

TEST DATA OF G2-15

Regulated DC Power Supply
July 23, 2010

Approved by : Eiyoshi Wakamatsu
Eiyoshi Wakamatsu Design Manager

Prepared by : Satoshi Kinoshita
Satoshi Kinoshita Design Engineer

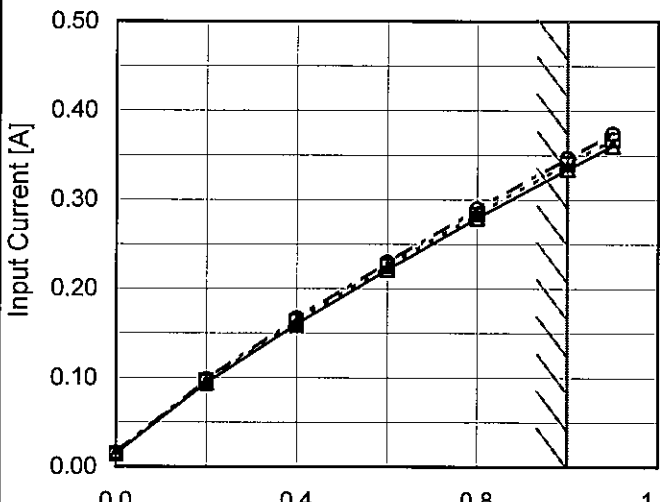
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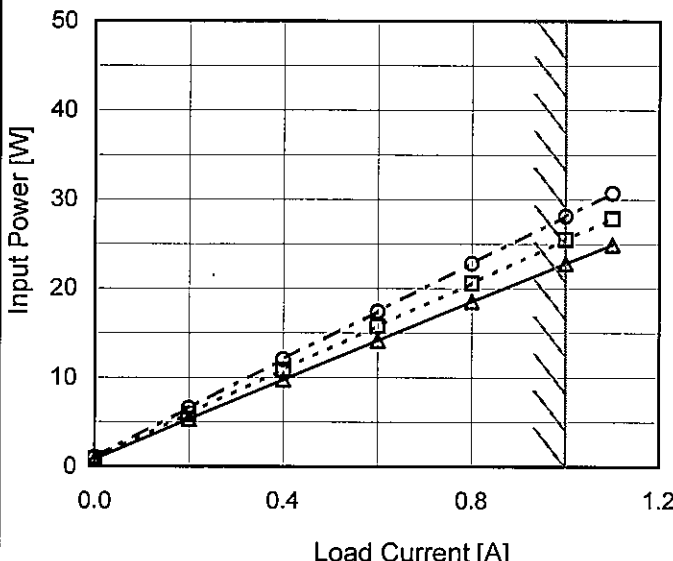
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Model		G2-15	
Item		Efficiency (by Input Voltage)	
Object			
1.Graph		2.Values	

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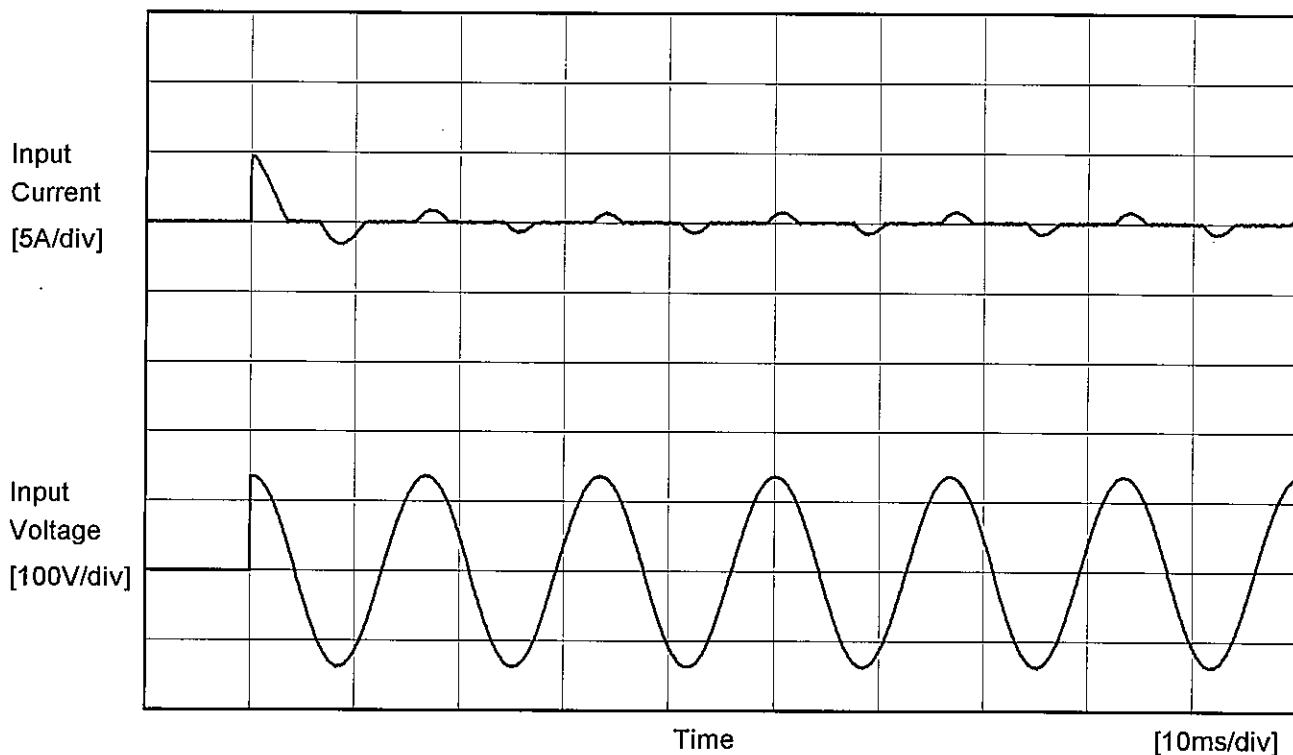
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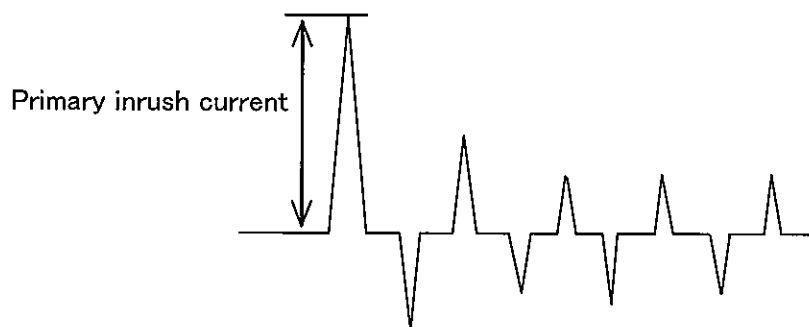
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Model	G2-15	Temperature	25°C
Item	Inrush Current	Testing Circuitry	Figure A
Object	_____		



Input Voltage 100 V
 Frequency 60 Hz
 Load 100 %

Primary inrush current 4.7 A



Model	G2-15																																
Item	Line Regulation	Temperature	25°C																														
Object	+15V1A	Testing Circuitry	Figure A																														
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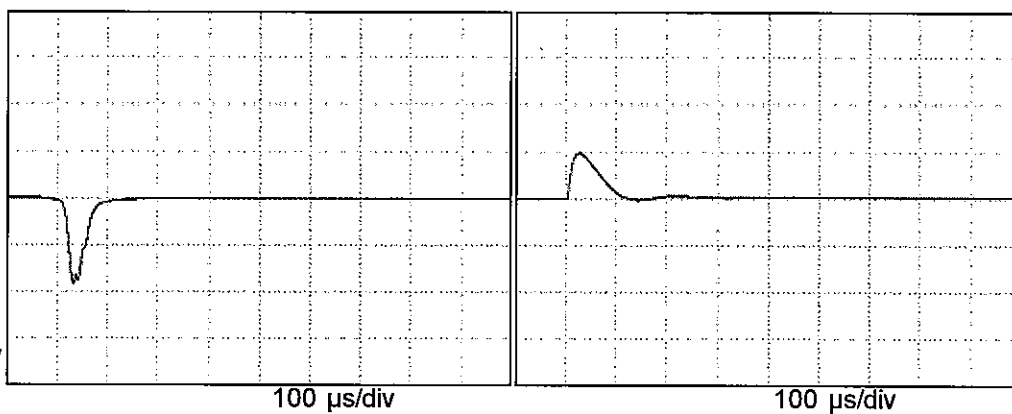
Model	G2-15	Temperature Testing Circuitry	25°C Figure A
Item	Dynamic Load Response		
Object	+15V1A		

Input Volt. 100 V
Cycle 1000 ms

Load Current

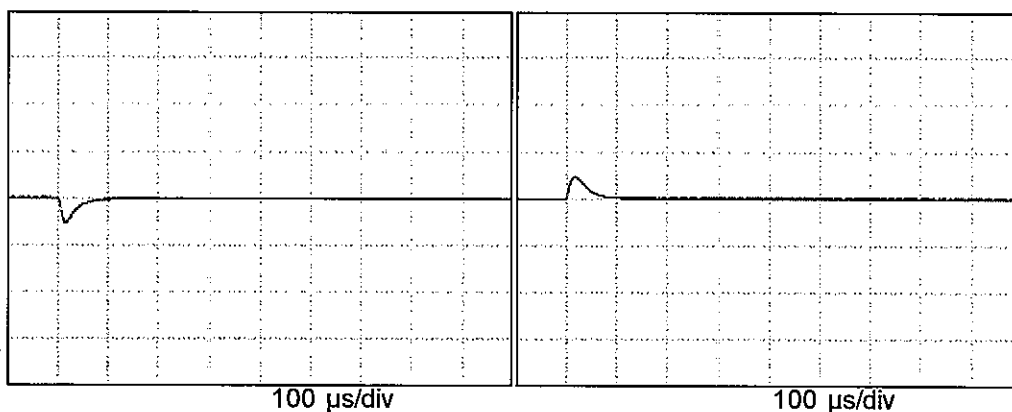
Min. Load (0A) ←→
Load 100% (1A)

50 mV/div



Load 50% (0.5A) ←→
Load 100% (1A)

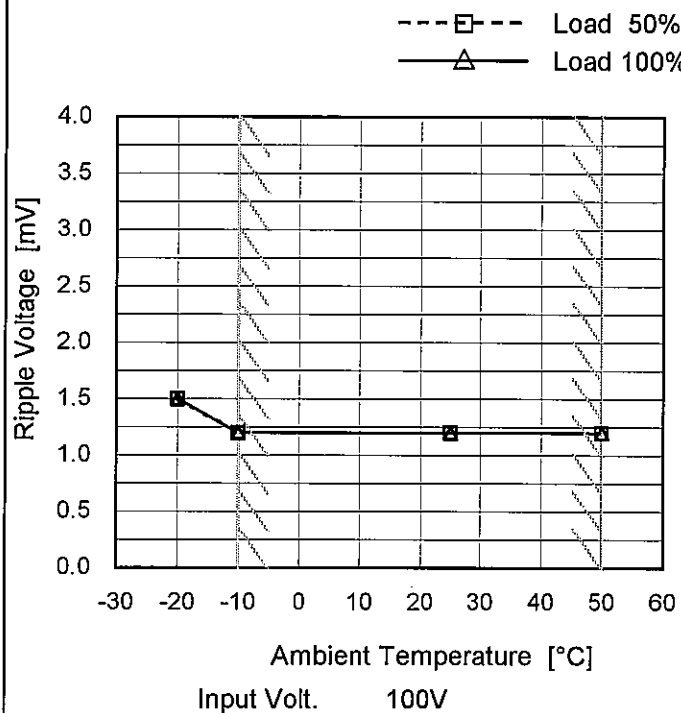
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<div><div><div>—△— Input Volt. 90V</div><div>-·-○-·- Input Volt. 110V</div></div><div>Ripple Voltage [mV]</div><div>Load Current [A]</div></div> <p>Measured by 20 MHz Oscilloscope.</p> <p>Note: Slanted line shows the range of the rated load current.</p>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Ripple Voltage [mV]</th></tr><tr><th>Input Volt. 90 [V]</th><th>Input Volt. 110 [V]</th></tr><tr><td>0.0</td><td>1.2</td><td>1.2</td></tr><tr><td>0.5</td><td>1.2</td><td>1.2</td></tr><tr><td>1.0</td><td>1.2</td><td>1.2</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><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><tr><td>--</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Ripple Voltage [mV]		Input Volt. 90 [V]	Input Volt. 110 [V]	0.0	1.2	1.2	0.5	1.2	1.2	1.0	1.2	1.2	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																											
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Model	G2-15
Item	Ripple Voltage (by Ambient Temp.)
Object	+15V1A

1. Graph



Measured by 20 MHz Oscilloscope.

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

Testing Circuitry Figure A

2. Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	1.5	1.5
-10	1.2	1.2
25	1.2	1.2
50	1.2	1.2
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

Model		G2-15	
Item		Ambient Temperature Drift	
Object		+15V1A	
1.Graph		2.Values	

—△—

Input Volt. 90V

---□---

Input Volt. 100V

---○---

Input Volt. 110V

Output Voltage [V]

Ambient Temperature [°C]

Load 100%

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

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]
-20	15.000	15.000	15.000
-10	15.005	15.005	15.005
0	15.010	15.010	15.010
10	15.013	15.013	15.013
20	15.014	15.014	15.014
25	15.014	15.014	15.014
30	15.013	15.013	15.013
40	15.011	15.011	15.011
50	15.006	15.006	15.006
60	15.001	15.001	15.001
--	-	-	-

		Testing Circuitry Figure A
Model	G2-15	
Item	Output Voltage Accuracy	
Object	+15V1A	

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 : 0 - 1A

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

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

2. Values

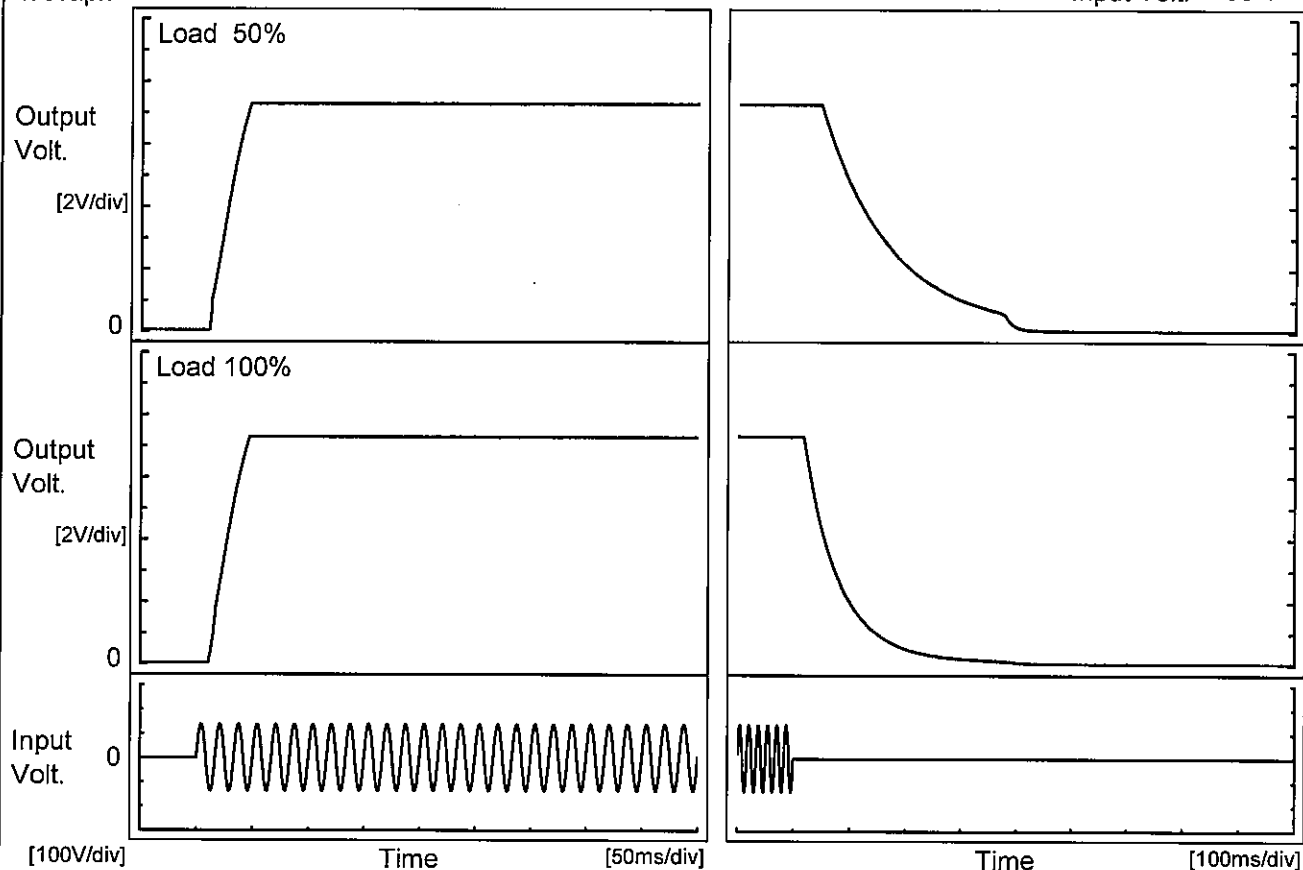
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	20	110	0	15.016	±6	±0.1
Minimum Voltage	-10	90	1	15.005		

COSEL

Model	G2-15		
Item	Time Lapse Drift	Temperature	25°C
Object	+15V1A	Testing Circuitry	Figure A
1.Graph		2.Values	
<div><div><div>Output Voltage [V]</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></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></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></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></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></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></di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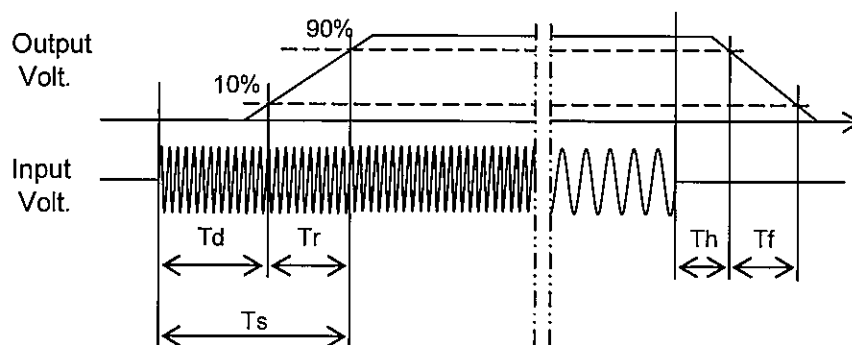
Model	G2-15	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V1A		

1. Graph



2. Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		12.5	30.5	43.0	56.0	284.0
100 %		14.0	28.8	42.8	22.5	146.0

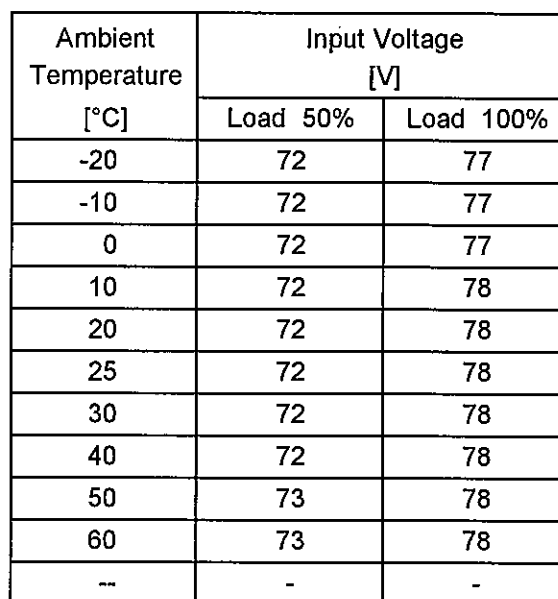


BC-10185

Model	G2-15																																																					
Item	Instantaneous Interruption Compensation	Temperature	25°C																																																			
Object	+15V1A	Testing Circuitry	Figure A																																																			
1.Graph		2.Values																																																				
<div><div><div>—△—</div><div>Input Volt. 90V</div></div><div><div>---□---</div><div>Input Volt. 100V</div></div><div><div>-○-</div><div>Input Volt. 110V</div></div></div> <p>Instantaneous Compensation Time [ms]</p> <p>Load Current [A]</p>		<table><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><tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.2</td><td>90</td><td>140</td><td>187</td></tr><tr><td>0.4</td><td>38</td><td>65</td><td>89</td></tr><tr><td>0.6</td><td>21</td><td>38</td><td>56</td></tr><tr><td>0.8</td><td>5</td><td>22</td><td>38</td></tr><tr><td>1.0</td><td>5</td><td>20</td><td>22</td></tr><tr><td>1.1</td><td>4</td><td>6</td><td>22</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>		Load Current [A]	Time [ms]			Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]	0.0	-	-	-	0.2	90	140	187	0.4	38	65	89	0.6	21	38	56	0.8	5	22	38	1.0	5	20	22	1.1	4	6	22	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																					
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0.0	-	-	-																																																			
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1.0	5	20	22																																																			
1.1	4	6	22																																																			
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Note: Slanted line shows the range of the rated load current.																																																						

Testing Circuitry Figure A

2.Values



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

Model	G2-15																																																									
Item	Overcurrent Protection	Temperature	25°C																																																							
Object	+15V1A	Testing Circuitry	Figure A																																																							
1.Graph		2.Values																																																								
<div><div><div></div>Input Volt. 90V</div><div><div></div>Input Volt. 100V</div><div><div></div>Input Volt. 110V</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. 90[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 110[V]</th></tr><tr><td>15.0</td><td>1.29</td><td>1.29</td><td>1.29</td></tr><tr><td>14.3</td><td>1.25</td><td>1.25</td><td>1.25</td></tr><tr><td>13.5</td><td>1.20</td><td>1.20</td><td>1.20</td></tr><tr><td>12.0</td><td>1.12</td><td>1.12</td><td>1.12</td></tr><tr><td>10.5</td><td>1.04</td><td>1.04</td><td>1.04</td></tr><tr><td>9.0</td><td>0.96</td><td>0.96</td><td>0.96</td></tr><tr><td>7.5</td><td>0.87</td><td>0.87</td><td>0.87</td></tr><tr><td>6.0</td><td>0.79</td><td>0.79</td><td>0.79</td></tr><tr><td>4.5</td><td>0.71</td><td>0.71</td><td>0.71</td></tr><tr><td>3.0</td><td>0.62</td><td>0.62</td><td>0.62</td></tr><tr><td>1.5</td><td>0.54</td><td>0.54</td><td>0.54</td></tr><tr><td>0.0</td><td>0.45</td><td>0.45</td><td>0.45</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 90[V]	Input Volt. 100[V]	Input Volt. 110[V]	15.0	1.29	1.29	1.29	14.3	1.25	1.25	1.25	13.5	1.20	1.20	1.20	12.0	1.12	1.12	1.12	10.5	1.04	1.04	1.04	9.0	0.96	0.96	0.96	7.5	0.87	0.87	0.87	6.0	0.79	0.79	0.79	4.5	0.71	0.71	0.71	3.0	0.62	0.62	0.62	1.5	0.54	0.54	0.54	0.0	0.45	0.45	0.45
Output Voltage [V]	Load Current [A]																																																									
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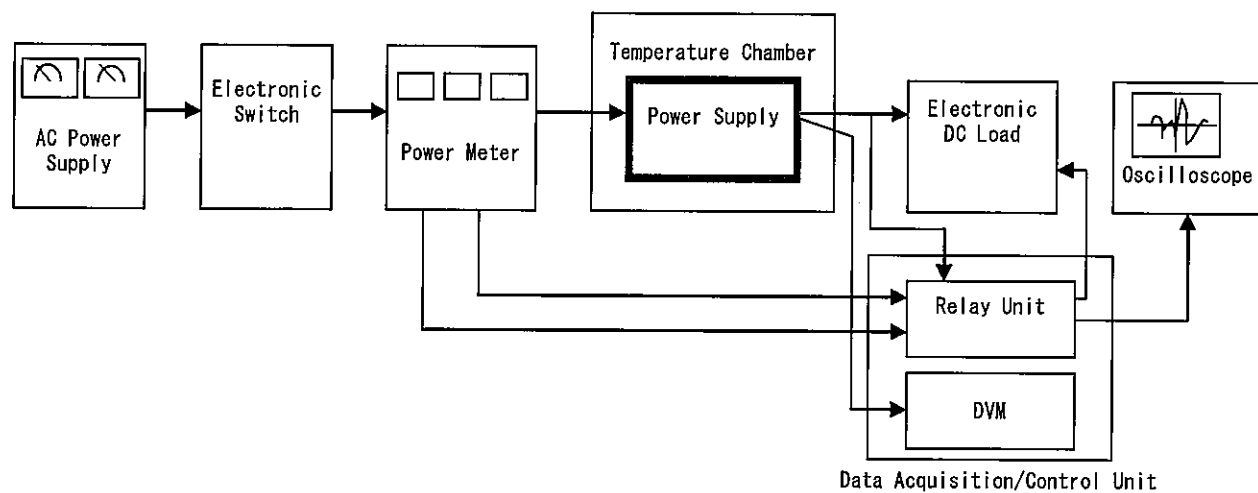


Figure A