

TEST DATA OF MUW30515

Regulated DC Power Supply
February 6, 2025

Approved by : Kenichi Tsukada
Design Manager

Prepared by : Soichiro Kawaguchi
Design Engineer

COSEL CO.,LTD.

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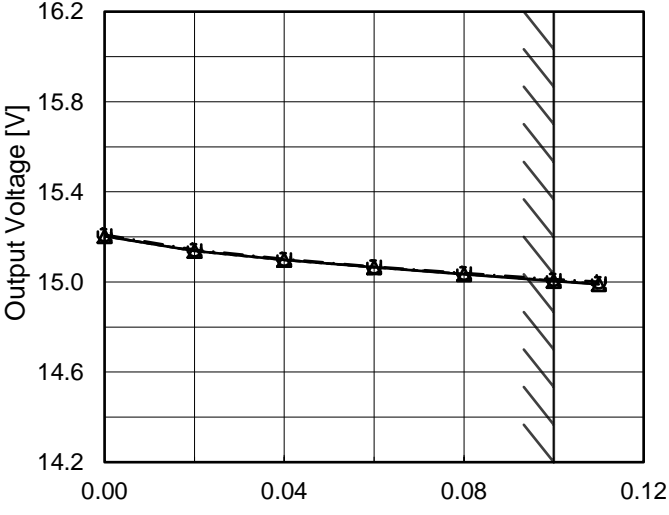
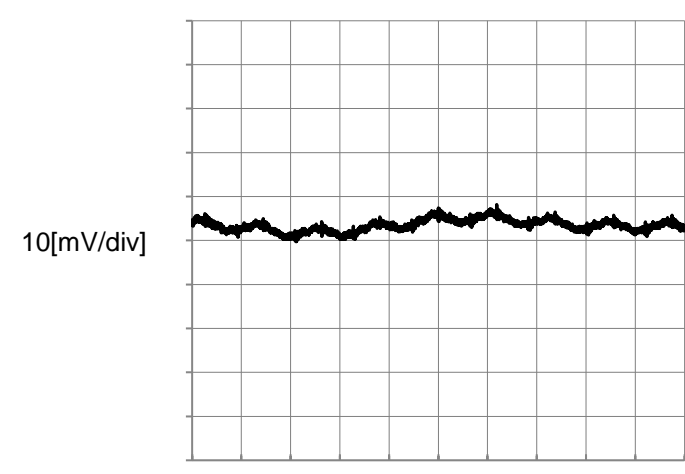
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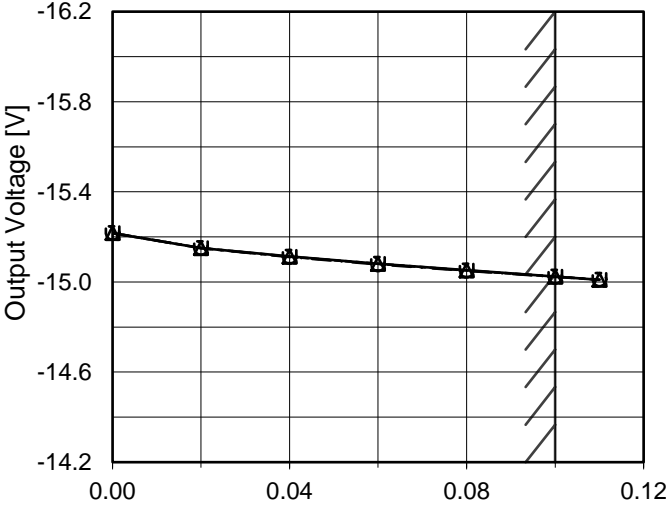
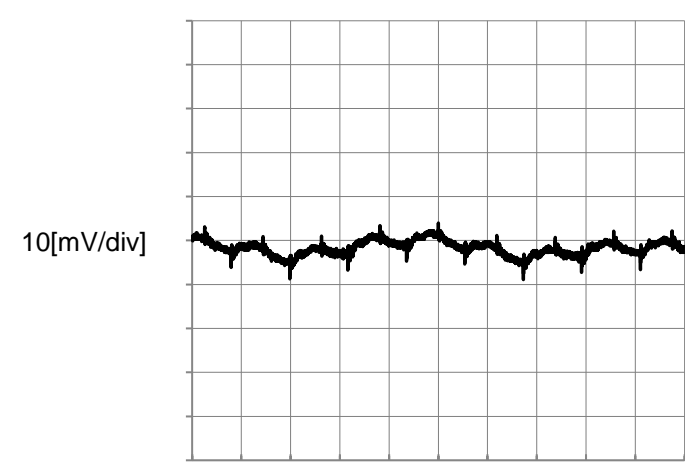
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<div><div><div><div>—△—</div><div>Input Volt.</div><div>4.5V</div></div><div><div>---□---</div><div>Input Volt.</div><div>5V</div></div><div><div>---○---</div><div>Input Volt.</div><div>9V</div></div></div><div></div><p>Note: Slanted line shows the 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. 4.5[V]</th><th>Input Volt. 5[V]</th><th>Input Volt. 9[V]</th></tr><tr><td>0.00</td><td>-15.217</td><td>-15.217</td><td>-15.217</td></tr><tr><td>0.02</td><td>-15.151</td><td>-15.150</td><td>-15.150</td></tr><tr><td>0.04</td><td>-15.113</td><td>-15.112</td><td>-15.110</td></tr><tr><td>0.06</td><td>-15.081</td><td>-15.080</td><td>-15.078</td></tr><tr><td>0.08</td><td>-15.052</td><td>-15.051</td><td>-15.049</td></tr><tr><td>0.10</td><td>-15.023</td><td>-15.023</td><td>-15.023</td></tr><tr><td>0.11</td><td>-15.009</td><td>-15.010</td><td>-15.011</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. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	0.00	-15.217	-15.217	-15.217	0.02	-15.151	-15.150	-15.150	0.04	-15.113	-15.112	-15.110	0.06	-15.081	-15.080	-15.078	0.08	-15.052	-15.051	-15.049	0.10	-15.023	-15.023	-15.023	0.11	-15.009	-15.010	-15.011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Load Current [A]	Output Voltage [V]																																																					
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[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>5V</div></div><div><div>Load</div><div>100%</div></div><div></div><p>+15V:Rated Load Current</p></div>																																																						

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BC-12075



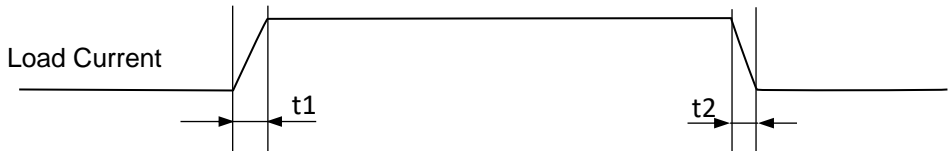
Model		MUW30515	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+15V0.1A	

Input Volt. 5 V

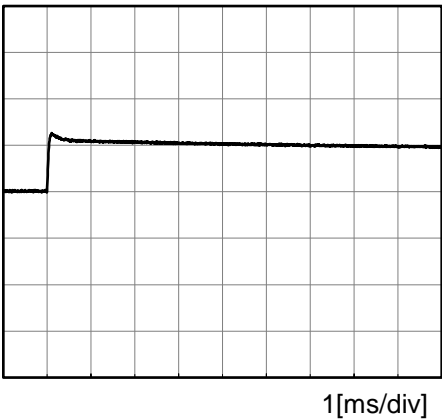
-15V:Rated Load Current

Cycle 1000 ms

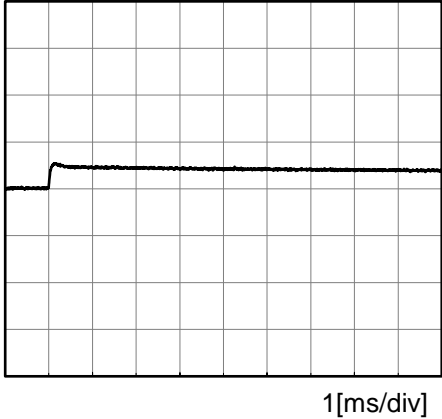
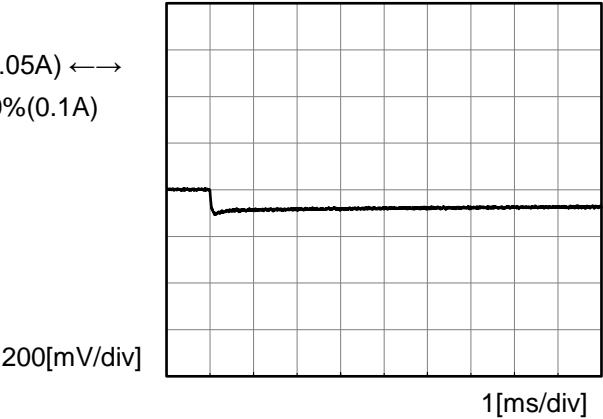
Response. t1=t2=50μs. Typ



Load 0%(0A) ↔
Load 100%(0.1A)



Load 50%(0.05A) ↔
Load 100%(0.1A)





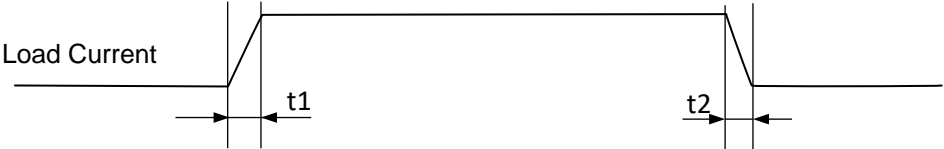
Model		MUW30515	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		-15V0.1A	

Input Volt. 5 V

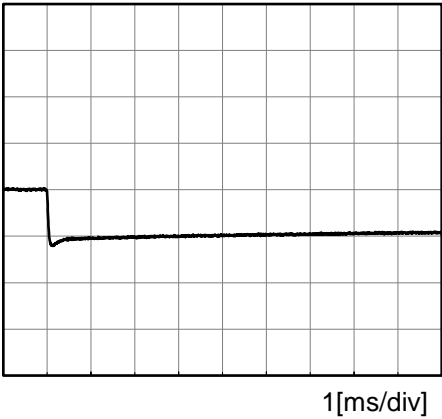
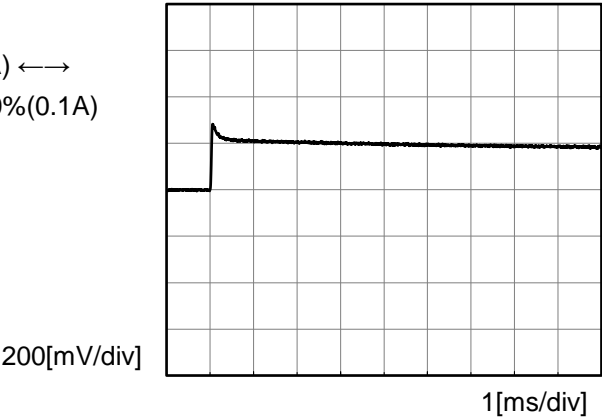
+15V:Rated Load Current

Cycle 1000 ms

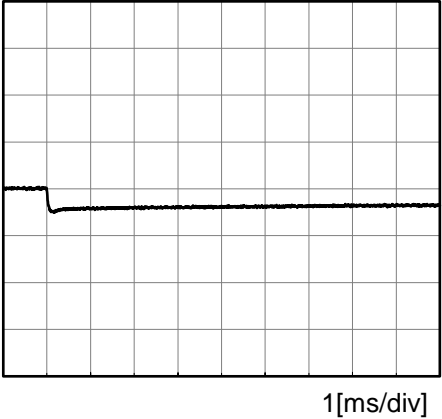
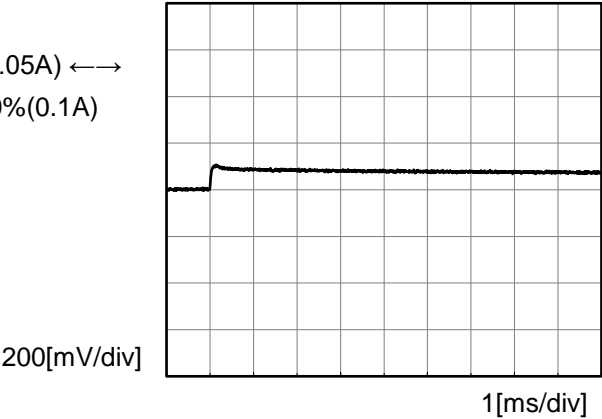
Response. t1=t2=50μs. Typ

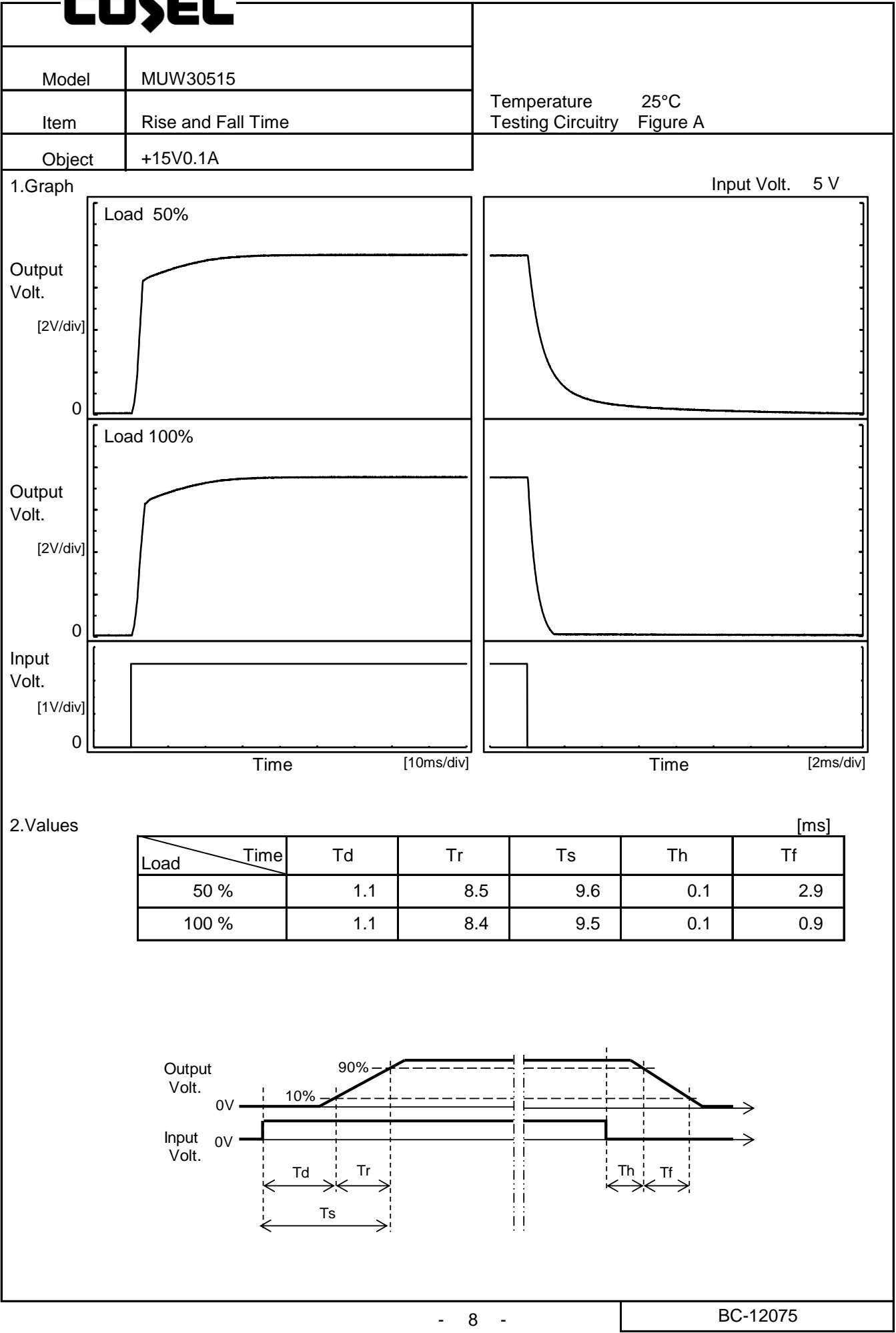


Load 0%(0A) ↔
Load 100%(0.1A)



Load 50%(0.05A) ↔
Load 100%(0.1A)

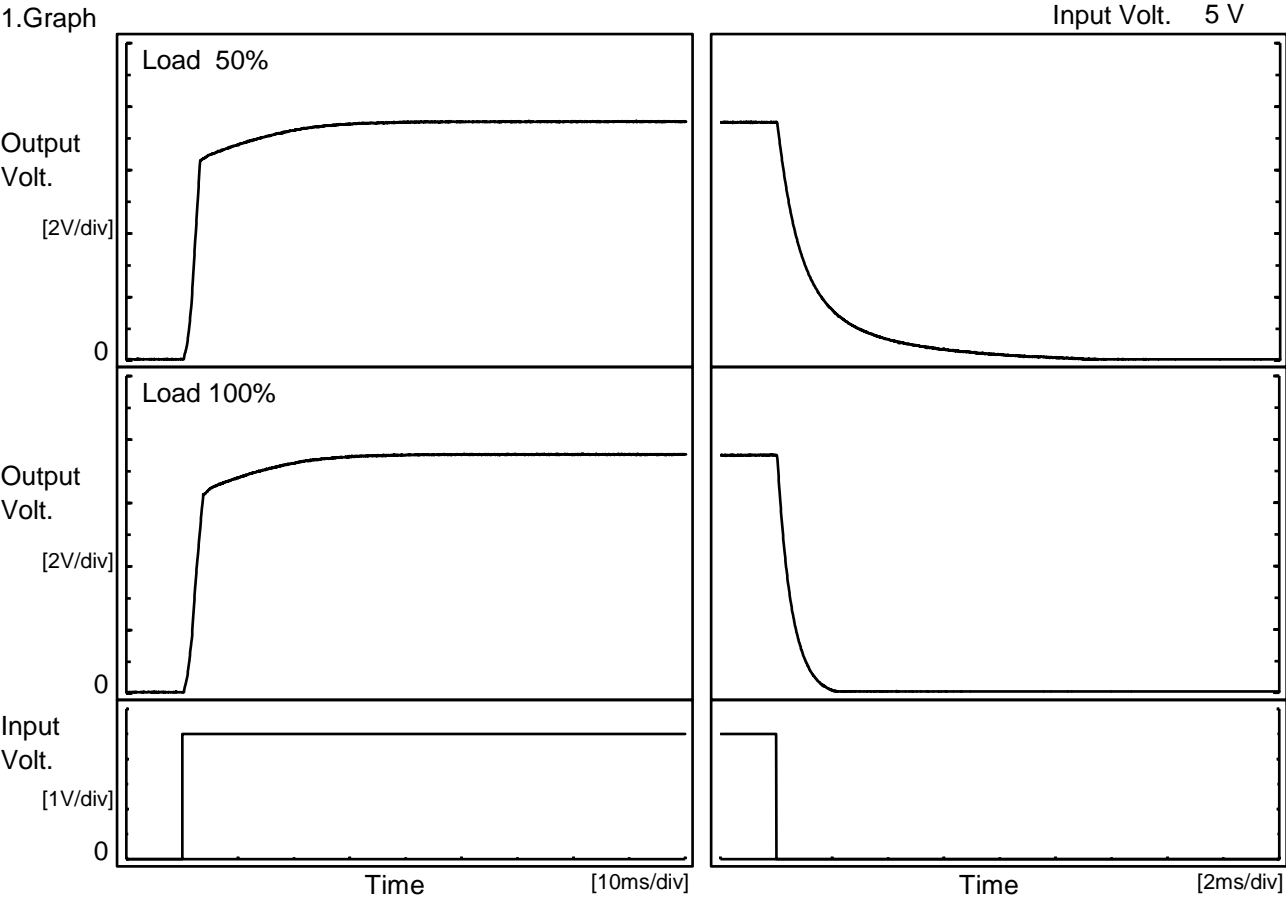






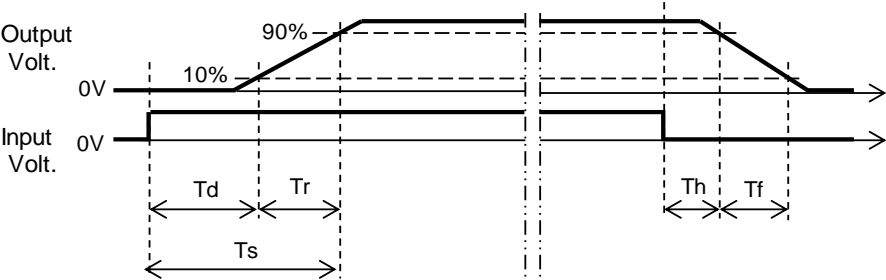
Model	MUW30515	Temperature 25°C Testing Circuitry Figure A
Item	Rise and Fall Time	
Object	-15V0.1A	

1.Graph

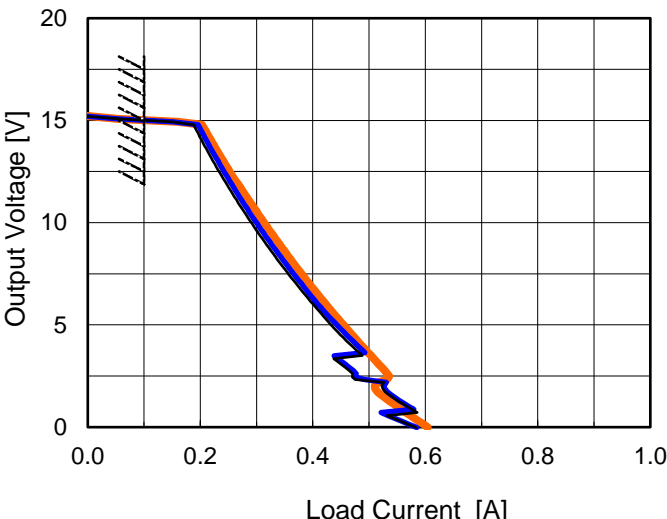


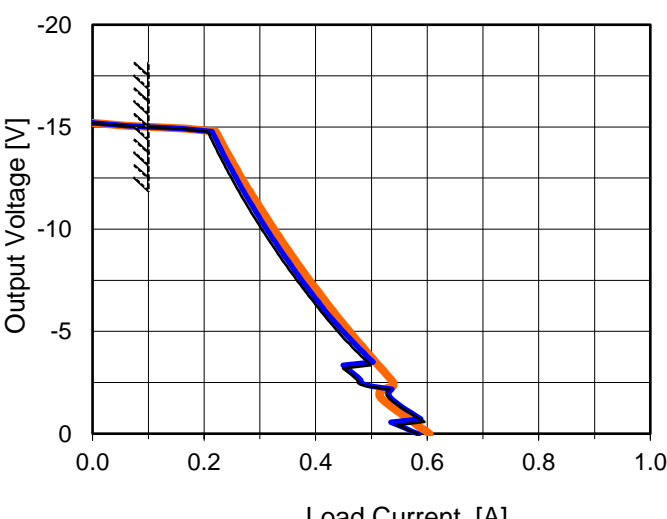
2.Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		1.1	8.7	9.8	0.1	3.4
100 %		1.1	8.6	9.7	0.1	1.1



COSEL

Model		MUW30515	Temperature		25°C																																																							
Item		Overcurrent Protection	Testing Circuitry		Figure A																																																							
Object		+15V0.1A																																																										
1.Graph		<div><div>— Input Volt. 4.5V</div><div>— Input Volt. 5V</div><div>— Input Volt. 9V</div></div> 	2.Values																																																									
			<table><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><tr><td>14.25</td><td>0.20</td><td>0.21</td><td>0.21</td></tr><tr><td>13.50</td><td>0.21</td><td>0.22</td><td>0.23</td></tr><tr><td>12.00</td><td>0.24</td><td>0.25</td><td>0.26</td></tr><tr><td>10.50</td><td>0.28</td><td>0.29</td><td>0.30</td></tr><tr><td>9.00</td><td>0.31</td><td>0.32</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>0.40</td><td>0.41</td><td>0.42</td></tr><tr><td>4.50</td><td>0.45</td><td>0.46</td><td>0.47</td></tr><tr><td>3.00</td><td>0.45</td><td>0.46</td><td>0.52</td></tr><tr><td>1.50</td><td>0.54</td><td>0.54</td><td>0.52</td></tr><tr><td>0.00</td><td>0.58</td><td>0.59</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. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	14.25	0.20	0.21	0.21	13.50	0.21	0.22	0.23	12.00	0.24	0.25	0.26	10.50	0.28	0.29	0.30	9.00	0.31	0.32	0.34	7.50	0.35	0.36	0.38	6.00	0.40	0.41	0.42	4.50	0.45	0.46	0.47	3.00	0.45	0.46	0.52	1.50	0.54	0.54	0.52	0.00	0.58	0.59	0.60	--	-	-	-
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			-15V:Rated Load Current																																																									

Object		-15V0.1A																																																										
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			<table><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><tr><td>-14.25</td><td>0.22</td><td>0.22</td><td>0.23</td></tr><tr><td>-13.50</td><td>0.23</td><td>0.24</td><td>0.24</td></tr><tr><td>-12.00</td><td>0.26</td><td>0.27</td><td>0.27</td></tr><tr><td>-10.50</td><td>0.29</td><td>0.30</td><td>0.31</td></tr><tr><td>-9.00</td><td>0.33</td><td>0.33</td><td>0.35</td></tr><tr><td>-7.50</td><td>0.36</td><td>0.37</td><td>0.39</td></tr><tr><td>-6.00</td><td>0.41</td><td>0.41</td><td>0.43</td></tr><tr><td>-4.50</td><td>0.46</td><td>0.47</td><td>0.48</td></tr><tr><td>-3.00</td><td>0.46</td><td>0.46</td><td>0.52</td></tr><tr><td>-1.50</td><td>0.54</td><td>0.54</td><td>0.52</td></tr><tr><td>0.00</td><td>0.58</td><td>0.58</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. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	-14.25	0.22	0.22	0.23	-13.50	0.23	0.24	0.24	-12.00	0.26	0.27	0.27	-10.50	0.29	0.30	0.31	-9.00	0.33	0.33	0.35	-7.50	0.36	0.37	0.39	-6.00	0.41	0.41	0.43	-4.50	0.46	0.47	0.48	-3.00	0.46	0.46	0.52	-1.50	0.54	0.54	0.52	0.00	0.58	0.58	0.60	--	-	-	-
Output Voltage [V]	Load Current [A]																																																											
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]																																																									
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0.00	0.58	0.58	0.60																																																									
--	-	-	-																																																									
			+15V:Rated Load Current																																																									

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

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BC-12075

COSEL

<div>COSEL</div>		Testing Circuitry Figure A																			
Model	MUW30515																				
Item	Ambient Temperature Drift																				
Object	+15V0.1A																				
1.Values <div>Load 100%</div> <table><tr><th rowspan="2">Ambient Temperature[°C]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 4.5V</th><th>Input Volt. 5V</th><th>Input Volt. 9V</th></tr><tr><td>-40</td><td>14.914</td><td>14.918</td><td>14.927</td></tr><tr><td>25</td><td>15.007</td><td>15.009</td><td>15.017</td></tr><tr><td>85</td><td>15.017</td><td>15.019</td><td>15.026</td></tr></table>			Ambient Temperature[°C]	Output Voltage [V]			Input Volt. 4.5V	Input Volt. 5V	Input Volt. 9V	-40	14.914	14.918	14.927	25	15.007	15.009	15.017	85	15.017	15.019	15.026
Ambient Temperature[°C]	Output Voltage [V]																				
	Input Volt. 4.5V	Input Volt. 5V	Input Volt. 9V																		
-40	14.914	14.918	14.927																		
25	15.007	15.009	15.017																		
85	15.017	15.019	15.026																		
Item Minimum Input Voltage for Regulated Output Voltage		Testing Circuitry Figure A																			
Object	+15V0.1A																				
1.Values <table><tr><th rowspan="2">Ambient Temperature[°C]</th><th colspan="2">Input Voltage [V]</th></tr><tr><th>Load 50%</th><th>Load 100%</th></tr><tr><td>-40</td><td>3.0</td><td>3.1</td></tr><tr><td>25</td><td>3.0</td><td>3.0</td></tr><tr><td>85</td><td>3.0</td><td>3.1</td></tr></table>			Ambient Temperature[°C]	Input Voltage [V]		Load 50%	Load 100%	-40	3.0	3.1	25	3.0	3.0	85	3.0	3.1					
Ambient Temperature[°C]	Input Voltage [V]																				
	Load 50%	Load 100%																			
-40	3.0	3.1																			
25	3.0	3.0																			
85	3.0	3.1																			

COSEL

		Testing Circuitry Figure A
Model	MUW30515	
Item	Ambient Temperature Drift	
Object	-15V0.1A	

1.Values

Load 100%

Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 4.5V	Input Volt. 5V	Input Volt. 9V
-40	-14.935	-14.936	-14.937
25	-15.024	-15.024	-15.025
85	-15.033	-15.033	-15.034

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	3.0	3.1
25	3.0	3.0
85	3.0	3.1

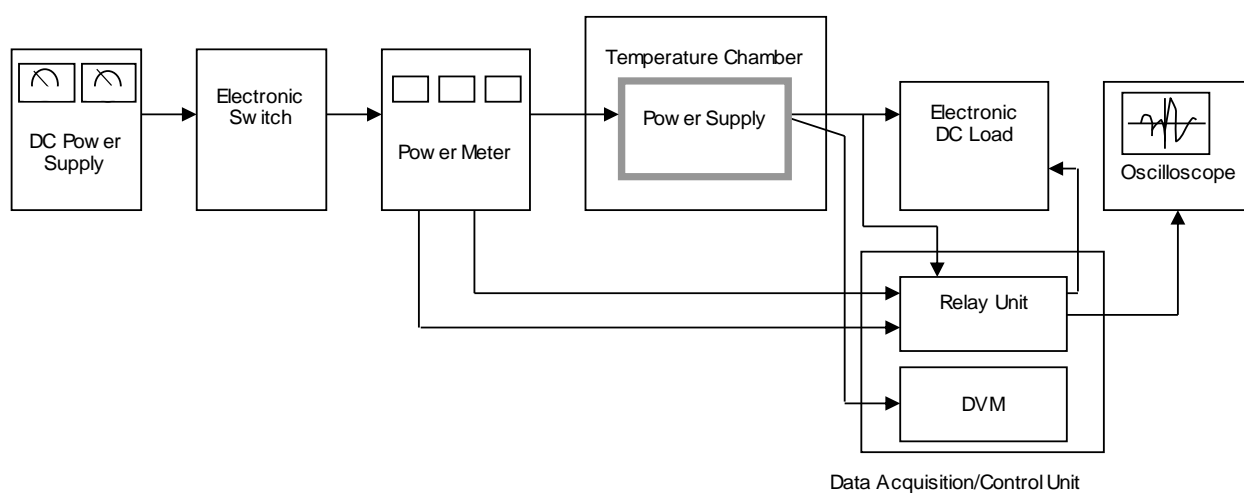


Figure A

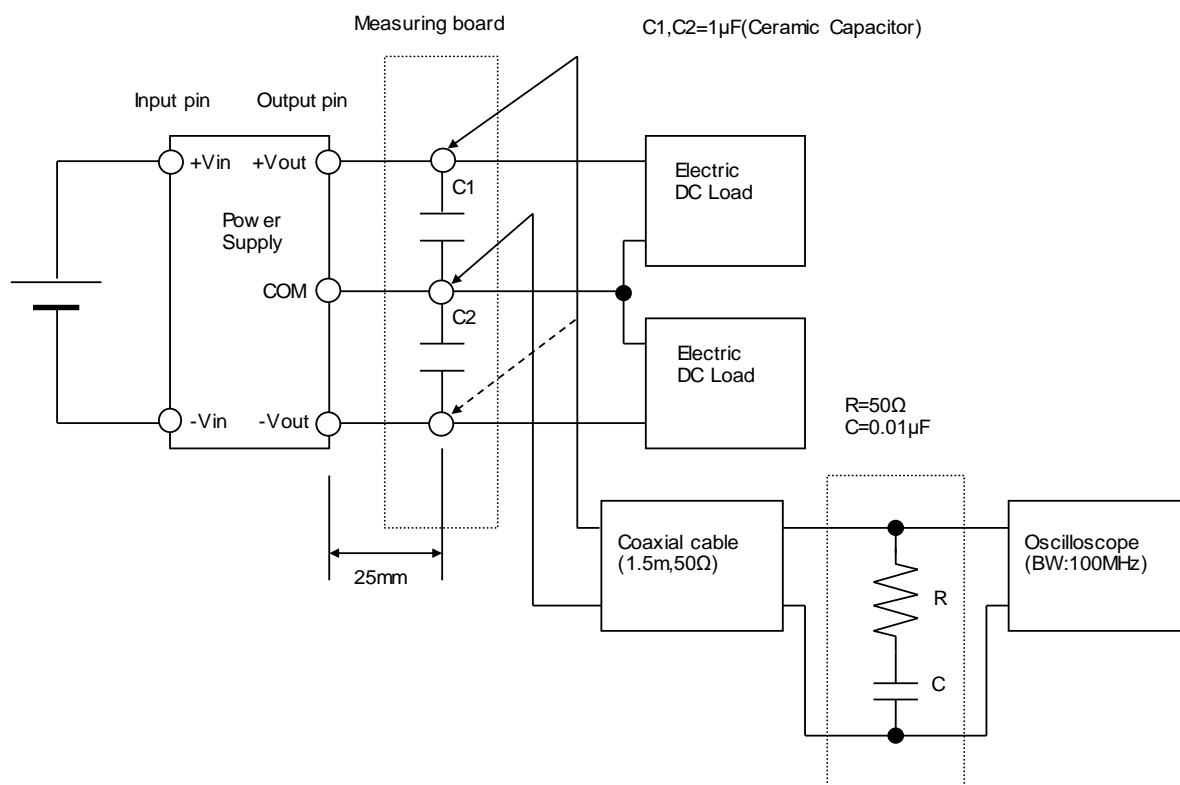


Figure B