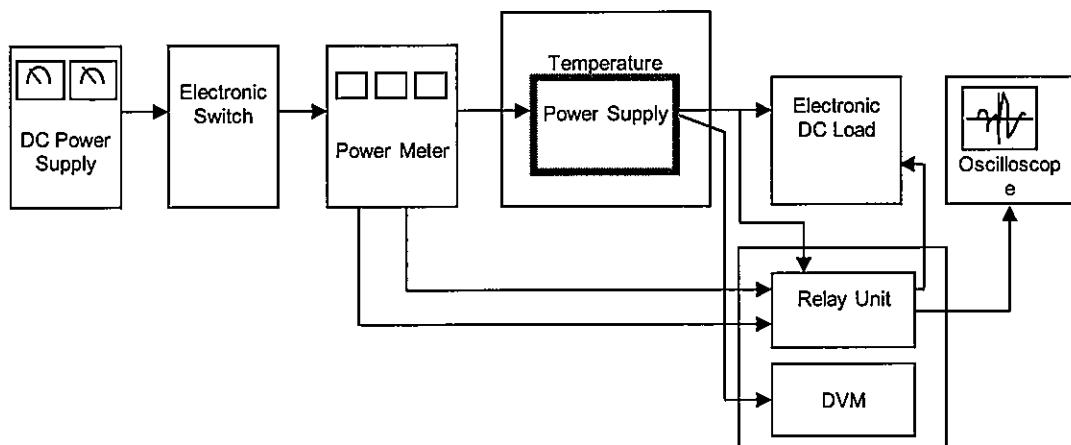


Figure A

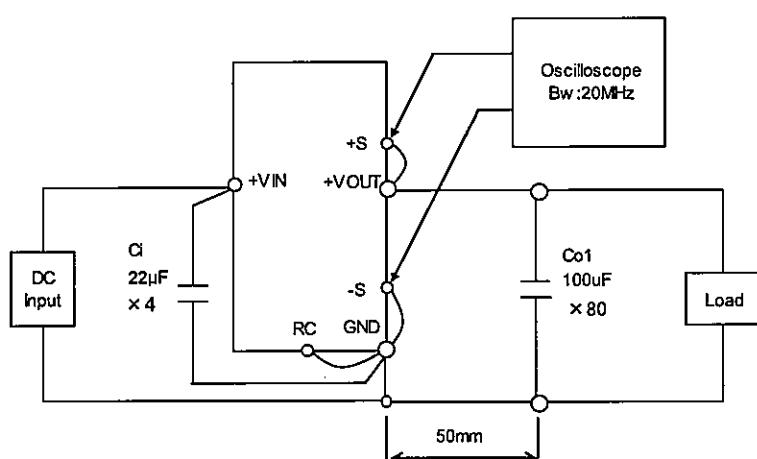


Figure B

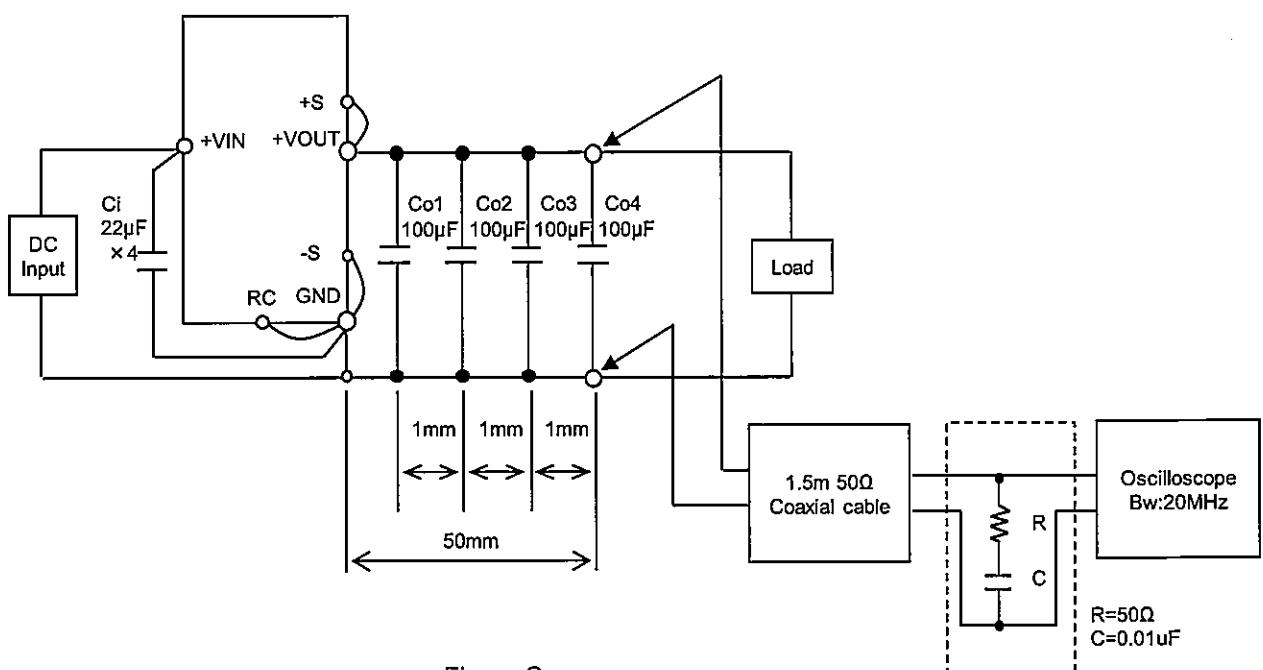


Figure C