

TEST DATA OF MGS151212

Regulated DC Power Supply
September 11, 2010

Approved by : Kazunari Asano
Kazunari Asano Design Manager

Prepared by : Shintaro Mizukami
Shintaro Mizukami Design Engineer

COSEL CO.,LTD.

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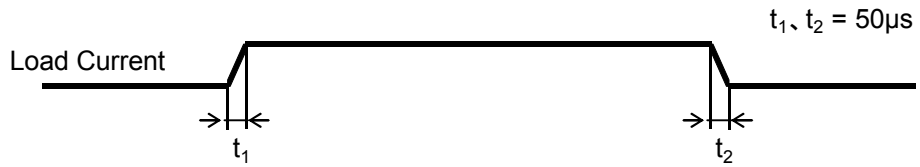


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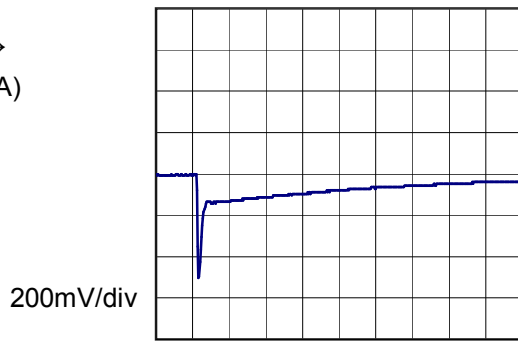


Model		MGS151212	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+12V1.3A	

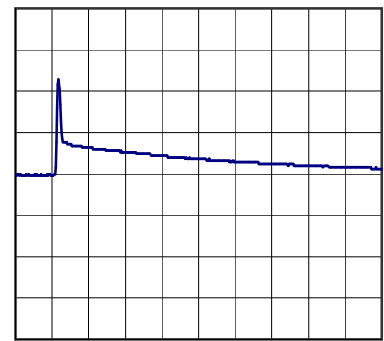
Input Volt. 12 V
Cycle 1000 ms



Min. Load (0A) ←→
Load 100% (1.3A)

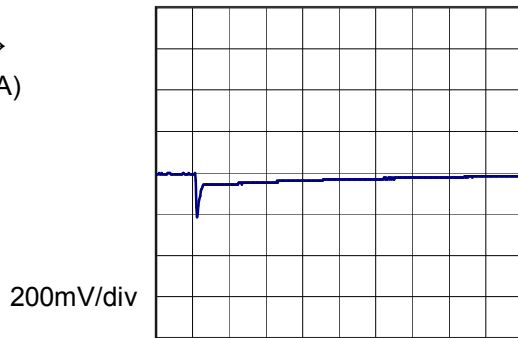


500µs/div

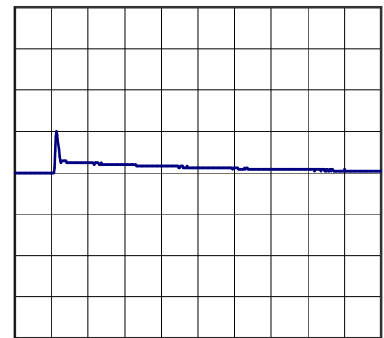


500µs/div

Min. Load (0A) ←→
Load 50% (0.65A)

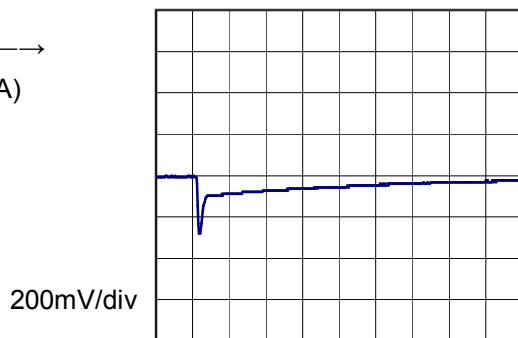


500µs/div

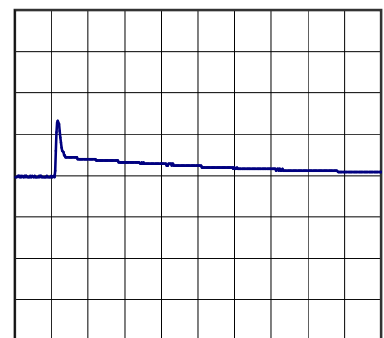


500µs/div

Load 50% (0.65A) ←→
Load 100% (1.3A)



500µs/div



500µs/div

Model		MGS151212	Temperature		25°C																																						
Item		Ripple Voltage (by Load Current)	Testing Circuitry		Figure B																																						
Object		+12V1.3A																																									
1. Graph			2. Values																																								
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<p>Fig. Complex Ripple Wave Form</p>																																											

<p>Model MGS151212</p>		<p>Temperature 25°C Testing Circuitry Figure B</p>																																						
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<p>Object +12V1.3A</p>																																								
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Model		MGS151212	Testing Circuitry Figure B																																						
Item		Ripple Voltage (by Ambient Temp.)																																							
Object		+12V1.3A																																							
1.Graph		<div style="text-align: right;"> ---□--- Load 50% —△— Load 100% </div> <p style="text-align: center;">Ambient Temperature [°C] Input Volt. 12V</p>	2.Values																																						
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COSEL																																																					
Model	MGS151212																																																				
Item	Ambient Temperature Drift	Testing Circuitry Figure A																																																			
Object	+12V1.3A																																																				
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COSEL		
Model	MGS151212	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+12V1.3A	

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 - 60°C

Input Voltage : 9 - 18V

Load Current : 0 - 1.3A

* 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	60	9	0	12.038	±34	±0.3
Minimum Voltage	-40	9	1.3	11.971		



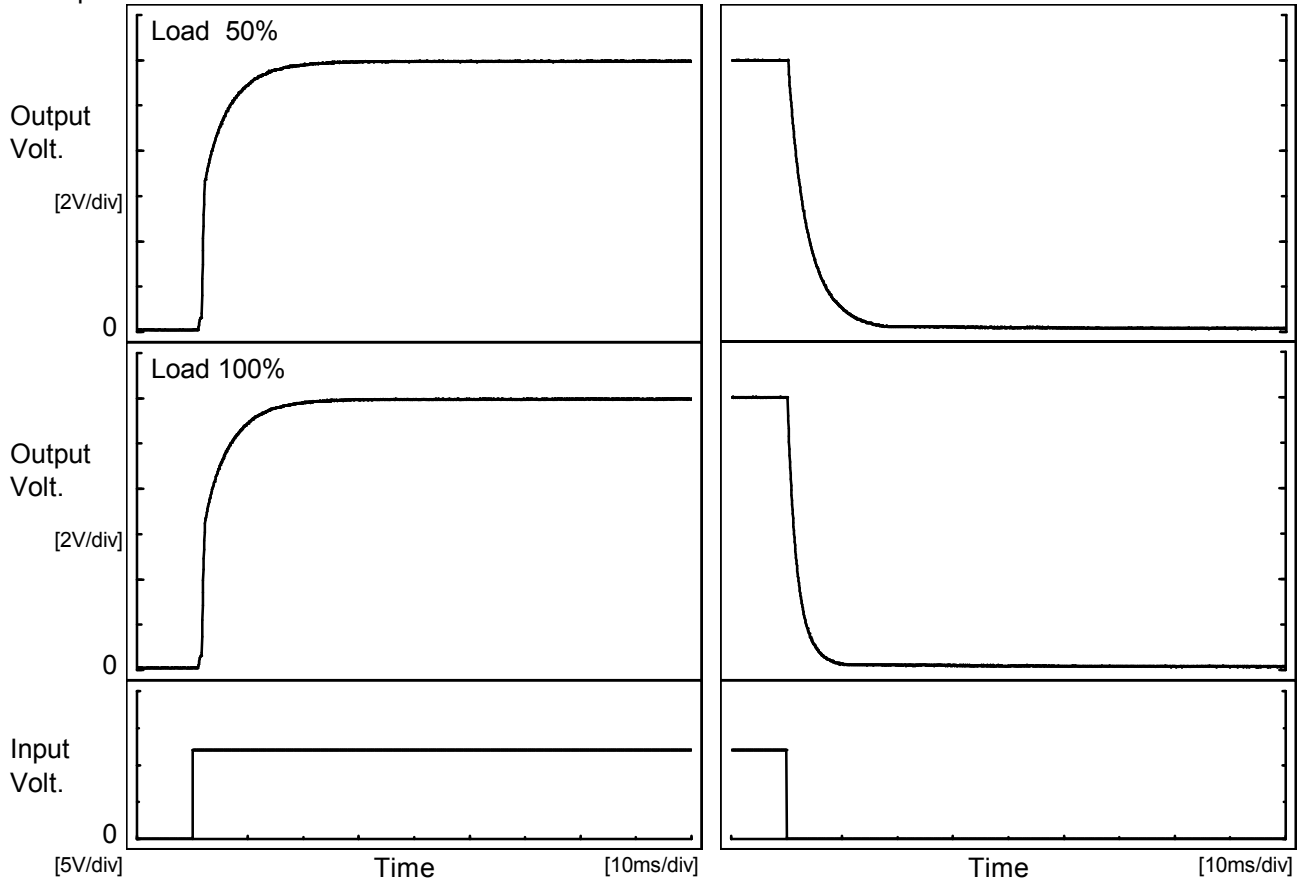
COSEL																								
Model	MGS151212																							
Item	Time Lapse Drift	Temperature 25°C Testing Circuitry Figure A																						
Object	+12V1.3A																							
<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p>Input Volt. 12V Load 100%</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>12.025</td></tr> <tr><td>0.5</td><td>12.029</td></tr> <tr><td>1.0</td><td>12.029</td></tr> <tr><td>2.0</td><td>12.029</td></tr> <tr><td>3.0</td><td>12.029</td></tr> <tr><td>4.0</td><td>12.029</td></tr> <tr><td>5.0</td><td>12.029</td></tr> <tr><td>6.0</td><td>12.029</td></tr> <tr><td>7.0</td><td>12.029</td></tr> <tr><td>8.0</td><td>12.029</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	12.025	0.5	12.029	1.0	12.029	2.0	12.029	3.0	12.029	4.0	12.029	5.0	12.029	6.0	12.029	7.0	12.029	8.0	12.029
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Model		MGS151212	Temperature	25°C
Item		Rise and Fall Time	Testing Circuitry	Figure A
Object		+12V1.3A		

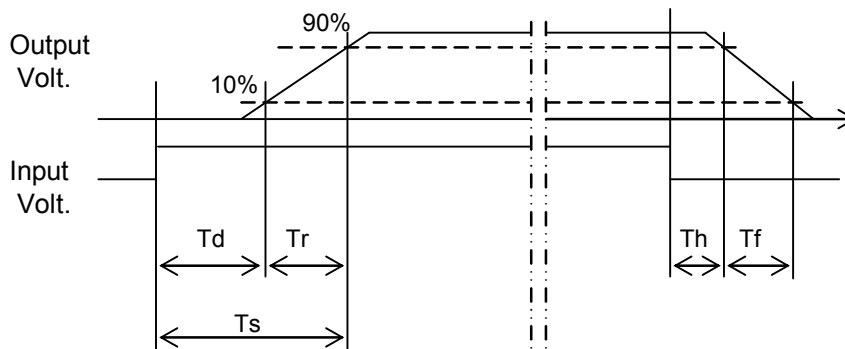
1. Graph

Input Volt. 12 V



2. Values

		[ms]				
Load \ Time	Time	Td	Tr	Ts	Th	Tf
50 %		1.8	8.1	9.9	0.4	8.5
100 %		1.8	8.2	10.0	0.3	4.3





COSEL																																								
Model	MGS151212																																							
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A																																						
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																								



<p>Model MGS151212</p> <p>Item Overcurrent Protection</p> <p>Object +12V1.3A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																							
<p>1.Graph</p> <p> —△ Input Volt. 9V —□ Input Volt. 12V —○ Input Volt. 18V </p> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p> <p>Intermittent operation occurs when overcurrent protection is activated.</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="3">Load Current [A]</th> </tr> <tr> <th>Input Volt. 9[V]</th> <th>Input Volt. 12[V]</th> <th>Input Volt. 18[V]</th> </tr> </thead> <tbody> <tr> <td>12.0</td> <td>1.61</td> <td>1.73</td> <td>1.67</td> </tr> <tr> <td>11.4</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>10.8</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>9.6</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>8.4</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>7.2</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>6.0</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>4.8</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>3.6</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>2.4</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>1.2</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>0.0</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Output Voltage [V]	Load Current [A]			Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	12.0	1.61	1.73	1.67	11.4	-	-	-	10.8	-	-	-	9.6	-	-	-	8.4	-	-	-	7.2	-	-	-	6.0	-	-	-	4.8	-	-	-	3.6	-	-	-	2.4	-	-	-	1.2	-	-	-	0.0	-	-	-
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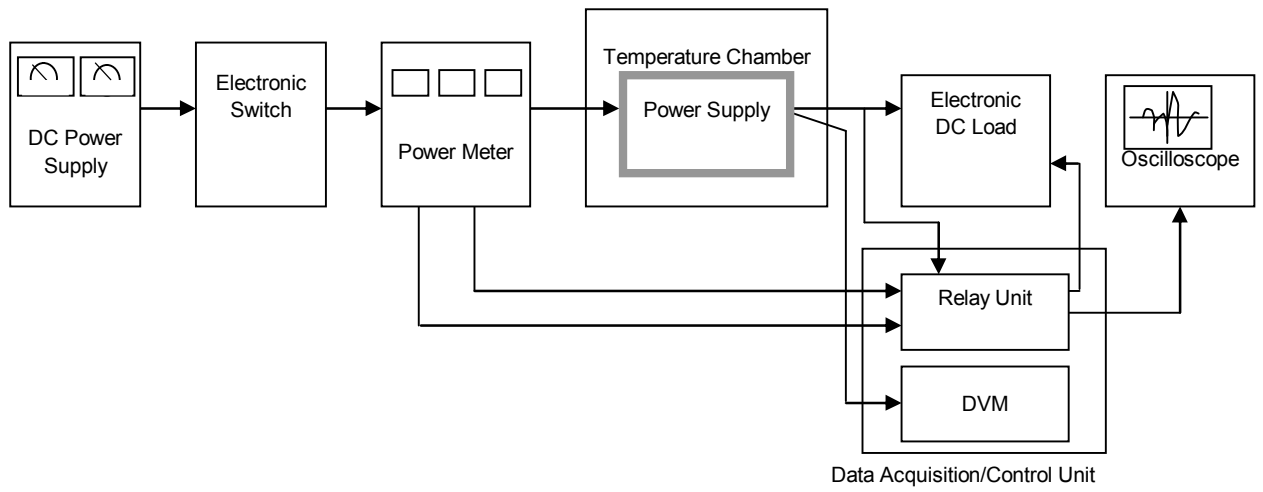


Figure A

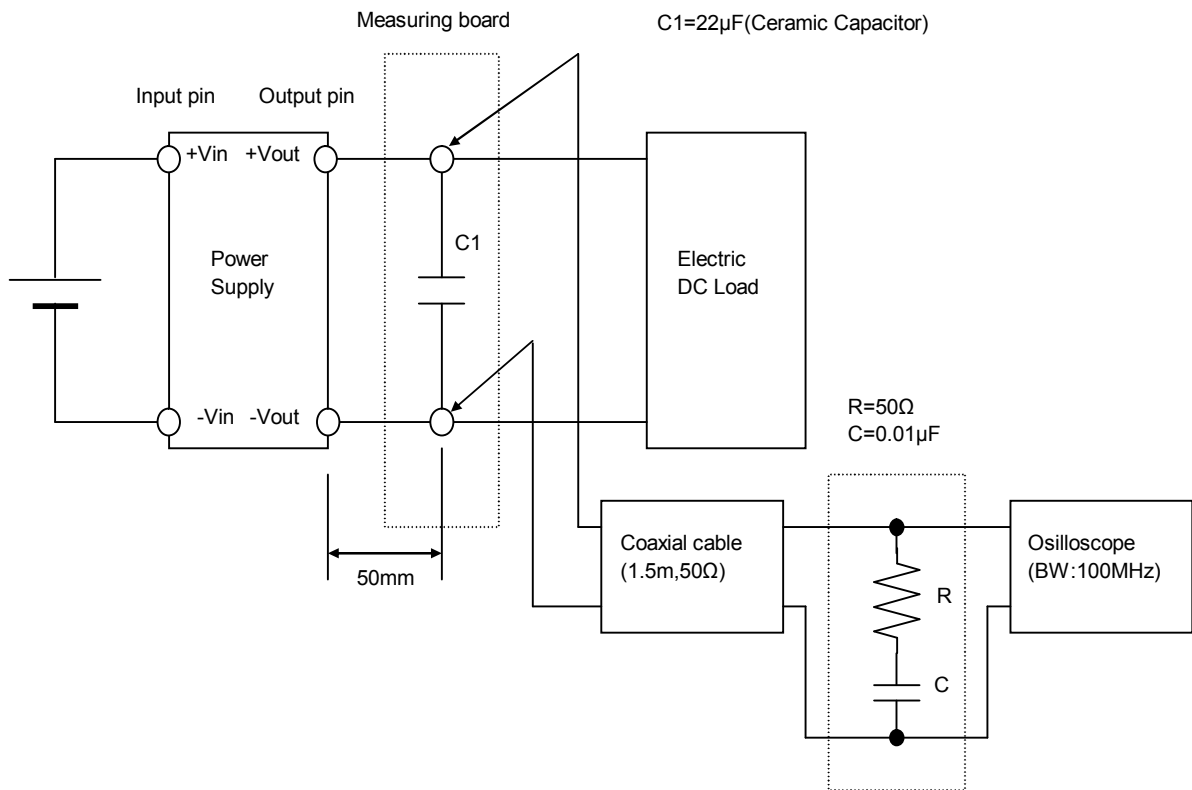


Figure B (Ripple and Ripple noise Characteristic)