

# TEST DATA OF MUW34815

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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Model		MUW34815	Temperature 25°C Testing Circuitry Figure A																																																				
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		<table><tr><th rowspan="2">Load Ratio [%]</th><th colspan="3">Input Current [A]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>0</td><td>0.007</td><td>0.004</td><td>0.003</td></tr><tr><td>20</td><td>0.026</td><td>0.019</td><td>0.014</td></tr><tr><td>40</td><td>0.042</td><td>0.033</td><td>0.023</td></tr><tr><td>60</td><td>0.062</td><td>0.046</td><td>0.030</td></tr><tr><td>80</td><td>0.080</td><td>0.061</td><td>0.039</td></tr><tr><td>100</td><td>0.099</td><td>0.075</td><td>0.049</td></tr><tr><td>110</td><td>0.108</td><td>0.081</td><td>0.053</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>	Load Ratio [%]	Input Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0	0.007	0.004	0.003	20	0.026	0.019	0.014	40	0.042	0.033	0.023	60	0.062	0.046	0.030	80	0.080	0.061	0.039	100	0.099	0.075	0.049	110	0.108	0.081	0.053	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-		
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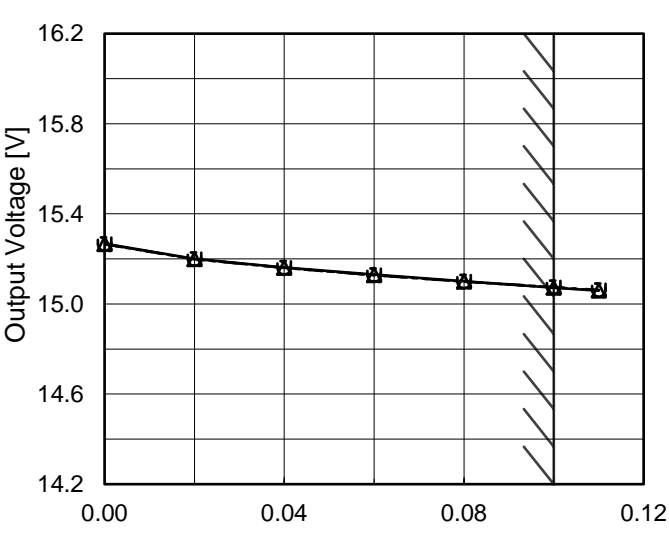
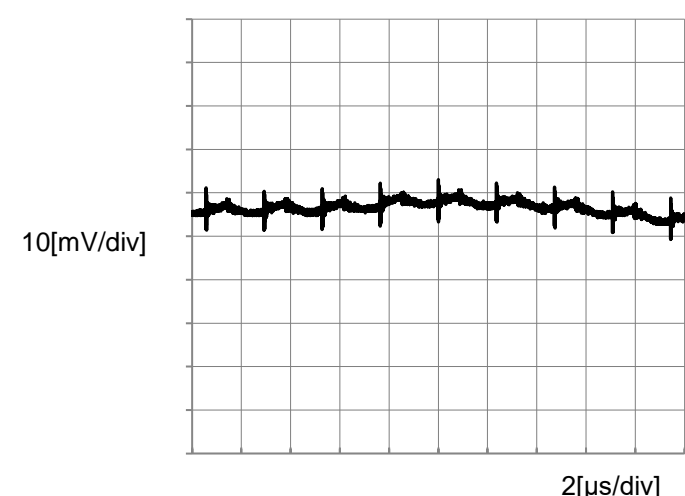


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<div><div><div>—△—</div><div>Input Volt.</div><div>36V</div></div><div><div>---□---</div><div>Input Volt.</div><div>48V</div></div><div><div>---○---</div><div>Input Volt.</div><div>76V</div></div></div> <div></div> <p>Note: Slanted line shows the range of the rated load current.</p>			<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>0.00</td><td>15.268</td><td>15.265</td><td>15.266</td></tr><tr><td>0.02</td><td>15.200</td><td>15.198</td><td>15.198</td></tr><tr><td>0.04</td><td>15.162</td><td>15.160</td><td>15.160</td></tr><tr><td>0.06</td><td>15.130</td><td>15.128</td><td>15.128</td></tr><tr><td>0.08</td><td>15.101</td><td>15.100</td><td>15.100</td></tr><tr><td>0.10</td><td>15.073</td><td>15.073</td><td>15.075</td></tr><tr><td>0.11</td><td>15.059</td><td>15.061</td><td>15.062</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>-15V:Rated Load Current</p>			Load Current [A]	Output Voltage [V]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.00	15.268	15.265	15.266	0.02	15.200	15.198	15.198	0.04	15.162	15.160	15.160	0.06	15.130	15.128	15.128	0.08	15.101	15.100	15.100	0.10	15.073	15.073	15.075	0.11	15.059	15.061	15.062	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Load Current [A]	Output Voltage [V]																																																							
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																					
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--	--	--	--																																																					
Item		Ripple-Noise	Temperature		25°C																																																			
Object		+15V0.1A	Testing Circuitry		Figure B																																																			
1.Graph																																																								
<div><div><div>Input Voltage</div><div>48V</div></div><div><div>Load</div><div>100%</div></div></div> <div></div> <p>-15V:Rated Load Current</p>																																																								

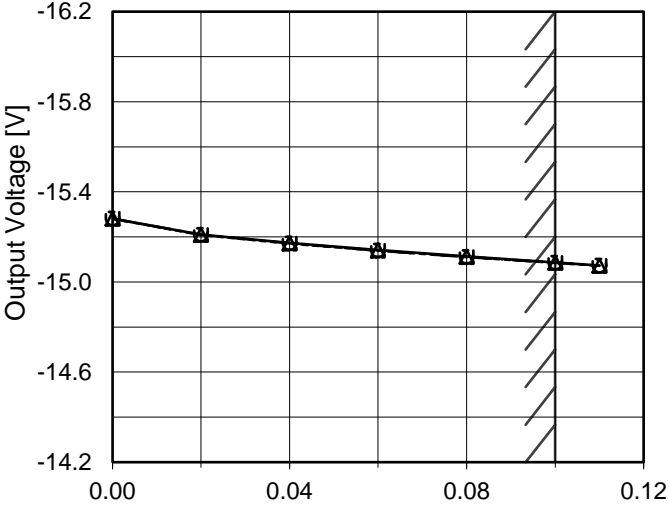
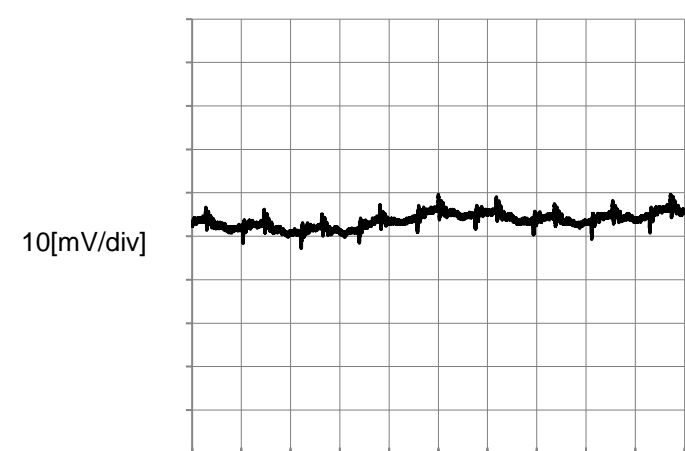
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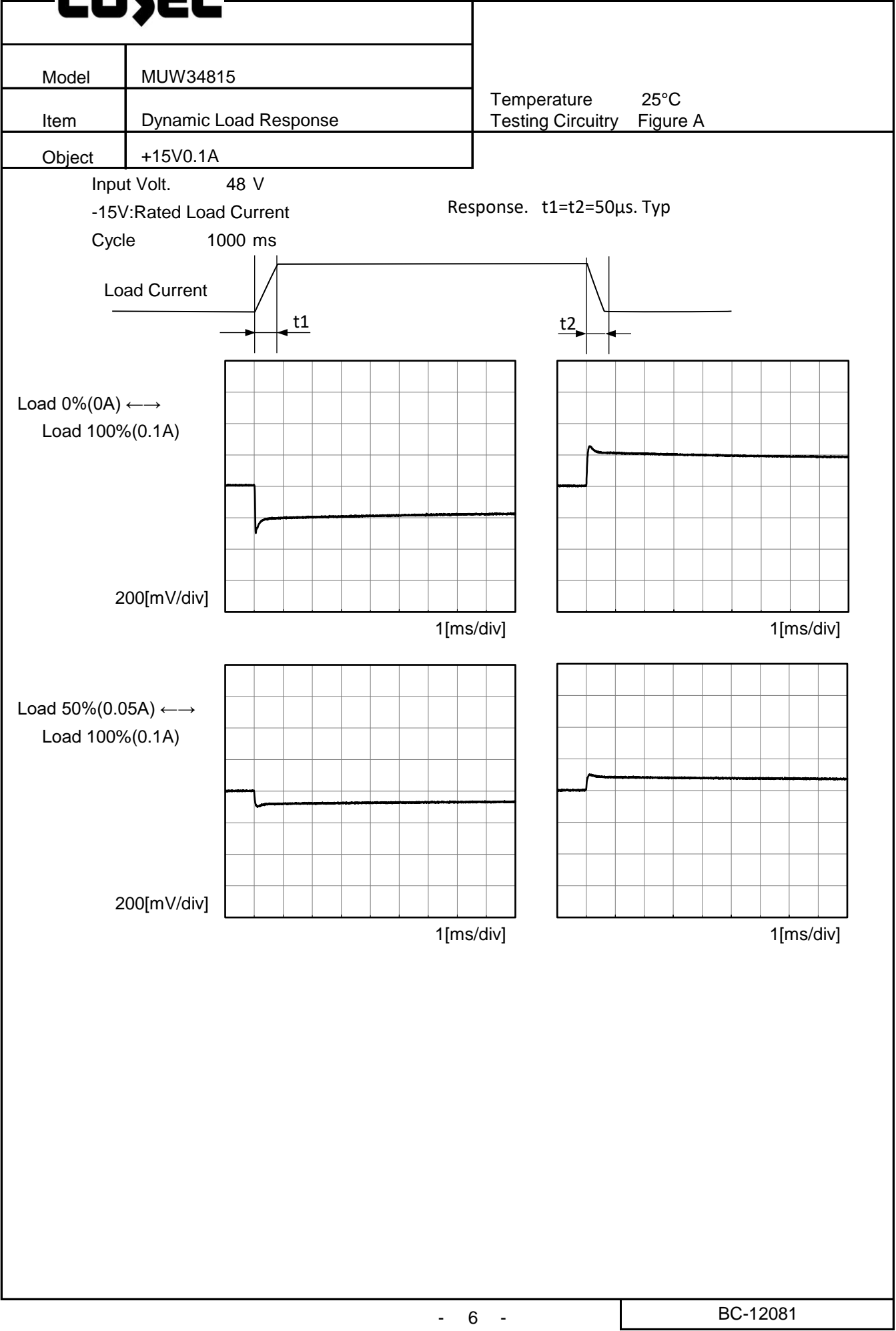
4

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BC-12081

**COSEL**

Model		MUW34815	Temperature25°C																																																				
Item		Load Regulation	Testing CircuitryFigure A																																																				
Object		-15V0.1A																																																					
1.Graph		<div><div><div>—△—</div><div>Input Volt.</div><div>36V</div></div><div><div>---□---</div><div>Input Volt.</div><div>48V</div></div><div><div>---○---</div><div>Input Volt.</div><div>76V</div></div></div> <div></div> <div>Note: Slanted line shows the range of the rated load current.</div>	2.Values																																																				
			<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>0.00</td><td>-15.281</td><td>-15.281</td><td>-15.281</td></tr><tr><td>0.02</td><td>-15.210</td><td>-15.209</td><td>-15.210</td></tr><tr><td>0.04</td><td>-15.173</td><td>-15.170</td><td>-15.171</td></tr><tr><td>0.06</td><td>-15.142</td><td>-15.139</td><td>-15.139</td></tr><tr><td>0.08</td><td>-15.113</td><td>-15.111</td><td>-15.110</td></tr><tr><td>0.10</td><td>-15.086</td><td>-15.085</td><td>-15.084</td></tr><tr><td>0.11</td><td>-15.073</td><td>-15.072</td><td>-15.072</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> <div>+15V:Rated Load Current</div>		Load Current [A]	Output Voltage [V]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.00	-15.281	-15.281	-15.281	0.02	-15.210	-15.209	-15.210	0.04	-15.173	-15.170	-15.171	0.06	-15.142	-15.139	-15.139	0.08	-15.113	-15.111	-15.110	0.10	-15.086	-15.085	-15.084	0.11	-15.073	-15.072	-15.072	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Load Current [A]	Output Voltage [V]																																																						
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																				
0.00	-15.281	-15.281	-15.281																																																				
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Item		Ripple-Noise	Temperature25°C																																																				
Object		-15V0.1A	Testing CircuitryFigure B																																																				
1.Graph		<div><div>Input Voltage48V</div><div>Load100%</div></div> <div></div> <div>+15V:Rated Load Current</div>																																																					





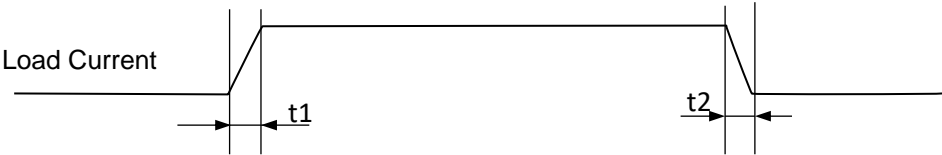
Model		MUW34815	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		-15V0.1A	

Input Volt. 48 V

+15V:Rated Load Current

Cycle 1000 ms

Response. t1=t2=50μs. Typ



Load 0%(0A) ↔  
Load 100%(0.1A)

200[mV/div]



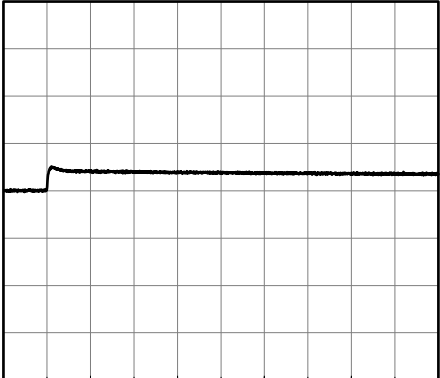
1[ms/div]



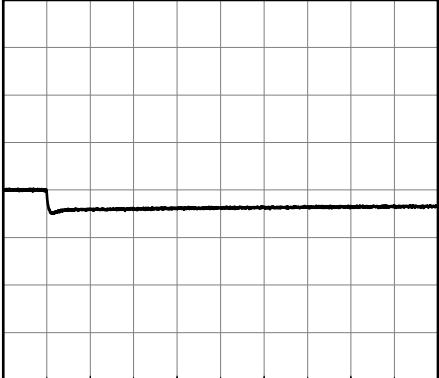
1[ms/div]

Load 50%(0.05A) ↔  
Load 100%(0.1A)

200[mV/div]



1[ms/div]

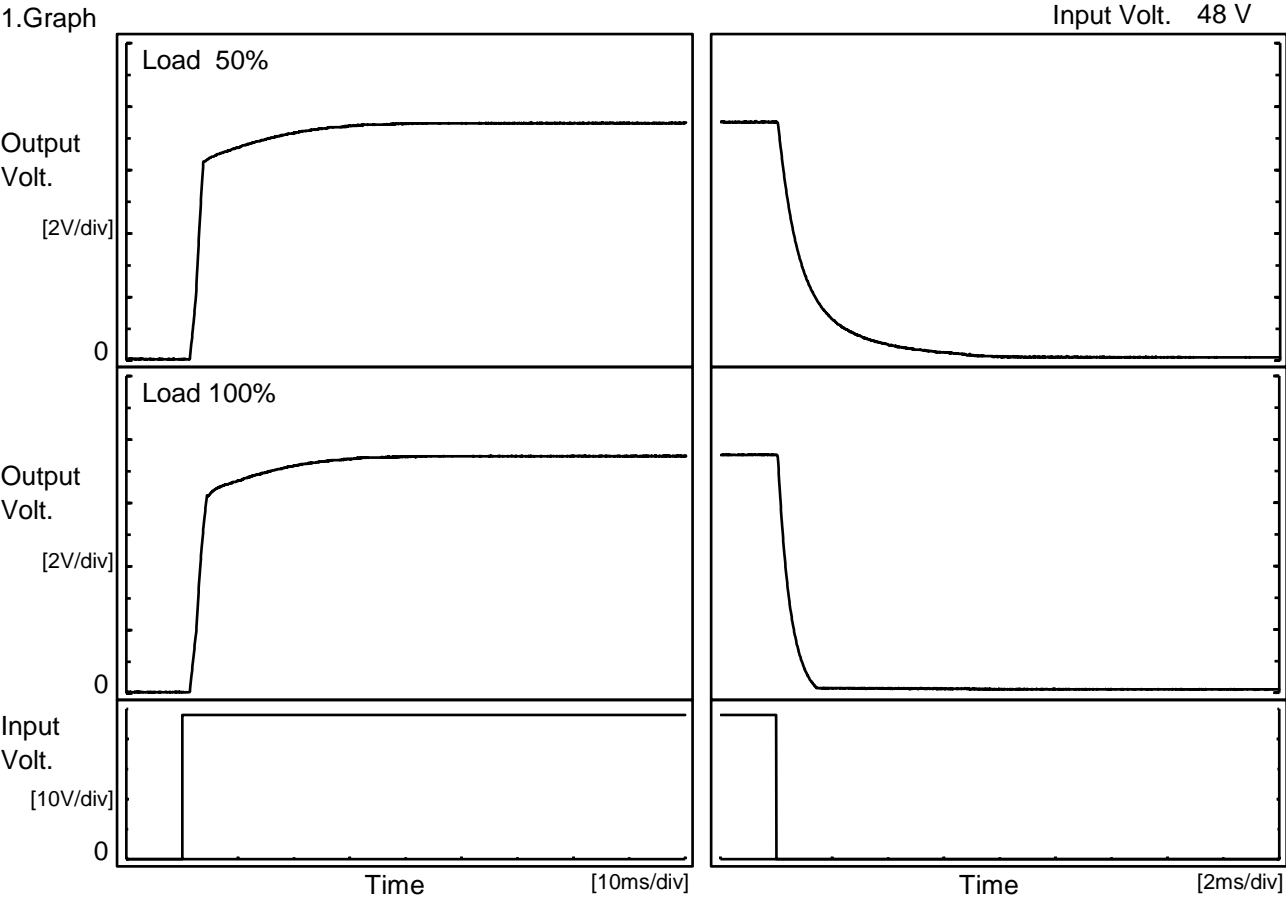


1[ms/div]



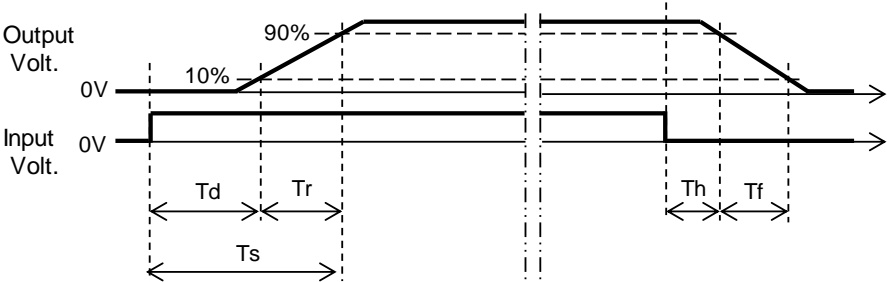
Model		MUW34815	Temperature     25°C Testing Circuitry   Figure A
Item		Rise and Fall Time	
Object		+15V0.1A	

1.Graph



2.Values

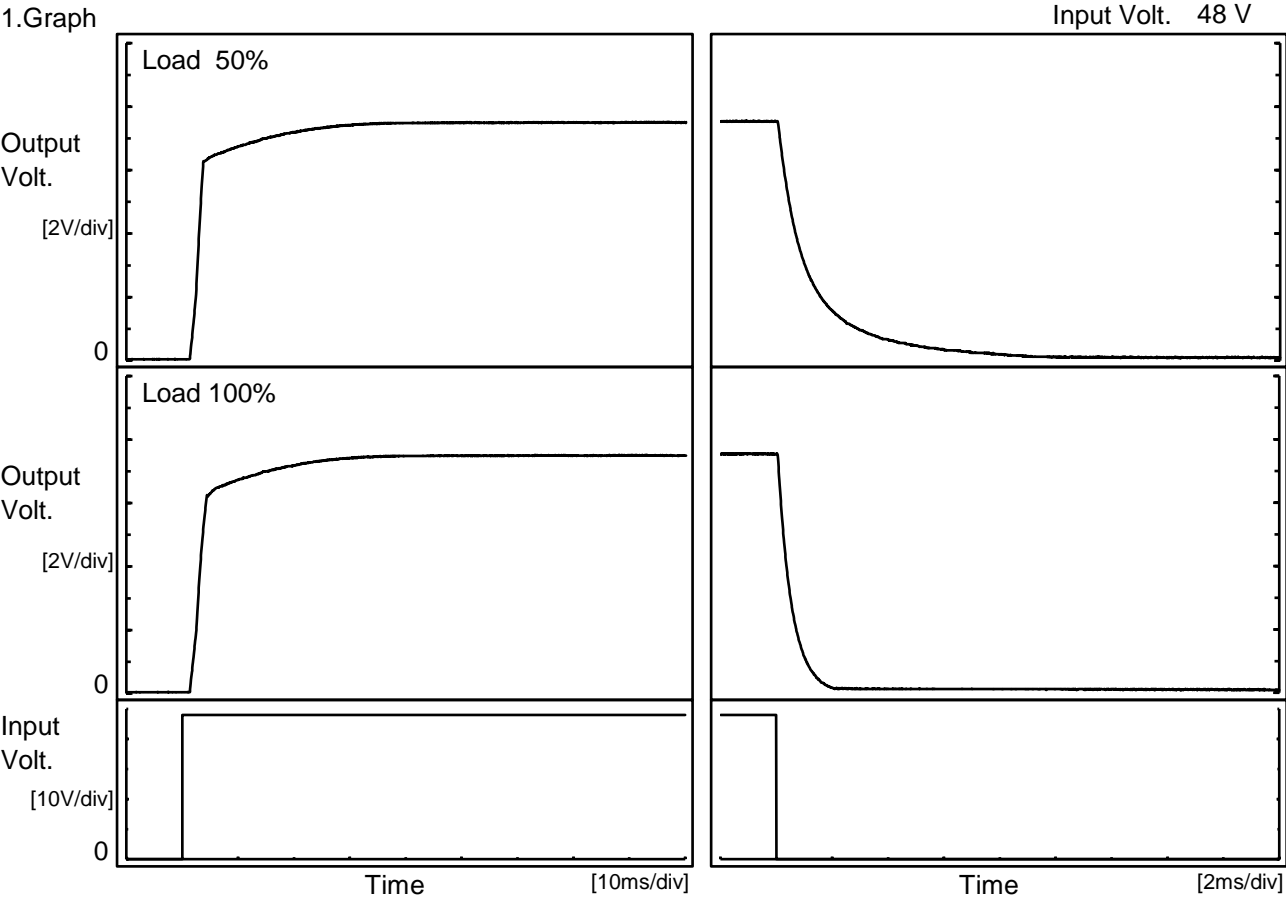
		[ms]				
Load \ Time		Td	Tr	Ts	Th	Tf
50 %		1.8	9.5	11.3	0.1	2.8
100 %		1.8	9.9	11.7	0.1	0.9





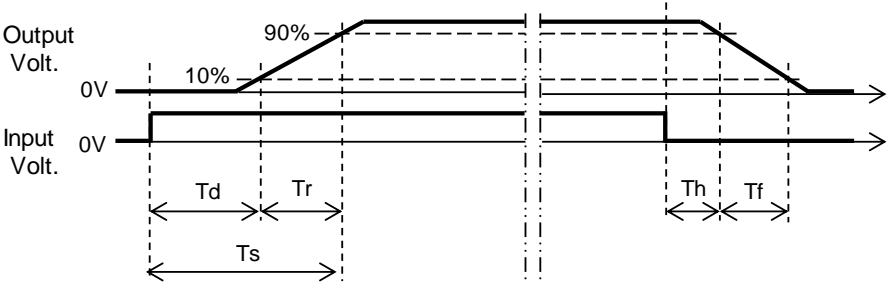
Model		MUW34815	Temperature     25°C Testing Circuitry   Figure A
Item		Rise and Fall Time	
Object		-15V0.1A	

1.Graph

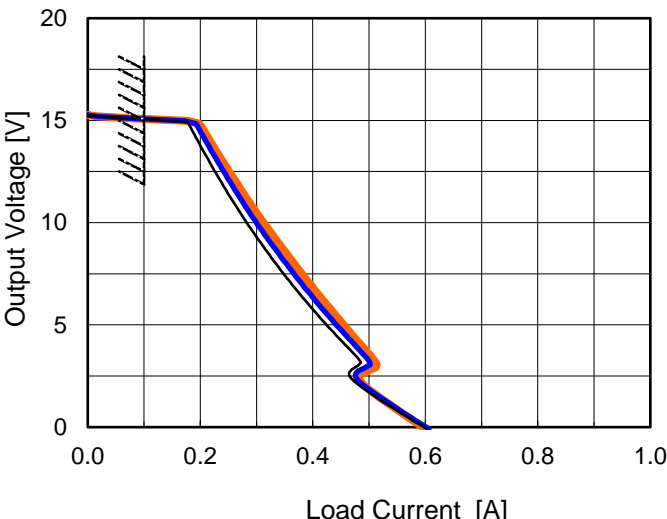
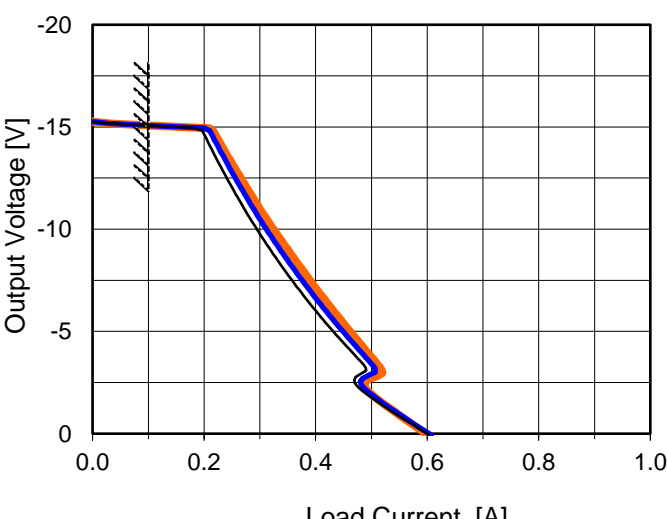


2.Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		1.8	9.0	10.8	0.2	3.4
100 %		1.8	9.0	10.8	0.1	1.1



**COSEL**

Model		MUW34815	Temperature		25°C																																																						
Item		Overcurrent Protection	Testing Circuitry		Figure A																																																						
Object		+15V0.1A																																																									
1.Graph		<div><div></div>Input Volt. 36V</div> <div><div></div>Input Volt. 48V</div> <div><div></div>Input Volt. 76V</div>	2.Values																																																								
		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>14.25</td><td>0.19</td><td>0.20</td><td>0.21</td></tr><tr><td>13.50</td><td>0.12</td><td>0.22</td><td>0.23</td></tr><tr><td>12.00</td><td>0.23</td><td>0.25</td><td>0.26</td></tr><tr><td>10.50</td><td>0.27</td><td>0.28</td><td>0.30</td></tr><tr><td>9.00</td><td>0.31</td><td>0.33</td><td>0.34</td></tr><tr><td>7.50</td><td>0.35</td><td>0.36</td><td>0.38</td></tr><tr><td>6.00</td><td>0.39</td><td>0.41</td><td>0.42</td></tr><tr><td>4.50</td><td>0.44</td><td>0.46</td><td>0.47</td></tr><tr><td>3.00</td><td>0.49</td><td>0.50</td><td>0.51</td></tr><tr><td>1.50</td><td>0.51</td><td>0.51</td><td>0.51</td></tr><tr><td>0.00</td><td>0.60</td><td>0.61</td><td>0.60</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>			Output Voltage [V]	Load Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	14.25	0.19	0.20	0.21	13.50	0.12	0.22	0.23	12.00	0.23	0.25	0.26	10.50	0.27	0.28	0.30	9.00	0.31	0.33	0.34	7.50	0.35	0.36	0.38	6.00	0.39	0.41	0.42	4.50	0.44	0.46	0.47	3.00	0.49	0.50	0.51	1.50	0.51	0.51	0.51	0.00	0.60	0.61	0.60	--	-	-	-
Output Voltage [V]	Load Current [A]																																																										
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																								
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--	-	-	-																																																								
		-15V:Rated Load Current																																																									
Object		-15V0.1A																																																									
1.Graph		<div><div></div>Input Volt. 36V</div> <div><div></div>Input Volt. 48V</div> <div><div></div>Input Volt. 76V</div>	2.Values																																																								
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Output Voltage [V]	Load Current [A]																																																										
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																								
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Note: Slanted line shows the range of the rated load current.		+15V:Rated Load Current																																																									

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**COSEL**

Model	MUW34815																						
Item	Ambient Temperature Drift	Testing Circuitry    Figure A																					
Object	+15V0.1A																						
1.Values <div>Load 100%</div> <table><tr><td>Ambient Temperature[°C]</td><td colspan="3">Output Voltage [V]</td></tr><tr><td></td><td>Input Volt. 36V</td><td>Input Volt. 48V</td><td>Input Volt. 76V</td></tr><tr><td>-40</td><td>14.974</td><td>14.976</td><td>14.978</td></tr><tr><td>25</td><td>15.074</td><td>15.076</td><td>15.076</td></tr><tr><td>85</td><td>15.095</td><td>15.095</td><td>15.096</td></tr></table>				Ambient Temperature[°C]	Output Voltage [V]				Input Volt. 36V	Input Volt. 48V	Input Volt. 76V	-40	14.974	14.976	14.978	25	15.074	15.076	15.076	85	15.095	15.095	15.096
Ambient Temperature[°C]	Output Voltage [V]																						
	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V																				
-40	14.974	14.976	14.978																				
25	15.074	15.076	15.076																				
85	15.095	15.095	15.096																				
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry    Figure A																					
Object	+15V0.1A																						
1.Values <table><tr><td>Ambient Temperature[°C]</td><td colspan="2">Input Voltage [V]</td></tr><tr><td></td><td>Load 50%</td><td>Load 100%</td></tr><tr><td>-40</td><td>28.5</td><td>28.4</td></tr><tr><td>25</td><td>28.5</td><td>28.6</td></tr><tr><td>85</td><td>28.7</td><td>28.6</td></tr></table>				Ambient Temperature[°C]	Input Voltage [V]			Load 50%	Load 100%	-40	28.5	28.4	25	28.5	28.6	85	28.7	28.6					
Ambient Temperature[°C]	Input Voltage [V]																						
	Load 50%	Load 100%																					
-40	28.5	28.4																					
25	28.5	28.6																					
85	28.7	28.6																					

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**COSEL**

Model	MUW34815		
Item	Ambient Temperature Drift	Testing Circuitry    Figure A	
Object	-15V0.1A		
1.Values <span style="float:right">Load 100%</span>			
Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V
-40	-14.986	-14.986	-14.987
25	-15.086	-15.086	-15.085
85	-15.107	-15.105	-15.105
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry    Figure A	
Object	-15V0.1A		
1.Values			
Ambient Temperature[°C]	Input Voltage [V]		
	Load 50%	Load 100%	
-40	28.5	28.4	
25	28.5	28.6	
85	28.7	28.6	

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BC-12081

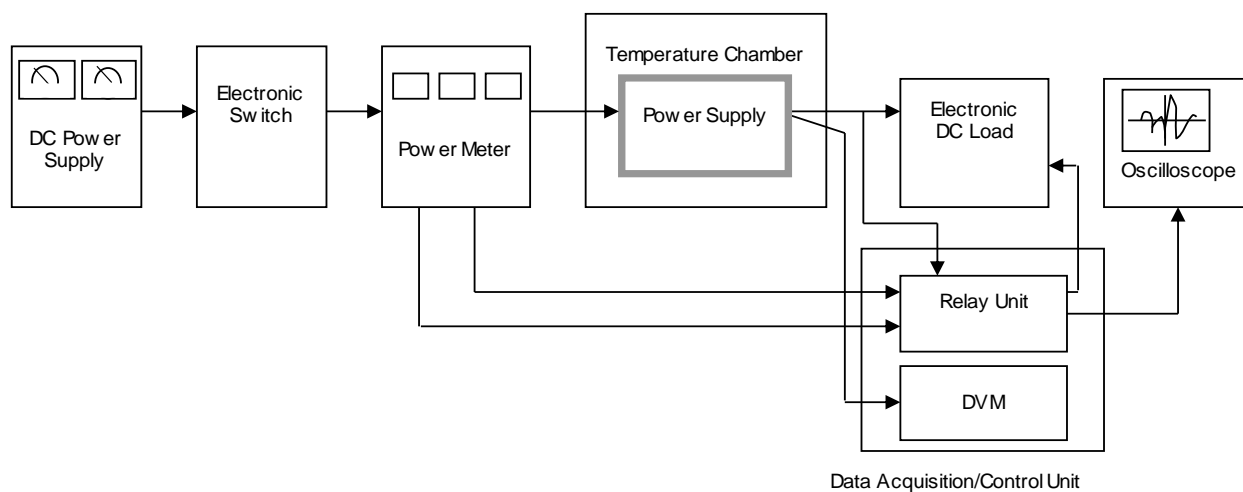


Figure A

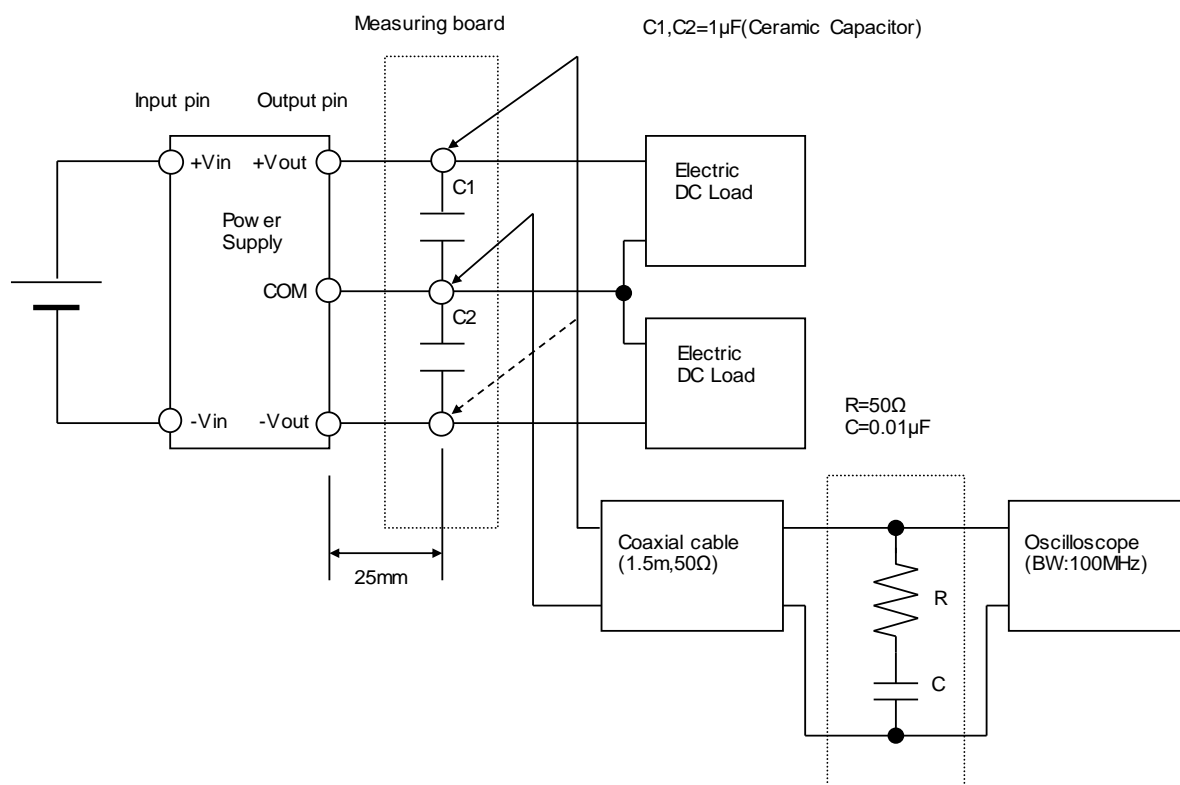


Figure B