



TEST DATA OF MHFS3483R3

Regulated DC Power Supply
May 29, 2020

Approved by : Kenichi Tsukada
Kenichi Tsukada Design Manager

Prepared by : Yoshihiko Saeki
Yoshihiko Saeki Design Engineer

COSEL CO.,LTD.



CONTENTS

1.Input Current (by Load Current)	1
2.Efficiency (by Load Current)	2
3.Line Regulation	3
4.Load Regulation	4
5.Ripple-Noise	4
6.Dynamic Load Response	5
7.Rise and Fall Time	6
8.Overcurrent Protection	7
9.Ambient Temperature Drift	8
10.Minimum Input Voltage for Regulated Output Voltage	8
11.Switching frequency (by Load Current)	9
12.Figure of Testing Circuitry	10

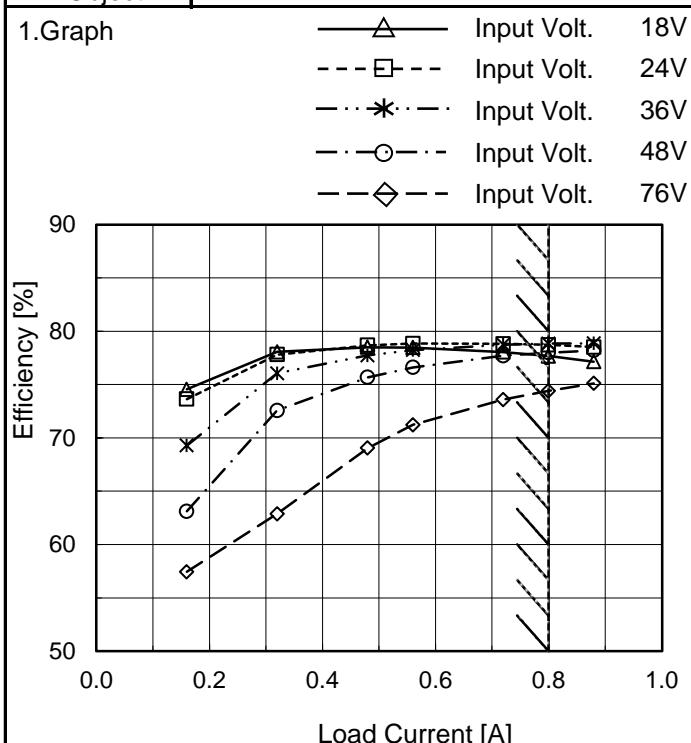
(Final Page 10)

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Model	MHFS3483R3	Temperature 25°C Testing Circuitry Figure A																																																																																		
Item	Input Current (by Load Current)																																																																																			
Object	<hr/>																																																																																			
1.Graph	<p>—△— Input Volt. 18V - - -□- - Input Volt. 24V - - -*-- Input Volt. 36V - - -○-- Input Volt. 48V - - -◇-- Input Volt. 76V</p> <table border="1"> <caption>Data points estimated from Graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>18[V]</th> <th>24[V]</th> <th>36[V]</th> <th>48[V]</th> <th>76[V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>0.004</td><td>0.004</td><td>0.004</td><td>0.004</td><td>0.004</td></tr> <tr><td>0.16</td><td>0.039</td><td>0.030</td><td>0.021</td><td>0.017</td><td>0.012</td></tr> <tr><td>0.32</td><td>0.075</td><td>0.057</td><td>0.039</td><td>0.030</td><td>0.022</td></tr> <tr><td>0.48</td><td>0.112</td><td>0.084</td><td>0.057</td><td>0.044</td><td>0.030</td></tr> <tr><td>0.56</td><td>0.131</td><td>0.098</td><td>0.066</td><td>0.050</td><td>0.034</td></tr> <tr><td>0.72</td><td>0.169</td><td>0.126</td><td>0.084</td><td>0.064</td><td>0.043</td></tr> <tr><td>0.80</td><td>0.188</td><td>0.140</td><td>0.093</td><td>0.071</td><td>0.047</td></tr> <tr><td>0.88</td><td>0.209</td><td>0.154</td><td>0.102</td><td>0.077</td><td>0.051</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	18[V]	24[V]	36[V]	48[V]	76[V]	0.00	0.004	0.004	0.004	0.004	0.004	0.16	0.039	0.030	0.021	0.017	0.012	0.32	0.075	0.057	0.039	0.030	0.022	0.48	0.112	0.084	0.057	0.044	0.030	0.56	0.131	0.098	0.066	0.050	0.034	0.72	0.169	0.126	0.084	0.064	0.043	0.80	0.188	0.140	0.093	0.071	0.047	0.88	0.209	0.154	0.102	0.077	0.051	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-											
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Model	MHFS3483R3
Item	Efficiency (by Load Current)
Object	_____


 Temperature 25°C
 Testing Circuitry Figure A

2.Values

Load Current [A]	Efficiency [%]				
	18[V]	24[V]	36[V]	48[V]	76[V]
0.00	-	-	-	-	-
0.16	74.6	73.6	69.3	63.1	57.4
0.32	78.1	77.8	76.0	72.6	62.9
0.48	78.5	78.7	77.7	75.7	69.0
0.56	78.5	78.8	78.2	76.6	71.2
0.72	78.0	78.8	78.7	77.7	73.6
0.80	77.7	78.7	78.8	78.0	74.4
0.88	77.2	78.5	78.9	78.2	75.1
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

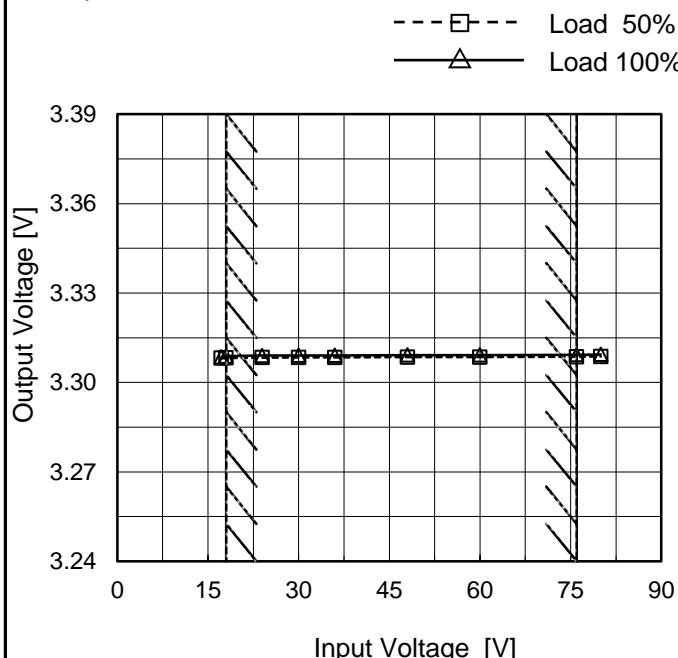
Note: Slanted line shows the range of the rated load current.

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Model	MHFS3483R3
Item	Line Regulation
Object	+3.3V0.8A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
17.2	3.308	3.309
18.0	3.308	3.309
24.0	3.308	3.309
30.0	3.308	3.309
36.0	3.308	3.309
48.0	3.309	3.309
60.0	3.309	3.309
76.0	3.309	3.309
80.0	3.309	3.309

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

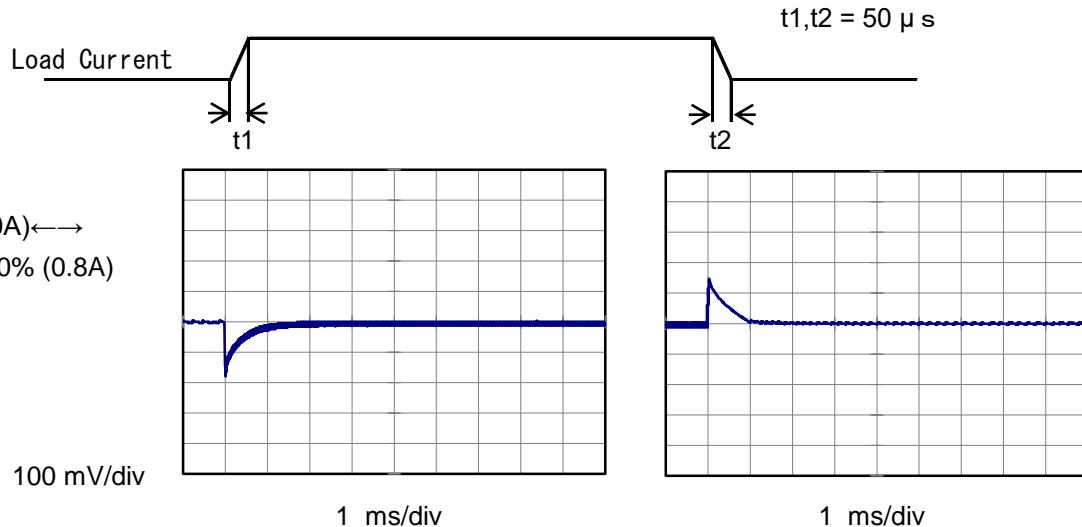
COSEL

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Item	Load Regulation	Testing Circuitry	Figure A																																																																													
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1.Graph	<p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Input Volt.</p> <ul style="list-style-type: none"> 18V 24V 36V 48V 76V 																																																																															
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Item	Ripple-Noise	Temperature	25°C																																																																													
Object	+3.3V0.8A	Testing Circuitry	Figure B																																																																													
1.Graph	<p>Input Voltage 48V Load 100%</p> <p>10[mV/div]</p> <p>1[μs/div]</p>																																																																															

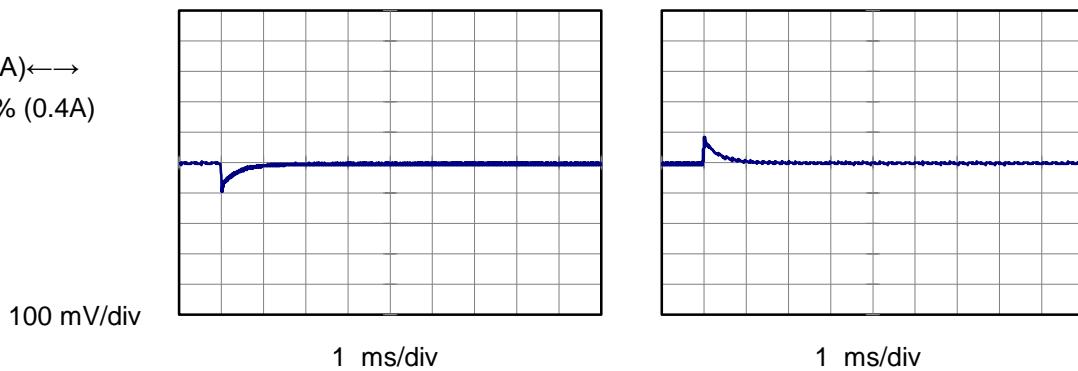
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Model	MHFS3483R3	Temperature Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	+3.3V0.8A	

Input Volt. 48 V
 Cycle 100 ms



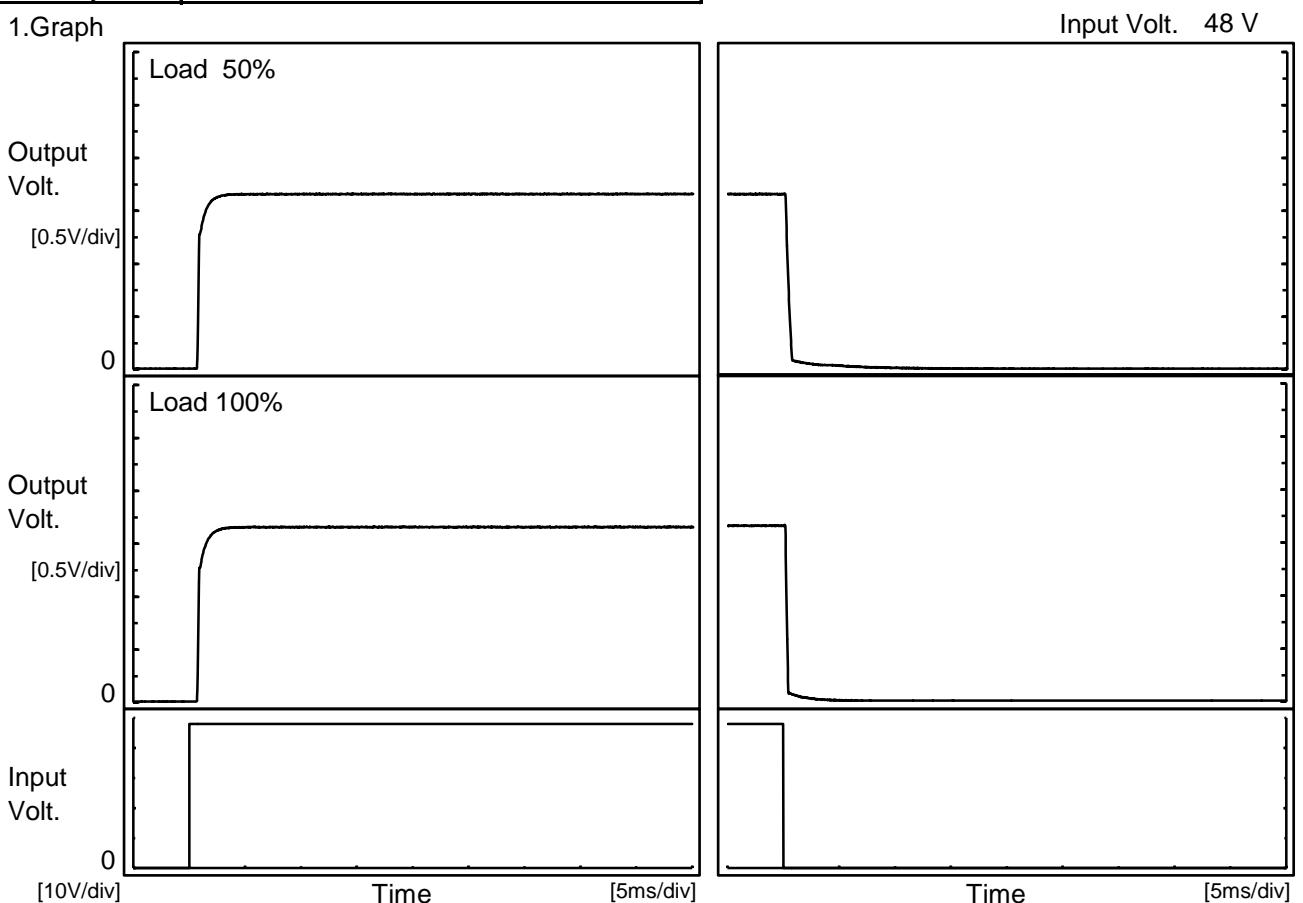
Min.Load (0A) →
 Load 50% (0.4A)



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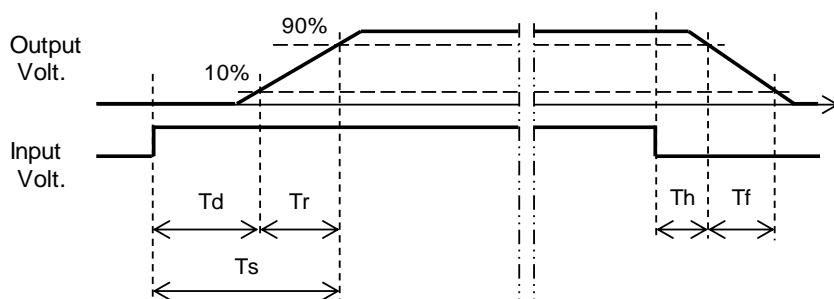
Model	MHFS3483R3	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+3.3V0.8A		

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		0.8	0.7	1.5	0.2	0.5	
100 %		0.8	0.8	1.6	0.2	0.2	



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Model	MHFS3483R3	Temperature Testing Circuitry	25°C Figure A																																																																																			
Item	Overcurrent Protection																																																																																					
Object	+3.3V0.8A																																																																																					
1.Graph	<p>The graph plots Output Voltage [V] on the Y-axis (0.0 to 4.0) against Load Current [A] on the X-axis (0.0 to 2.5). Five curves are shown for different input voltages: 18V (black), 24V (blue), 36V (green), 48V (red), and 76V (magenta). All curves show a sharp drop in output voltage as load current increases beyond the rated value (approximately 1.2A for 18V and 24V, 1.4A for 36V, 1.6A for 48V, and 1.8A for 76V). A slanted line on the graph indicates the range of the rated load current.</p>																																																																																					
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Note: Slanted line shows the range of the rated load current.



Model	MHFS3483R3	Testing Circuitry Figure A			
Item	Ambient Temperature Drift				
Object	+3.3V0.8A				

1.Values

Ambient Temperature[°C]	Output Voltage [V]				
	Input Volt. 18V	Input Volt. 24V	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V
-40	3.298	3.299	3.299	3.299	3.299
25	3.307	3.308	3.308	3.308	3.308
75	3.316	3.317	3.317	3.317	3.317

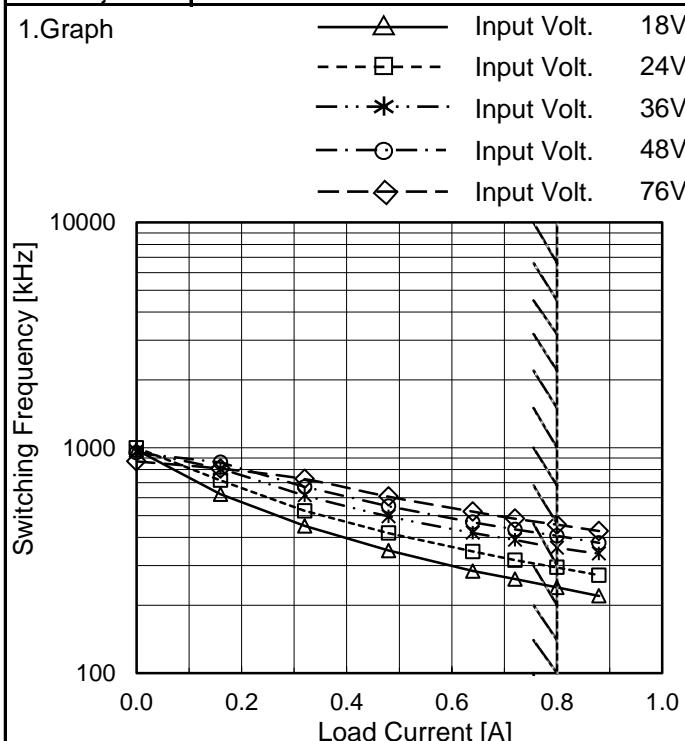
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A			
Object	+3.3V0.8A				

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	14.5	14.8
25	14.4	14.5
75	14.0	14.1

COSEL

Model	MHFS3483R3
Item	Switching frequency (by Load Current)
Object	+3.3V0.8A



Temperature 25°C
Testing Circuitry Figure A

2.Values

Load Current [A]	Switching Frequency [kHz]				
	18[V]	24[V]	36[V]	48[V]	76[V]
0.00	977	1000	962	950	870
0.16	622	717	804	861	808
0.32	450	525	615	670	726
0.48	350	418	496	550	607
0.64	283	346	419	467	521
0.72	261	317	390	434	484
0.80	240	295	360	406	456
0.88	220	272	339	378	427
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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

When load current is low, MH operates intermittently, so switching frequency would not become constant.

COSEL

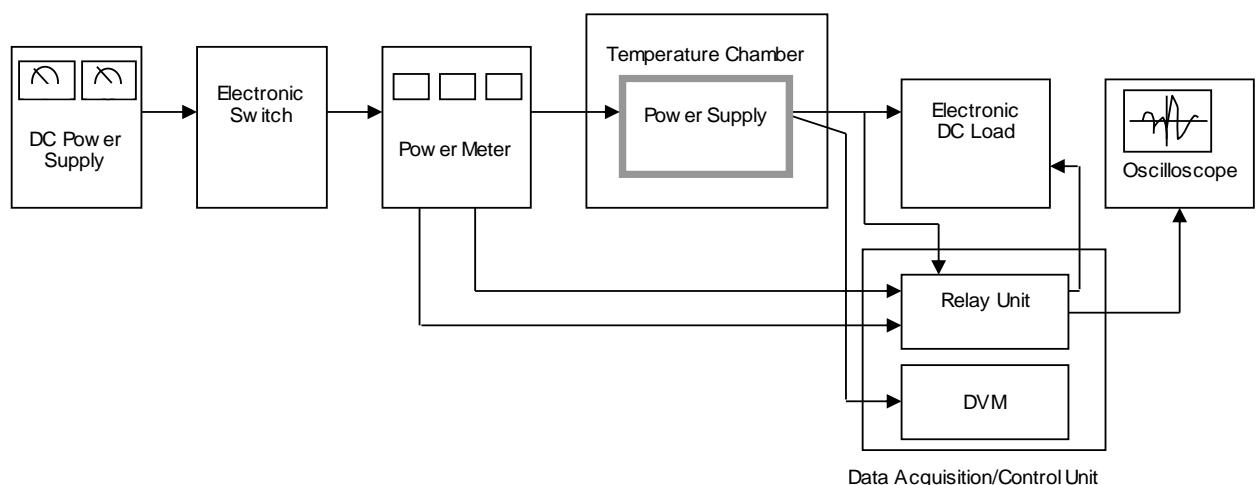


Figure A

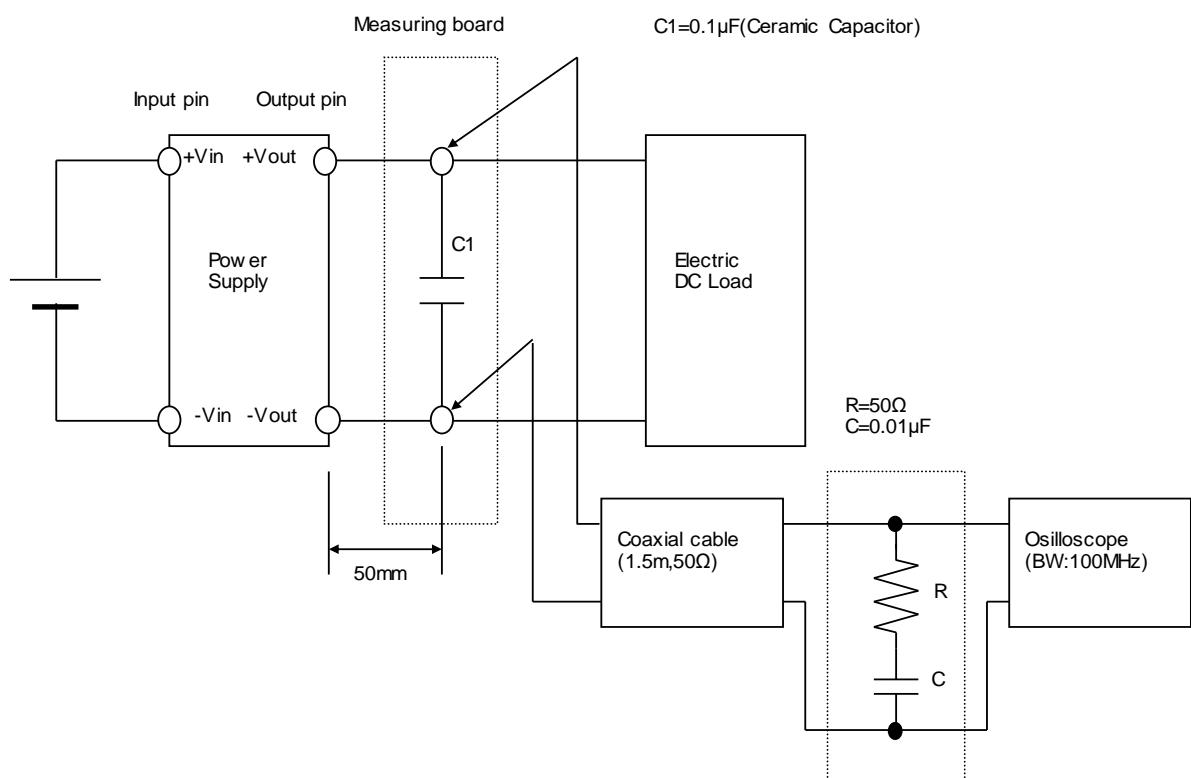


Figure B