

TEST DATA OF SUTW104815

Regulated DC Power Supply
February 27, 2009

Approved by : Kazunari Asano
Kazunari Asano Design Manager

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COSEL CO.,LTD.

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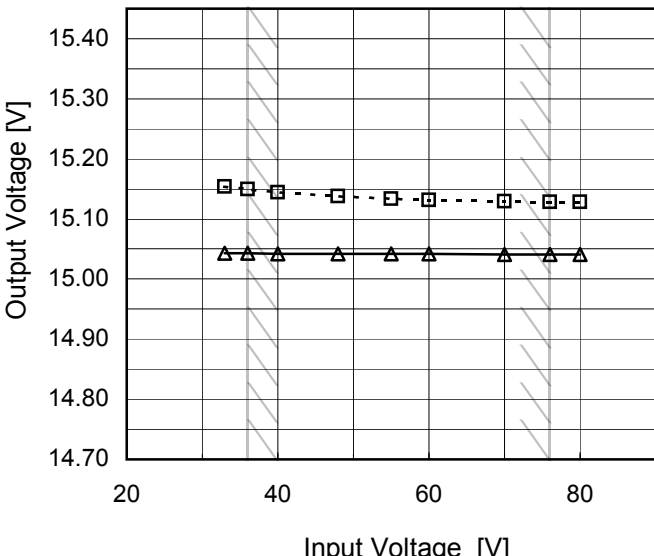
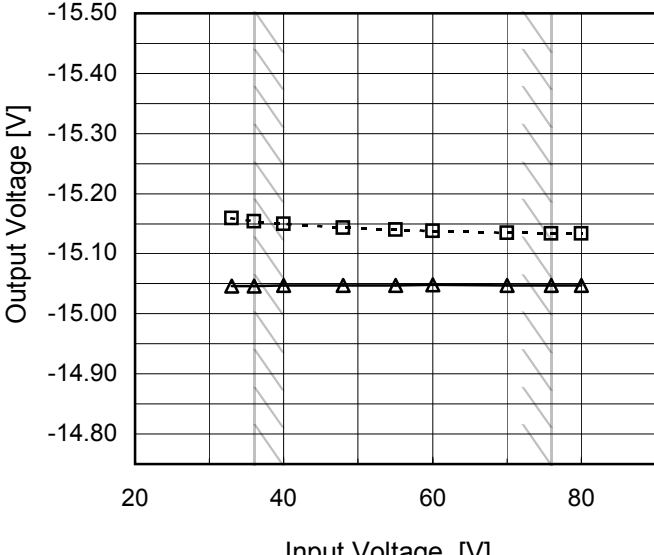
Model	SUTW104815		
Item	Input Current (by Input Voltage)	Temperature	25°C
Object		Testing Circuitry	Figure A
1.Graph		2.Values	
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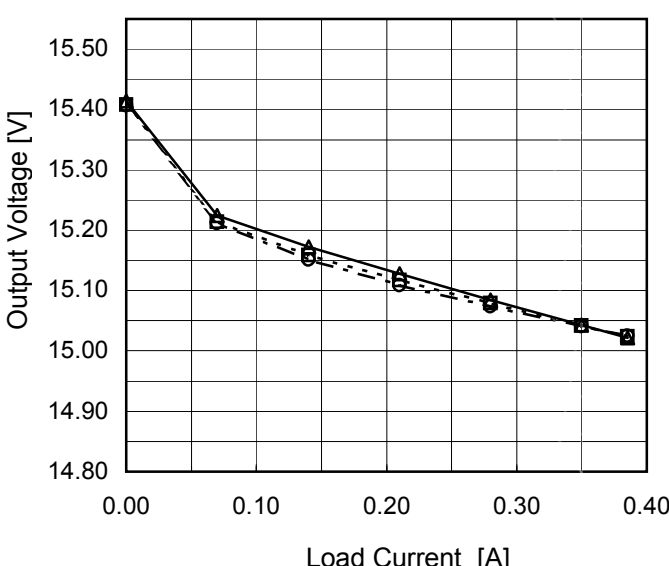
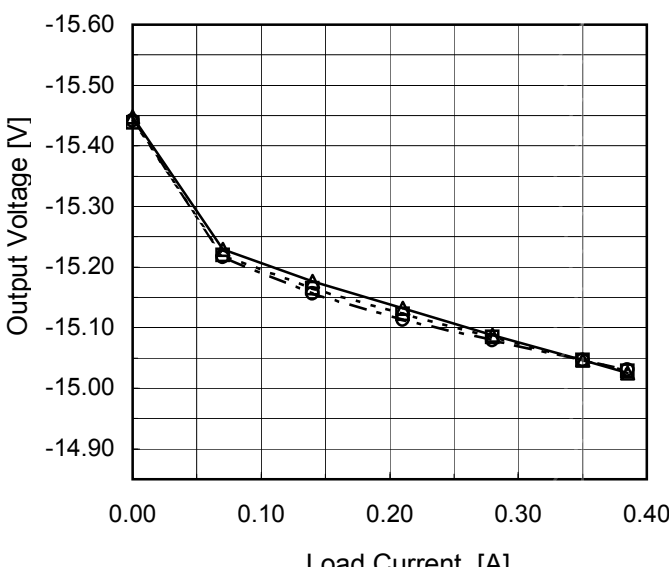
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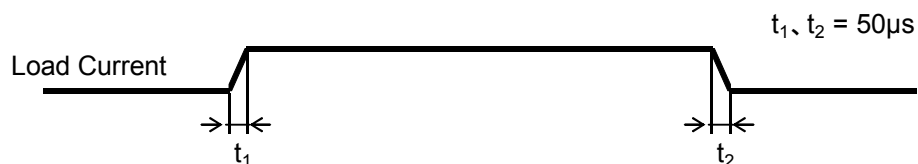
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BC-10309



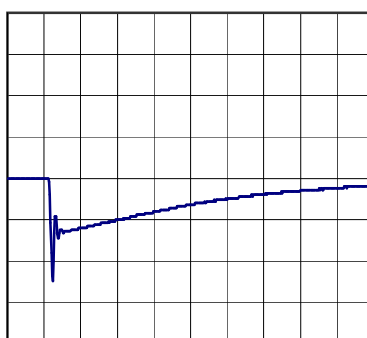
Model	SUTW104815	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	+15V0.35A	

Input Volt. 48 V
Cycle 100 mS



Min. Load (0A) \longleftrightarrow
Load 100% (0.35A)

200mV/div



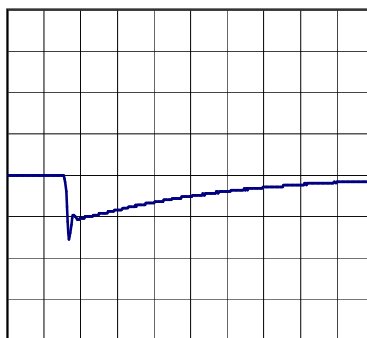
500µs/div



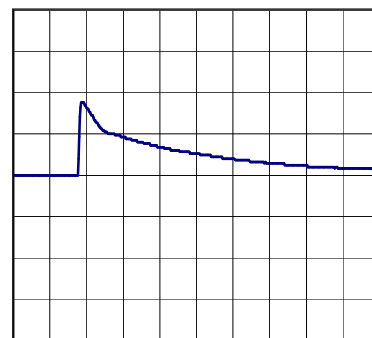
500µs/div

Min. Load (0A) \longleftrightarrow
Load 50% (0.175A)

200mV/div



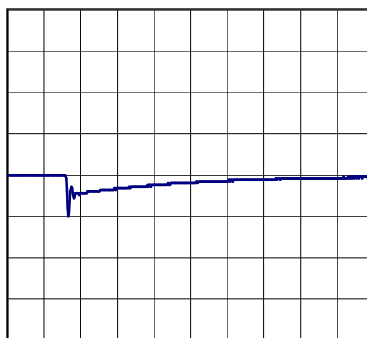
500µs/div



500µs/div

Load 50% (0.175A) \longleftrightarrow
Load 100% (0.35A)

200mV/div



500µs/div

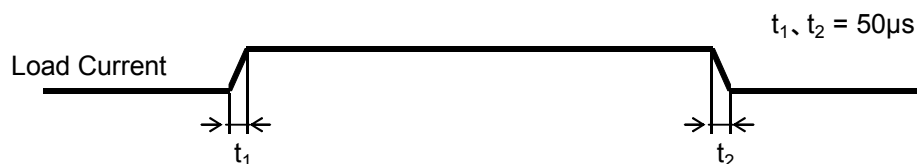


500µs/div



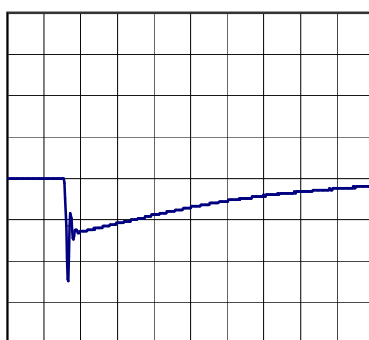
Model	SUTW104815	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	-15V0.35A	

Input Volt. 48 V
Cycle 100 mS



Min. Load (0A) \longleftrightarrow
Load 100% (0.35A)

200mV/div



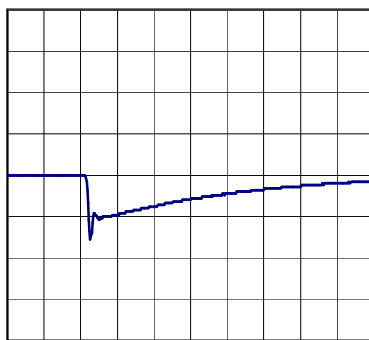
500µs/div



500µs/div

Min. Load (0A) \longleftrightarrow
Load 50% (0.175A)

200mV/div



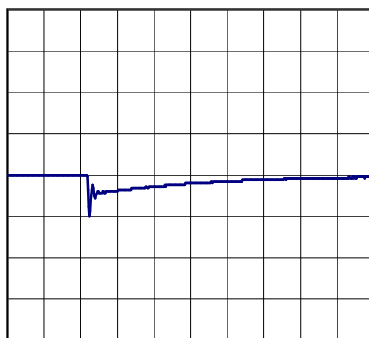
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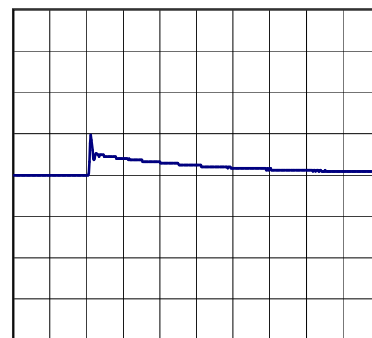
500µs/div

Load 50% (0.175A) \longleftrightarrow
Load 100% (0.35A)

200mV/div



500µs/div



500µs/div

Model	SUTW104815																																								
Item	Ripple Voltage (by Load Current)	Temperature	25°C																																						
		Testing Circuitry	Figure B																																						
Object	+15V0.35A																																								
1.Graph		2.Values																																							
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<p>Ripple [mVp-p]</p> <p>Fig.Complex Ripple Wave Form</p>																																									

Model		SUTW104815	Temperature 25°C Testing Circuitry Figure B
Item		Ripple Voltage (by Load Current)	
Object		-15V0.35A	
1.Graph		2.Values	
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Model	SUTW104815																																								
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BC-10309

Testing Circuitry Figure A

2.Values

Note: Slanted line shows the range of the rated ambient temperature.



Model		SUTW104815	Testing Circuitry Figure A
Item		Output Voltage Accuracy	

1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -40 - 55°C

Input Voltage : 36 - 76V

Load Current (AVR 1) : 0 - 0.35A (AVR 2) : 0 - 0.35A

* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

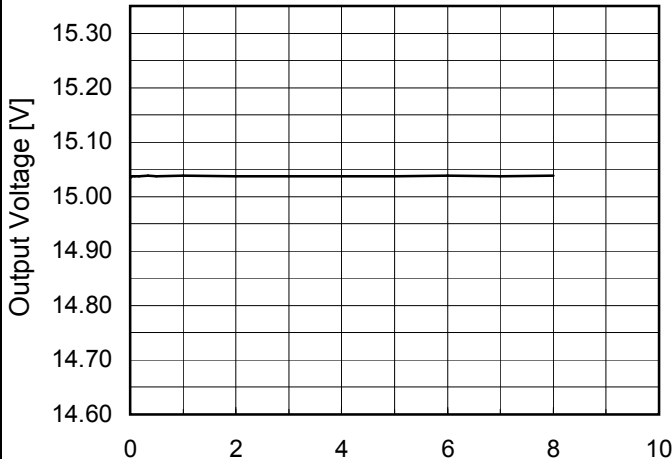
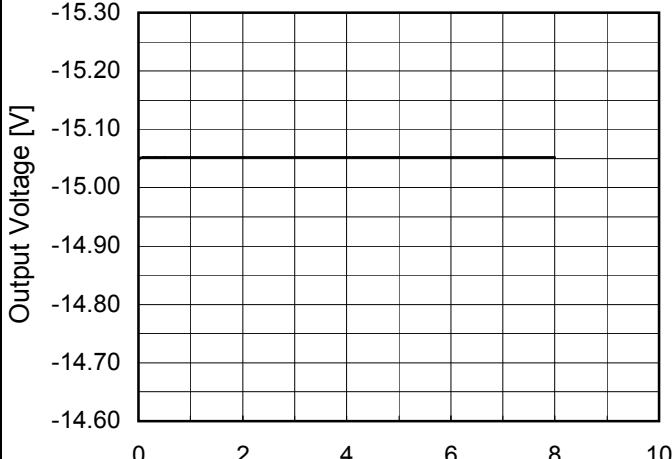
* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

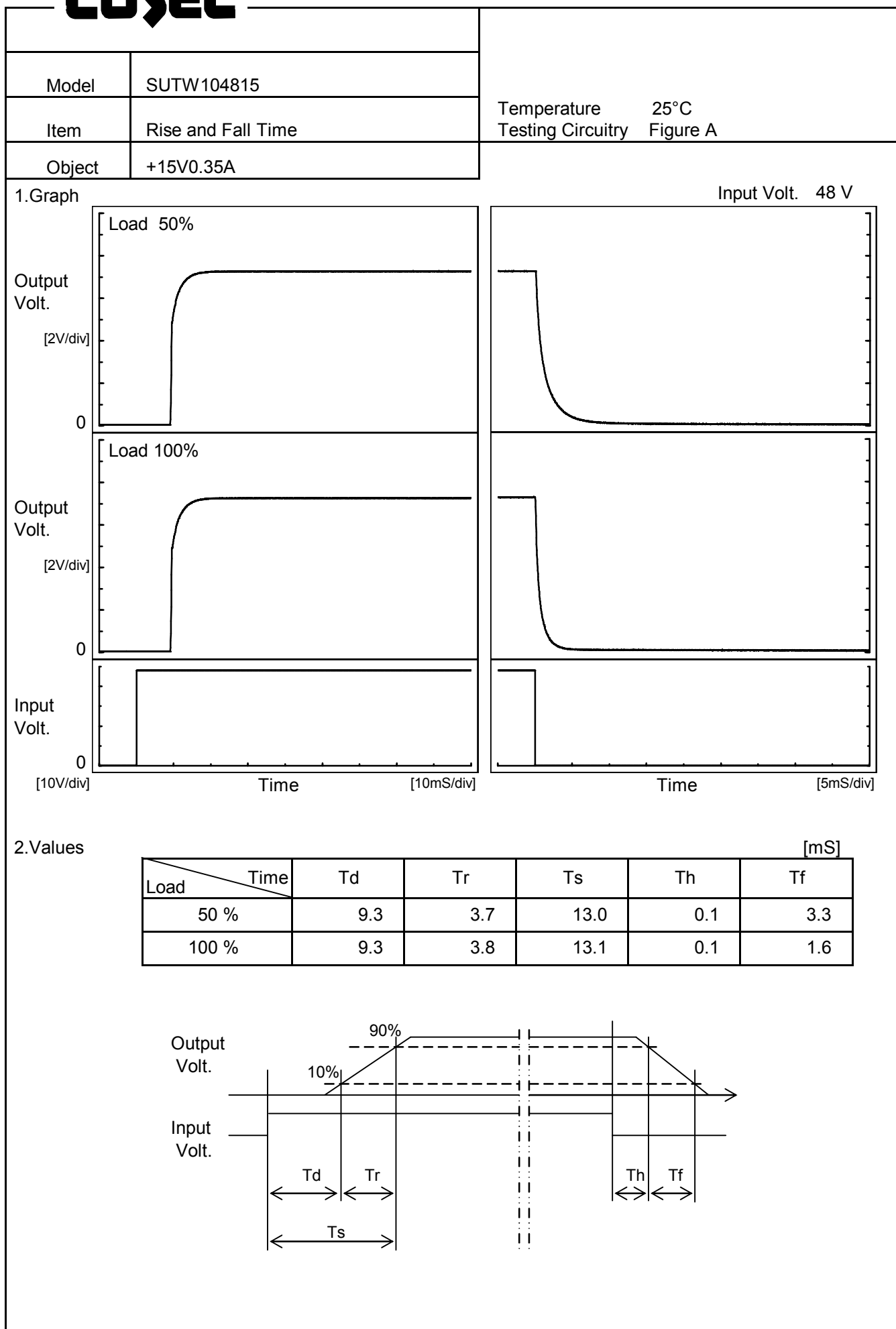
2. Values

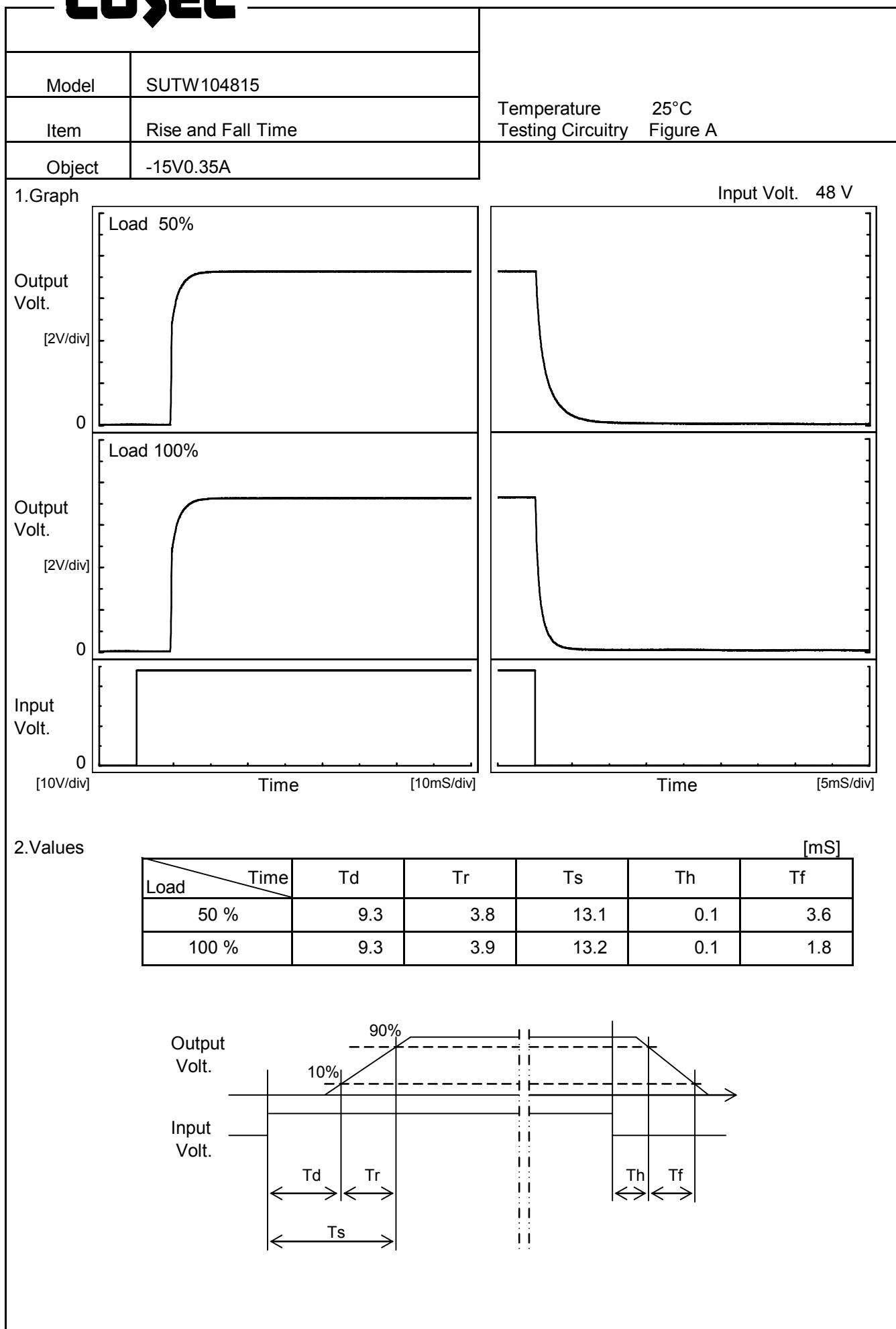
Object		+15V0.35A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	36	0	15.424	±395	±2.6
Minimum Voltage	55	36	0.35	14.634		

Object		-15V0.35A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	36	0	-15.459	±395	±2.6
Minimum Voltage	55	36	0.35	-14.670		

COSEL

Model	SUTW104815																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+15V0.35A																								
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 48V</p><p>Load 100%</p></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>15.034</td></tr><tr><td>0.5</td><td>15.038</td></tr><tr><td>1.0</td><td>15.038</td></tr><tr><td>2.0</td><td>15.038</td></tr><tr><td>3.0</td><td>15.038</td></tr><tr><td>4.0</td><td>15.038</td></tr><tr><td>5.0</td><td>15.038</td></tr><tr><td>6.0</td><td>15.038</td></tr><tr><td>7.0</td><td>15.038</td></tr><tr><td>8.0</td><td>15.038</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	15.034	0.5	15.038	1.0	15.038	2.0	15.038	3.0	15.038	4.0	15.038	5.0	15.038	6.0	15.038	7.0	15.038	8.0	15.038
Time since start [H]	Output Voltage [V]																								
0.0	15.034																								
0.5	15.038																								
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2.0	15.038																								
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Object	-15V0.35A																								
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 48V</p><p>Load 100%</p></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>-15.047</td></tr><tr><td>0.5</td><td>-15.052</td></tr><tr><td>1.0</td><td>-15.052</td></tr><tr><td>2.0</td><td>-15.052</td></tr><tr><td>3.0</td><td>-15.052</td></tr><tr><td>4.0</td><td>-15.052</td></tr><tr><td>5.0</td><td>-15.052</td></tr><tr><td>6.0</td><td>-15.052</td></tr><tr><td>7.0</td><td>-15.052</td></tr><tr><td>8.0</td><td>-15.052</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	-15.047	0.5	-15.052	1.0	-15.052	2.0	-15.052	3.0	-15.052	4.0	-15.052	5.0	-15.052	6.0	-15.052	7.0	-15.052	8.0	-15.052
Time since start [H]	Output Voltage [V]																								
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7.0	-15.052																								
8.0	-15.052																								





Model	SUTW104815																																						
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A																																					
Object	+15V0.35A																																						
1.Graph		2.Values																																					
<div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <table><thead><tr><th>Ambient Temperature [°C]</th><th>Load 50%</th><th>Load 100%</th></tr></thead><tbody><tr><td>-60</td><td>27.7</td><td>27.7</td></tr><tr><td>-40</td><td>27.7</td><td>27.7</td></tr><tr><td>-20</td><td>27.7</td><td>27.7</td></tr><tr><td>0</td><td>28.1</td><td>28.1</td></tr><tr><td>25</td><td>28.1</td><td>28.1</td></tr><tr><td>55</td><td>28.5</td><td>28.5</td></tr><tr><td>60</td><td>28.5</td><td>28.5</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table>		Ambient Temperature [°C]	Load 50%	Load 100%	-60	27.7	27.7	-40	27.7	27.7	-20	27.7	27.7	0	28.1	28.1	25	28.1	28.1	55	28.5	28.5	60	28.5	28.5	--	-	-	--	-	-	--	-	-	--	-	-		
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Ambient Temperature [°C]	Load 50%	Load 100%																																					
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Note: Slanted line shows the range of the rated ambient temperature.																																							

Input Voltage [V]

40

30

20

10

0

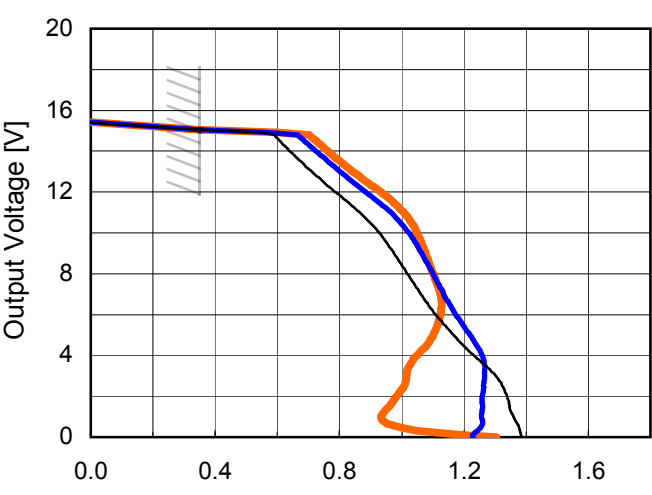
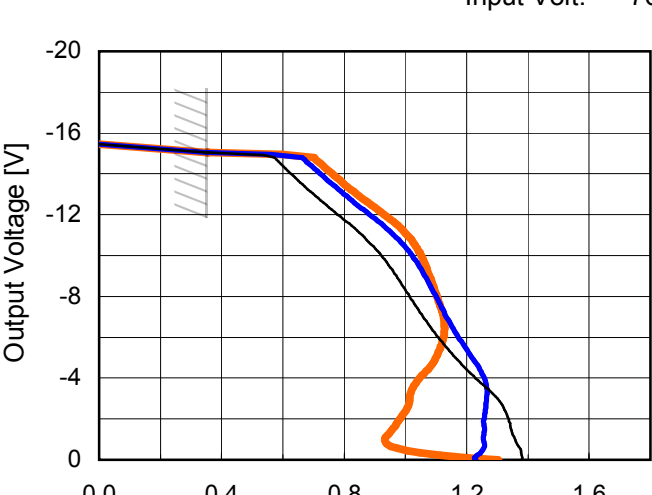
-60

-20

20

60

Ambient Temperature [°C]

Model	SUTW104815																																																									
Item	Overcurrent Protection	Temperature	25°C																																																							
Object	+15V0.35A	Testing Circuitry	Figure A																																																							
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<div><div></div>Input Volt. 36V</div> <div><div></div>Input Volt. 48V</div> <div><div></div>Input Volt. 76V</div> 		<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>15.0</td><td>0.35</td><td>0.35</td><td>0.35</td></tr><tr><td>14.3</td><td>0.63</td><td>0.71</td><td>0.74</td></tr><tr><td>13.5</td><td>0.67</td><td>0.76</td><td>0.80</td></tr><tr><td>12.0</td><td>0.79</td><td>0.88</td><td>0.92</td></tr><tr><td>10.5</td><td>0.89</td><td>0.99</td><td>1.03</td></tr><tr><td>9.0</td><td>0.97</td><td>1.06</td><td>1.07</td></tr><tr><td>7.5</td><td>1.04</td><td>1.12</td><td>1.11</td></tr><tr><td>6.0</td><td>1.10</td><td>1.17</td><td>1.13</td></tr><tr><td>4.5</td><td>1.19</td><td>1.24</td><td>1.08</td></tr><tr><td>3.0</td><td>1.30</td><td>1.27</td><td>1.02</td></tr><tr><td>1.5</td><td>1.35</td><td>1.26</td><td>0.96</td></tr><tr><td>0.0</td><td>1.38</td><td>1.23</td><td>1.30</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	15.0	0.35	0.35	0.35	14.3	0.63	0.71	0.74	13.5	0.67	0.76	0.80	12.0	0.79	0.88	0.92	10.5	0.89	0.99	1.03	9.0	0.97	1.06	1.07	7.5	1.04	1.12	1.11	6.0	1.10	1.17	1.13	4.5	1.19	1.24	1.08	3.0	1.30	1.27	1.02	1.5	1.35	1.26	0.96	0.0	1.38	1.23	1.30
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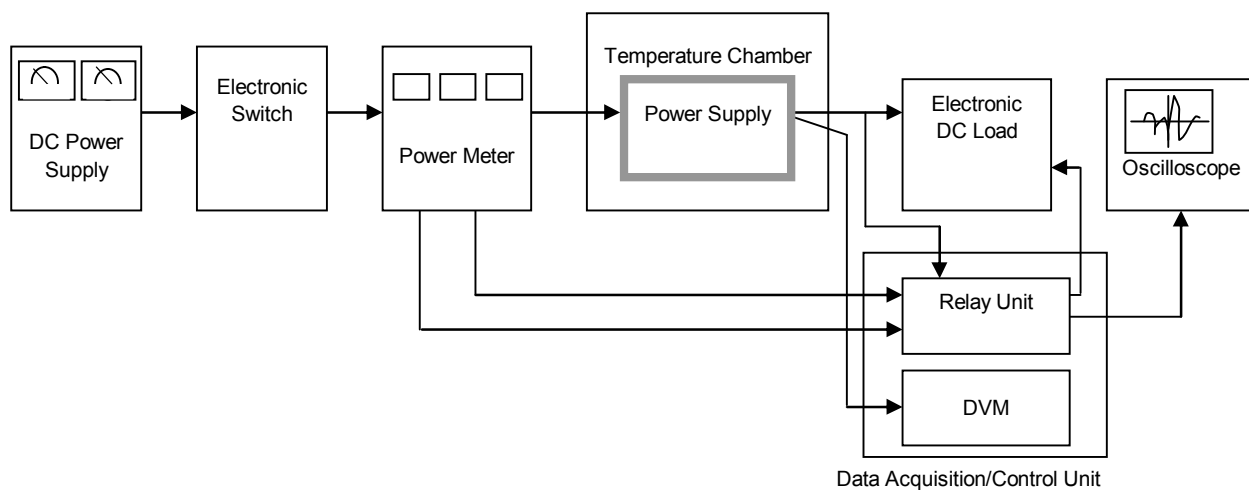


Figure A

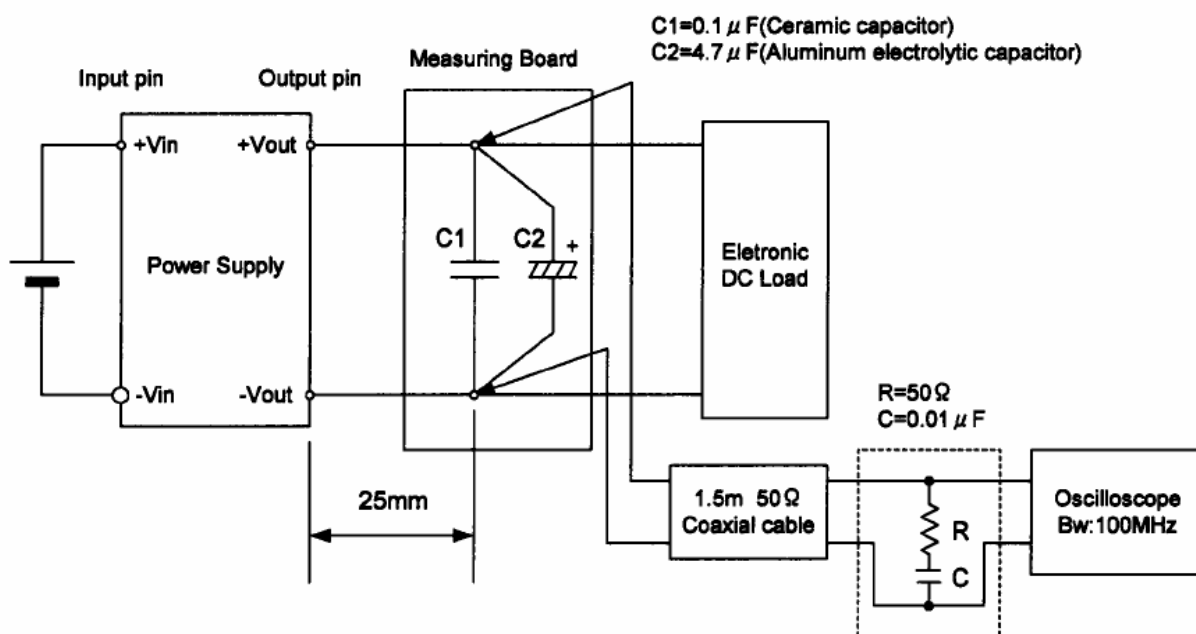


Figure B (Ripple and Ripple noise Characteristic)