

# TEST DATA OF SUTS6483R3

Regulated DC Power Supply  
March 17, 2009

Approved by : Kazunari Asano  
Kazunari Asano Design Manager

Prepared by : Sho Saito  
Sho Saito Design Engineer

**COSEL CO.,LTD.**

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Model	SUTS6483R3																																																																																	
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1.350	3.303	3.303	3.303																																																			
1.485	3.302	3.302	3.302																																																			
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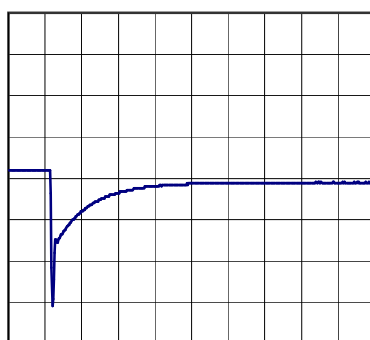
Model	SUTS6483R3	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	+3.3V1.35A	

Input Volt. 48 V  
Cycle 100 mS

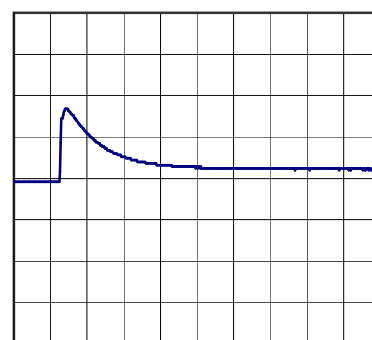


Min. Load (0A)  $\longleftrightarrow$   
Load 100% (1.35A)

100mV/div



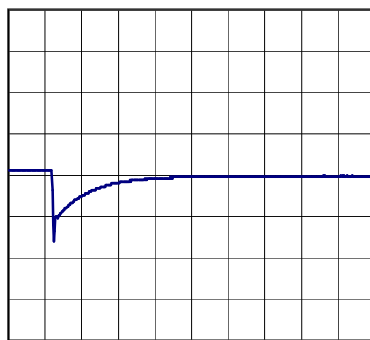
500µs/div



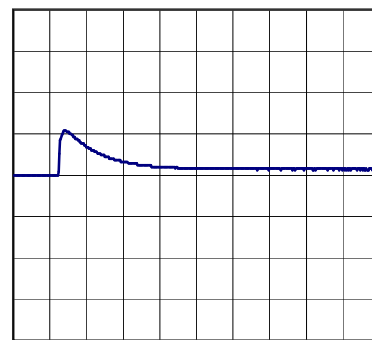
500µs/div

Min. Load (0A)  $\longleftrightarrow$   
Load 50% (0.675A)

100mV/div



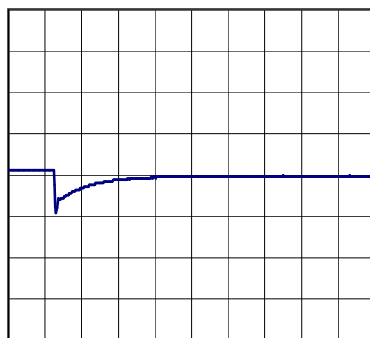
500µs/div



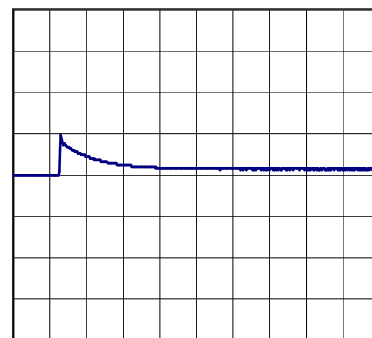
500µs/div

Load 50% (0.675A)  $\longleftrightarrow$   
Load 100% (1.35A)

100mV/div



500µs/div



500µs/div

Model	SUTS6483R3																																								
Item	Ripple Voltage (by Load Current)	Temperature	25°C																																						
		Testing Circuitry	Figure B																																						
Object	+3.3V1.35A																																								
1.Graph		2.Values																																							
<div><div><div>—△—</div><div>Input Volt.</div><div>36V</div></div><div><div>- - ○ - -</div><div>Input Volt.</div><div>76V</div></div></div> <p>Ripple Voltage is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>		<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>0.000</td><td>6</td><td>6</td></tr><tr><td>0.270</td><td>6</td><td>6</td></tr><tr><td>0.540</td><td>7</td><td>6</td></tr><tr><td>0.810</td><td>12</td><td>7</td></tr><tr><td>1.080</td><td>18</td><td>10</td></tr><tr><td>1.350</td><td>26</td><td>11</td></tr><tr><td>1.485</td><td>32</td><td>13</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]	0.000	6	6	0.270	6	6	0.540	7	6	0.810	12	7	1.080	18	10	1.350	26	11	1.485	32	13	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																								
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<p>Ripple [mVp-p]</p> <p>Fig.Complex Ripple Wave Form</p>																																									

Model	SUTS6483R3		
Item	Ripple-Noise	Temperature	25°C
		Testing Circuitry	Figure B
Object	+3.3V1.35A		
1.Graph		2.Values	
<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> 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Model	SUTS6483R3																																								
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry    Figure B																																							
Object	+3.3V1.35A																																								
1.Graph		2.Values																																							
<div><div>---□---    Load 50%</div><div>—△—    Load 100%</div></div> <p>Measured by 100 MHz Oscilloscope. Note: Slanted line shows the range of the rated ambient temperature.</p>		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="2">Ripple Voltage [mV]</th></tr><tr><th>Load 50%</th><th>Load 100%</th></tr><tr><td>-60</td><td>16</td><td>31</td></tr><tr><td>-40</td><td>14</td><td>26</td></tr><tr><td>-20</td><td>11</td><td>22</td></tr><tr><td>0</td><td>7</td><td>17</td></tr><tr><td>25</td><td>5</td><td>16</td></tr><tr><td>55</td><td>5</td><td>12</td></tr><tr><td>60</td><td>5</td><td>12</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>		Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-60	16	31	-40	14	26	-20	11	22	0	7	17	25	5	16	55	5	12	60	5	12	--	-	-	--	-	-	--	-	-	--	-	-
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Model	SUTS6483R3																																																					
Item	Ambient Temperature Drift	Testing Circuitry    Figure A																																																				
Object	+3.3V1.35A																																																					
1.Graph		2.Values																																																				
<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> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<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>3.277</td><td>3.280</td><td>3.281</td></tr><tr><td>-40</td><td>3.285</td><td>3.288</td><td>3.289</td></tr><tr><td>-20</td><td>3.294</td><td>3.296</td><td>3.296</td></tr><tr><td>0</td><td>3.299</td><td>3.300</td><td>3.301</td></tr><tr><td>25</td><td>3.303</td><td>3.304</td><td>3.305</td></tr><tr><td>55</td><td>3.304</td><td>3.304</td><td>3.305</td></tr><tr><td>60</td><td>3.304</td><td>3.304</td><td>3.304</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	3.277	3.280	3.281	-40	3.285	3.288	3.289	-20	3.294	3.296	3.296	0	3.299	3.300	3.301	25	3.303	3.304	3.305	55	3.304	3.304	3.305	60	3.304	3.304	3.304	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Ambient Temperature [°C]	Output Voltage [V]																																																					
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Model		SUTS6483R3	Testing Circuitry Figure A
Item		Output Voltage Accuracy	
Object		+3.3V1.35A	

### 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 - 1.35A

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

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

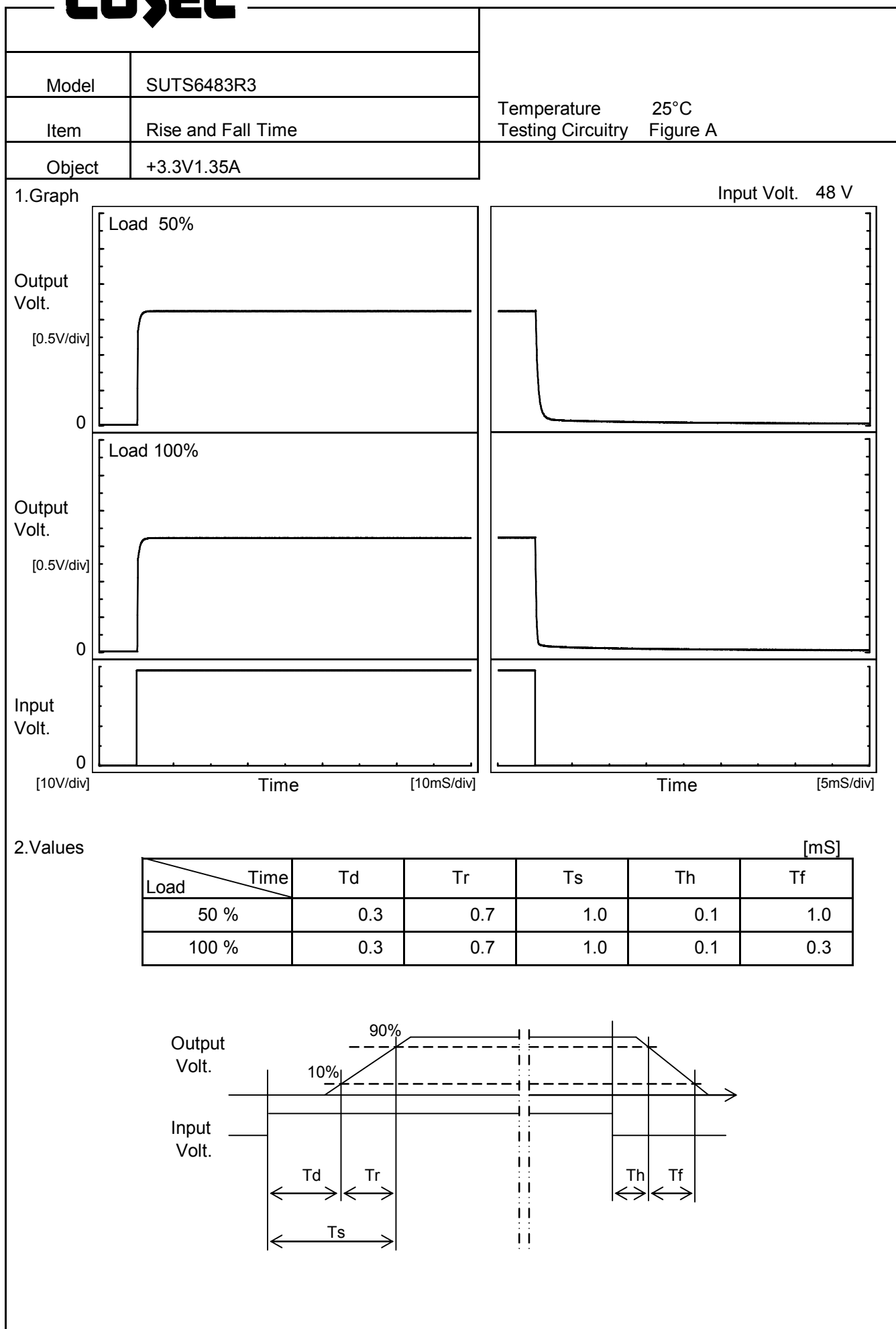
### 2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	76	0	3.317	±16	±0.5
Minimum Voltage	-40	36	1.35	3.285		



Model	SUTS6483R3																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+3.3V1.35A																								
1.Graph		2.Values																							
<div><div><div>3.36</div><div>3.34</div><div>3.32</div><div>3.30</div><div>3.28</div><div>3.26</div><div>3.24</div><div>3.22</div></div><div><div>0</div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div></div><div><div>Output Voltage [V]</div><div>Time [H]</div></div><div><div>Input Volt.</div><div>48V</div></div><div><div>Load</div><div>100%</div></div></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>3.300</td></tr><tr><td>0.5</td><td>3.304</td></tr><tr><td>1.0</td><td>3.304</td></tr><tr><td>2.0</td><td>3.304</td></tr><tr><td>3.0</td><td>3.304</td></tr><tr><td>4.0</td><td>3.304</td></tr><tr><td>5.0</td><td>3.304</td></tr><tr><td>6.0</td><td>3.304</td></tr><tr><td>7.0</td><td>3.304</td></tr><tr><td>8.0</td><td>3.304</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	3.300	0.5	3.304	1.0	3.304	2.0	3.304	3.0	3.304	4.0	3.304	5.0	3.304	6.0	3.304	7.0	3.304	8.0	3.304
Time since start [H]	Output Voltage [V]																								
0.0	3.300																								
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6.0	3.304																								
7.0	3.304																								
8.0	3.304																								





Model	SUTS6483R3																																								
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry    Figure A																																							
Object	+3.3V1.35A																																								
1.Graph		2.Values																																							
<div><div>---□---</div><div>Load 50%</div></div> <div><div>—△—</div><div>Load 100%</div></div> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<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>-60</td><td>30.7</td><td>30.8</td></tr><tr><td>-40</td><td>30.5</td><td>30.8</td></tr><tr><td>-20</td><td>30.4</td><td>30.6</td></tr><tr><td>0</td><td>30.6</td><td>30.6</td></tr><tr><td>25</td><td>30.7</td><td>30.9</td></tr><tr><td>55</td><td>30.9</td><td>31.0</td></tr><tr><td>60</td><td>30.8</td><td>30.8</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>		Ambient Temperature [°C]	Input Voltage [V]		Load 50%	Load 100%	-60	30.7	30.8	-40	30.5	30.8	-20	30.4	30.6	0	30.6	30.6	25	30.7	30.9	55	30.9	31.0	60	30.8	30.8	--	-	-	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	Input Voltage [V]																																								
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Model	SUTS6483R3																																																									
Item	Overcurrent Protection	Temperature	25°C																																																							
Object	+3.3V1.35A	Testing Circuitry	Figure A																																																							
1.Graph		2.Values																																																								
<div><div><div></div><div></div><div></div></div><div><div>Input Volt. 36V</div><div>Input Volt. 48V</div><div>Input Volt. 76V</div></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>3.30</td><td>1.35</td><td>1.35</td><td>1.35</td></tr><tr><td>3.14</td><td>2.10</td><td>2.18</td><td>2.19</td></tr><tr><td>2.97</td><td>2.11</td><td>2.19</td><td>2.19</td></tr><tr><td>2.64</td><td>2.13</td><td>2.22</td><td>2.20</td></tr><tr><td>2.31</td><td>2.15</td><td>2.23</td><td>2.20</td></tr><tr><td>1.98</td><td>2.48</td><td>2.54</td><td>2.48</td></tr><tr><td>1.65</td><td>2.54</td><td>2.57</td><td>2.52</td></tr><tr><td>1.32</td><td>2.56</td><td>2.57</td><td>2.51</td></tr><tr><td>0.99</td><td>2.55</td><td>2.54</td><td>2.48</td></tr><tr><td>0.66</td><td>2.50</td><td>2.47</td><td>2.41</td></tr><tr><td>0.33</td><td>2.40</td><td>2.35</td><td>2.28</td></tr><tr><td>0.00</td><td>2.49</td><td>2.49</td><td>2.57</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	3.30	1.35	1.35	1.35	3.14	2.10	2.18	2.19	2.97	2.11	2.19	2.19	2.64	2.13	2.22	2.20	2.31	2.15	2.23	2.20	1.98	2.48	2.54	2.48	1.65	2.54	2.57	2.52	1.32	2.56	2.57	2.51	0.99	2.55	2.54	2.48	0.66	2.50	2.47	2.41	0.33	2.40	2.35	2.28	0.00	2.49	2.49	2.57
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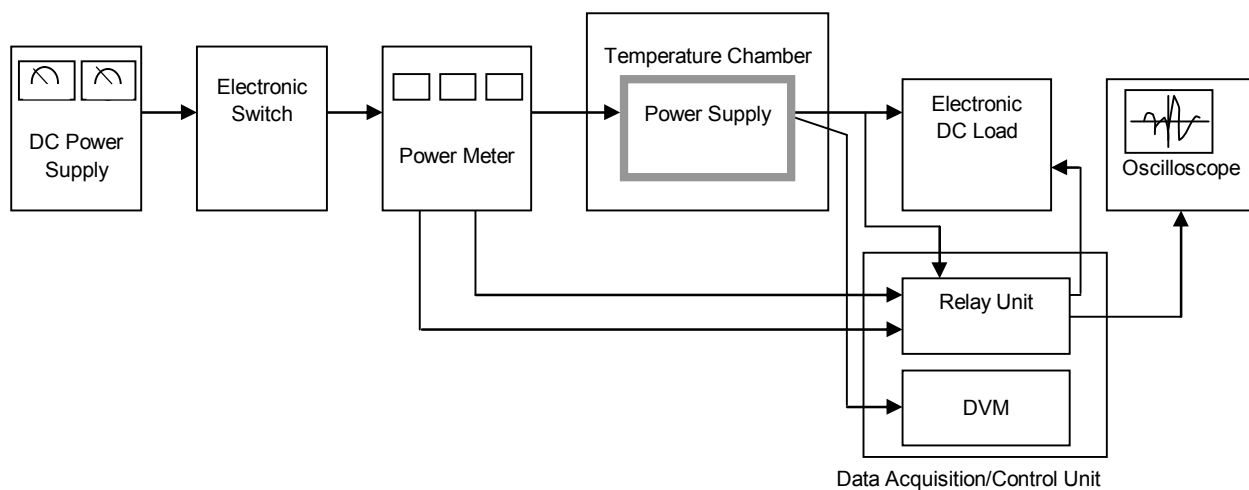


Figure A

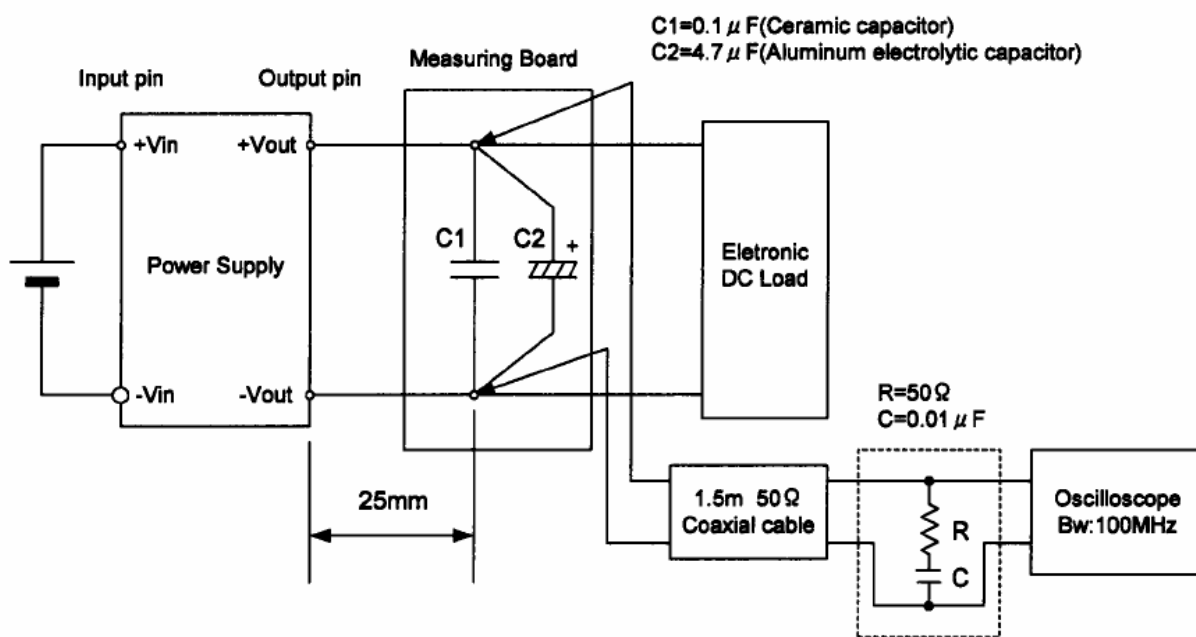


Figure B (Ripple and Ripple noise Characteristic)