

# TEST DATA OF MUW1R52412

Regulated DC Power Supply  
February 7, 2025

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Design Manager

Prepared by : Soichiro Kawaguchi  
Design Engineer

**COSEL CO.,LTD.**

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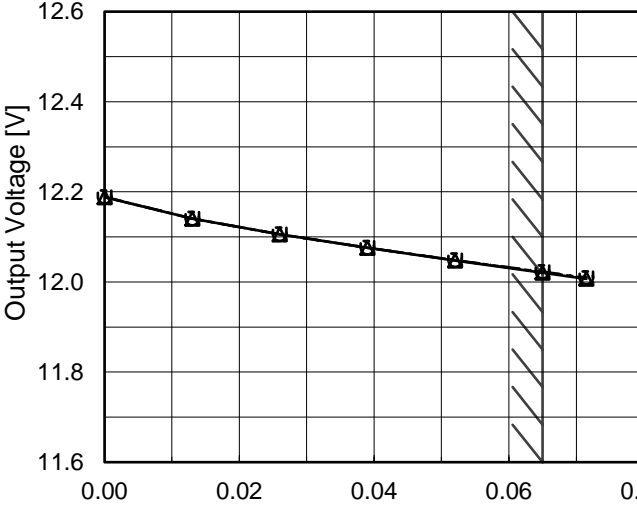
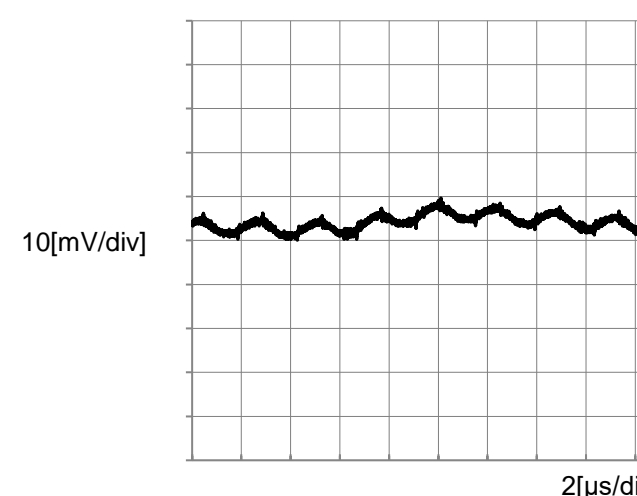
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**COSEL**

COSEL																																																						
Model	MUW1R52412	Temperature	25°C																																																			
Item	Load Regulation	Testing Circuitry	Figure A																																																			
Object	+12V0.065A																																																					
1.Graph		2.Values																																																				
<div><div><div><div>—△—</div><div>Input Volt.</div><div>18V</div></div><div><div>---□---</div><div>Input Volt.</div><div>24V</div></div><div><div>---○---</div><div>Input Volt.</div><div>36V</div></div></div><div></div><p>Note: Slanted line shows the range of the rated load current.</p></div>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>0.000</td><td>12.188</td><td>12.189</td><td>12.189</td></tr><tr><td>0.013</td><td>12.141</td><td>12.140</td><td>12.141</td></tr><tr><td>0.026</td><td>12.106</td><td>12.106</td><td>12.106</td></tr><tr><td>0.039</td><td>12.076</td><td>12.076</td><td>12.076</td></tr><tr><td>0.052</td><td>12.047</td><td>12.048</td><td>12.048</td></tr><tr><td>0.065</td><td>12.020</td><td>12.022</td><td>12.023</td></tr><tr><td>0.072</td><td>12.007</td><td>12.009</td><td>12.010</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></table> <p>-12V:Rated Load Current</p>		Load Current [A]	Output Voltage [V]			Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	0.000	12.188	12.189	12.189	0.013	12.141	12.140	12.141	0.026	12.106	12.106	12.106	0.039	12.076	12.076	12.076	0.052	12.047	12.048	12.048	0.065	12.020	12.022	12.023	0.072	12.007	12.009	12.010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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Item	Ripple-Noise	Temperature	25°C																																																			
Object	+12V0.065A	Testing Circuitry	Figure B																																																			
1.Graph																																																						
<div><div><div>Input Voltage</div><div>24V</div></div><div><div>Load</div><div>100%</div></div><div></div><p>-12V:Rated Load Current</p></div>																																																						

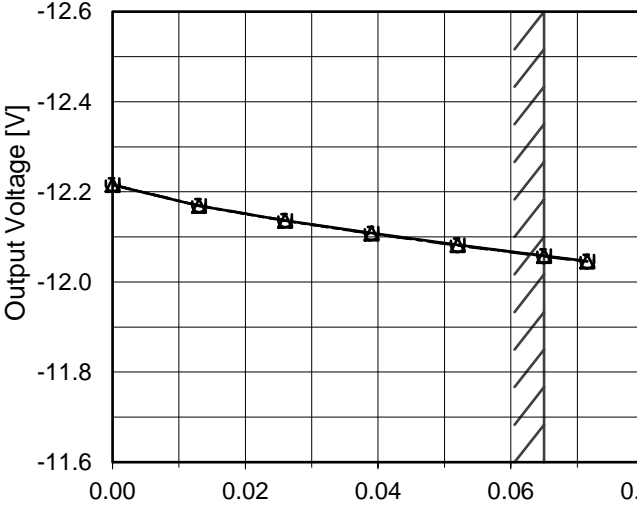
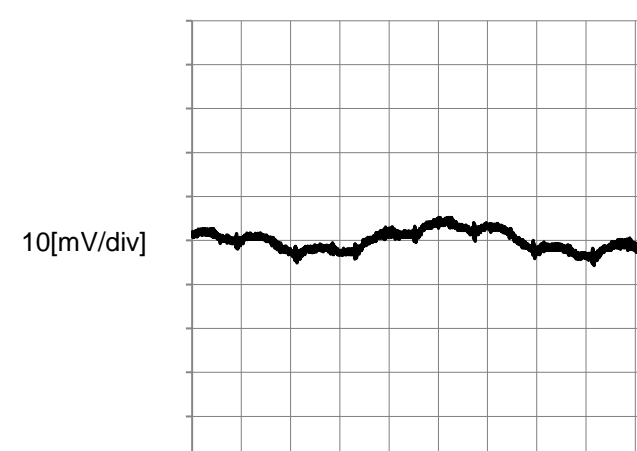
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BC-12070

**COSEL**

COSEL																																																						
Model	MUW1R52412	Temperature	25°C																																																			
Item	Load Regulation	Testing Circuitry	Figure A																																																			
Object	-12V0.065A																																																					
1.Graph		2.Values																																																				
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Load Current [A]	Output Voltage [V]																																																					
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Item	Ripple-Noise	Temperature	25°C																																																			
Object	-12V0.065A	Testing Circuitry	Figure B																																																			
1.Graph																																																						
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- 5 -

BC-12070



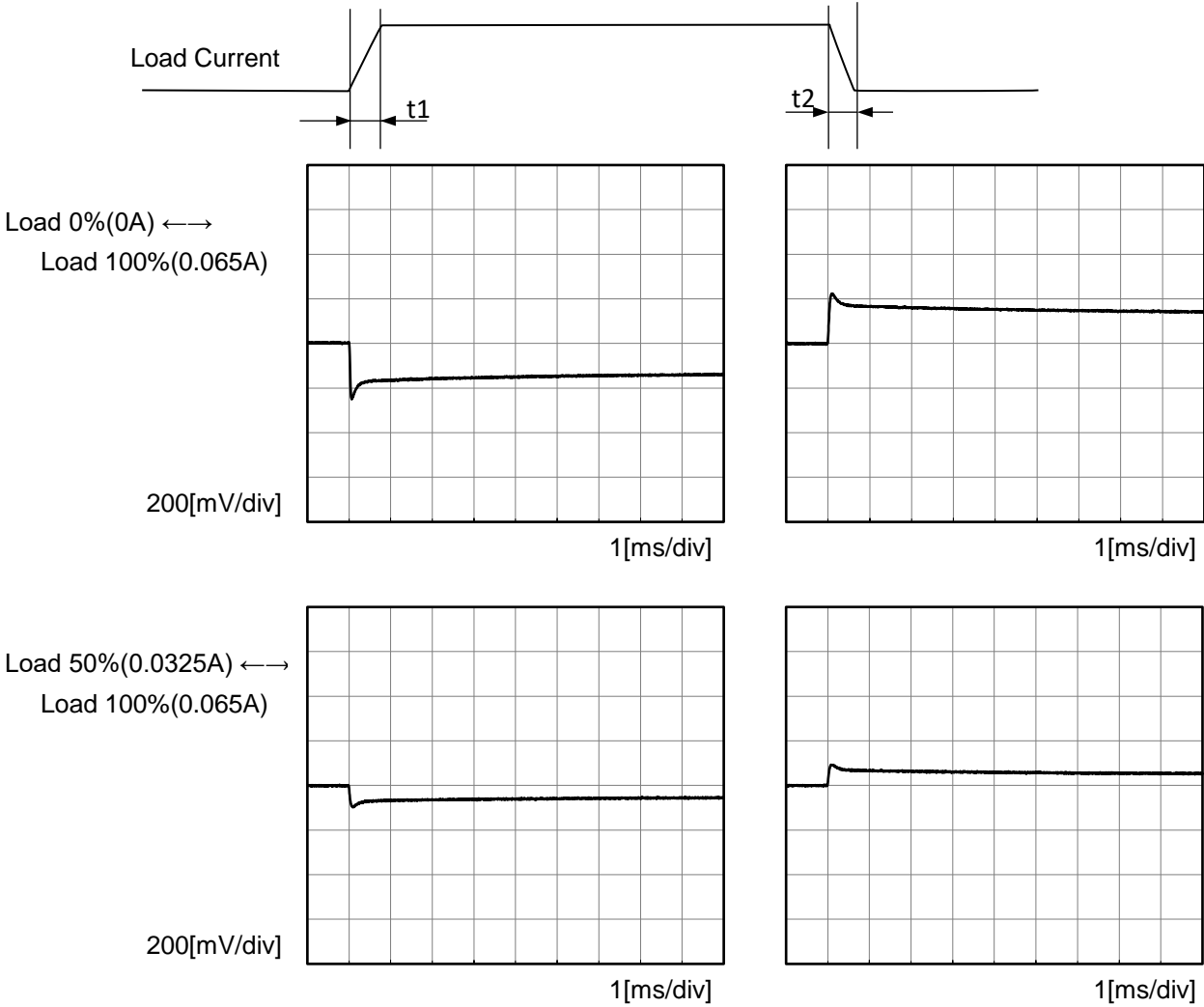
Model		MUW1R52412	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+12V0.065A	

Input Volt. 24 V

-12V:Rated Load Current

Cycle 1000 ms

Response. t1=t2=50μs. Typ







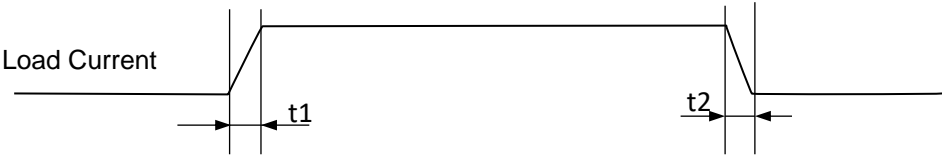
Model		MUW1R52412	Temperature     25°C Testing Circuitry   Figure A
Item		Dynamic Load Response	
Object		-12V0.065A	

Input Volt.     24 V

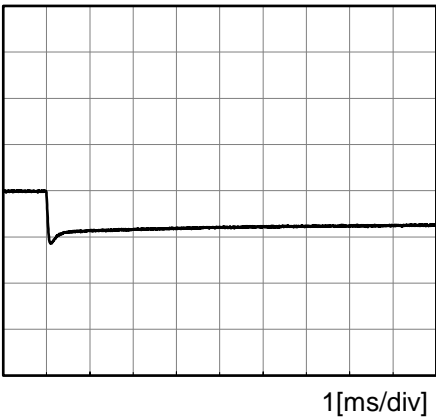
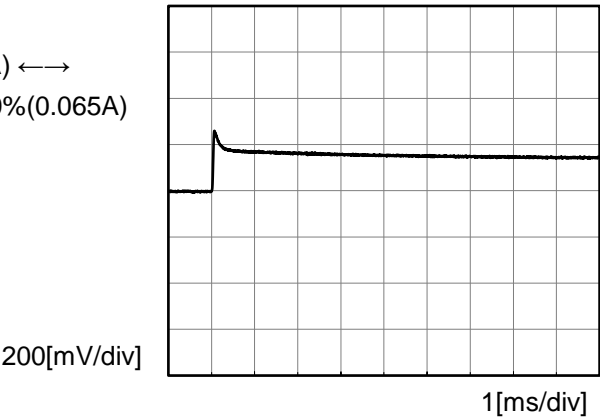
+12V:Rated Load Current

Cycle     1000 ms

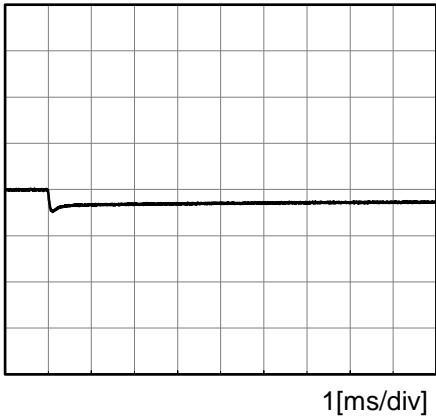
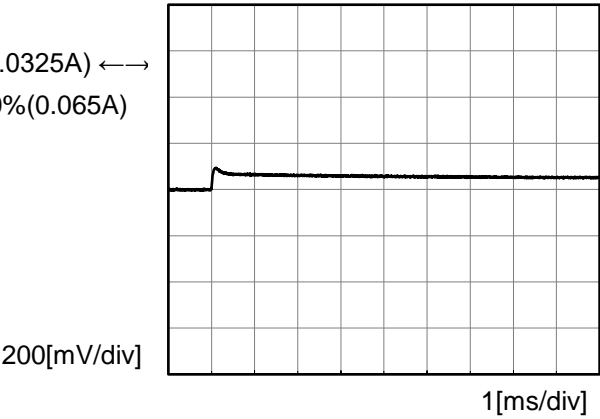
Response.  $t_1=t_2=50\mu\text{s}$ . Typ



Load 0%(0A)  $\longleftrightarrow$   
Load 100%(0.065A)



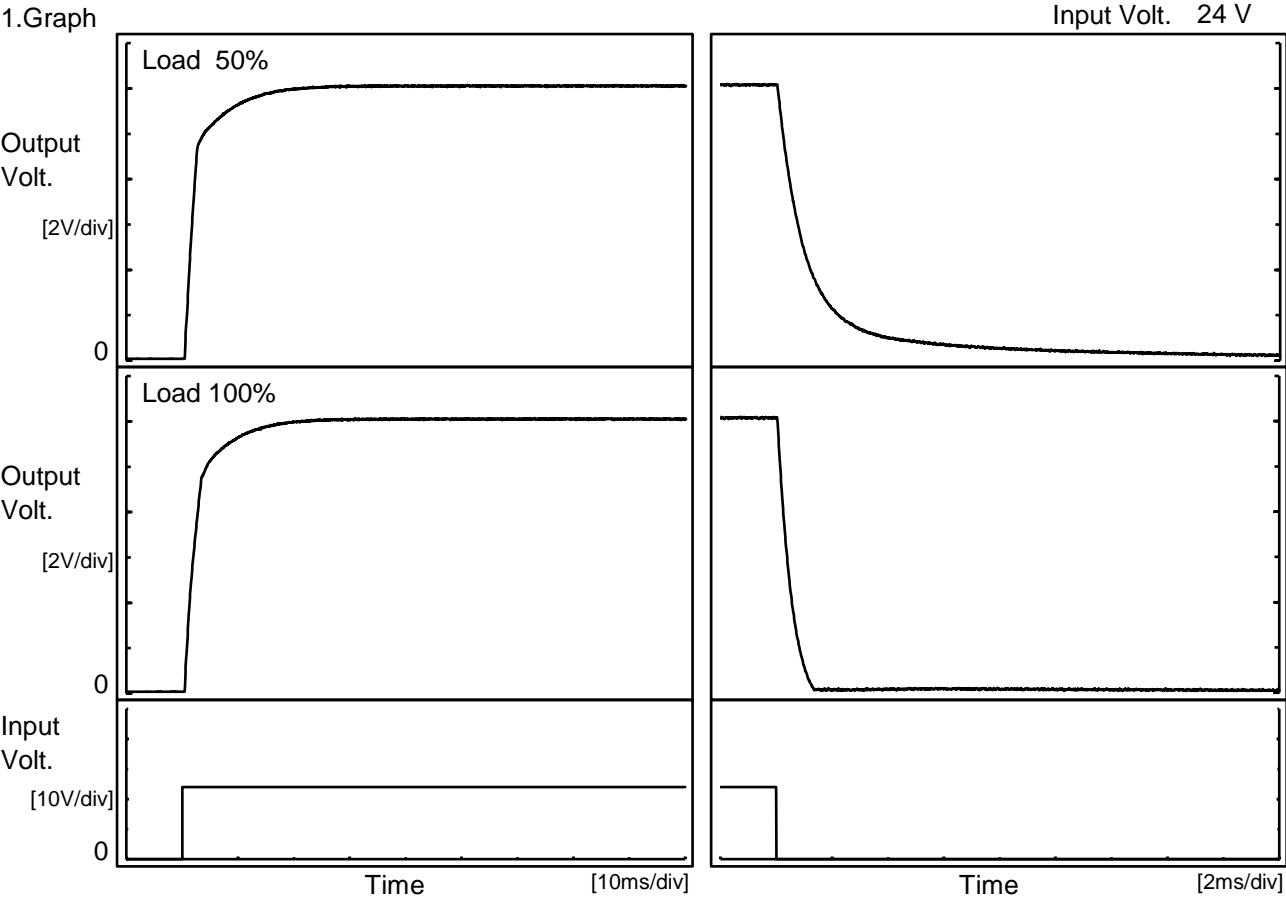
Load 50%(0.0325A)  $\longleftrightarrow$   
Load 100%(0.065A)





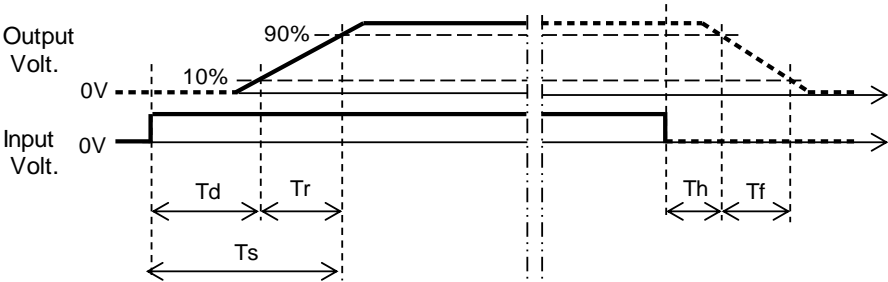
Model	MUW1R52412	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+12V0.065A		

1.Graph



2.Values

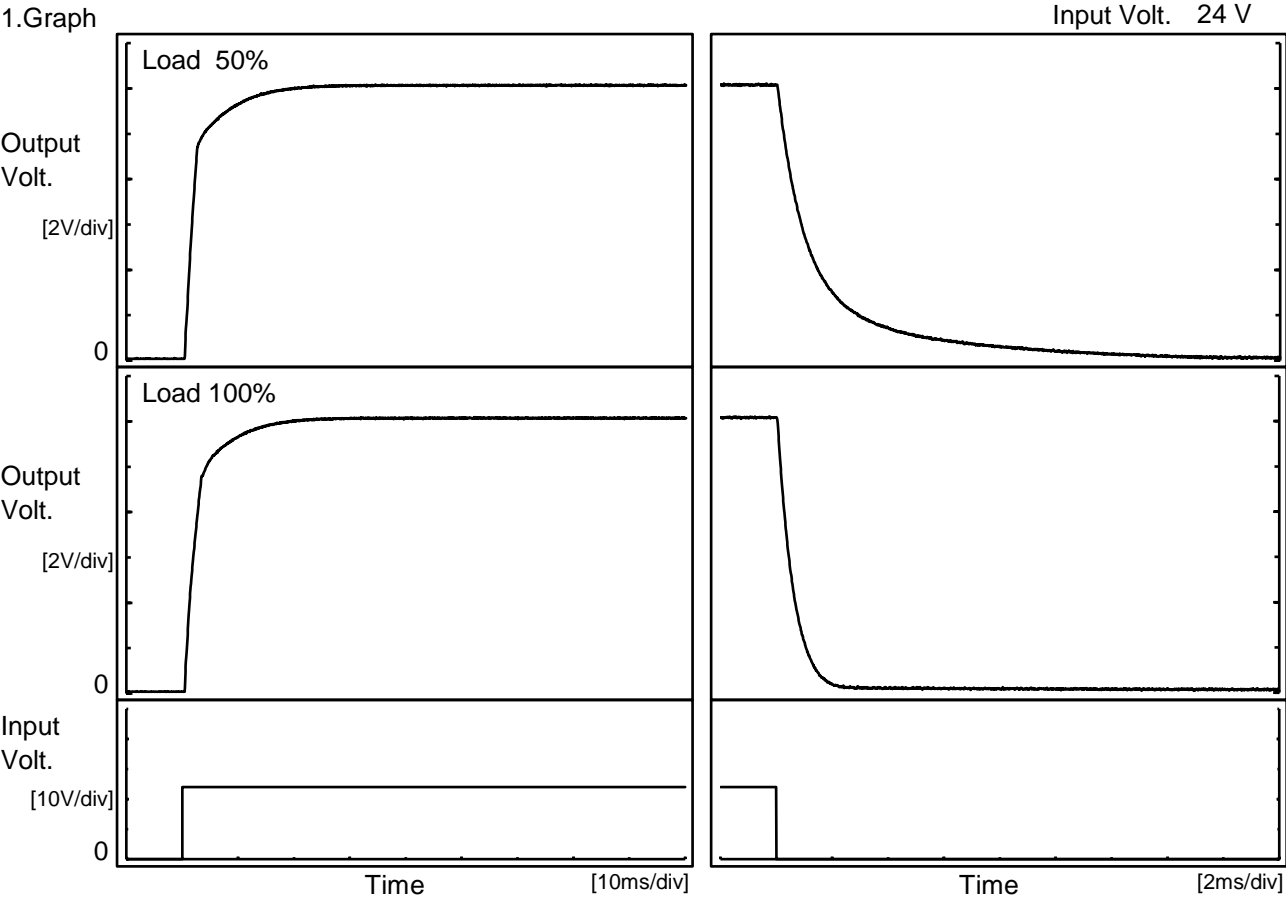
		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.7	6.6	7.3	0.2	3.1
100 %		0.7	6.9	7.6	0.1	0.9





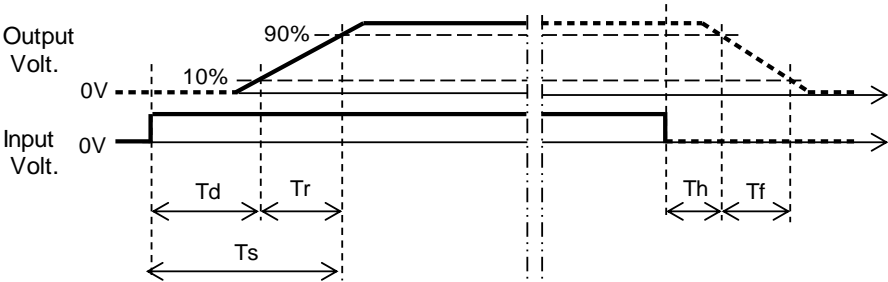
Model	MUW1R52412	Temperature 25°C Testing Circuitry Figure A
Item	Rise and Fall Time	
Object	-12V0.065A	

1.Graph

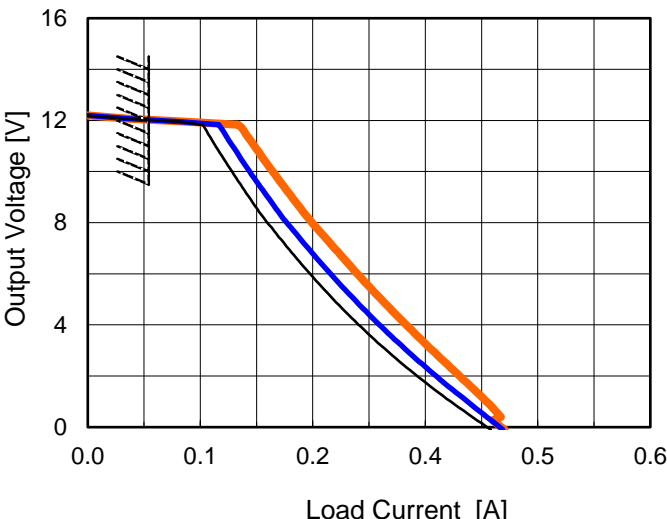
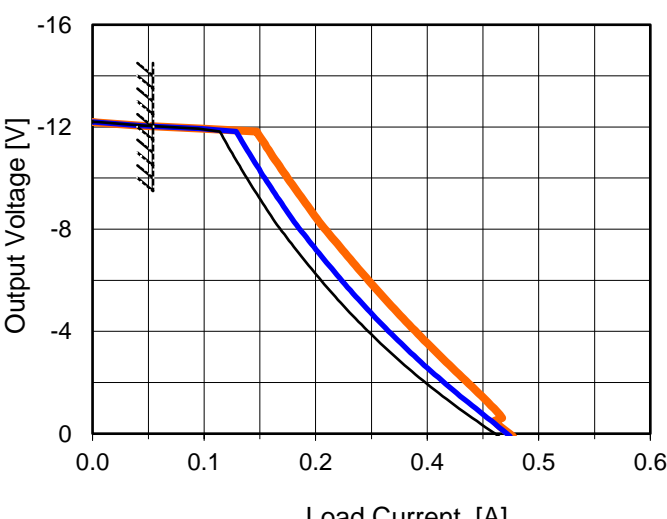


2.Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.7	6.7	7.4	0.2	4.2
100 %		0.7	6.6	7.3	0.1	1.2



**COSEL**

Model		MUW1R52412	Temperature		25°C																																																						
Item		Overcurrent Protection	Testing Circuitry		Figure A																																																						
Object		+12V0.065A																																																									
1.Graph		<div><div></div>Input Volt. 18V</div> <div><div></div>Input Volt. 24V</div> <div><div></div>Input Volt. 36V</div>	2.Values																																																								
		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>11.4</td><td>0.13</td><td>0.15</td><td>0.17</td></tr><tr><td>10.8</td><td>0.14</td><td>0.16</td><td>0.18</td></tr><tr><td>9.6</td><td>0.16</td><td>0.18</td><td>0.20</td></tr><tr><td>8.4</td><td>0.18</td><td>0.20</td><td>0.23</td></tr><tr><td>7.2</td><td>0.21</td><td>0.23</td><td>0.26</td></tr><tr><td>6.0</td><td>0.23</td><td>0.26</td><td>0.28</td></tr><tr><td>4.8</td><td>0.26</td><td>0.29</td><td>0.32</td></tr><tr><td>3.6</td><td>0.30</td><td>0.32</td><td>0.35</td></tr><tr><td>2.4</td><td>0.34</td><td>0.36</td><td>0.38</td></tr><tr><td>1.2</td><td>0.38</td><td>0.40</td><td>0.42</td></tr><tr><td>0.0</td><td>0.43</td><td>0.44</td><td>0.44</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>			Output Voltage [V]	Load Current [A]			Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	11.4	0.13	0.15	0.17	10.8	0.14	0.16	0.18	9.6	0.16	0.18	0.20	8.4	0.18	0.20	0.23	7.2	0.21	0.23	0.26	6.0	0.23	0.26	0.28	4.8	0.26	0.29	0.32	3.6	0.30	0.32	0.35	2.4	0.34	0.36	0.38	1.2	0.38	0.40	0.42	0.0	0.43	0.44	0.44	--	-	-	-
Output Voltage [V]	Load Current [A]																																																										
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Output Voltage [V]	Load Current [A]																																																										
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--	-	-	-																																																								
Note: Slanted line shows the range of the rated load current.		+12V:Rated Load Current																																																									

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BC-12070

**COSEL**

		Testing Circuitry Figure A
Model	MUW1R52412	
Item	Ambient Temperature Drift	
Object	+12V0.065A	

## 1.Values

Load 100%

Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 18V	Input Volt. 24V	Input Volt. 36V
-40	11.951	11.954	11.956
25	12.020	12.022	12.023
85	12.037	12.038	12.039

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+12V0.065A	

## 1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	13.9	13.9
25	13.9	13.9
85	13.8	13.9

**COSEL**

		Testing Circuitry Figure A
Model	MUW1R52412	
Item	Ambient Temperature Drift	
Object	-12V0.065A	

## 1.Values

Load 100%

Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 18V	Input Volt. 24V	Input Volt. 36V
-40	-11.987	-11.987	-11.987
25	-12.057	-12.056	-12.056
85	-12.077	-12.076	-12.075

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	-12V0.065A	

## 1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	13.9	13.9
25	14.0	13.9
85	13.8	13.9

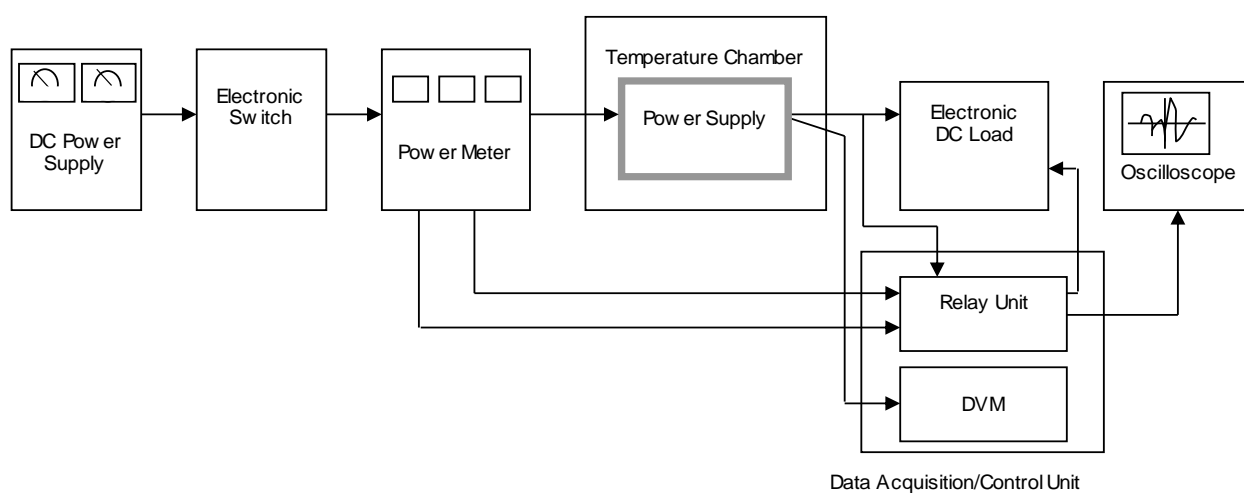


Figure A

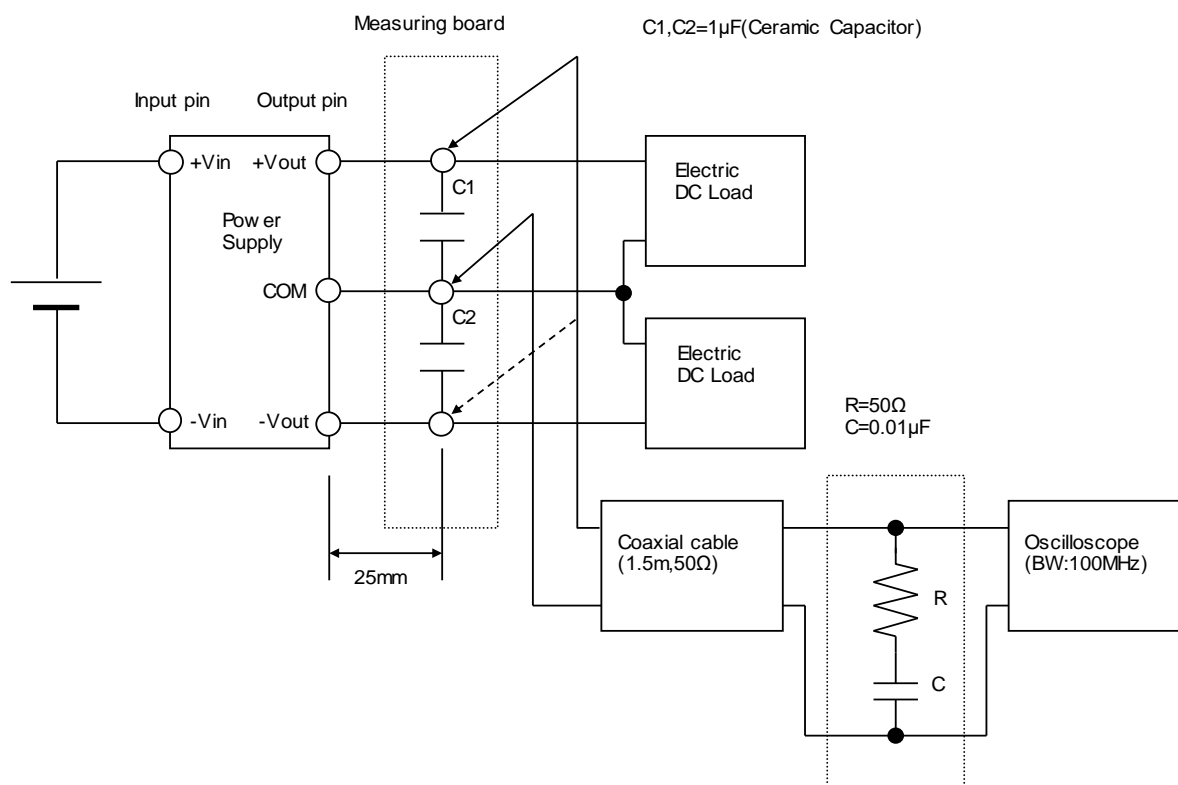


Figure B