

# TEST DATA OF MGFS6483R3

Regulated DC Power Supply  
December 6, 2016

Approved by : Takayuki Fukuda  
Takayuki Fukuda Design Manager

Prepared by : Takaaki Sekiguchi  
Takaaki Sekiguchi Design Engineer

**COSEL CO.,LTD.**

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18	3.309	3.308																																
24	3.309	3.308																																
30	3.309	3.308																																
36	3.309	3.308																																
48	3.309	3.308																																
60	3.309	3.308																																
76	3.309	3.308																																
80	3.309	3.308																																





Model		MGFS6483R3		Temperature 25°C																																																																														
Item		Load Regulation		Testing Circuitry Figure A																																																																														
Object		+3.3V1.6A																																																																																
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Model	MGFS6483R3	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+3.3V1.6A		

Input Volt. 48 V  
Cycle 100 ms

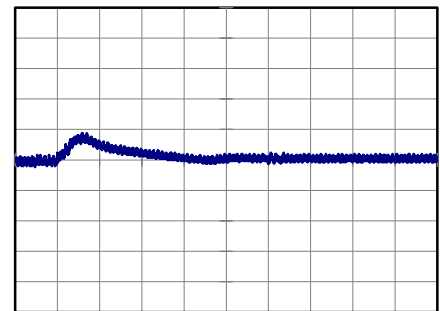
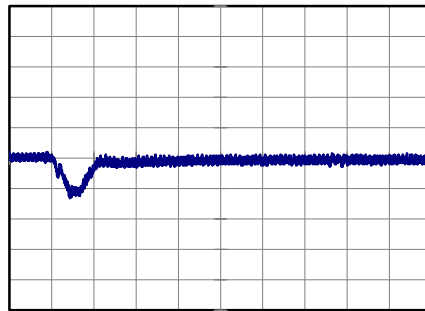
t1, t2 = 100 μs



Min. Load (0A) ←→  
Load 100% (1.6A)

200 mV/div

100 μs/div

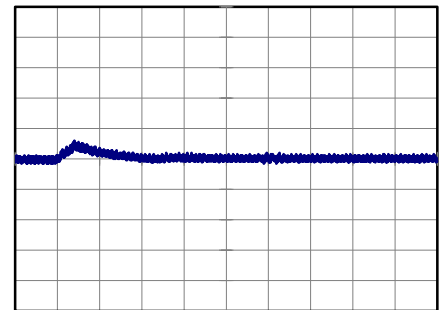
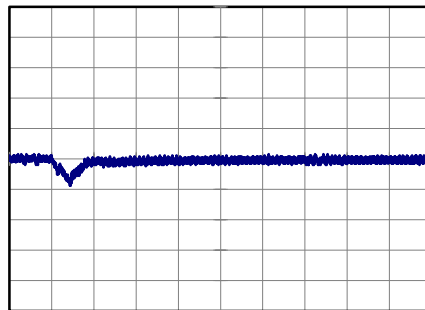


100 μs/div

Min. Load (0A) ←→  
Load 50% (0.8A)

200 mV/div

100 μs/div

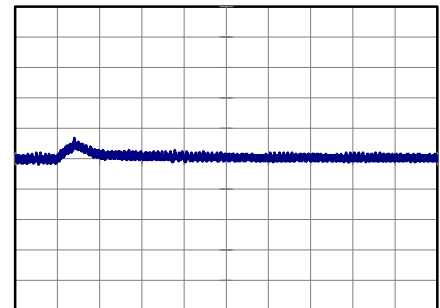
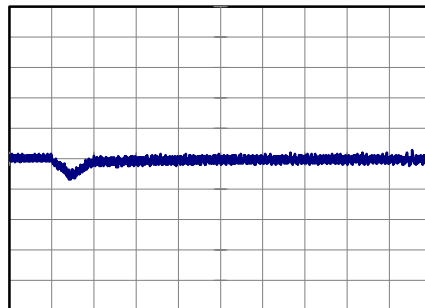


100 μs/div

Load 50% (0.8A) ←→  
Load 100% (1.6A)

200 mV/div

100 μs/div



100 μs/div



<b>COSEL</b>																																								
Model	MGFS6483R3																																							
Item	Ripple Voltage (by Load Current)	Temperature 25°C Testing Circuitry Figure B																																						
Object	+3.3V1.6A																																							
<p>1.Graph</p> <p>             —△— Input Volt. 18V              - - ○ - - Input Volt. 76V         </p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 18 [V]</th> <th>Input Volt. 76 [V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>5</td><td>20</td></tr> <tr><td>0.32</td><td>5</td><td>5</td></tr> <tr><td>0.64</td><td>5</td><td>10</td></tr> <tr><td>0.96</td><td>10</td><td>10</td></tr> <tr><td>1.28</td><td>15</td><td>15</td></tr> <tr><td>1.60</td><td>30</td><td>10</td></tr> <tr><td>1.76</td><td>35</td><td>10</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Ripple Voltage [mV]		Input Volt. 18 [V]	Input Volt. 76 [V]	0.00	5	20	0.32	5	5	0.64	5	10	0.96	10	10	1.28	15	15	1.60	30	10	1.76	35	10	--	-	-	--	-	-	--	-	-	--	-	-
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<p>Model MGFS6483R3</p>		<p>Temperature 25°C Testing Circuitry Figure B</p>																																						
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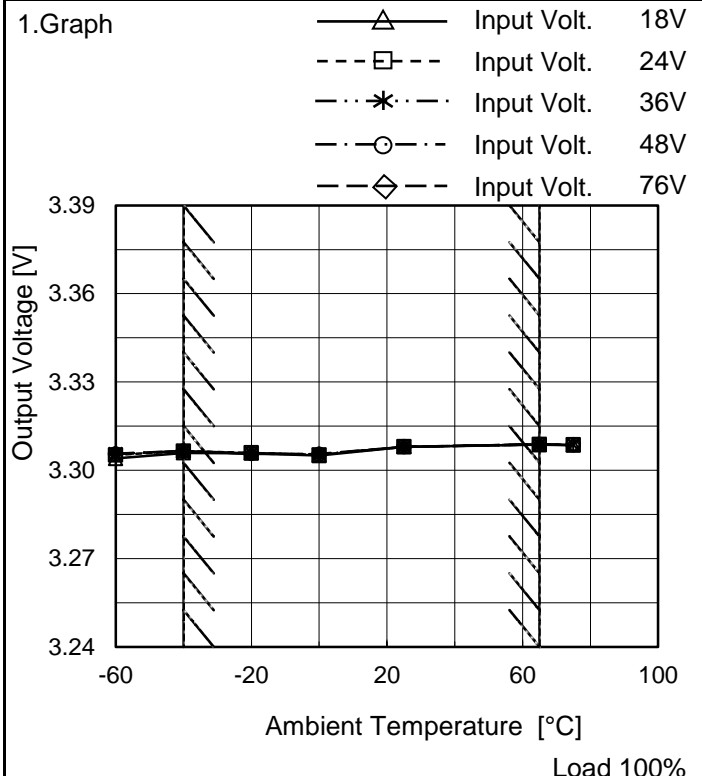


<b>COSEL</b>																																								
Model	MGFS6483R3																																							
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry Figure B																																						
Object	+3.3V1.6A																																							
<p>1.Graph</p> <p style="text-align: center;">Ambient Temperature [°C]</p> <p style="text-align: center;">Input Volt.     48V</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>-60</td><td>10</td><td>15</td></tr> <tr><td>-40</td><td>10</td><td>10</td></tr> <tr><td>-20</td><td>10</td><td>10</td></tr> <tr><td>0</td><td>10</td><td>10</td></tr> <tr><td>25</td><td>10</td><td>10</td></tr> <tr><td>65</td><td>10</td><td>10</td></tr> <tr><td>75</td><td>10</td><td>10</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-60	10	15	-40	10	10	-20	10	10	0	10	10	25	10	10	65	10	10	75	10	10	--	-	-	--	-	-	--	-	-	--	-	-
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<p>Measured by 100 MHz Oscilloscope.                  Note: Slanted line shows the range of the rated ambient temperature.</p>																																								



Model	MGFS6483R3
Item	Ambient Temperature Drift
Object	+3.3V1.6A

Testing Circuitry Figure A



2.Values

Ambient Temperature [°C]	Output Voltage [V]				
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-60	3.304	3.305	3.306	3.306	3.306
-40	3.306	3.307	3.307	3.307	3.307
-20	3.306	3.306	3.306	3.306	3.306
0	3.305	3.305	3.305	3.305	3.306
25	3.308	3.308	3.308	3.308	3.308
65	3.309	3.309	3.309	3.309	3.309
75	3.309	3.309	3.309	3.309	3.309
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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



<b>COSEL</b>		
Model	MGFS6483R3	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3.3V1.6A	

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 : -40 - 65°C

Input Voltage : 18 - 76V

Load Current : 0 - 1.6A

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

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	65	18	0	3.314	±5	±0.2
Minimum Voltage	0	18	1.6	3.305		

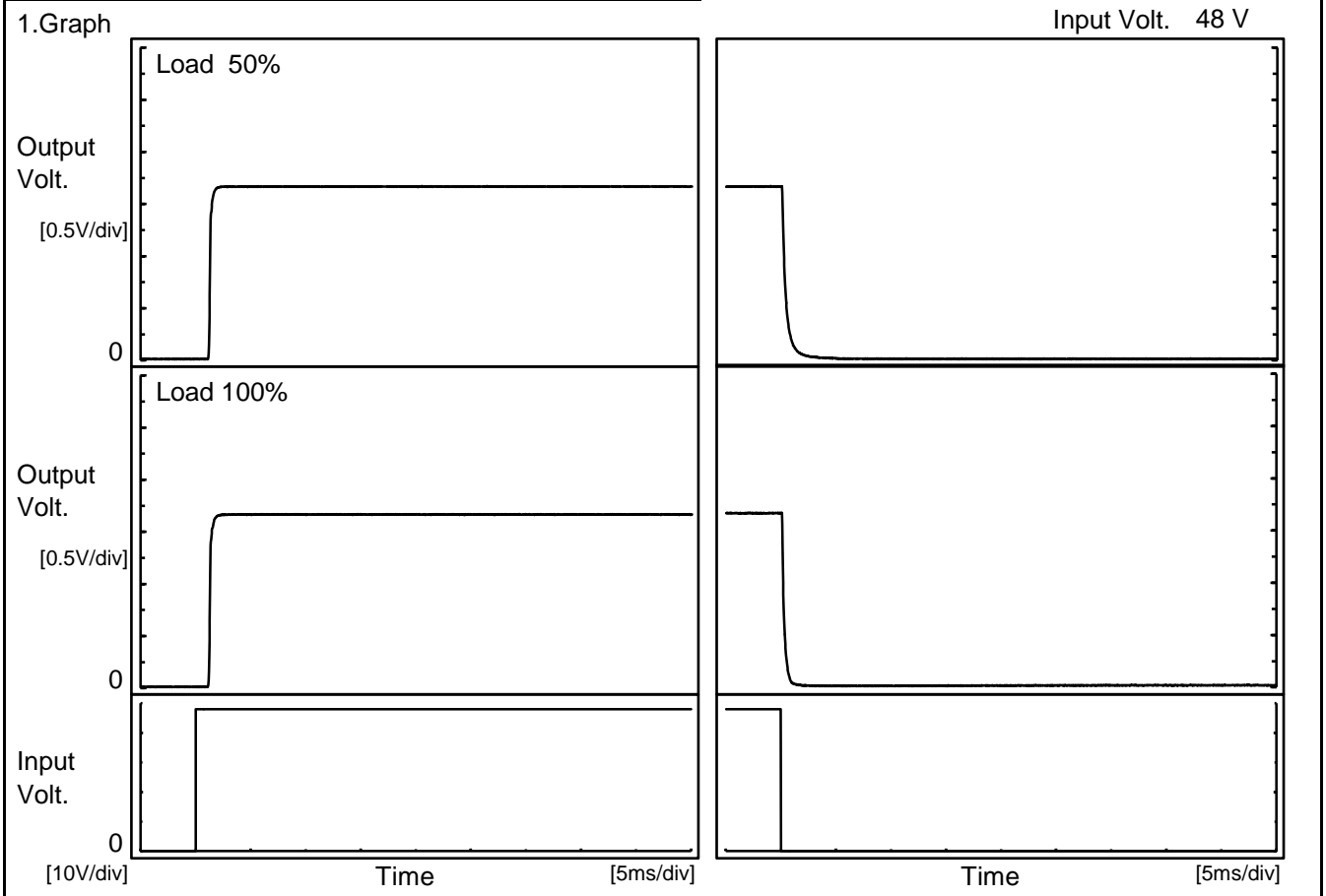


<b>COSEL</b>																								
Model	MGFS6483R3																							
Item	Time Lapse Drift	Temperature 25°C Testing Circuitry Figure A																						
Object	+3.3V1.6A																							
<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p>Input Volt. 48V Load 100%</p>		<p>2.Values</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>3.306</td></tr> <tr><td>0.5</td><td>3.308</td></tr> <tr><td>1.0</td><td>3.308</td></tr> <tr><td>2.0</td><td>3.308</td></tr> <tr><td>3.0</td><td>3.308</td></tr> <tr><td>4.0</td><td>3.308</td></tr> <tr><td>5.0</td><td>3.308</td></tr> <tr><td>6.0</td><td>3.308</td></tr> <tr><td>7.0</td><td>3.308</td></tr> <tr><td>8.0</td><td>3.308</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	3.306	0.5	3.308	1.0	3.308	2.0	3.308	3.0	3.308	4.0	3.308	5.0	3.308	6.0	3.308	7.0	3.308	8.0	3.308
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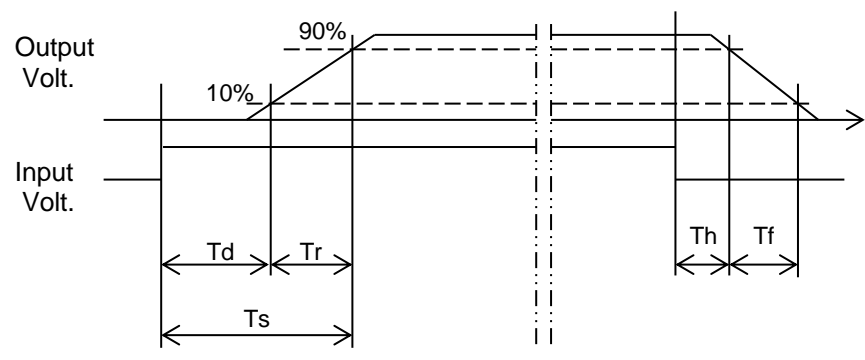
Model		MGFS6483R3	Temperature	25°C
Item		Rise and Fall Time	Testing Circuitry	Figure A
Object		+3.3V1.6A		



2.Values

Load	Time	Td	Tr	Ts	Th	Tf
50 %		1.2	0.3	1.5	0.1	0.9
100 %		1.2	0.3	1.5	0.1	0.5

[ms]

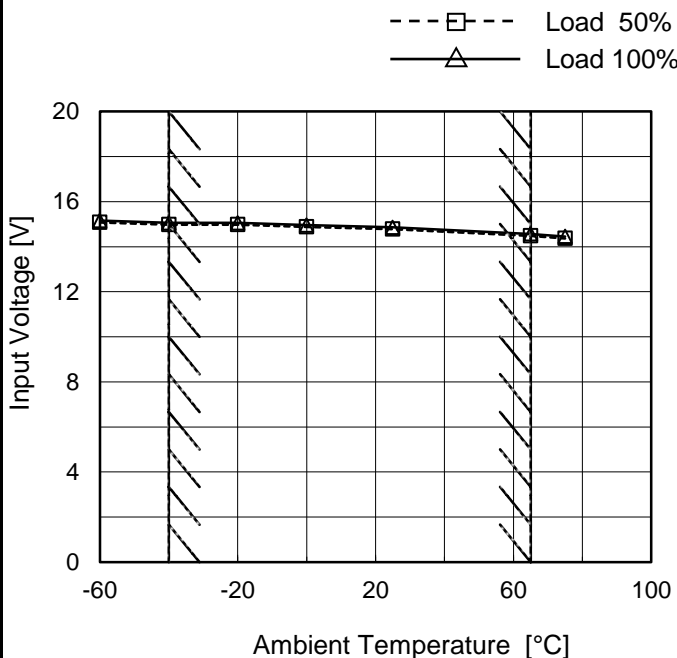




Model	MGFS6483R3
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3.3V1.6A

Testing Circuitry Figure A

1.Graph



2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	15.1	15.2
-40	15.0	15.1
-20	15.0	15.1
0	14.9	15.0
25	14.8	14.9
65	14.5	14.6
75	14.4	14.5
--	-	-
--	-	-
--	-	-
--	-	-

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



<p>Model MGFS6483R3</p>		<p>Temperature 25°C Testing Circuitry Figure A</p>																																																																																			
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<p>Model MGFS6483R3</p>		<p>Temperature 25°C Testing Circuitry Figure A</p>																																																																													
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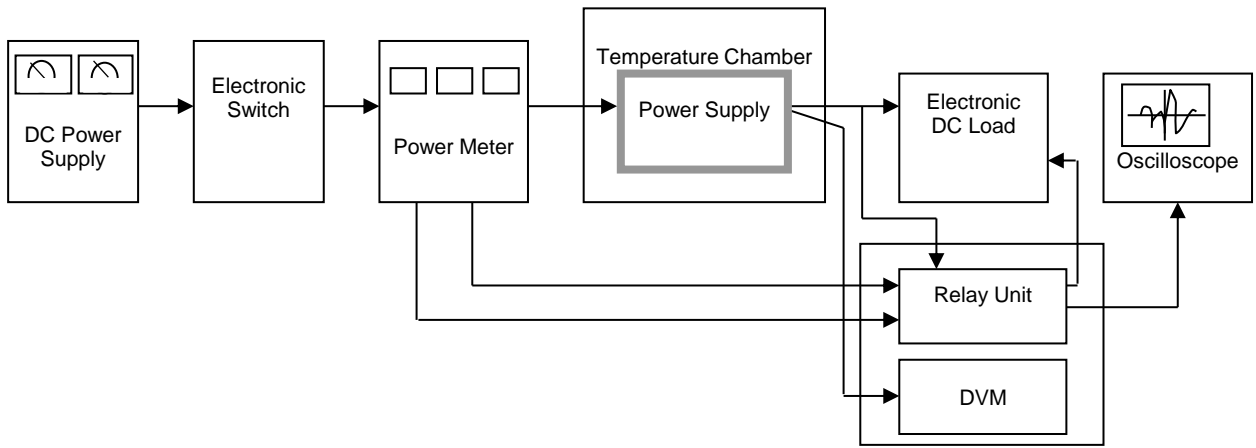


Figure A

Data Acquisition/Control Unit

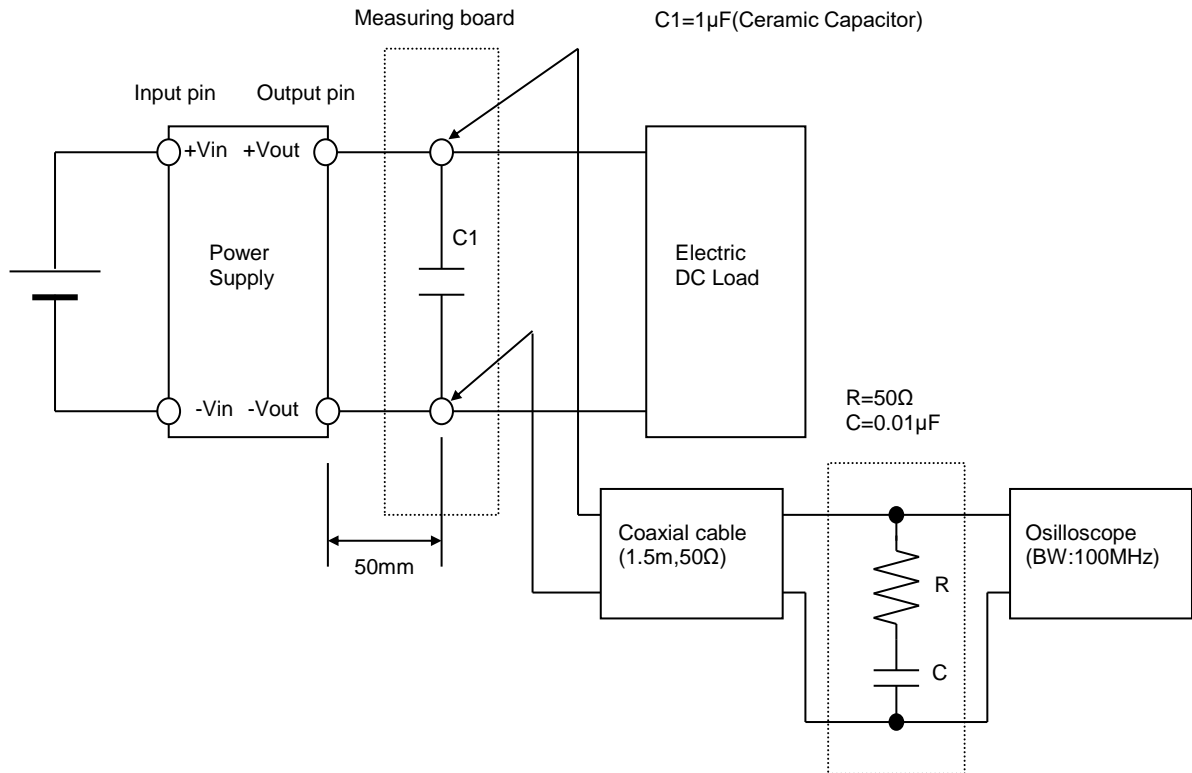


Figure B (Ripple and Ripple noise Characteristic)