

# TEST DATA OF SUTW30515

Regulated DC Power Supply  
March 5, 2009

Approved by : Kazunari Asano  
Kazunari Asano Design Manager

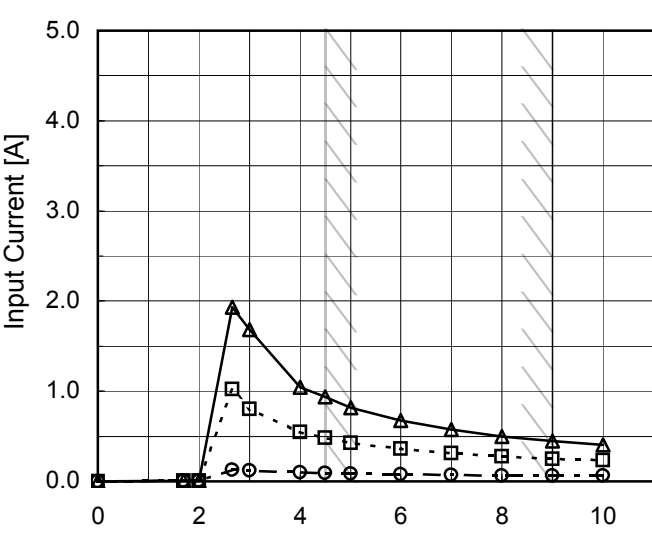
Prepared by : Sho Saito  
Sho Saito Design Engineer

**COSEL CO.,LTD.**

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Model		SUTW30515		Temperature 25°C																																																																																
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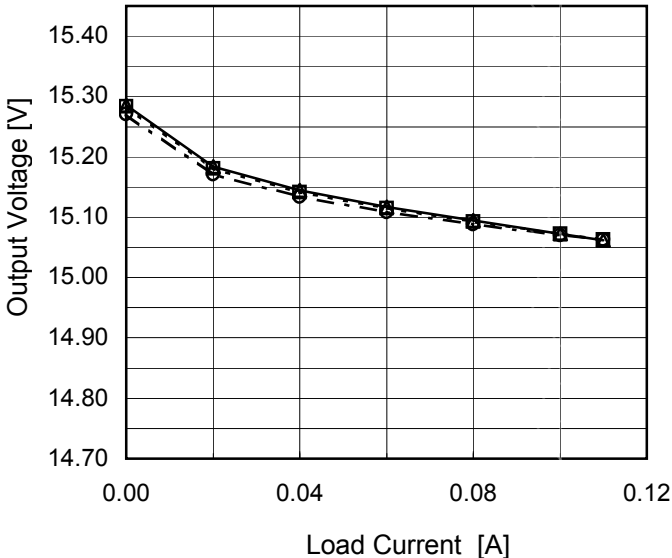
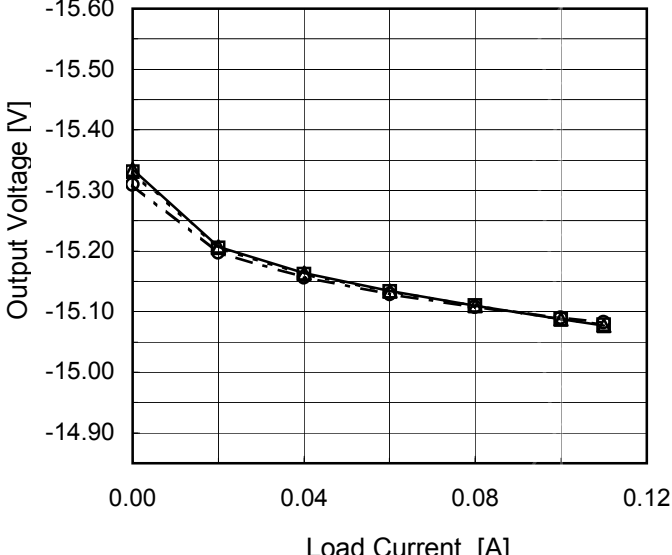
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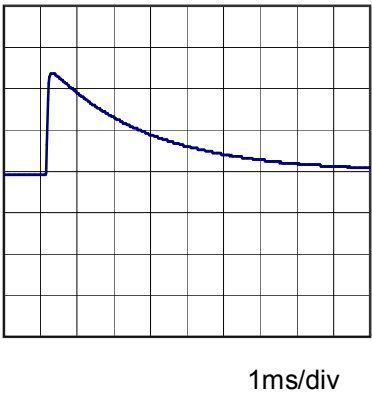
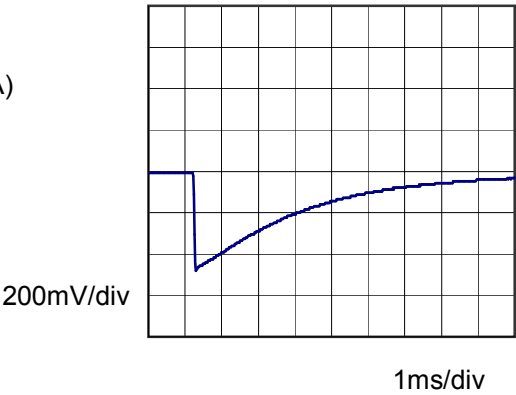


Model		SUTW30515	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+15V0.1A	

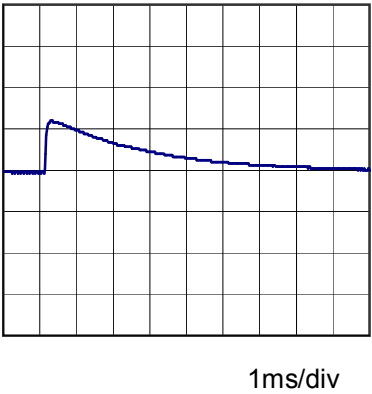
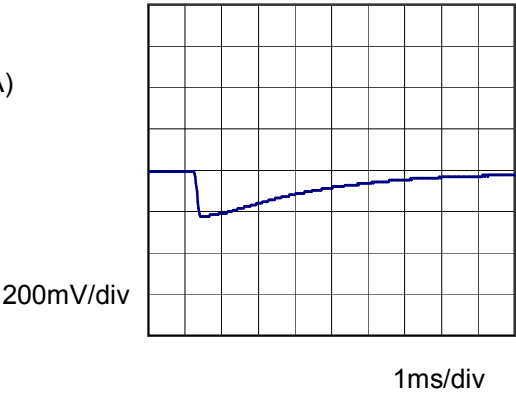
Input Volt. 5 V  
Cycle 100 mS



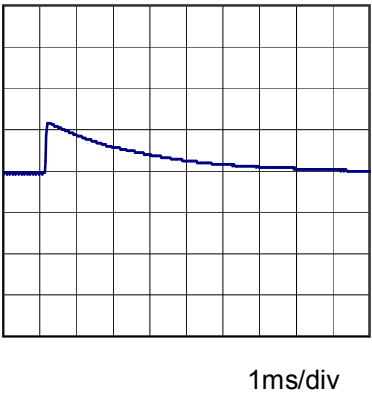
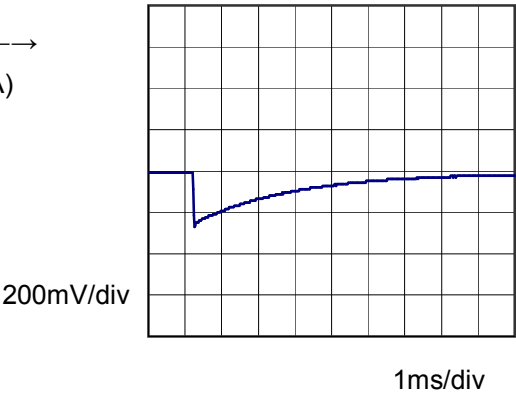
Min. Load (0A)  $\longleftrightarrow$   
Load 100% (0.1A)



Min. Load (0A)  $\longleftrightarrow$   
Load 50% (0.05A)



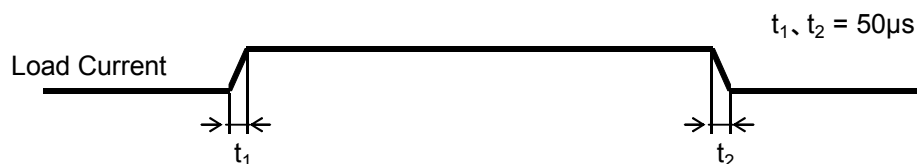
Load 50% (0.05A)  $\longleftrightarrow$   
Load 100% (0.1A)





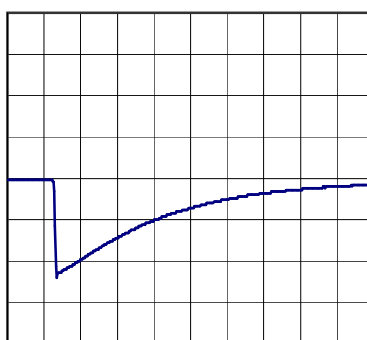
Model	SUTW30515	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	-15V0.1A		

Input Volt. 5 V  
Cycle 100 mS

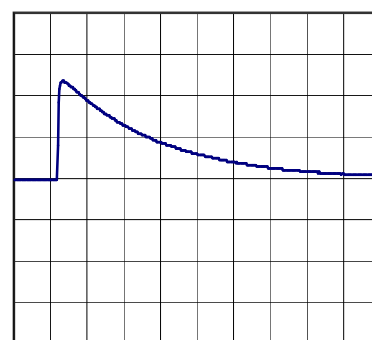


Min. Load (0A)  $\longleftrightarrow$   
Load 100% (0.1A)

200mV/div



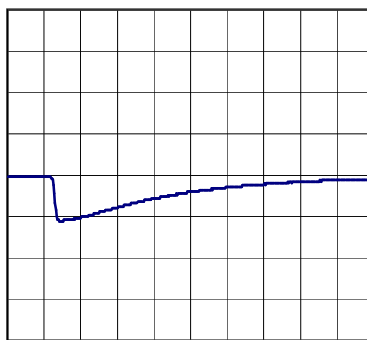
1ms/div



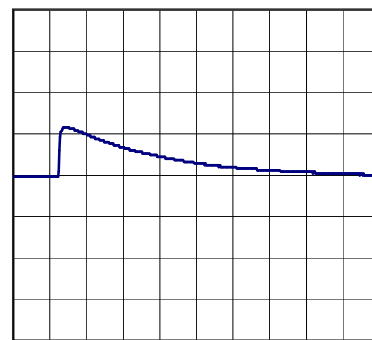
1ms/div

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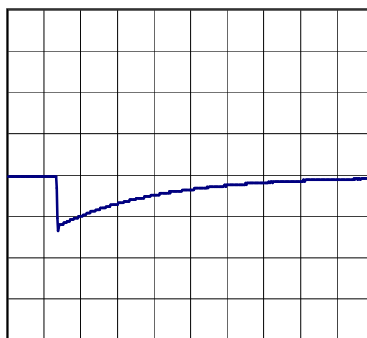
1ms/div



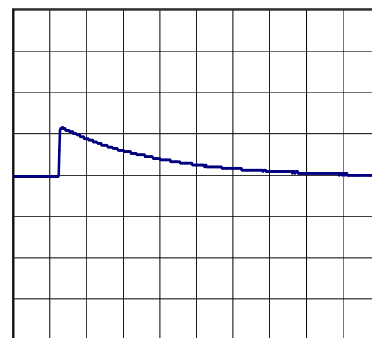
1ms/div

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200mV/div



1ms/div



1ms/div

Model	SUTW30515																																						
Item	Ripple Voltage (by Load Current)	Temperature	25°C																																				
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Object	+15V0.1A																																						
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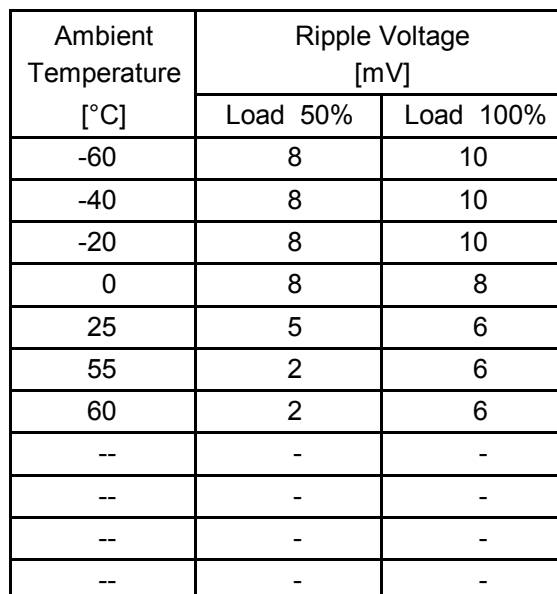
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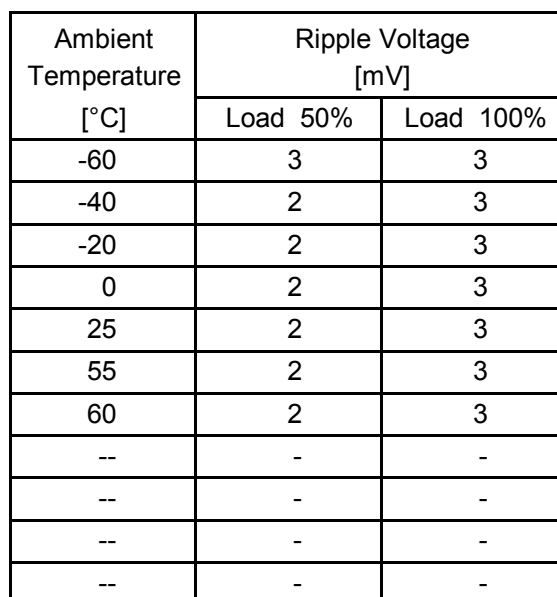
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Testing Circuitry Figure B

## 2.Values



## 2.Values



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



Testing Circuitry Figure A

## 2.Values

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



Model		SUTW30515	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 : 4.5 - 9V

Load Current (AVR 1) : 0 - 0.1A (AVR 2) : 0 - 0.1A

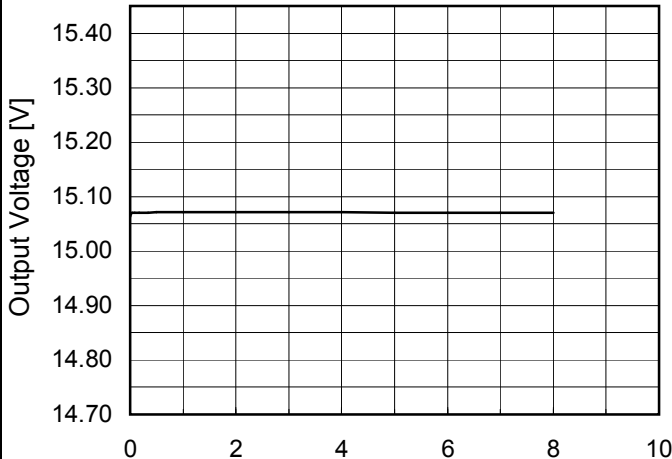
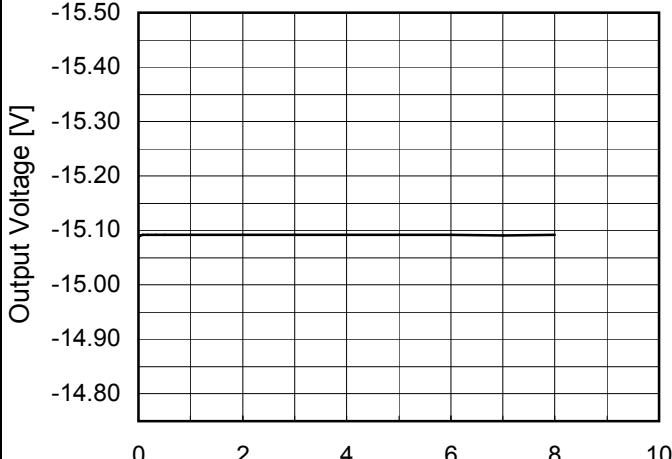
\* Output Voltage Accuracy =  $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

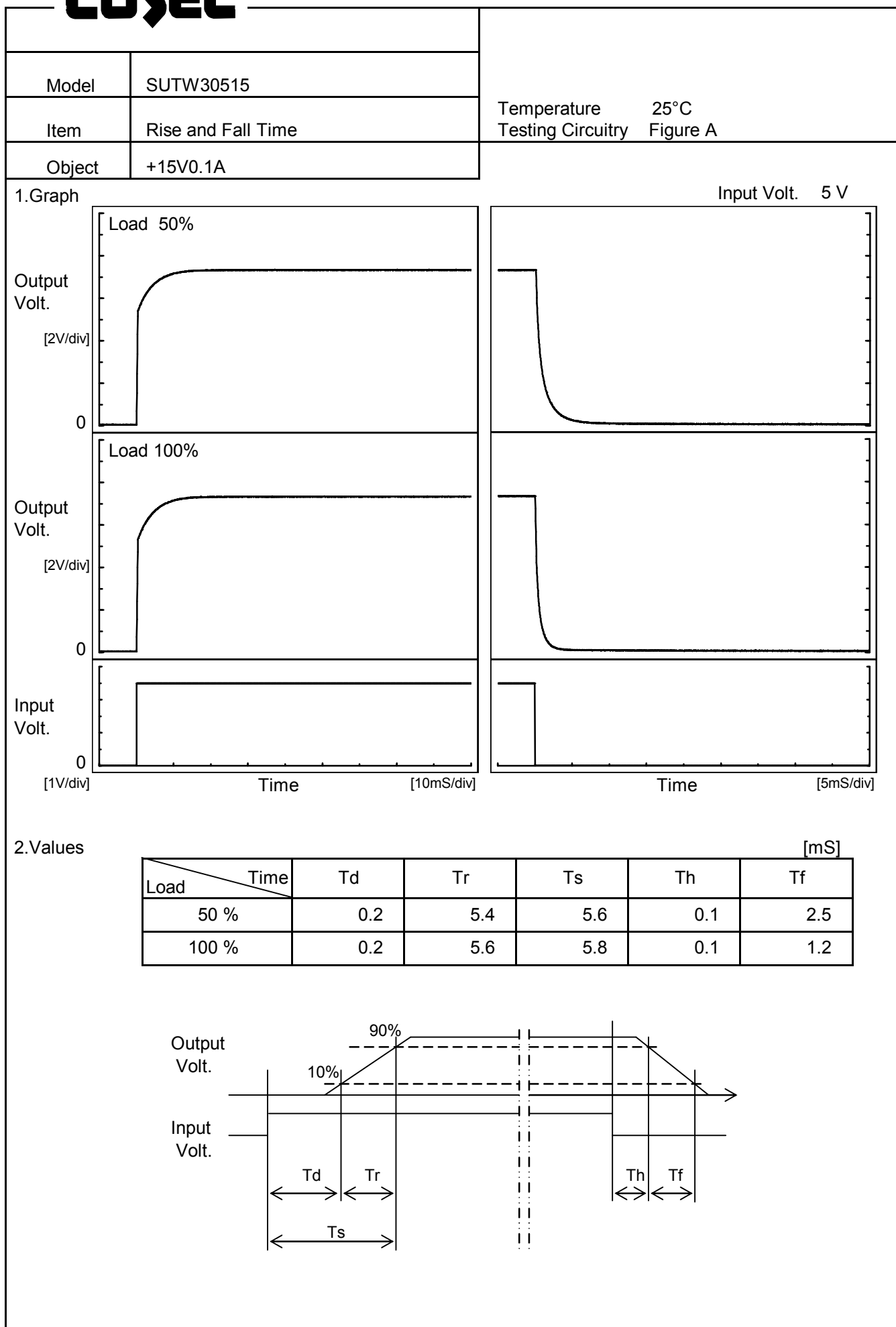
\* Output Voltage Accuracy (Ration) =  $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

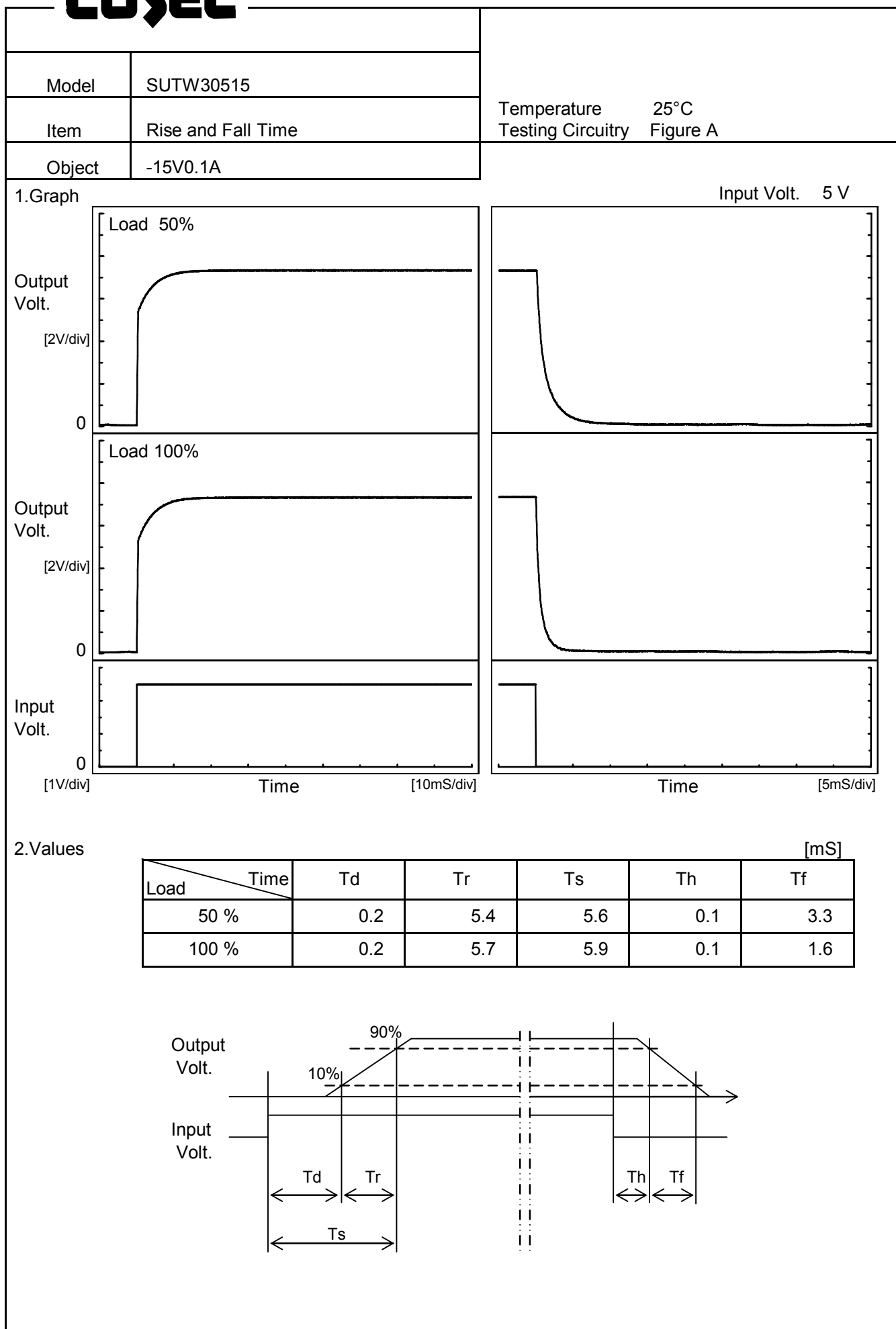
## 2. Values

Object		+15V0.1A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	4.5	0	15.294	±259	±1.7
Minimum Voltage	-40	4.5	0.1	14.776		

Object		-15V0.1A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	4.5	0	-15.343	±254	±1.7
Minimum Voltage	-40	4.5	0.1	-14.836		

Model	SUTW30515																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+15V0.1A																								
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 5V</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>15.063</td></tr><tr><td>0.5</td><td>15.071</td></tr><tr><td>1.0</td><td>15.071</td></tr><tr><td>2.0</td><td>15.071</td></tr><tr><td>3.0</td><td>15.071</td></tr><tr><td>4.0</td><td>15.071</td></tr><tr><td>5.0</td><td>15.071</td></tr><tr><td>6.0</td><td>15.071</td></tr><tr><td>7.0</td><td>15.071</td></tr><tr><td>8.0</td><td>15.071</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	15.063	0.5	15.071	1.0	15.071	2.0	15.071	3.0	15.071	4.0	15.071	5.0	15.071	6.0	15.071	7.0	15.071	8.0	15.071
Time since start [H]	Output Voltage [V]																								
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<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 5V</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>-15.085</td></tr><tr><td>0.5</td><td>-15.092</td></tr><tr><td>1.0</td><td>-15.092</td></tr><tr><td>2.0</td><td>-15.092</td></tr><tr><td>3.0</td><td>-15.092</td></tr><tr><td>4.0</td><td>-15.092</td></tr><tr><td>5.0</td><td>-15.092</td></tr><tr><td>6.0</td><td>-15.092</td></tr><tr><td>7.0</td><td>-15.091</td></tr><tr><td>8.0</td><td>-15.092</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	-15.085	0.5	-15.092	1.0	-15.092	2.0	-15.092	3.0	-15.092	4.0	-15.092	5.0	-15.092	6.0	-15.092	7.0	-15.091	8.0	-15.092
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		Testing Circuitry    Figure A																								
Model	SUTW30515																									
Item	Minimum Input Voltage for Regulated Output Voltage																									
Object	+15V0.1A																									
1.Graph		2.Values																								
<div><div><div></div><div></div></div><div><div></div><div></div></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>2.0</td><td>2.5</td></tr><tr><td>-40</td><td>2.0</td><td>2.8</td></tr><tr><td>-20</td><td>2.0</td><td>2.8</td></tr><tr><td>0</td><td>2.0</td><td>2.8</td></tr><tr><td>25</td><td>2.0</td><td>2.8</td></tr><tr><td>55</td><td>2.2</td><td>3.0</td></tr><tr><td>60</td><td>2.2</td><td>3.0</td></tr></tbody></table></div>			Ambient Temperature [°C]	Load 50%	Load 100%	-60	2.0	2.5	-40	2.0	2.8	-20	2.0	2.8	0	2.0	2.8	25	2.0	2.8	55	2.2	3.0	60	2.2	3.0
Ambient Temperature [°C]	Load 50%		Load 100%																							
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<div><div><div></div><div></div><div></div></div><div><div>Input Volt. 4.5V</div><div>Input Volt. 5V</div><div>Input Volt. 9V</div></div><p>Output Voltage [V]</p><p>Load Current [A]</p></div>		<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>15.0</td><td>0.10</td><td>0.10</td><td>0.10</td></tr><tr><td>14.3</td><td>0.20</td><td>0.20</td><td>0.22</td></tr><tr><td>13.5</td><td>0.21</td><td>0.21</td><td>0.23</td></tr><tr><td>12.0</td><td>0.24</td><td>0.24</td><td>0.25</td></tr><tr><td>10.5</td><td>0.27</td><td>0.27</td><td>0.27</td></tr><tr><td>9.0</td><td>0.29</td><td>0.30</td><td>0.29</td></tr><tr><td>7.5</td><td>0.32</td><td>0.32</td><td>0.31</td></tr><tr><td>6.0</td><td>0.35</td><td>0.35</td><td>0.32</td></tr><tr><td>4.5</td><td>0.37</td><td>0.36</td><td>0.33</td></tr><tr><td>3.0</td><td>0.38</td><td>0.37</td><td>0.33</td></tr><tr><td>1.5</td><td>0.36</td><td>0.35</td><td>0.32</td></tr><tr><td>0.0</td><td>0.32</td><td>0.32</td><td>0.38</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	15.0	0.10	0.10	0.10	14.3	0.20	0.20	0.22	13.5	0.21	0.21	0.23	12.0	0.24	0.24	0.25	10.5	0.27	0.27	0.27	9.0	0.29	0.30	0.29	7.5	0.32	0.32	0.31	6.0	0.35	0.35	0.32	4.5	0.37	0.36	0.33	3.0	0.38	0.37	0.33	1.5	0.36	0.35	0.32	0.0	0.32	0.32	0.38
Output Voltage [V]	Load Current [A]																																																									
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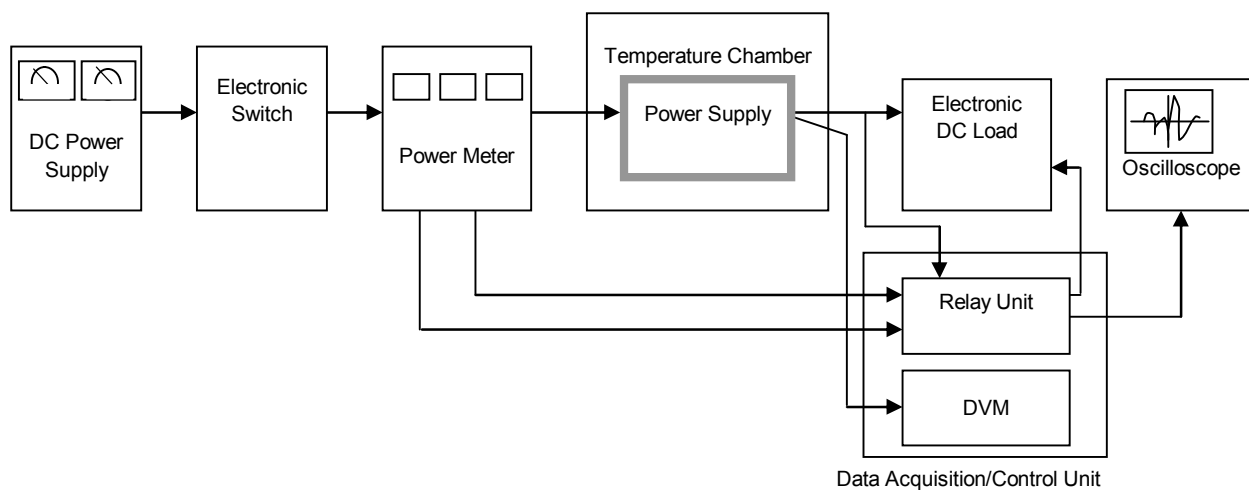


Figure A

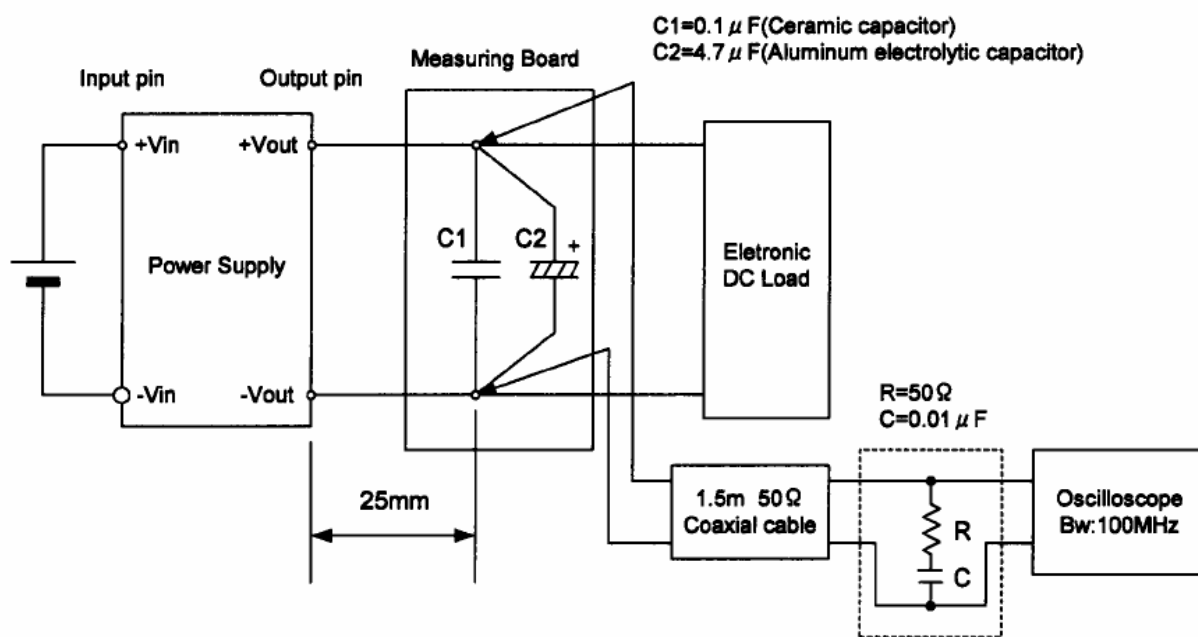


Figure B (Ripple and Ripple noise Characteristic)