

TEST DATA OF MUS1R5053R3

Regulated DC Power Supply
February 4, 2025

Approved by : Kenichi Tsukada
Design Manager

Prepared by : Soichiro Kawaguchi
Design Engineer

COSEL CO.,LTD.



CONTENTS

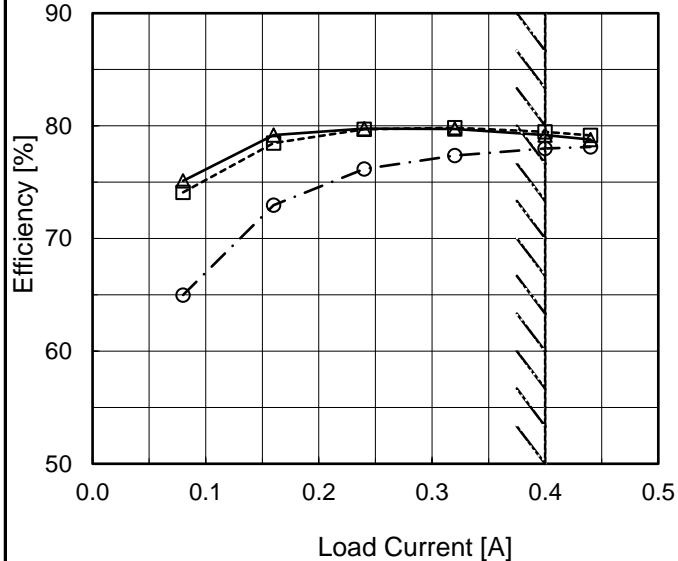
1.Input Current (by Load Current)	1
2.Efficiency (by Load Current)	2
3.Line Regulation	3
4.Load Regulation	4
5.Ripple-Noise	4
6.Dynamic Load Response	5
7.Rise and Fall Time	6
8.Overcurrent Protection	7
9.Ambient Temperature Drift	8
10.Minimum Input Voltage for Regulated Output Voltage	8
11.Figure of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

(Final Page 9)

COSEL

Model	MUS1R5053R3																																																					
Item	Input Current (by Load Current)	Temperature 25°C	Testing Circuitry Figure A																																																			
Object	_____																																																					
1.Graph	<p style="text-align: center;"> —△— Input Volt. 4.5V ---□--- Input Volt. 5V ---○--- Input Volt. 9V </p>	2.Values																																																				
			<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input Current [A]</th> </tr> <tr> <th>Input Volt. 4.5[V]</th> <th>Input Volt. 5[V]</th> <th>Input Volt. 9[V]</th> </tr> </thead> <tbody> <tr> <td>0.00</td><td>0.010</td><td>0.010</td><td>0.009</td></tr> <tr> <td>0.08</td><td>0.080</td><td>0.073</td><td>0.046</td></tr> <tr> <td>0.16</td><td>0.151</td><td>0.137</td><td>0.082</td></tr> <tr> <td>0.24</td><td>0.225</td><td>0.203</td><td>0.117</td></tr> <tr> <td>0.32</td><td>0.301</td><td>0.270</td><td>0.154</td></tr> <tr> <td>0.40</td><td>0.380</td><td>0.340</td><td>0.191</td></tr> <tr> <td>0.44</td><td>0.421</td><td>0.376</td><td>0.210</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>	Load Current [A]	Input Current [A]			Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	0.00	0.010	0.010	0.009	0.08	0.080	0.073	0.046	0.16	0.151	0.137	0.082	0.24	0.225	0.203	0.117	0.32	0.301	0.270	0.154	0.40	0.380	0.340	0.191	0.44	0.421	0.376	0.210	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Input Current [A]																																																					
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]																																																			
0.00	0.010	0.010	0.009																																																			
0.08	0.080	0.073	0.046																																																			
0.16	0.151	0.137	0.082																																																			
0.24	0.225	0.203	0.117																																																			
0.32	0.301	0.270	0.154																																																			
0.40	0.380	0.340	0.191																																																			
0.44	0.421	0.376	0.210																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
<p>Note: Slanted line shows the range of the rated load current.</p>																																																						

COSEL

Model	MUS1R5053R3																																																					
Item	Efficiency (by Load Current)																																																					
Object	<hr/>																																																					
1. Graph																																																						
—△— Input Volt. 4.5V - - □ - - Input Volt. 5V - - ○ - - Input Volt. 9V			2. Values																																																			
																																																						
Note: Slanted line shows the range of the rated load current.																																																						
<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Efficiency [%]</th> </tr> <tr> <th>Input Volt. 4.5[V]</th> <th>Input Volt. 5[V]</th> <th>Input Volt. 9[V]</th> </tr> </thead> <tbody> <tr> <td>0.00</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>0.08</td> <td>75.1</td> <td>74.1</td> <td>65.0</td> </tr> <tr> <td>0.16</td> <td>79.2</td> <td>78.5</td> <td>73.0</td> </tr> <tr> <td>0.24</td> <td>79.8</td> <td>79.7</td> <td>76.2</td> </tr> <tr> <td>0.32</td> <td>79.7</td> <td>79.8</td> <td>77.4</td> </tr> <tr> <td>0.40</td> <td>79.2</td> <td>79.5</td> <td>78.0</td> </tr> <tr> <td>0.44</td> <td>78.8</td> <td>79.2</td> <td>78.1</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>				Load Current [A]	Efficiency [%]			Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	0.00	-	-	-	0.08	75.1	74.1	65.0	0.16	79.2	78.5	73.0	0.24	79.8	79.7	76.2	0.32	79.7	79.8	77.4	0.40	79.2	79.5	78.0	0.44	78.8	79.2	78.1	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Efficiency [%]																																																					
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]																																																			
0.00	-	-	-																																																			
0.08	75.1	74.1	65.0																																																			
0.16	79.2	78.5	73.0																																																			
0.24	79.8	79.7	76.2																																																			
0.32	79.7	79.8	77.4																																																			
0.40	79.2	79.5	78.0																																																			
0.44	78.8	79.2	78.1																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			

COSEL

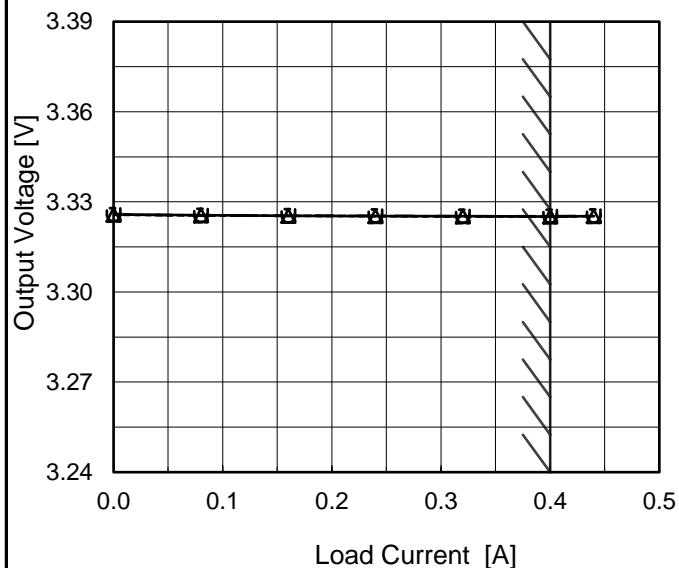
Model	MUS1R5053R3																																	
Item	Line Regulation	Temperature 25°C Testing Circuitry Figure A																																
Object	+3.3V0.4A																																	
1.Graph																																		
<p>The graph plots Output Voltage [V] on the y-axis (3.24 to 3.39) against Input Voltage [V] on the x-axis (3 to 11). A horizontal dashed line at 3.325V represents the output voltage. Two slanted lines indicate the input voltage range. Data points are shown at various input voltages, all corresponding to an output voltage of 3.325V.</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>4.0</td><td>3.325</td></tr> <tr><td>4.5</td><td>3.325</td></tr> <tr><td>5.0</td><td>3.325</td></tr> <tr><td>6.0</td><td>3.325</td></tr> <tr><td>7.0</td><td>3.325</td></tr> <tr><td>8.0</td><td>3.325</td></tr> <tr><td>9.0</td><td>3.325</td></tr> <tr><td>10.0</td><td>3.325</td></tr> </tbody> </table>		Input Voltage [V]	Output Voltage [V]	4.0	3.325	4.5	3.325	5.0	3.325	6.0	3.325	7.0	3.325	8.0	3.325	9.0	3.325	10.0	3.325															
Input Voltage [V]	Output Voltage [V]																																	
4.0	3.325																																	
4.5	3.325																																	
5.0	3.325																																	
6.0	3.325																																	
7.0	3.325																																	
8.0	3.325																																	
9.0	3.325																																	
10.0	3.325																																	
2.Values																																		
<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>4.0</td><td>3.325</td><td>3.326</td></tr> <tr><td>4.5</td><td>3.325</td><td>3.326</td></tr> <tr><td>5.0</td><td>3.325</td><td>3.326</td></tr> <tr><td>6.0</td><td>3.325</td><td>3.326</td></tr> <tr><td>7.0</td><td>3.325</td><td>3.326</td></tr> <tr><td>8.0</td><td>3.325</td><td>3.326</td></tr> <tr><td>9.0</td><td>3.325</td><td>3.326</td></tr> <tr><td>10.0</td><td>3.325</td><td>3.326</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	4.0	3.325	3.326	4.5	3.325	3.326	5.0	3.325	3.326	6.0	3.325	3.326	7.0	3.325	3.326	8.0	3.325	3.326	9.0	3.325	3.326	10.0	3.325	3.326	--	-	-
Input Voltage [V]	Output Voltage [V]																																	
	Load 50%	Load 100%																																
4.0	3.325	3.326																																
4.5	3.325	3.326																																
5.0	3.325	3.326																																
6.0	3.325	3.326																																
7.0	3.325	3.326																																
8.0	3.325	3.326																																
9.0	3.325	3.326																																
10.0	3.325	3.326																																
--	-	-																																
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																		

COSEL

Model	MUS1R5053R3
Item	Load Regulation
Object	+3.3V0.4A

1.Graph

—▲— Input Volt. 4.5V
 - - □ - - Input Volt. 5V
 - - ○ - - Input Volt. 9V



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

 Temperature 25°C
 Testing Circuitry Figure A

2.Values

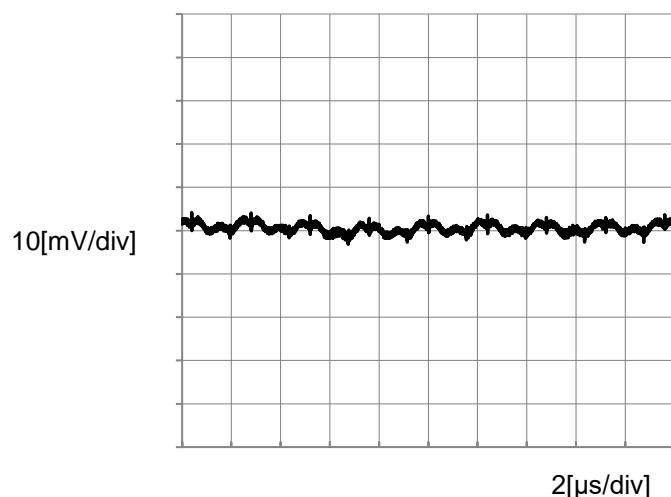
Load Current [A]	Output Voltage [V]		
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]
0.00	3.326	3.326	3.326
0.08	3.326	3.326	3.326
0.16	3.325	3.325	3.325
0.24	3.325	3.325	3.325
0.32	3.325	3.325	3.325
0.40	3.325	3.325	3.325
0.44	3.325	3.325	3.325
--	--	--	--
--	--	--	--
--	--	--	--
--	--	--	--

Item	Ripple-Noise
Object	+3.3V0.4A

 Temperature 25°C
 Testing Circuitry Figure B

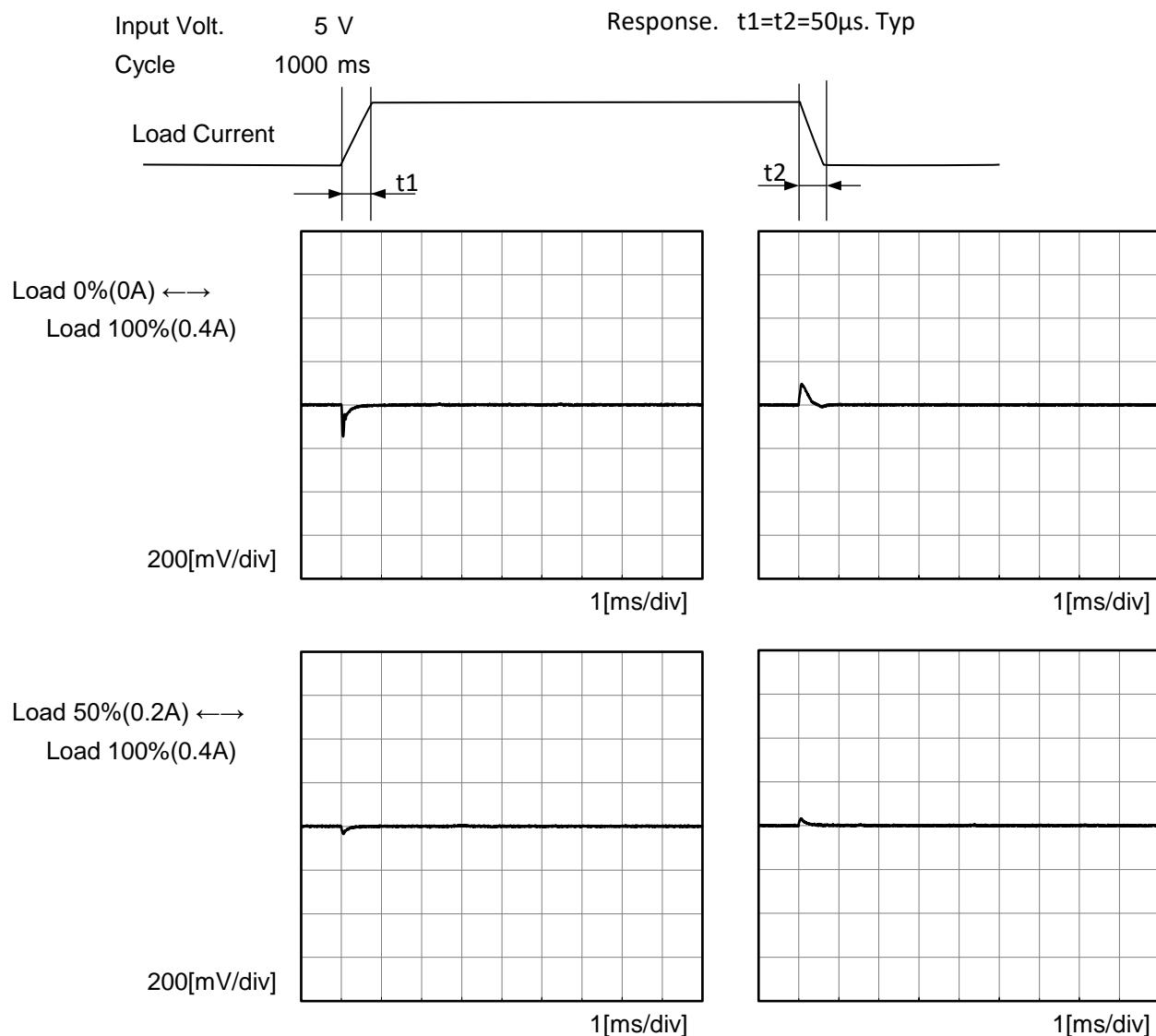
1.Graph

Input Voltage 5V
 Load 100%



COSEL

Model		MUS1R5053R3	Temperature Testing Circuitry	25°C Figure A
Item		Dynamic Load Response		
Object		+3.3V0.4A		

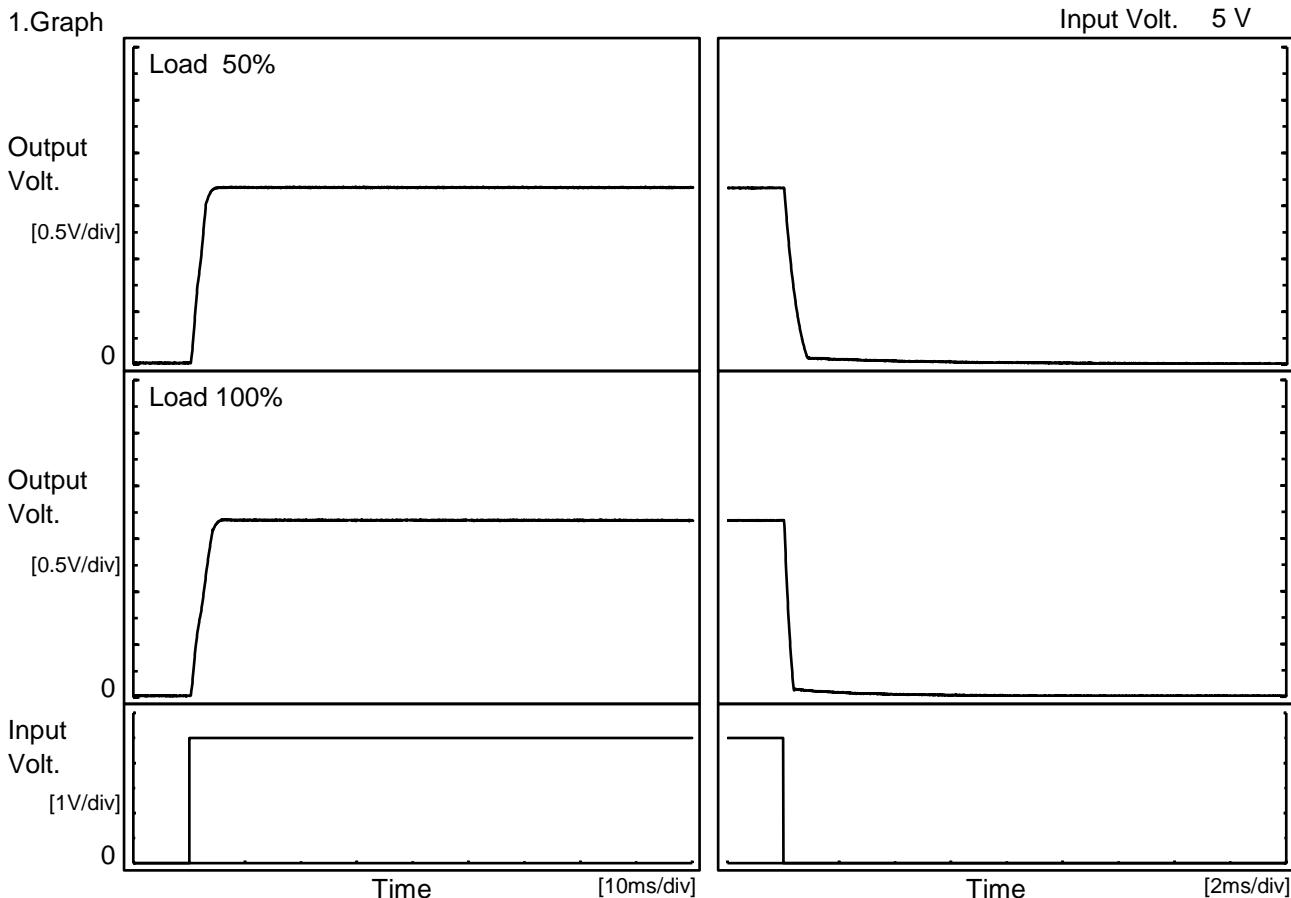


COSEL

Model	MUS1R5053R3
Item	Rise and Fall Time
Object	+3.3V0.4A

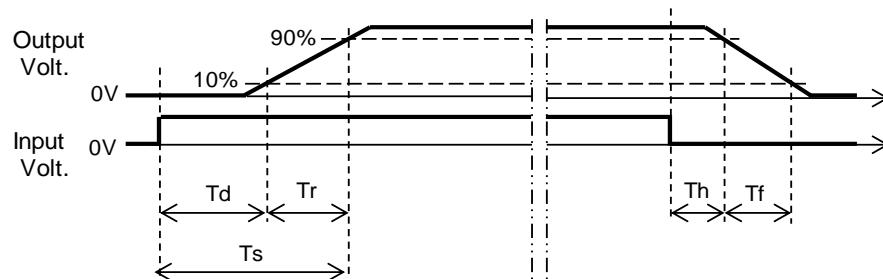
Temperature 25°C
Testing Circuitry Figure A

1. Graph



2. Values

Load	Time	T_d	T_r	T_s	T_h	T_f
50 %		0.7	2.3	3.0	0.1	0.7
100 %		0.7	3.3	4.0	0.1	0.3



COSEL

Model	MUS1R5053R3																																																										
Item	Overcurrent Protection	Temperature Testing Circuitry	25°C Figure A																																																								
Object	+3.3V0.4A																																																										
1.Graph	<p>Input Volt. 4.5V Input Volt. 5V Input Volt. 9V</p> <p>Output Voltage [V]</p> <p>Load Current [A]</p>	<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="3">Load Current [A]</th> </tr> <tr> <th>Input Volt. 4.5[V]</th> <th>Input Volt. 5[V]</th> <th>Input Volt. 9[V]</th> </tr> </thead> <tbody> <tr><td>3.14</td><td>0.61</td><td>0.63</td><td>0.70</td></tr> <tr><td>2.97</td><td>0.62</td><td>0.64</td><td>0.71</td></tr> <tr><td>2.64</td><td>0.65</td><td>0.67</td><td>0.75</td></tr> <tr><td>2.31</td><td>0.69</td><td>0.71</td><td>0.79</td></tr> <tr><td>1.98</td><td>0.73</td><td>0.75</td><td>0.82</td></tr> <tr><td>1.65</td><td>0.78</td><td>0.80</td><td>0.87</td></tr> <tr><td>1.32</td><td>0.83</td><td>0.85</td><td>0.93</td></tr> <tr><td>0.99</td><td>0.89</td><td>0.90</td><td>0.98</td></tr> <tr><td>0.66</td><td>0.95</td><td>0.97</td><td>1.04</td></tr> <tr><td>0.33</td><td>1.02</td><td>1.04</td><td>1.10</td></tr> <tr><td>0.00</td><td>1.12</td><td>1.13</td><td>1.18</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Output Voltage [V]	Load Current [A]			Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	3.14	0.61	0.63	0.70	2.97	0.62	0.64	0.71	2.64	0.65	0.67	0.75	2.31	0.69	0.71	0.79	1.98	0.73	0.75	0.82	1.65	0.78	0.80	0.87	1.32	0.83	0.85	0.93	0.99	0.89	0.90	0.98	0.66	0.95	0.97	1.04	0.33	1.02	1.04	1.10	0.00	1.12	1.13	1.18	--	-	-	-
Output Voltage [V]	Load Current [A]																																																										
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]																																																								
3.14	0.61	0.63	0.70																																																								
2.97	0.62	0.64	0.71																																																								
2.64	0.65	0.67	0.75																																																								
2.31	0.69	0.71	0.79																																																								
1.98	0.73	0.75	0.82																																																								
1.65	0.78	0.80	0.87																																																								
1.32	0.83	0.85	0.93																																																								
0.99	0.89	0.90	0.98																																																								
0.66	0.95	0.97	1.04																																																								
0.33	1.02	1.04	1.10																																																								
0.00	1.12	1.13	1.18																																																								
--	-	-	-																																																								
	<p>Note: Slanted line shows the range of the rated load current.</p>																																																										



Model	MUS1R5053R3	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+3.3V0.4A	

1.Values

Load 100%

Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 4.5V	Input Volt. 5V	Input Volt. 9V
-40	3.295	3.296	3.296
25	3.324	3.325	3.325
85	3.332	3.332	3.332

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+3.3V0.4A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	3.1	3.0
25	3.1	3.0
85	3.1	3.1

COSEL

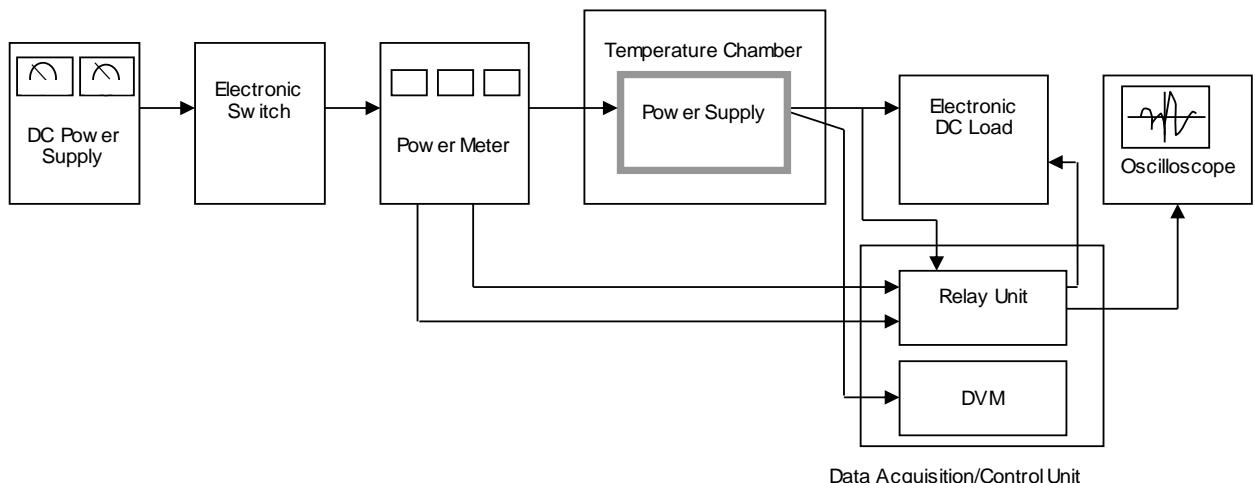


Figure A

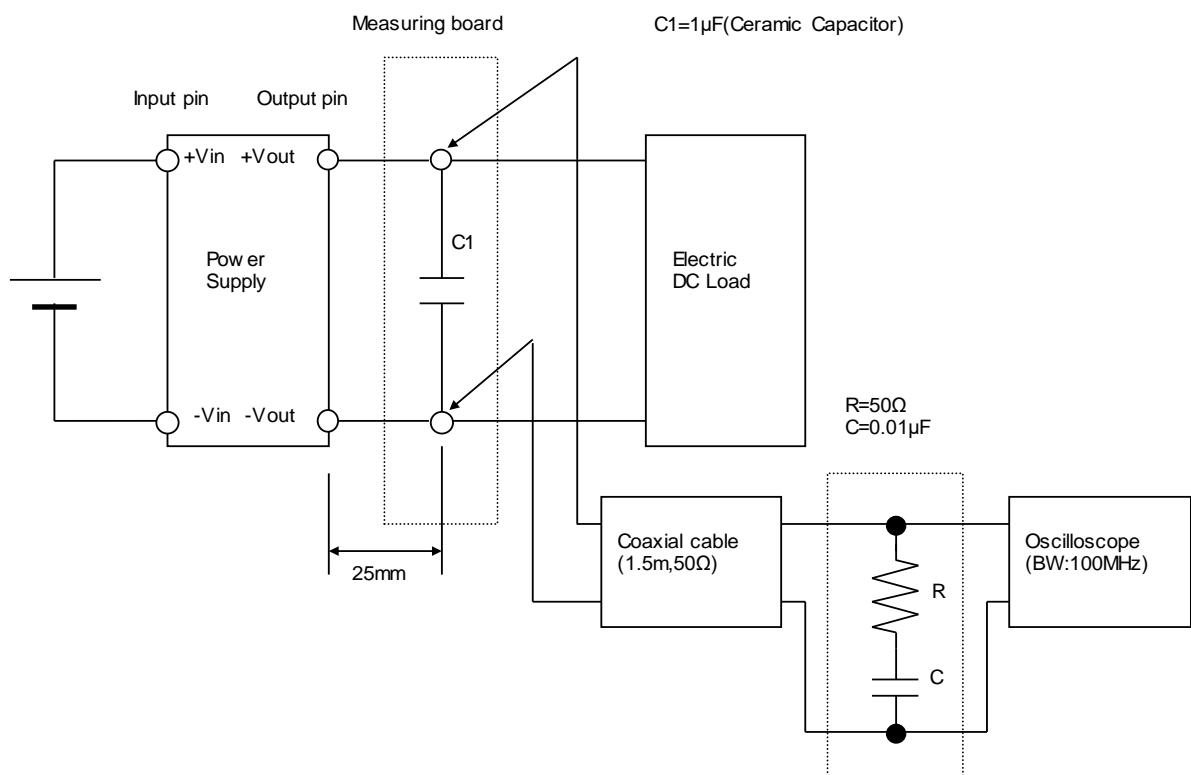


Figure B