

TEST DATA OF SUTS34815

Regulated DC Power Supply
February 23, 2009

Approved by : Kazunari Asano
Kazunari Asano Design Manager

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Sho Saito Design Engineer

COSEL CO.,LTD.

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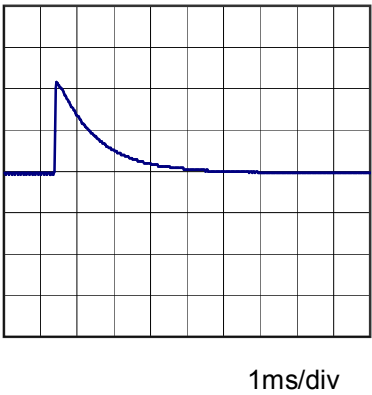
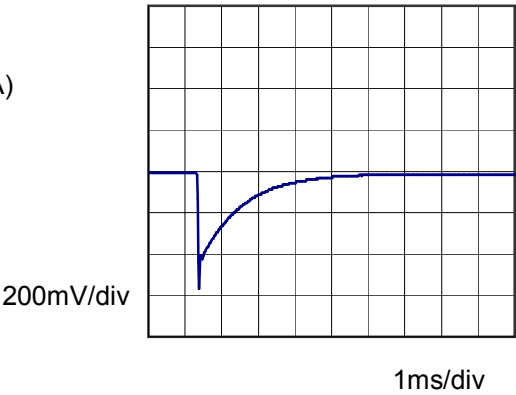


Model		SUTS34815	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+15V0.2A	

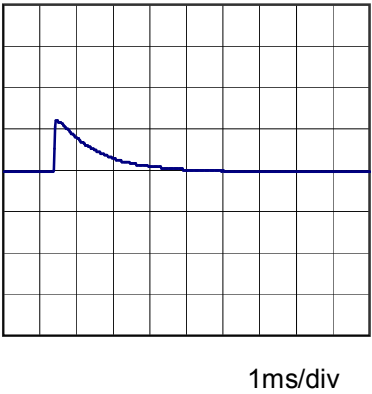
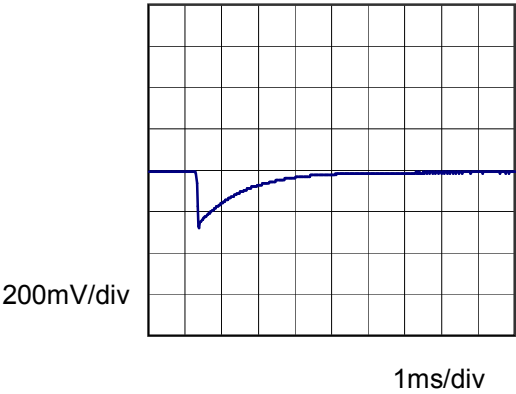
Input Volt. 48 V
Cycle 100 mS



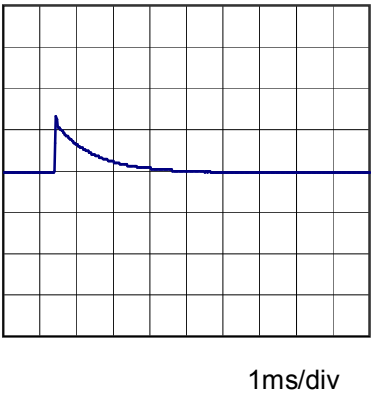
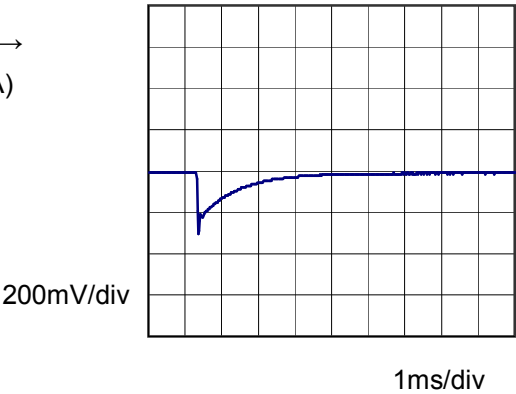
Min. Load (0A) \longleftrightarrow
Load 100% (0.2A)



Min. Load (0A) \longleftrightarrow
Load 50% (0.1A)



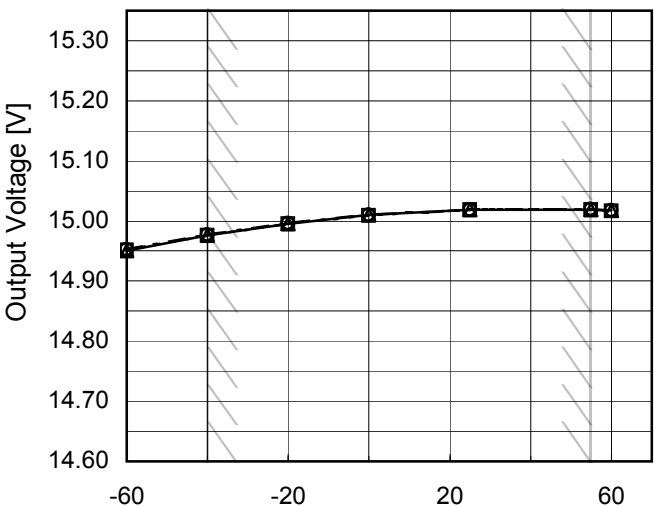
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<div><div><div><div></div><div>Input Volt.</div><div>36V</div></div><div><div></div><div>Input Volt.</div><div>76V</div></div></div><div><p>Ripple Voltage [mV]</p><p>Load Current [A]</p></div></div>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Ripple Voltage [mV]</th></tr><tr><th>Input Volt. 36 [V]</th><th>Input Volt. 76 [V]</th></tr><tr><td>0.00</td><td>5</td><td>4</td></tr><tr><td>0.04</td><td>5</td><td>4</td></tr><tr><td>0.08</td><td>6</td><td>4</td></tr><tr><td>0.12</td><td>7</td><td>4</td></tr><tr><td>0.16</td><td>9</td><td>5</td></tr><tr><td>0.20</td><td>13</td><td>7</td></tr><tr><td>0.22</td><td>14</td><td>8</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></table>		Load Current [A]	Ripple Voltage [mV]		Input Volt. 36 [V]	Input Volt. 76 [V]	0.00	5	4	0.04	5	4	0.08	6	4	0.12	7	4	0.16	9	5	0.20	13	7	0.22	14	8	--	-	-	--	-	-	--	-	-	--	-	-
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<p>Ripple Voltage is shown as p-p in the figure below.</p> <p>Note: Slanted line shows the range of the rated load current.</p>																																									
<div><div><div><div></div><div>Ripple [mVp-p]</div></div><div><p>Fig.Complex Ripple Wave Form</p></div></div></div>																																									

Model	SUTS34815																																								
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Load Current [A]	Ripple-Noise [mV]																																								
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Model	SUTS34815																																								
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry Figure B																																							
Object	+15V0.2A																																								
1.Graph		2.Values																																							
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Ambient Temperature [°C]	Ripple Voltage [mV]																																								
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Model		SUTS34815		Testing Circuitry Figure B																																																				
Item		Ambient Temperature Drift																																																						
Object		+15V0.2A																																																						
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>  <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>		2.Values																																																				
		<table><tr><th rowspan="2">Ambient Temperature [°C]</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>-60</td><td>14.951</td><td>14.952</td><td>14.953</td></tr><tr><td>-40</td><td>14.976</td><td>14.976</td><td>14.977</td></tr><tr><td>-20</td><td>14.996</td><td>14.996</td><td>14.997</td></tr><tr><td>0</td><td>15.010</td><td>15.010</td><td>15.010</td></tr><tr><td>25</td><td>15.018</td><td>15.018</td><td>15.019</td></tr><tr><td>55</td><td>15.019</td><td>15.019</td><td>15.019</td></tr><tr><td>60</td><td>15.017</td><td>15.017</td><td>15.017</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>		Ambient Temperature [°C]	Output Voltage [V]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	-60	14.951	14.952	14.953	-40	14.976	14.976	14.977	-20	14.996	14.996	14.997	0	15.010	15.010	15.010	25	15.018	15.018	15.019	55	15.019	15.019	15.019	60	15.017	15.017	15.017	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-		
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Note: Slanted line shows the range of the rated ambient temperature.																																																								



Model		SUTS34815	Testing Circuitry Figure A
Item		Output Voltage Accuracy	
Object		+15V0.2A	

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 : 0 - 0.2A

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

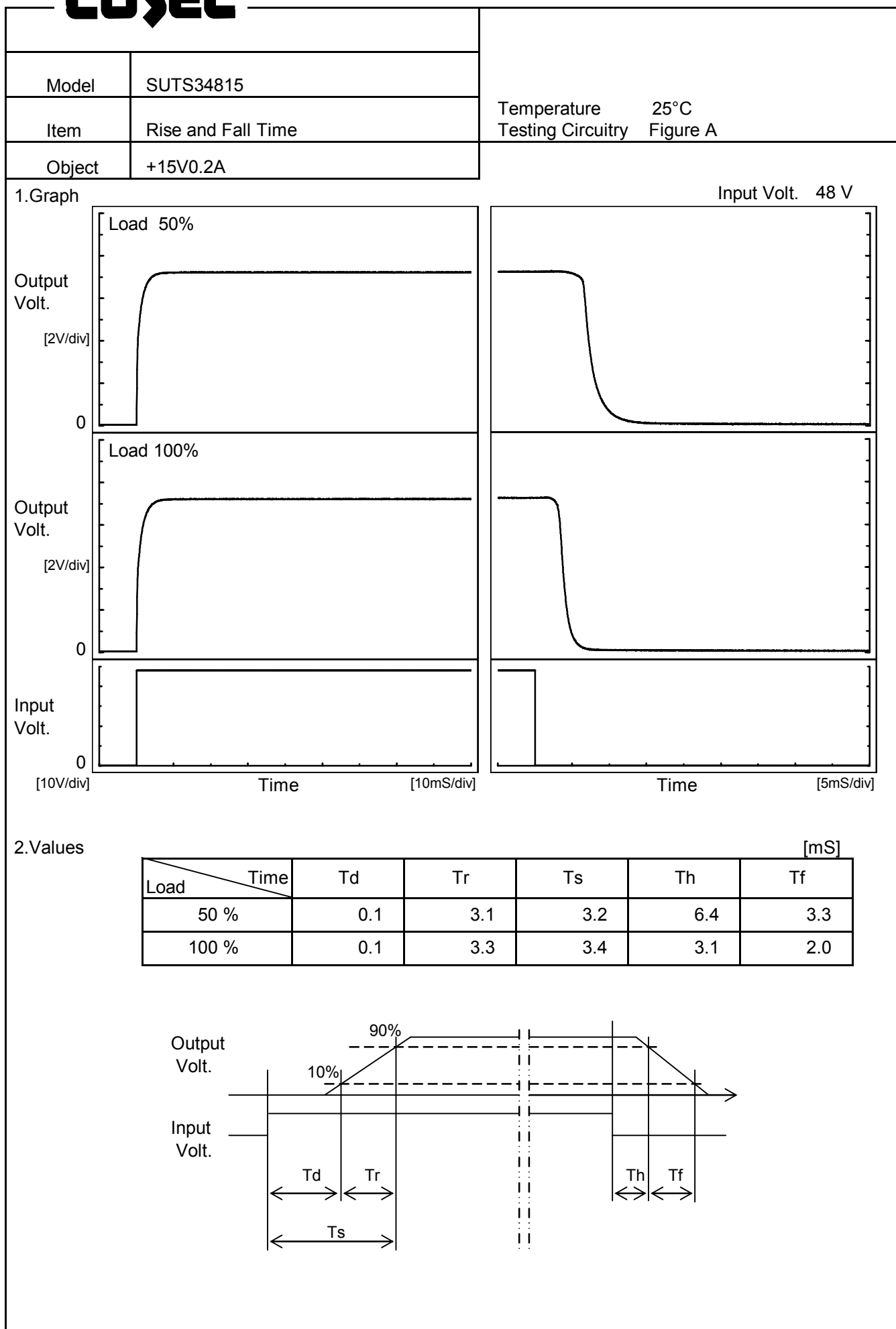
* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	76	0	15.040	±32	±0.2
Minimum Voltage	-40	36	0.2	14.976		



Model	SUTS34815																								
Item	Time Lapse Drift	Temperature	25°C																						
Object	+15V0.2A	Testing Circuitry	Figure A																						
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>15.016</td></tr><tr><td>0.5</td><td>15.018</td></tr><tr><td>1.0</td><td>15.018</td></tr><tr><td>2.0</td><td>15.018</td></tr><tr><td>3.0</td><td>15.019</td></tr><tr><td>4.0</td><td>15.019</td></tr><tr><td>5.0</td><td>15.019</td></tr><tr><td>6.0</td><td>15.019</td></tr><tr><td>7.0</td><td>15.019</td></tr><tr><td>8.0</td><td>15.019</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	15.016	0.5	15.018	1.0	15.018	2.0	15.018	3.0	15.019	4.0	15.019	5.0	15.019	6.0	15.019	7.0	15.019	8.0	15.019
Time since start [H]	Output Voltage [V]																								
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7.0	15.019																								
8.0	15.019																								



		Testing Circuitry Figure A
Model	SUTS34815	
Item	Minimum Input Voltage for Regulated Output Voltage	
Object	+15V0.2A	
1.Graph		2.Values
<div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <p>Input Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		

Model	SUTS34815																																																									
Item	Overcurrent Protection	Temperature	25°C																																																							
Object	+15V0.2A	Testing Circuitry	Figure A																																																							
1.Graph		2.Values																																																								
<div><div><div></div>Input Volt. 36V</div><div><div></div>Input Volt. 48V</div><div><div></div>Input Volt. 76V</div></div> <p>Note: Slanted line shows the range of the rated load current.</p>		<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>0.20</td><td>0.20</td><td>0.20</td></tr><tr><td>14.3</td><td>0.33</td><td>0.33</td><td>0.34</td></tr><tr><td>13.5</td><td>0.34</td><td>0.34</td><td>0.36</td></tr><tr><td>12.0</td><td>0.36</td><td>0.36</td><td>0.37</td></tr><tr><td>10.5</td><td>0.39</td><td>0.39</td><td>0.39</td></tr><tr><td>9.0</td><td>0.42</td><td>0.41</td><td>0.41</td></tr><tr><td>7.5</td><td>0.45</td><td>0.43</td><td>0.43</td></tr><tr><td>6.0</td><td>0.47</td><td>0.45</td><td>0.44</td></tr><tr><td>4.5</td><td>0.50</td><td>0.46</td><td>0.45</td></tr><tr><td>3.0</td><td>0.51</td><td>0.46</td><td>0.45</td></tr><tr><td>1.5</td><td>0.48</td><td>0.44</td><td>0.43</td></tr><tr><td>0.0</td><td>0.58</td><td>0.48</td><td>0.57</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	15.0	0.20	0.20	0.20	14.3	0.33	0.33	0.34	13.5	0.34	0.34	0.36	12.0	0.36	0.36	0.37	10.5	0.39	0.39	0.39	9.0	0.42	0.41	0.41	7.5	0.45	0.43	0.43	6.0	0.47	0.45	0.44	4.5	0.50	0.46	0.45	3.0	0.51	0.46	0.45	1.5	0.48	0.44	0.43	0.0	0.58	0.48	0.57
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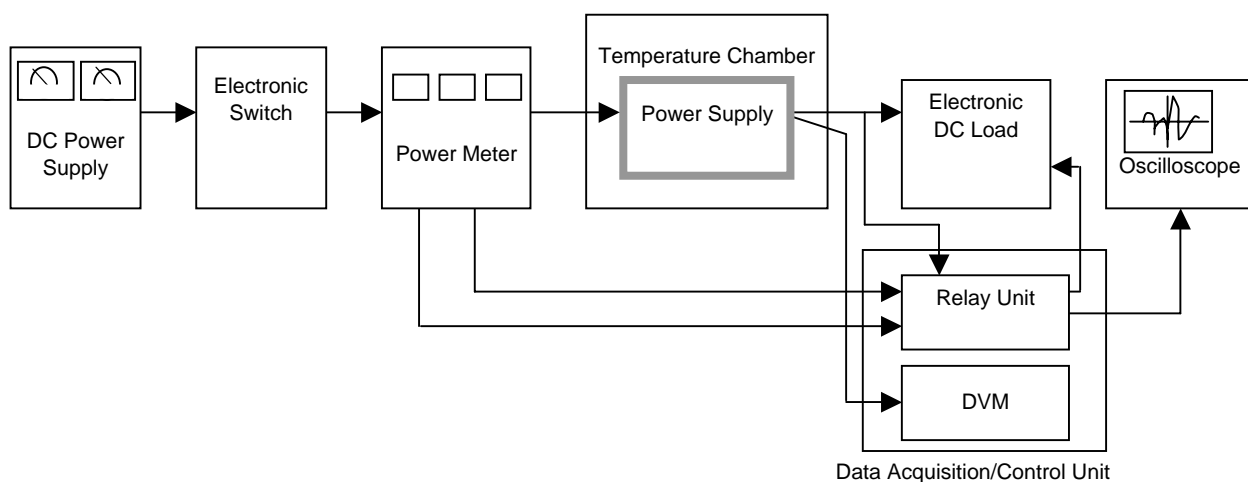


Figure A

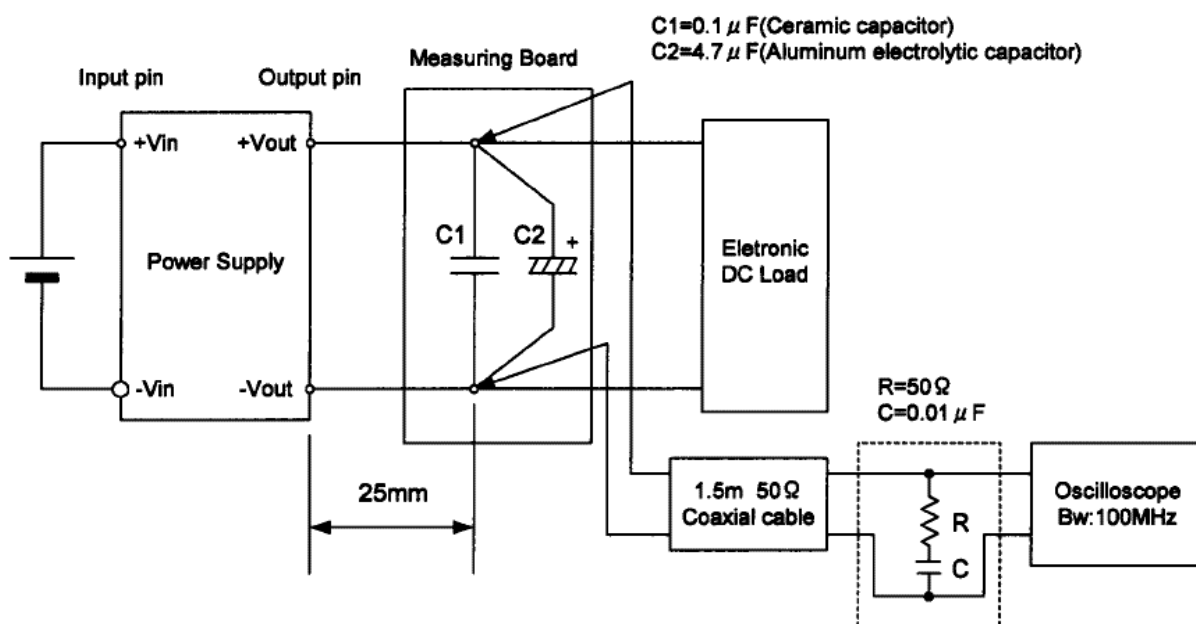


Figure B (Ripple and Ripple noise Characteristic)