

TEST DATA OF G1W-15

Regulated DC Power Supply
October 13, 2010

Approved by : Eiyoshi Wakamatsu
Eiyoshi Wakamatsu Design Manager

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Satoshi Kinoshita Design Engineer

COSEL CO.,LTD.

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Model		G1W-15		Temperature 25°C																																																				
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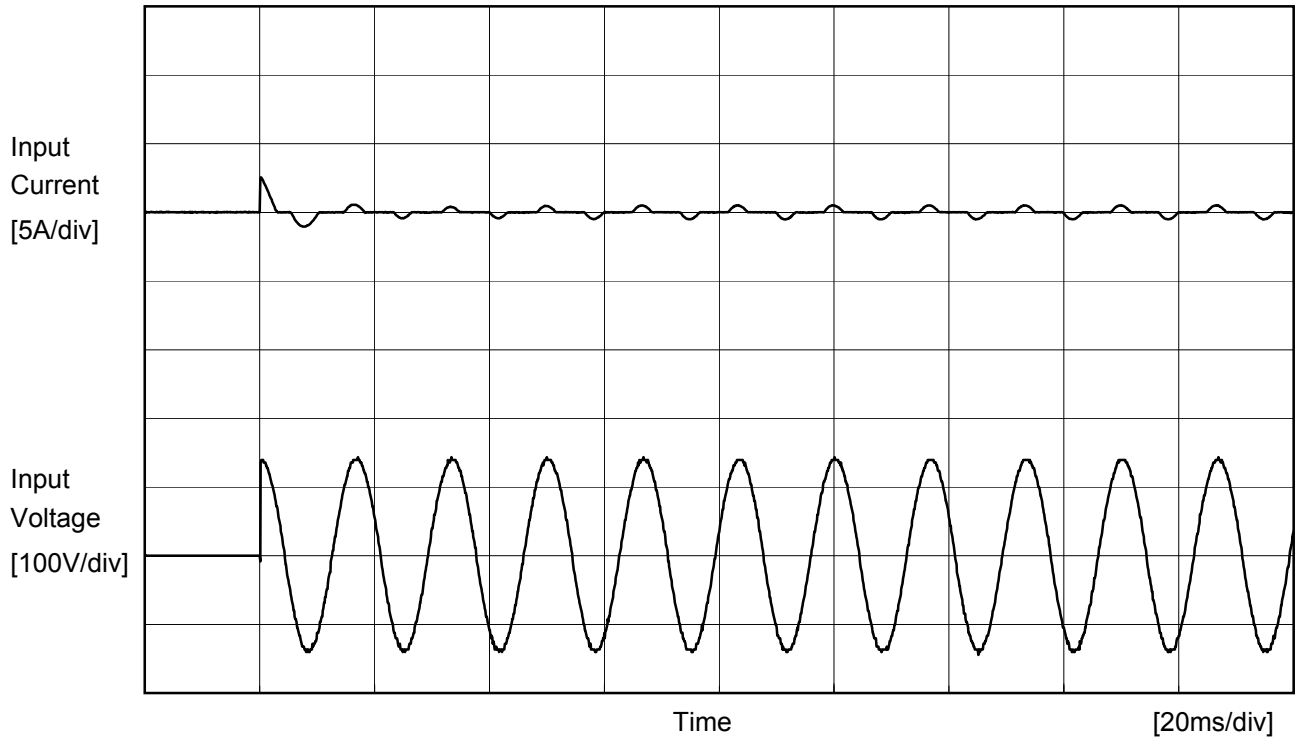
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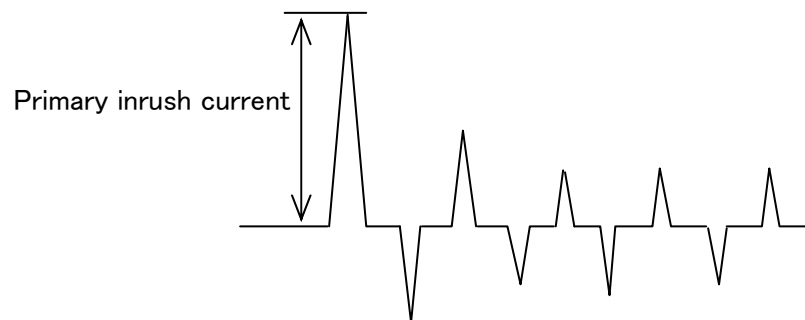


Model		G1W-15	Temperature 25°C Testing Circuitry Figure A
Item		Inrush Current	
Object		_____	



Input Voltage 100 V
 Frequency 60 Hz
 Load 100 %

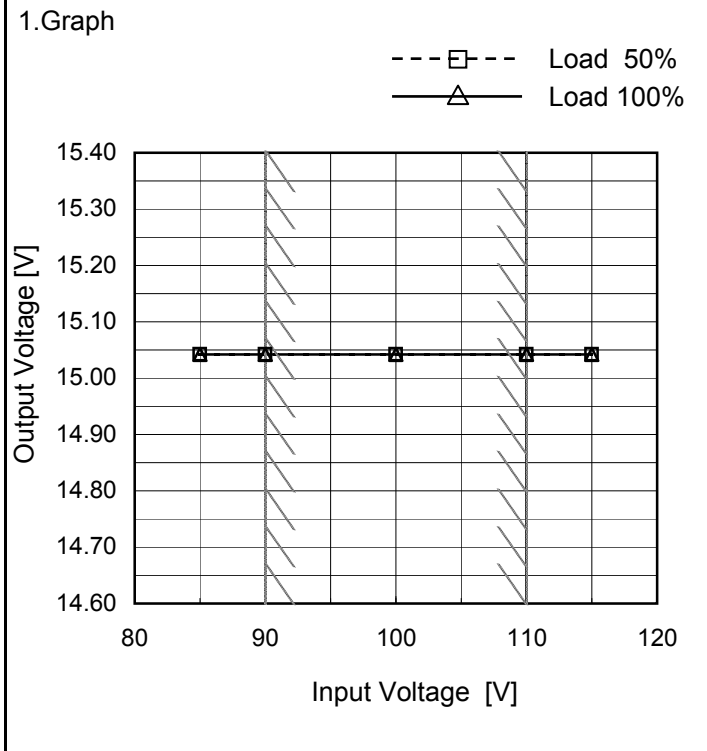
Primary inrush current 2.6 A





Model	G1W-15
Item	Line Regulation
Object	+15V0.25A

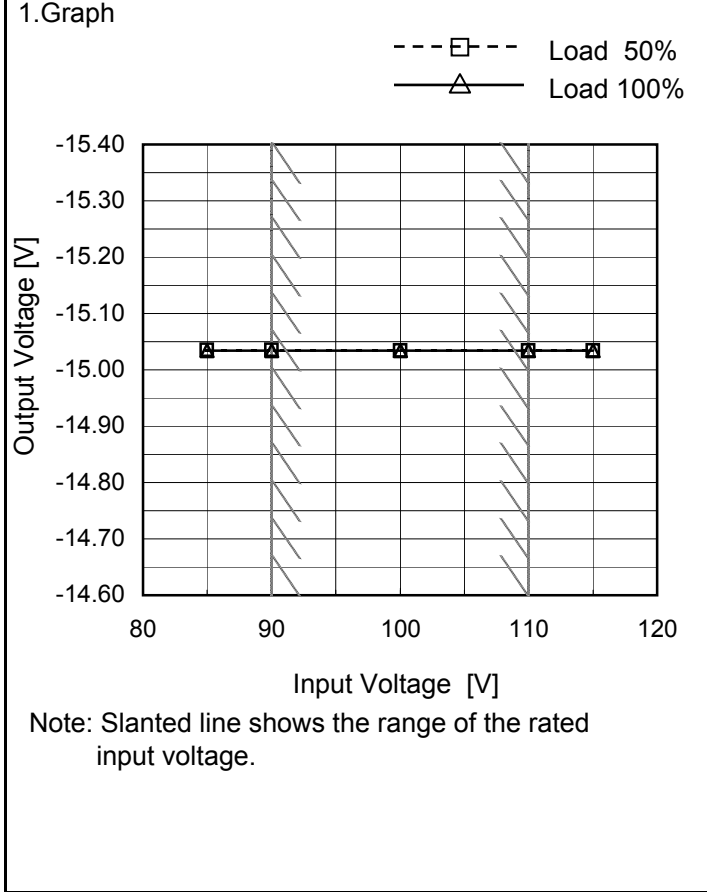
Temperature 25°C
Testing Circuitry Figure A



2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	15.042	15.042
90	15.042	15.042
100	15.042	15.042
110	15.042	15.042
115	15.042	15.042
--	-	-
--	-	-
--	-	-
--	-	-

Object	-15V0.25A
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2.Values

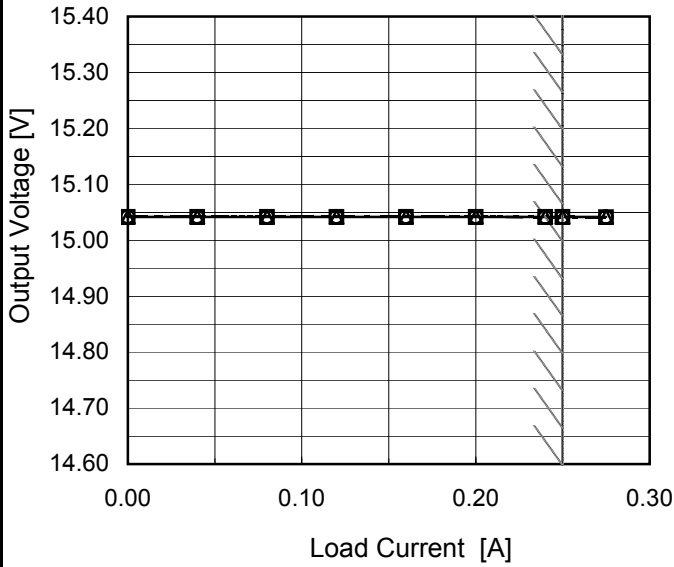
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	-15.035	-15.034
90	-15.035	-15.034
100	-15.035	-15.034
110	-15.035	-15.034
115	-15.035	-15.034
--	-	-
--	-	-
--	-	-
--	-	-



Model	G1W-15
Item	Load Regulation
Object	+15V0.25A

Temperature 25°C
Testing Circuitry Figure A

1.Graph
 —△— Input Volt. 90V
 - - - □ - - - Input Volt. 100V
 - · - ○ - · - - Input Volt. 110V

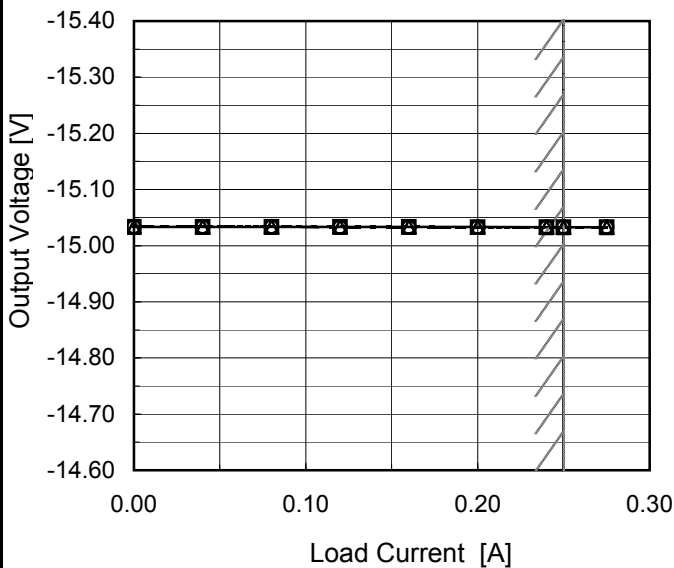


2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]
0.000	15.042	15.042	15.042
0.040	15.042	15.042	15.042
0.080	15.042	15.042	15.042
0.120	15.042	15.042	15.042
0.160	15.042	15.042	15.042
0.200	15.042	15.042	15.042
0.240	15.042	15.042	15.041
0.250	15.042	15.042	15.041
0.275	15.042	15.041	15.041
--	-	-	-
--	-	-	-

Object	-15V0.25A
--------	-----------

1.Graph
 —△— Input Volt. 90V
 - - - □ - - - Input Volt. 100V
 - · - ○ - · - - Input Volt. 110V



2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]
0.000	-15.033	-15.033	-15.033
0.040	-15.033	-15.033	-15.033
0.080	-15.033	-15.033	-15.033
0.120	-15.033	-15.033	-15.033
0.160	-15.033	-15.033	-15.033
0.200	-15.033	-15.033	-15.033
0.240	-15.033	-15.033	-15.033
0.250	-15.033	-15.033	-15.033
0.275	-15.033	-15.033	-15.033
--	-	-	-
--	-	-	-

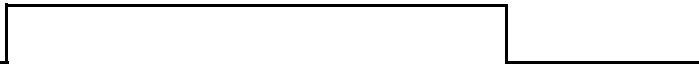
Note: Slanted line shows the range of the rated load current.



Model		G1W-15	Temperature		25°C
Item		Dynamic Load Response	Testing Circuitry		Figure A
Object		+15V0.25A			

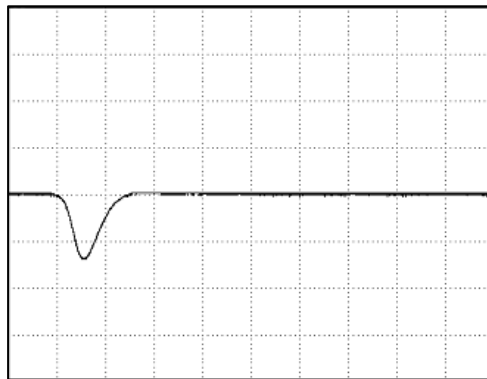
Input Volt. 100 V
 Cycle 1000 ms

Load Current

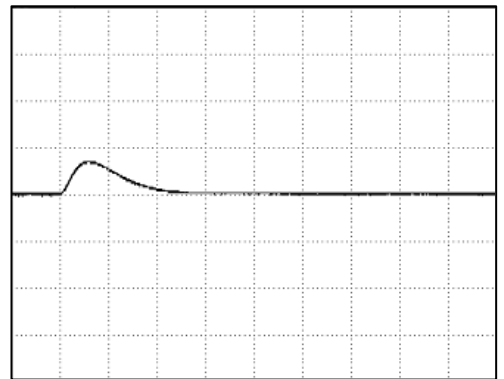


Min. Load (0A) ←→
 Load 100% (0.25A)

50 mV/div



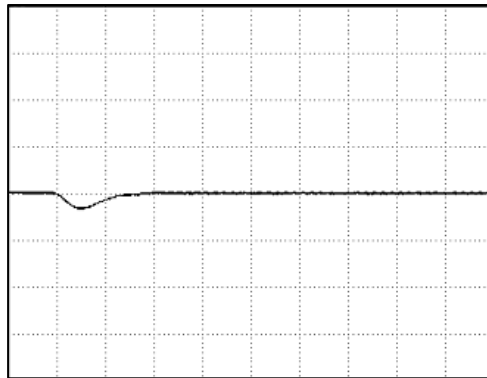
100 μs/div



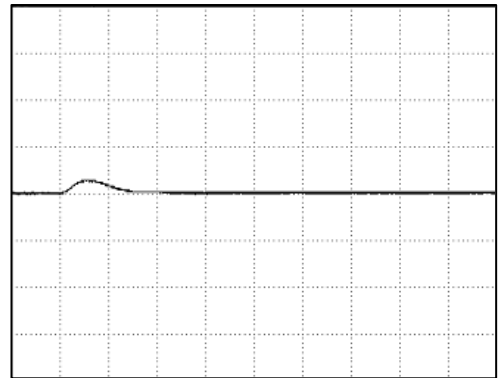
100 μs/div

Load 50% (0.125A) ←→
 Load 100% (0.25A)

50 mV/div



100 μs/div



100 μs/div



Model		G1W-15	Temperature	25°C
Item		Dynamic Load Response		
Object		-15V0.25A		

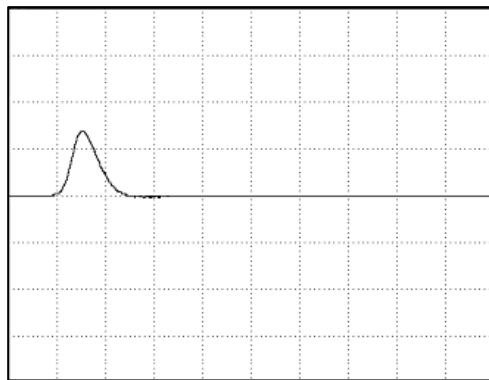
Input Volt. 100 V
 Cycle 1000 ms

Load Current

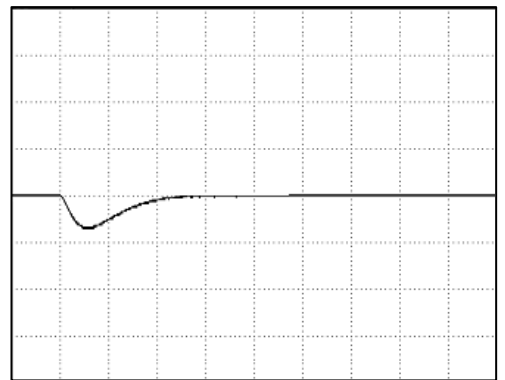


Min. Load (0A) ←→
 Load 100% (0.25A)

50 mV/div



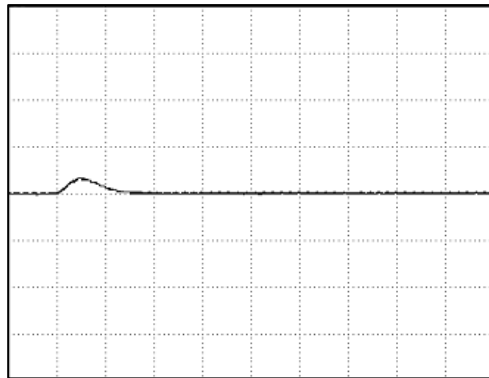
100 μs/div



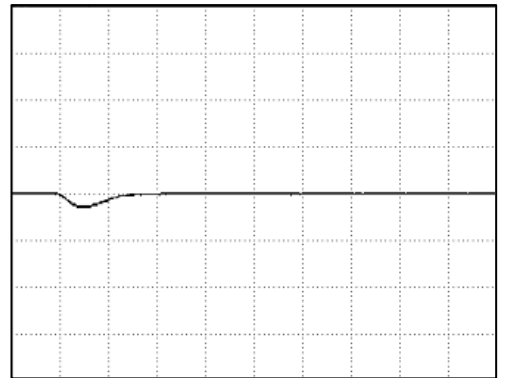
100 μs/div

Load 50% (0.125A) ←→
 Load 100% (0.25A)

50 mV/div



100 μs/div



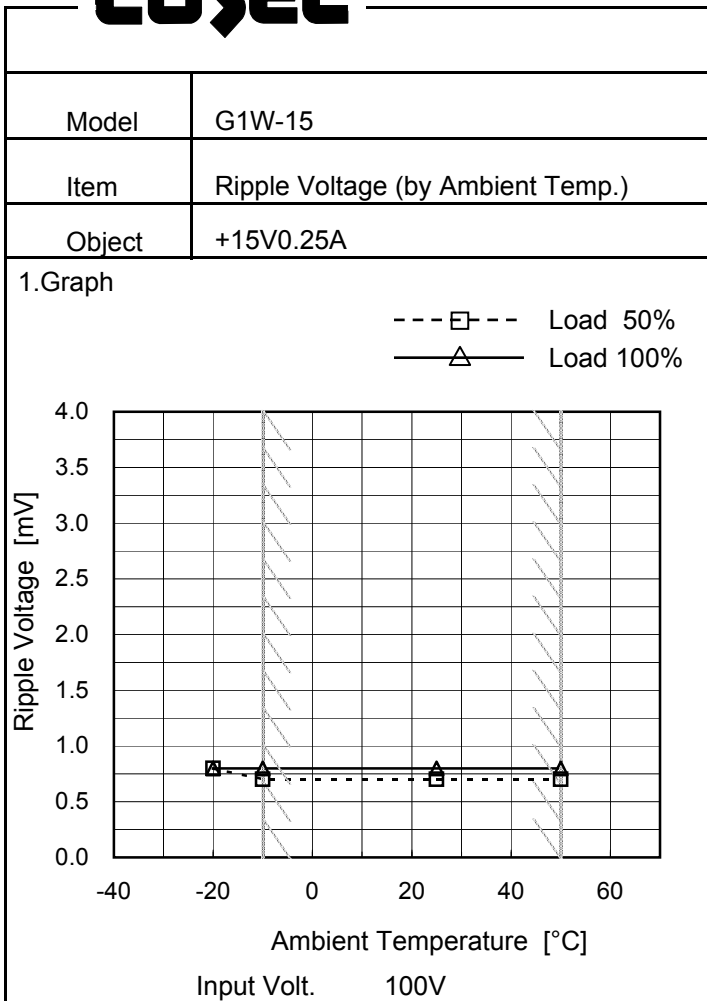
100 μs/div



Model		G1W-15	Temperature 25°C Testing Circuitry Figure A																																									
Item		Ripple Voltage (by Load Current)																																										
Object		+15V0.25A																																										
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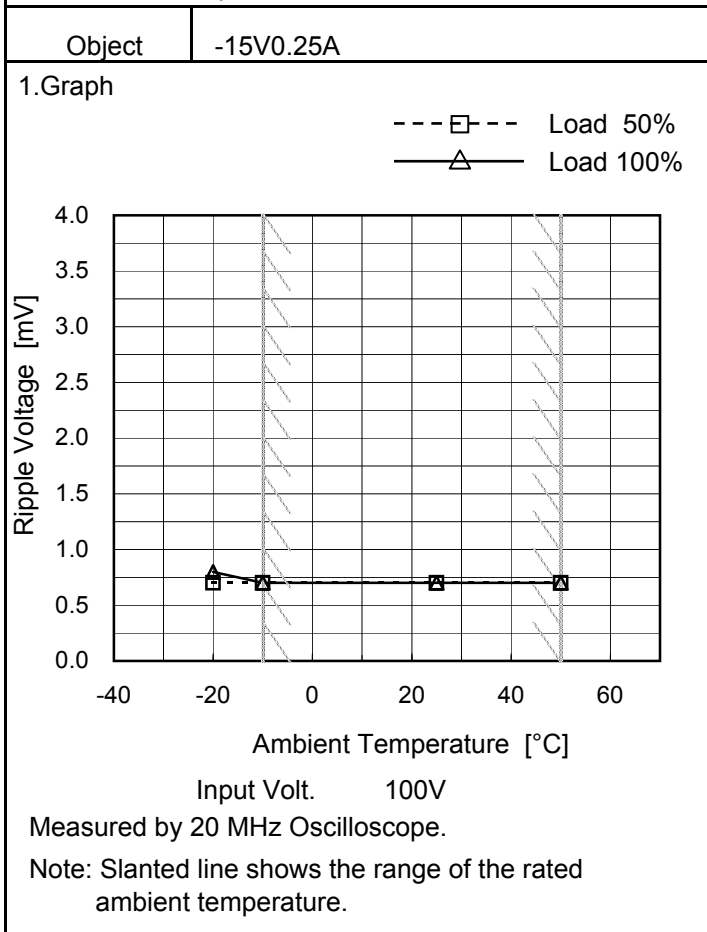
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Testing Circuitry Figure A

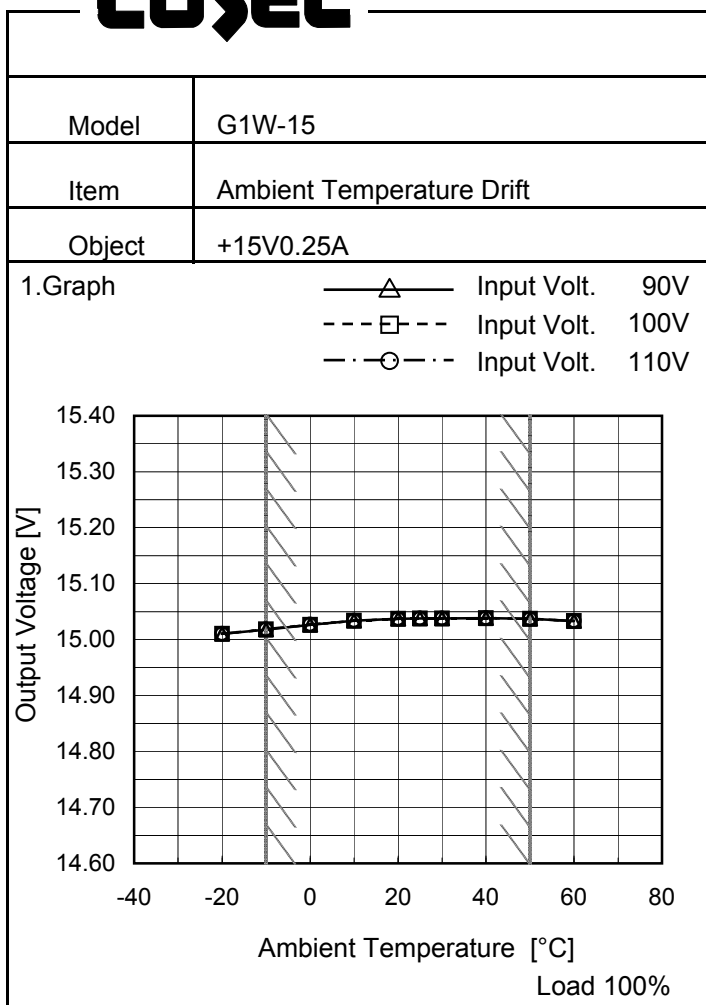
2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	0.8	0.8
-10	0.7	0.8
25	0.7	0.8
50	0.7	0.8
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-



2.Values

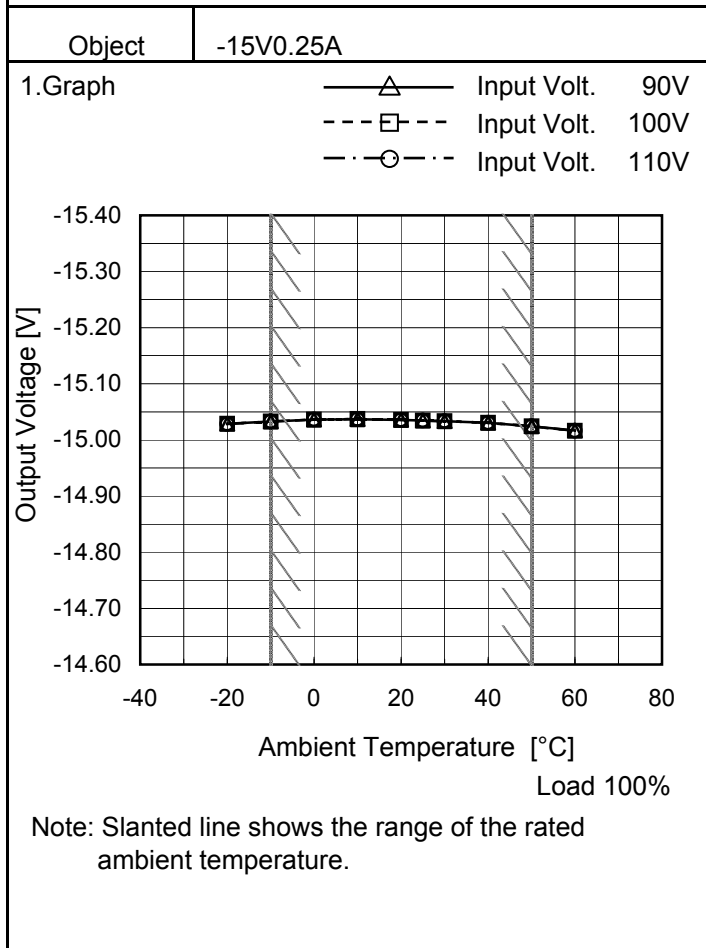
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	0.7	0.8
-10	0.7	0.7
25	0.7	0.7
50	0.7	0.7
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-



Testing Circuitry Figure A

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]
-20	15.010	15.010	15.011
-10	15.018	15.018	15.018
0	15.027	15.027	15.027
10	15.034	15.034	15.034
20	15.037	15.037	15.037
25	15.038	15.038	15.038
30	15.038	15.038	15.038
40	15.039	15.039	15.039
50	15.037	15.037	15.037
60	15.033	15.033	15.033
--	-	-	-



2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]
-20	-15.029	-15.029	-15.029
-10	-15.033	-15.033	-15.033
0	-15.036	-15.036	-15.036
10	-15.037	-15.037	-15.037
20	-15.036	-15.036	-15.036
25	-15.035	-15.035	-15.034
30	-15.034	-15.034	-15.034
40	-15.031	-15.031	-15.030
50	-15.024	-15.024	-15.024
60	-15.017	-15.017	-15.017
--	-	-	-



COSEL		
Model	G1W-15	
Item	Output Voltage Accuracy	Testing Circuitry Figure A

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 : -10 - 50°C

Input Voltage : 90 - 110V

Load Current (AVR 1) : 0 - 0.25A (AVR 2) : 0 - 0.25A

* 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		+15V0.25A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	40	90	0	15.039	±11	±0.1
Minimum Voltage	-10	90	0	15.017		

Object		-15V0.25A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	10	100	0	-15.038	±7	±0.1
Minimum Voltage	50	110	0.25	-15.024		

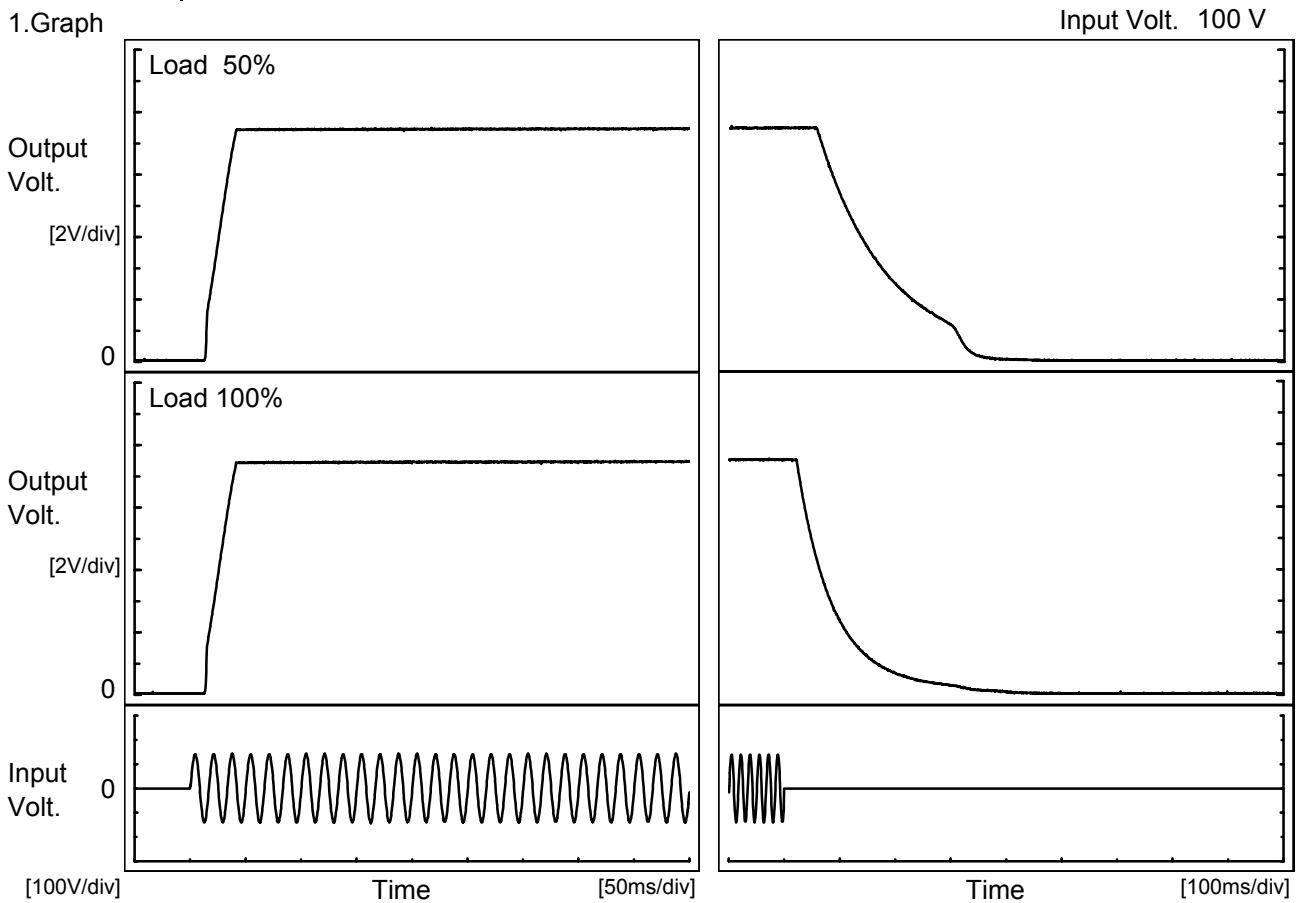


COSEL																								
Model	G1W-15																							
Item	Time Lapse Drift	Temperature 25°C Testing Circuitry Figure A																						
Object	+15V0.25A																							
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Time since start [H]	Output Voltage [V]																							
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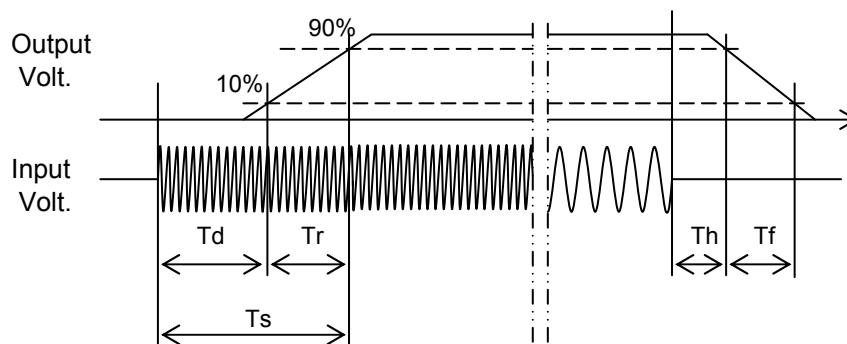
Model	G1W-15	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V0.25A		

1. Graph



2. Values

		[ms]				
Load \ Time	Td	Tr	Ts	Th	Tf	
50 %	14.8	23.5	38.3	70.0	244.0	
100 %	14.8	23.5	38.3	28.5	159.5	

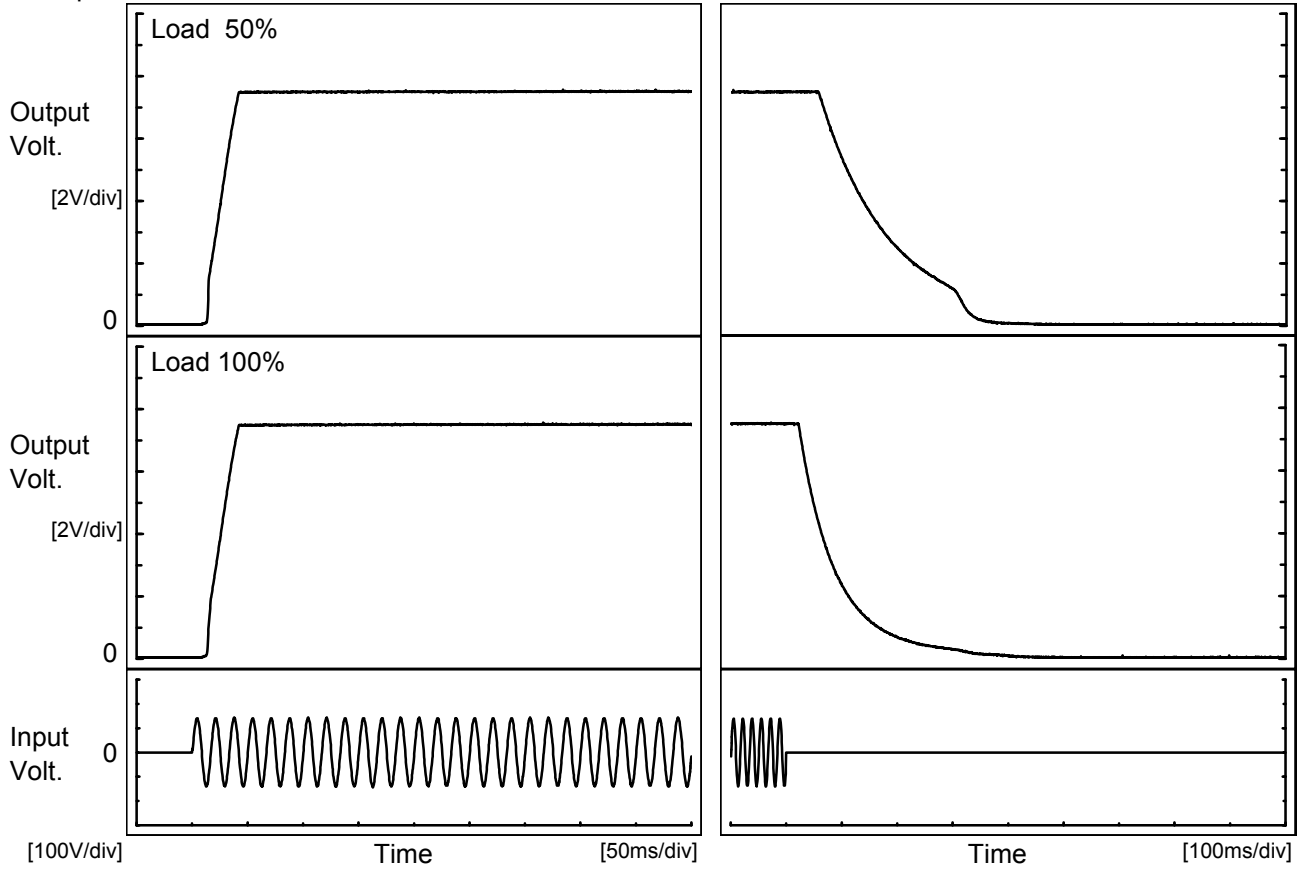




Model	G1W-15	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	-15V0.25A		

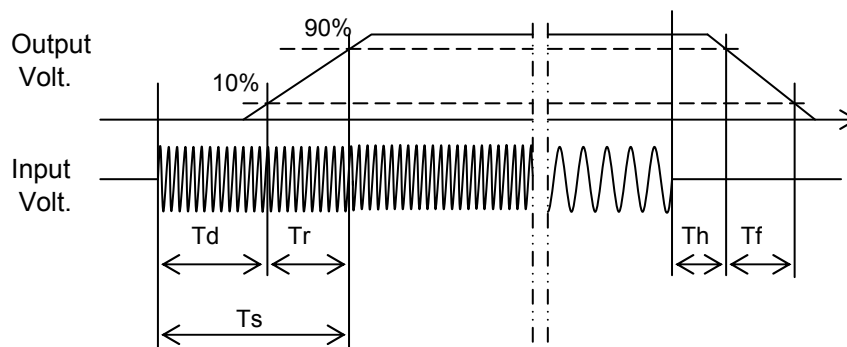
1. Graph

Input Volt. 100 V



2. Values

Load	Time	[ms]				
		Td	Tr	Ts	Th	Tf
50 %		14.5	24.0	38.5	68.5	250.0
100 %		14.5	23.8	38.3	28.0	153.0





Model		G1W-15																																	
Item		Hold-Up Time																																	
Object		+15V0.25A																																	
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<p>Model G1W-15</p> <p>Item Instantaneous Interruption Compensation</p> <p>Object +15V0.25A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																			
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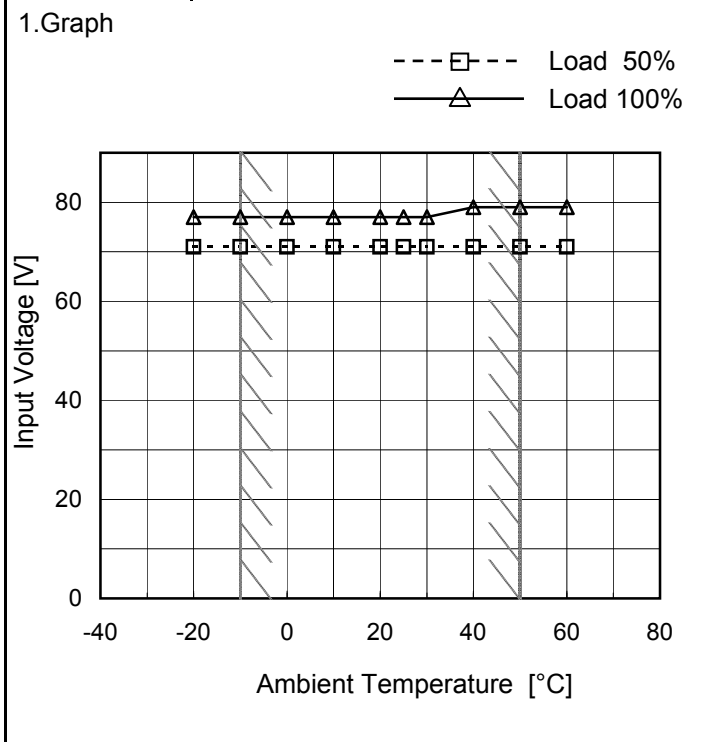


<p>Model G1W-15</p> <p>Item Instantaneous Interruption Compensation</p> <p>Object -15V0.25A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																			
<p>1.Graph</p> <p>—△— Input Volt. 90V</p> <p>- - -□- - - Input Volt. 100V</p> <p>- · -○- · - - Input Volt. 110V</p> <p>Note: Slanted line shows the range of the rated load current.</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Time [ms]</th> </tr> <tr> <th>Input Volt. 90[V]</th> <th>Input Volt. 100[V]</th> <th>Input Volt. 110[V]</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>0.040</td><td>120</td><td>176</td><td>233</td></tr> <tr><td>0.080</td><td>55</td><td>88</td><td>121</td></tr> <tr><td>0.120</td><td>37</td><td>55</td><td>79</td></tr> <tr><td>0.160</td><td>21</td><td>41</td><td>57</td></tr> <tr><td>0.200</td><td>18</td><td>30</td><td>43</td></tr> <tr><td>0.240</td><td>6</td><td>21</td><td>35</td></tr> <tr><td>0.250</td><td>6</td><td>21</td><td>33</td></tr> <tr><td>0.275</td><td>5</td><td>19</td><td>24</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Time [ms]			Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]	0.000	-	-	-	0.040	120	176	233	0.080	55	88	121	0.120	37	55	79	0.160	21	41	57	0.200	18	30	43	0.240	6	21	35	0.250	6	21	33	0.275	5	19	24	--	-	-	-	--	-	-	-
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Model	G1W-15
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+15V0.25A

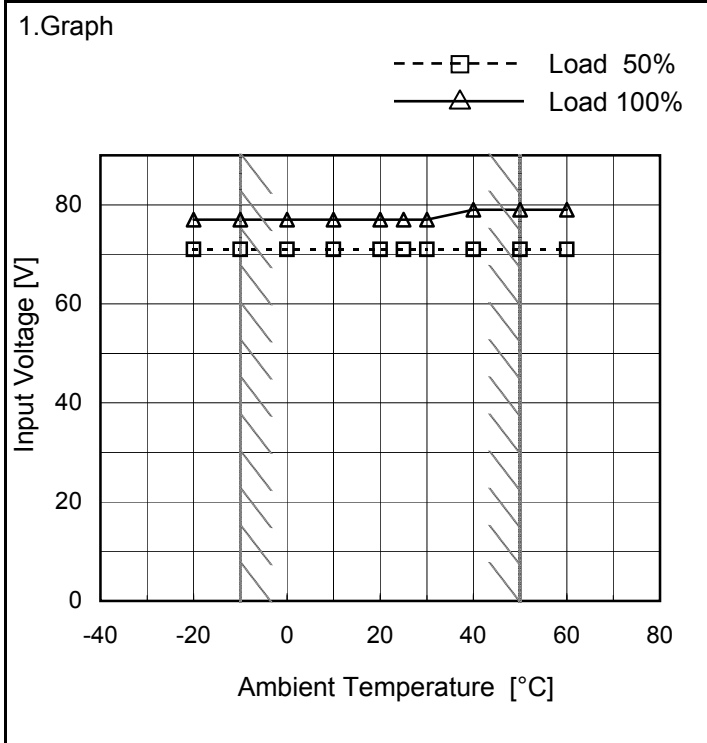
Testing Circuitry Figure A



2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	71	77
-10	71	77
0	71	77
10	71	77
20	71	77
25	71	77
30	71	77
40	71	79
50	71	79
60	71	79
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Object	-15V0.25A
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2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	71	77
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0	71	77
10	71	77
20	71	77
25	71	77
30	71	77
40	71	79
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--	-	-

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



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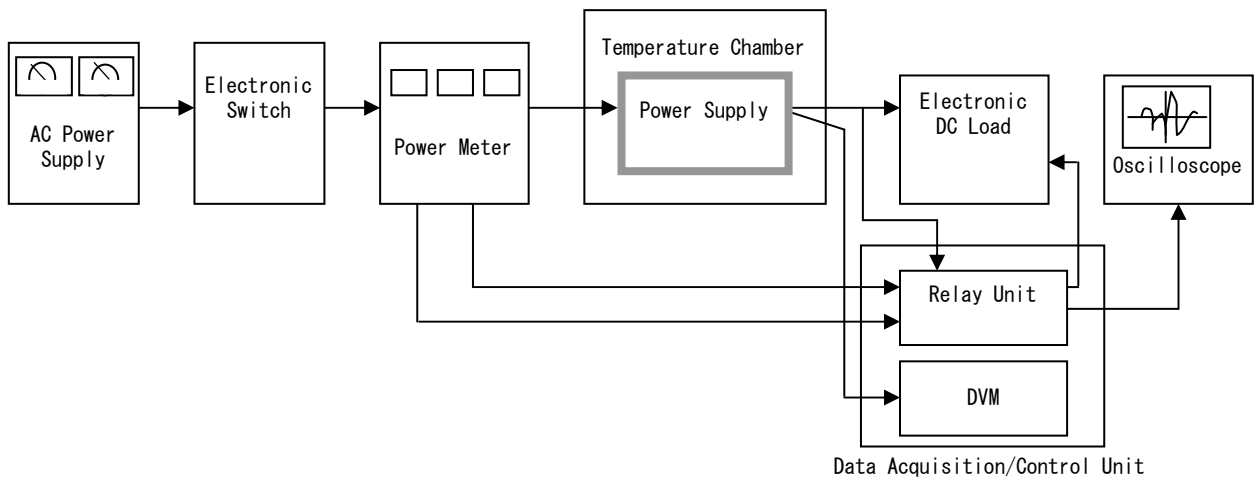


Figure A