

TEST DATA OF MGFS62415

Regulated DC Power Supply
December 16, 2016

Approved by : Takayuki Fukuda
Takayuki Fukuda Design Manager

Prepared by : Takaaki Sekiguchi
Takaaki Sekiguchi Design Engineer

COSEL CO.,LTD.

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<p>Model MGFS62415</p>		<p>Temperature 25°C Testing Circuitry Figure A</p>																																																																													
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Model	MGFS62415	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+15V0.4A		

Input Volt. 24 V
Cycle 100 ms

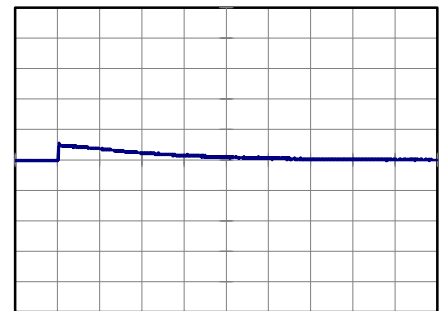
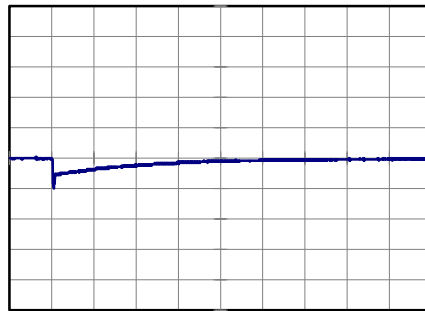
$t1, t2 = 100 \mu s$



Min. Load (0A) ←→
Load 100% (0.4A)

500 mV/div

2 ms/div

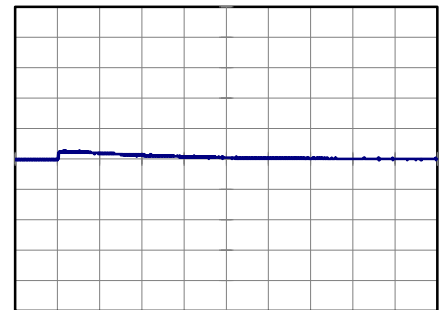
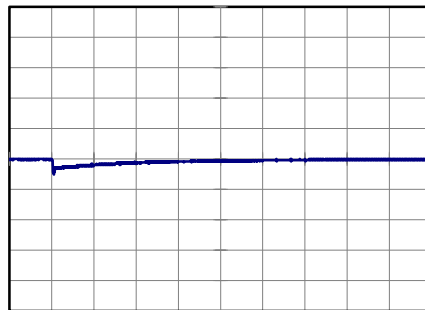


2 ms/div

Min. Load (0A) ←→
Load 50% (0.2A)

500 mV/div

2 ms/div

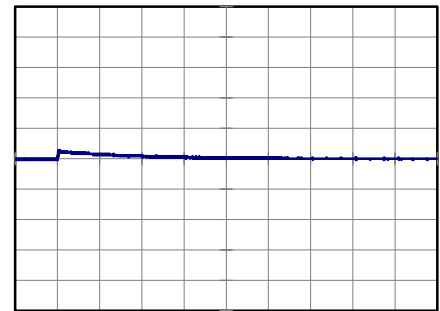
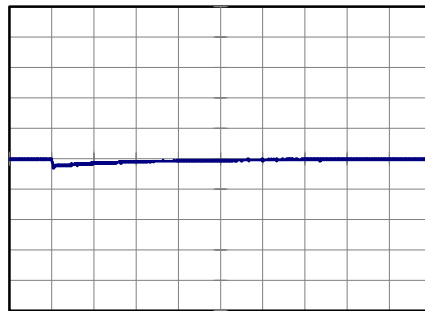


2 ms/div

Load 50% (0.2A) ←→
Load 100% (0.4A)

500 mV/div

2 ms/div



2 ms/div



<p>Model MGFS62415</p> <p>Item Ripple Voltage (by Load Current)</p> <p>Object +15V0.4A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure B</p>																																						
<p>1.Graph</p> <p> —△— Input Volt. 9V - - ○ - - Input Volt. 36V </p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 9 [V]</th> <th>Input Volt. 36 [V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>5</td><td>35</td></tr> <tr><td>0.08</td><td>5</td><td>5</td></tr> <tr><td>0.16</td><td>5</td><td>5</td></tr> <tr><td>0.24</td><td>5</td><td>5</td></tr> <tr><td>0.32</td><td>5</td><td>5</td></tr> <tr><td>0.40</td><td>10</td><td>5</td></tr> <tr><td>0.44</td><td>10</td><td>5</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> </tbody> </table>	Load Current [A]	Ripple Voltage [mV]		Input Volt. 9 [V]	Input Volt. 36 [V]	0.00	5	35	0.08	5	5	0.16	5	5	0.24	5	5	0.32	5	5	0.40	10	5	0.44	10	5	--	-	-	--	-	-	--	-	-	--	-	-
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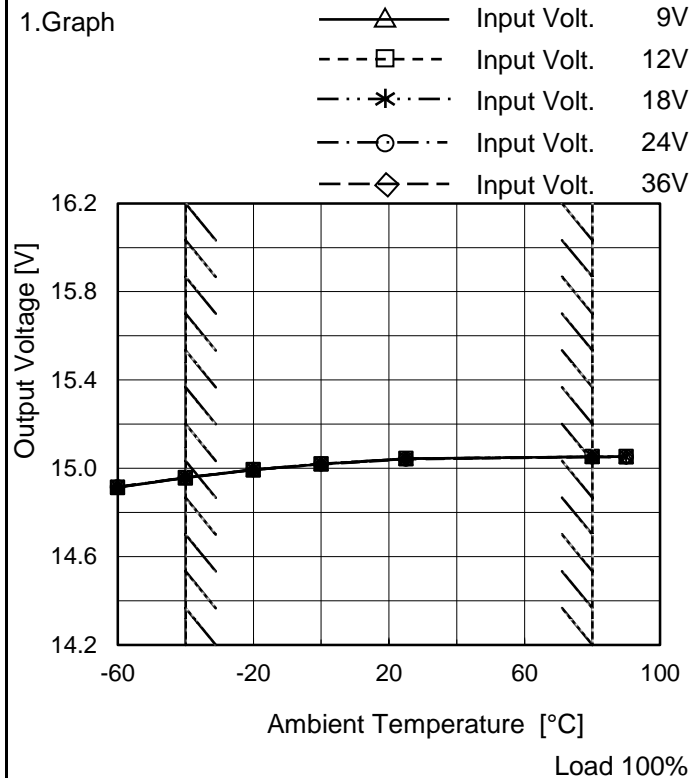


COSEL																																								
Model	MGFS62415																																							
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry Figure B																																						
Object	+15V0.4A																																							
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Model	MGFS62415
Item	Ambient Temperature Drift
Object	+15V0.4A

Testing Circuitry Figure A



2.Values

Ambient Temperature [°C]	Output Voltage [V]				
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
-60	14.912	14.914	14.915	14.915	14.914
-40	14.956	14.958	14.958	14.958	14.957
-20	14.993	14.994	14.993	14.994	14.992
0	15.020	15.020	15.020	15.020	15.018
25	15.043	15.044	15.043	15.042	15.041
80	15.052	15.053	15.052	15.052	15.050
90	15.052	15.053	15.052	15.051	15.050
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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



COSEL		
Model	MGFS62415	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+15V0.4A	

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 - 80°C

Input Voltage : 9 - 36V

Load Current : 0 - 0.4A

* 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

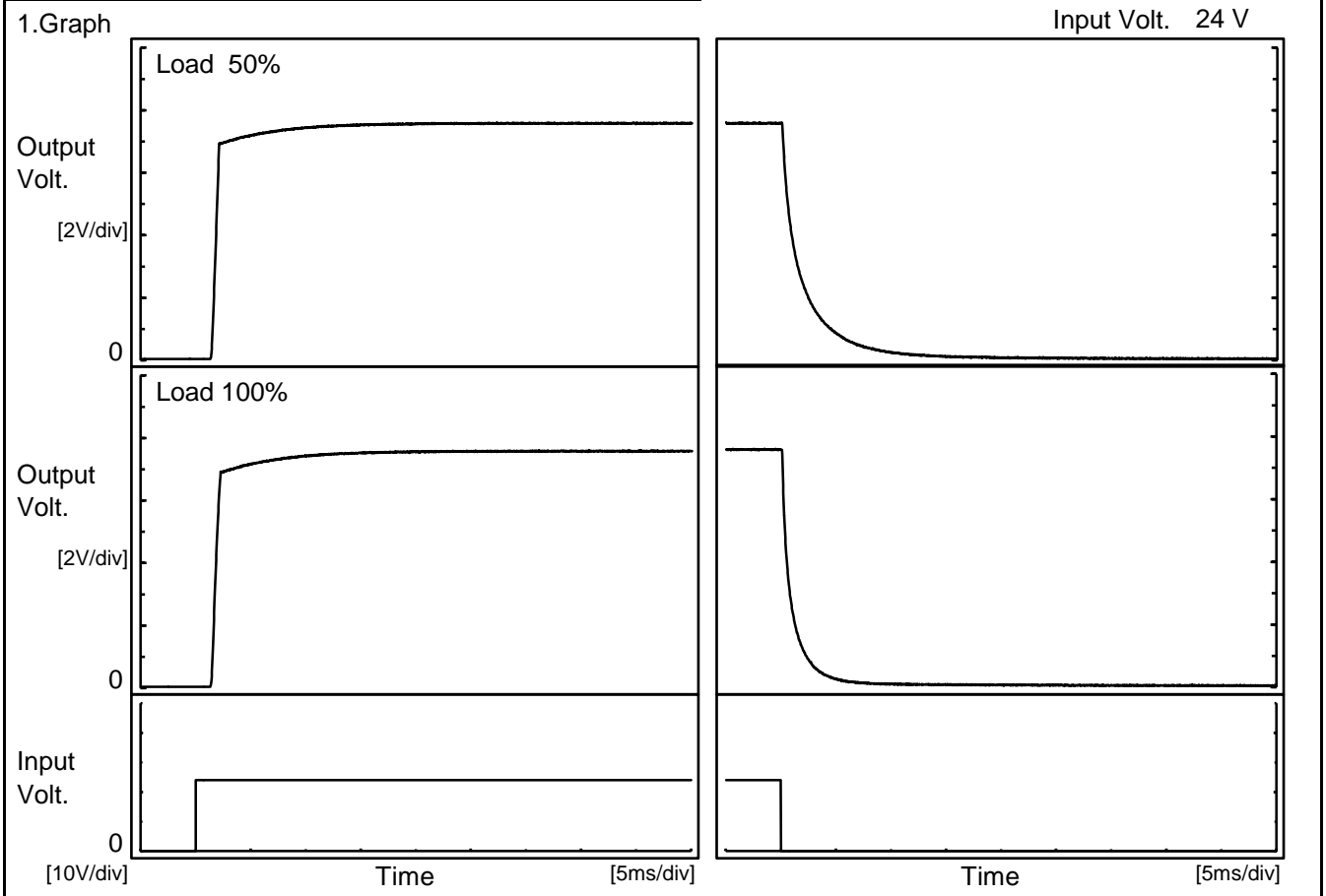
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	65	36	0	15.064	±54	±0.4
Minimum Voltage	-40	9	0.4	14.956		



COSEL																									
Model	MGFS62415	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+15V0.4A																								
<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p>Input Volt. 24V 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>15.036</td></tr> <tr><td>0.5</td><td>15.043</td></tr> <tr><td>1.0</td><td>15.043</td></tr> <tr><td>2.0</td><td>15.043</td></tr> <tr><td>3.0</td><td>15.043</td></tr> <tr><td>4.0</td><td>15.043</td></tr> <tr><td>5.0</td><td>15.043</td></tr> <tr><td>6.0</td><td>15.043</td></tr> <tr><td>7.0</td><td>15.043</td></tr> <tr><td>8.0</td><td>15.043</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	15.036	0.5	15.043	1.0	15.043	2.0	15.043	3.0	15.043	4.0	15.043	5.0	15.043	6.0	15.043	7.0	15.043	8.0	15.043
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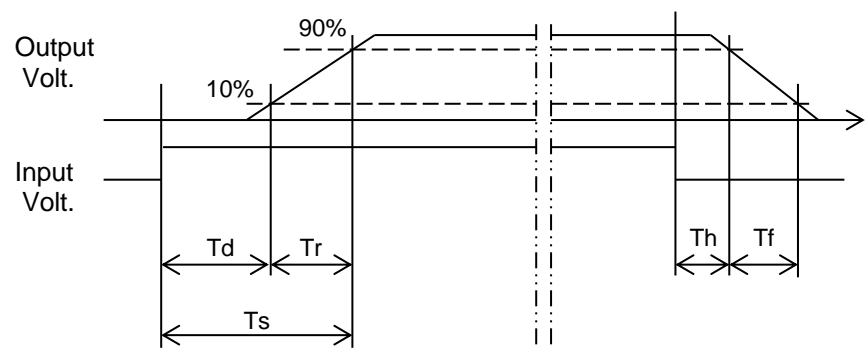
Model		MGFS62415	Temperature	25°C
Item		Rise and Fall Time	Testing Circuitry	Figure A
Object		+15V0.4A		



2.Values

Load	Time	Td	Tr	Ts	Th	Tf
50 %		1.5	0.6	2.1	0.2	5.1
100 %		1.5	0.7	2.2	0.2	2.6

[ms]

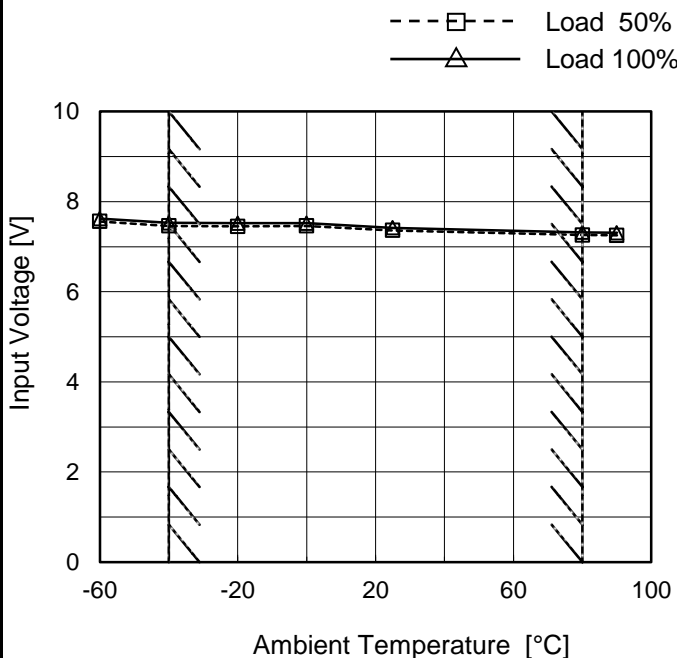




Model	MGFS62415
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+15V0.4A

Testing Circuitry Figure A

1.Graph



2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	7.6	7.7
-40	7.5	7.6
-20	7.5	7.6
0	7.5	7.6
25	7.4	7.5
80	7.3	7.4
90	7.3	7.4
--	-	-
--	-	-
--	-	-
--	-	-

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



COSEL																																																																																						
Model	MGFS62415	Temperature	25°C																																																																																			
Item	Overcurrent Protection	Testing Circuitry	Figure A																																																																																			
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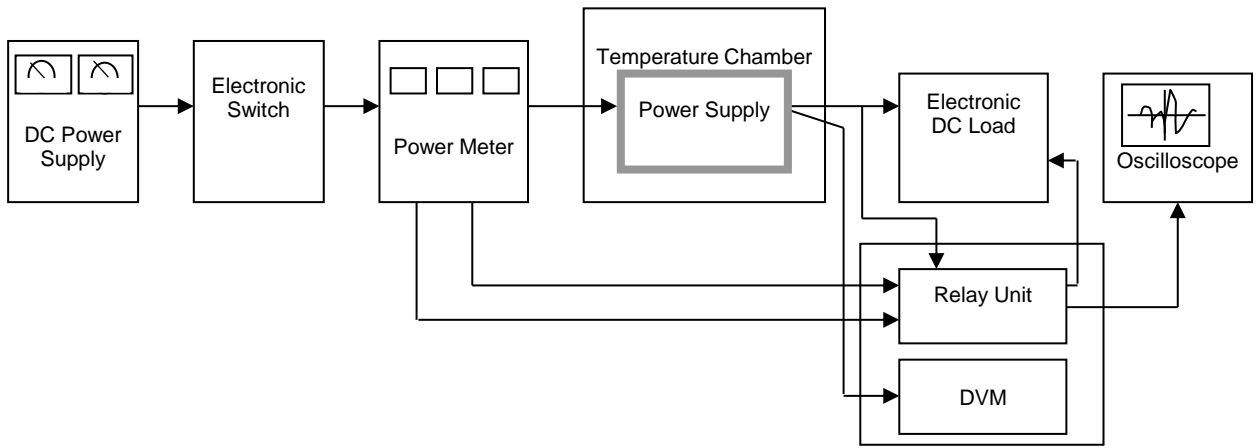


Figure A

Data Acquisition/Control Unit

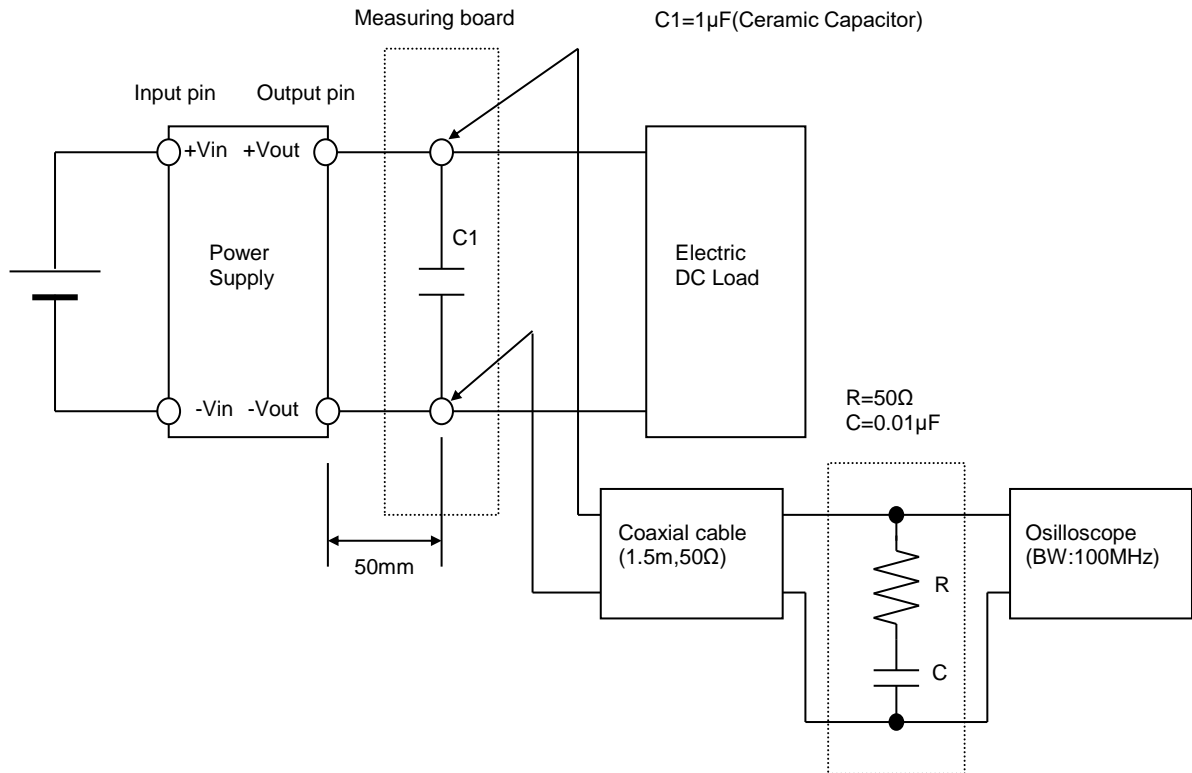


Figure B (Ripple and Ripple noise Characteristic)