

TEST DATA OF MGS152405

Regulated DC Power Supply
September 9, 2010

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Kazunari Asano Design Manager

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COSEL CO.,LTD.



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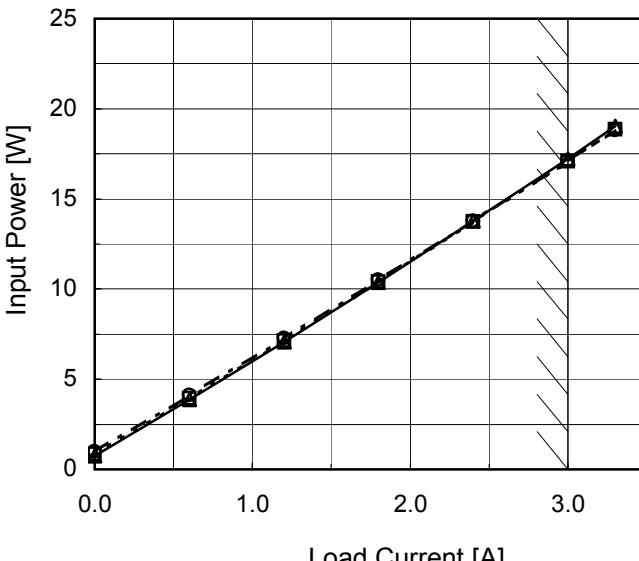
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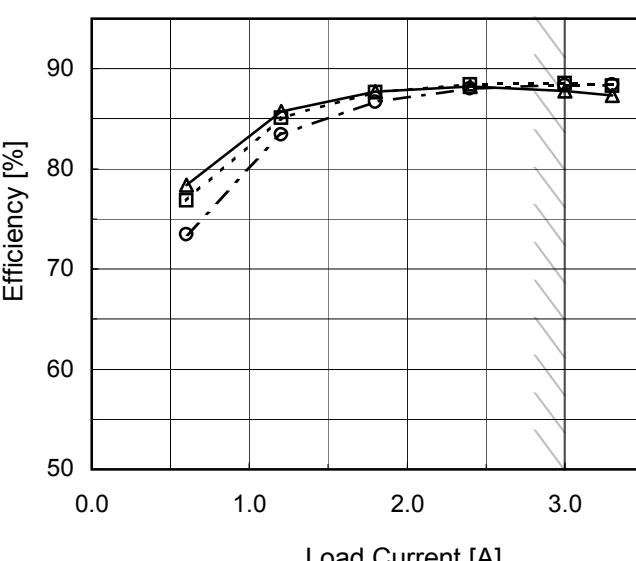
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
4.0	0.002	0.001	0.002
8.0	0.002	0.003	0.002
16.0	0.003	0.003	0.002
16.6	0.045	0.529	1.050
16.8	0.044	0.519	1.032
17.0	0.044	0.514	1.020
18.0	0.042	0.485	0.961
20.0	0.040	0.436	0.860
22.0	0.038	0.397	0.783
24.0	0.035	0.364	0.716
28.0	0.032	0.314	0.612
30.0	0.031	0.294	0.571
32.0	0.030	0.276	0.535
36.0	0.028	0.247	0.477
40.0	0.027	0.223	0.430
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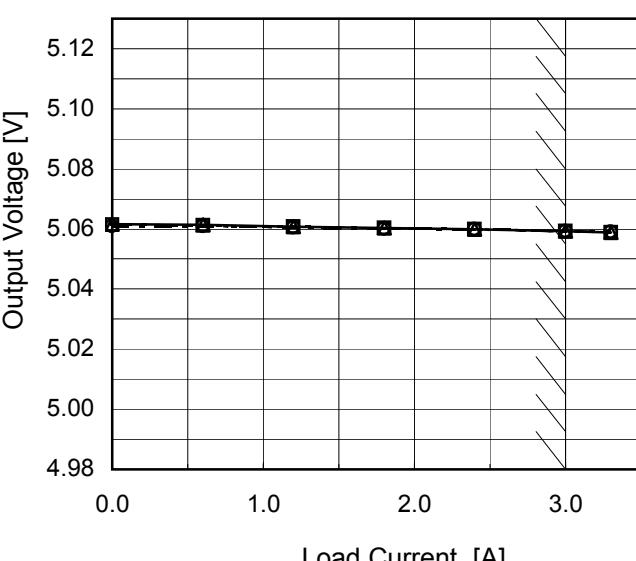
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<p>The graph plots Efficiency [%] on the y-axis (50 to 90) against Input Voltage [V] on the x-axis (10 to 40). Two data series are shown: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both series show a slight increase in efficiency as input voltage increases. A slanted line on the graph indicates the rated input voltage range.</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Efficiency Load 50% [%]</th> <th>Efficiency Load 100% [%]</th> </tr> </thead> <tbody> <tr><td>17</td><td>86.8</td><td>87.3</td></tr> <tr><td>18</td><td>87.0</td><td>87.5</td></tr> <tr><td>20</td><td>86.9</td><td>87.9</td></tr> <tr><td>24</td><td>86.6</td><td>88.3</td></tr> <tr><td>30</td><td>86.2</td><td>88.5</td></tr> <tr><td>36</td><td>85.5</td><td>88.3</td></tr> <tr><td>40</td><td>84.8</td><td>88.1</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	17	86.8	87.3	18	87.0	87.5	20	86.9	87.9	24	86.6	88.3	30	86.2	88.5	36	85.5	88.3	40	84.8	88.1	--	-	-	--	-	-		
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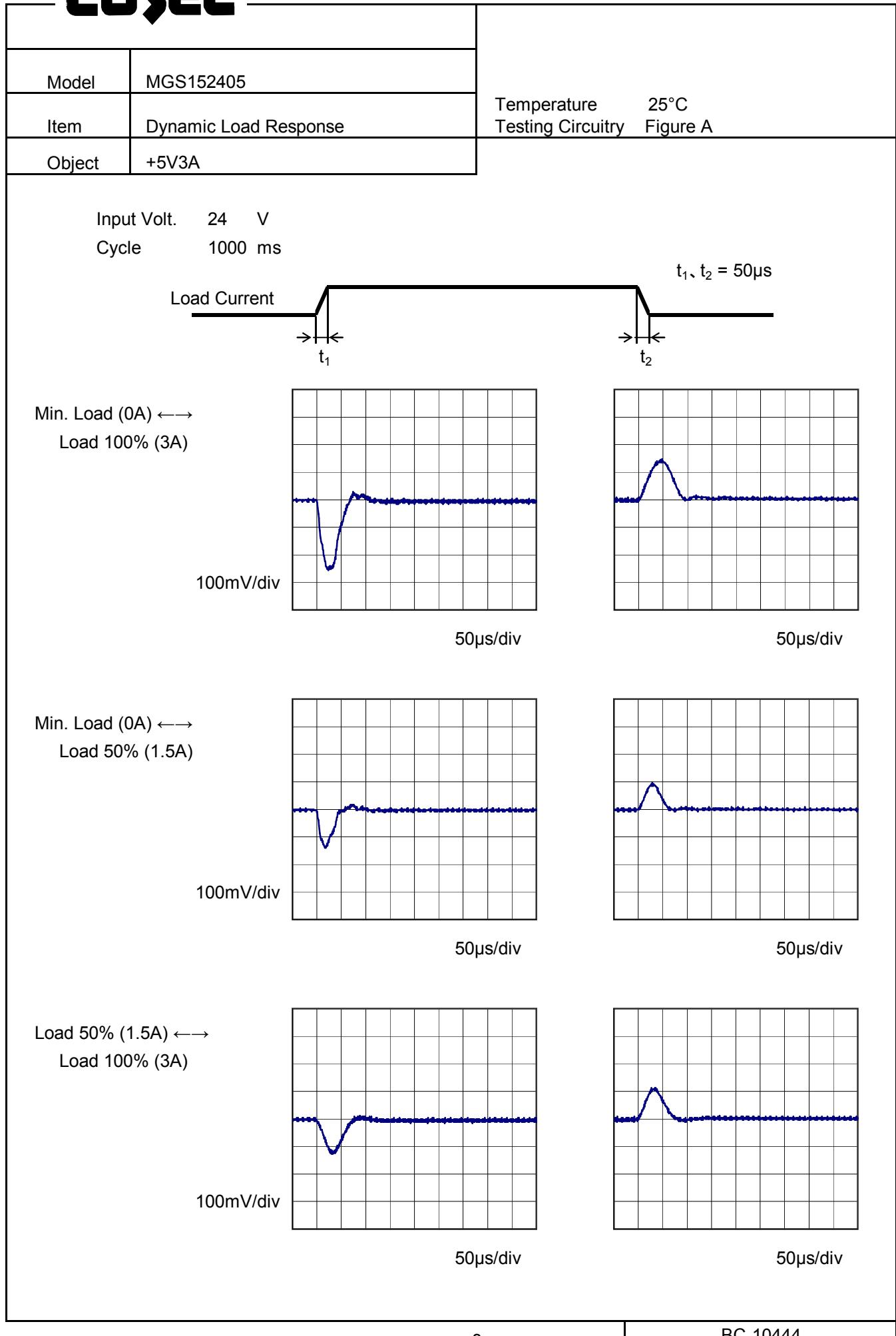
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1.Graph	<p>—△— Input Volt. 18V - - -□- - Input Volt. 24V - - ○ - - Input Volt. 36V</p>  <p>The graph plots Efficiency [%] on the y-axis (50 to 90) against Load Current [A] on the x-axis (0.0 to 3.0). Three data series are shown: 18V (solid line with triangles), 24V (dashed line with squares), and 36V (dash-dot line with circles). All curves show efficiency increasing with load current. A slanted line on the right side of the graph indicates the rated load current range.</p>																																																					
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Efficiency [%]</th> </tr> <tr> <th>Input Volt. 18[V]</th> <th>Input Volt. 24[V]</th> <th>Input Volt. 36[V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>0.6</td><td>78.4</td><td>76.8</td><td>73.5</td></tr> <tr><td>1.2</td><td>85.7</td><td>85.1</td><td>83.4</td></tr> <tr><td>1.8</td><td>87.7</td><td>87.6</td><td>86.7</td></tr> <tr><td>2.4</td><td>88.2</td><td>88.4</td><td>88.0</td></tr> <tr><td>3.0</td><td>87.7</td><td>88.5</td><td>88.3</td></tr> <tr><td>3.3</td><td>87.3</td><td>88.3</td><td>88.4</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> </tbody> </table>			Load Current [A]	Efficiency [%]			Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	0.0	-	-	-	0.6	78.4	76.8	73.5	1.2	85.7	85.1	83.4	1.8	87.7	87.6	86.7	2.4	88.2	88.4	88.0	3.0	87.7	88.5	88.3	3.3	87.3	88.3	88.4	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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Model	MGS152405	Temperature Testing Circuitry 25°C Figure A																																
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Model	MGS152405	Temperature Testing Circuitry 25°C Figure A																																																					
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COSEL



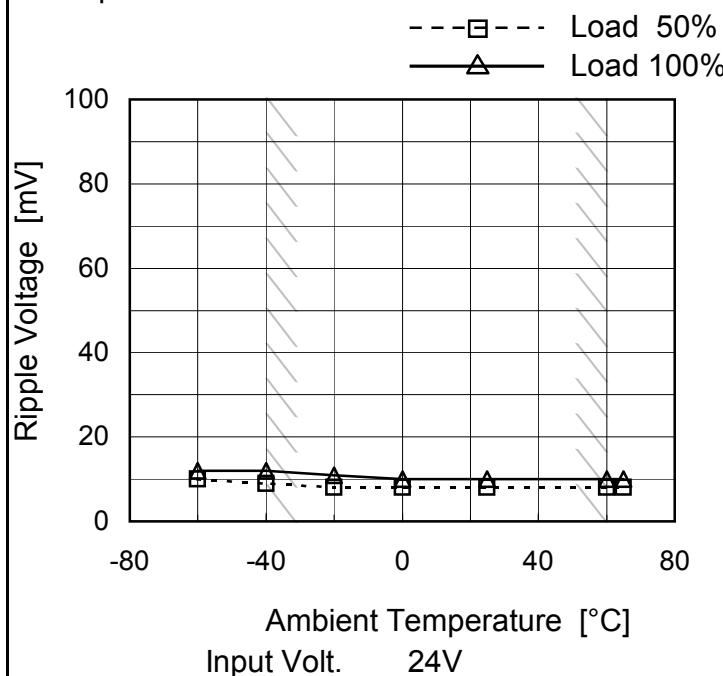
Model	MGS152405																																							
Item	Ripple Voltage (by Load Current)	Temperature 25°C Testing Circuitry Figure B																																						
Object	+5V3A																																							
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Load Current [A]	Ripple Voltage [mV]																																							
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Model	MGS152405																																							
Item	Ripple-Noise	Temperature 25°C Testing Circuitry Figure B																																						
Object	+5V3A																																							
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Model	MGS152405
Item	Ripple Voltage (by Ambient Temp.)
Object	+5V3A

Testing Circuitry Figure B

1. Graph



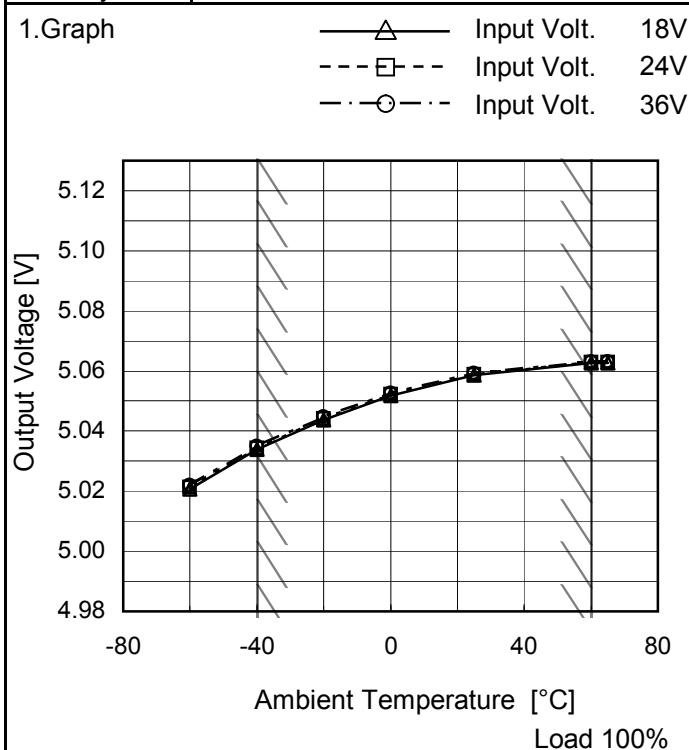
2. Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	10	12
-40	9	12
-20	8	11
0	8	10
25	8	10
60	8	10
65	8	10
--	-	-
--	-	-
--	-	-
--	-	-

Measured by 100 MHz Oscilloscope.

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

Model	MGS152405
Item	Ambient Temperature Drift
Object	+5V3A



Testing Circuitry Figure A

2. Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
-60	5.021	5.021	5.022
-40	5.034	5.034	5.035
-20	5.044	5.044	5.045
0	5.052	5.052	5.053
25	5.059	5.059	5.059
60	5.063	5.063	5.063
65	5.063	5.063	5.063
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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



Model	MGS152405	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+5V3A	

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 : 18 - 36V

Load Current : 0 - 3A

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

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

2. Values

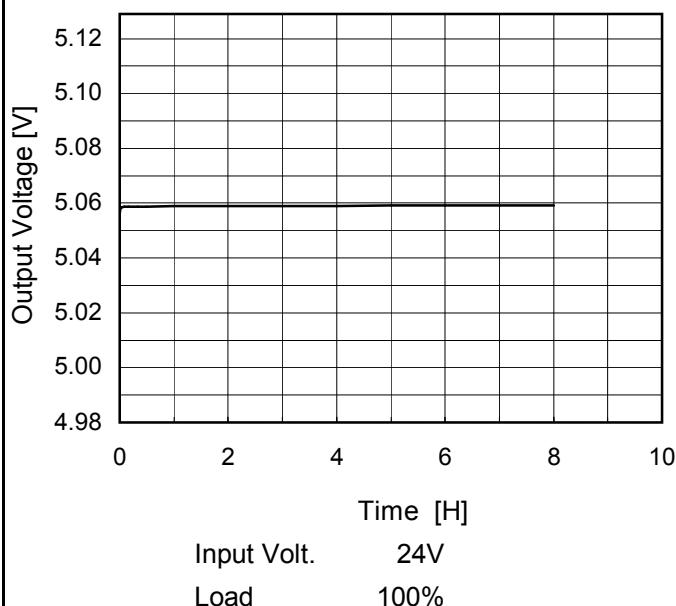
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	60	18	0	5.065	±16	±0.3
Minimum Voltage	-40	18	3	5.034		

COSEL

Model	MGS152405
Item	Time Lapse Drift
Object	+5V3A

Temperature 25°C
Testing Circuitry Figure A

1. Graph



2. Values

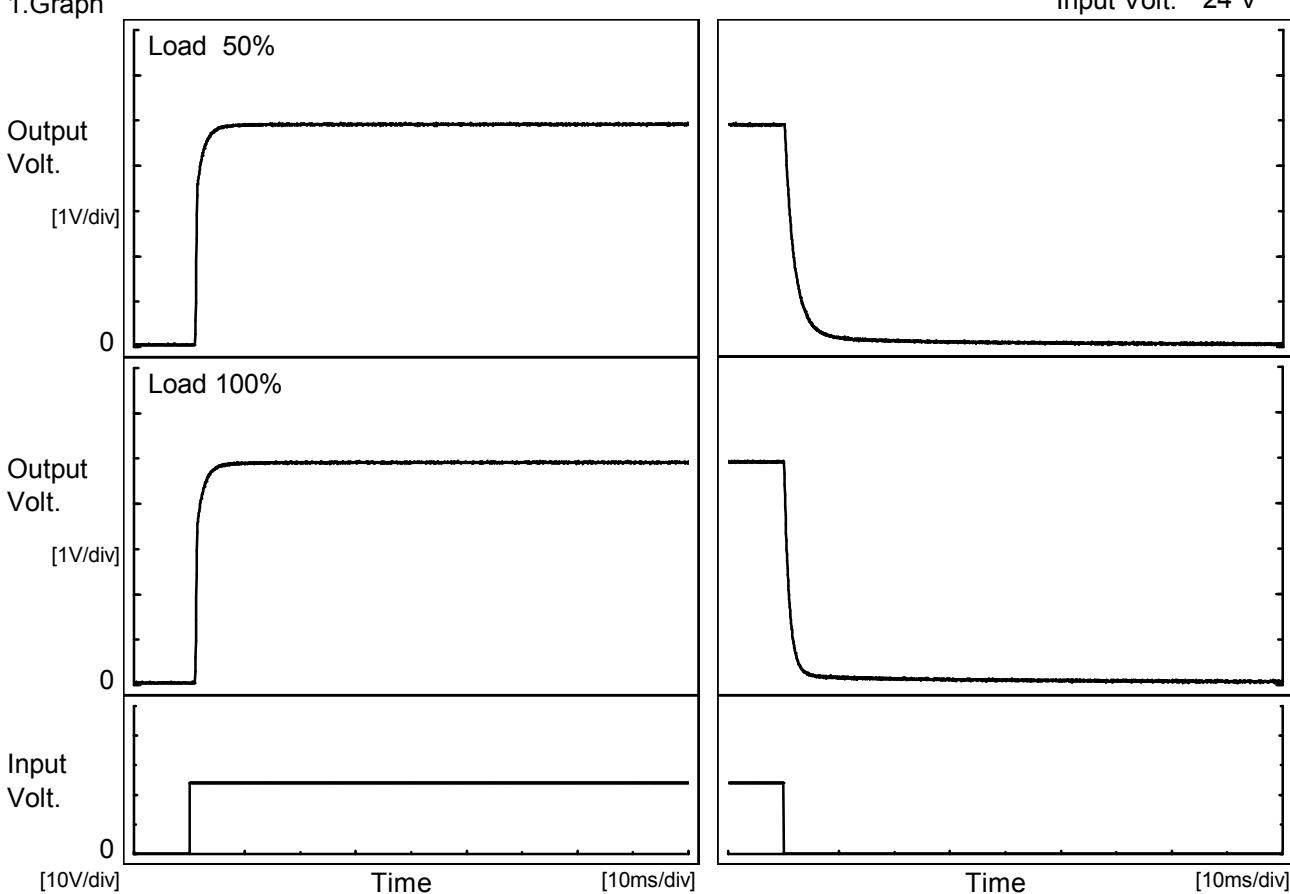
Time since start [H]	Output Voltage [V]
0.0	5.057
0.5	5.060
1.0	5.060
2.0	5.060
3.0	5.060
4.0	5.060
5.0	5.060
6.0	5.060
7.0	5.060
8.0	5.060

COSEL

Model	MGS152405
Item	Rise and Fall Time
Object	+5V3A

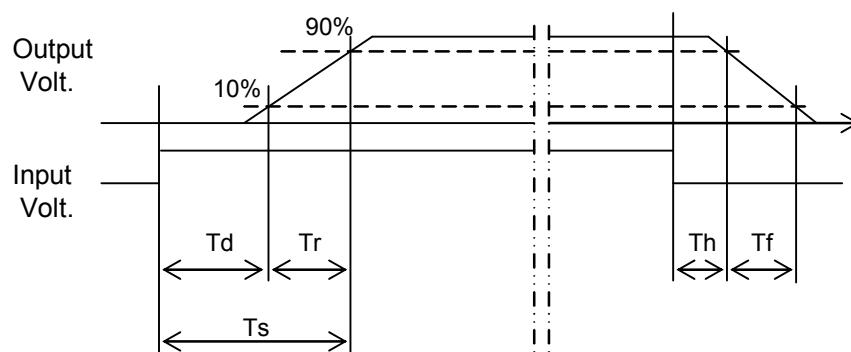
Temperature 25°C
Testing Circuitry Figure A

1. Graph



2. Values

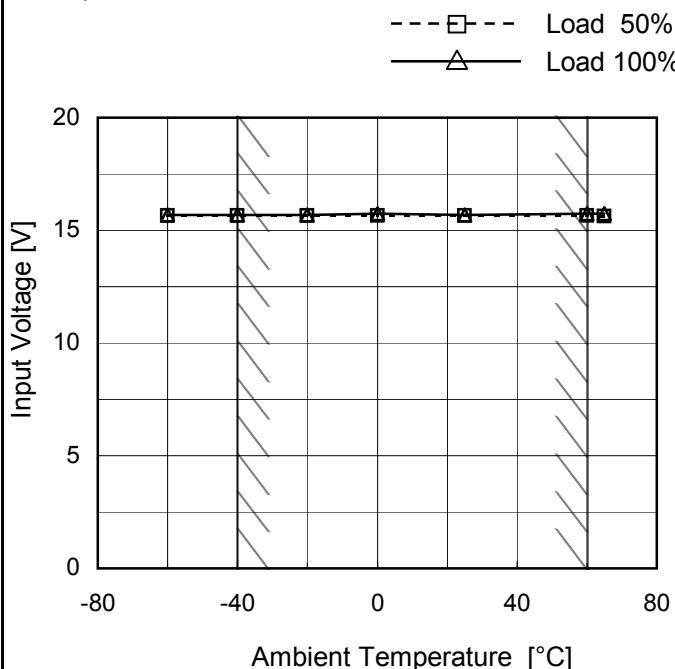
Load	Time	Td	Tr	Ts	Th	Tf
50 %		1.1	2.0	3.1	0.2	4.6
100 %		1.1	2.1	3.2	0.2	2.4



Model	MGS152405
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V3A

Testing Circuitry Figure A

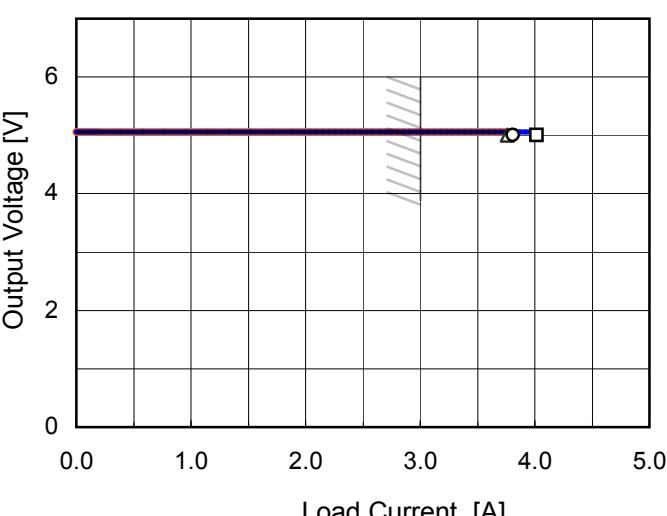
1.Graph



2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	15.7	15.7
-40	15.7	15.7
-20	15.7	15.7
0	15.7	15.8
25	15.7	15.7
60	15.7	15.8
65	15.7	15.8
--	-	-
--	-	-
--	-	-
--	-	-

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

Model	MGS152405	Temperature Testing Circuitry 25°C Figure A																																																							
Item	Overcurrent Protection																																																								
Object	+5V3A																																																								
1.Graph	<p>—△— Input Volt. 18V —□— Input Volt. 24V —○— Input Volt. 36V</p>  <p>Note: Slanted line shows the range of the rated load current.</p> <p>Intermittent operation occurs when overcurrent protection is activated.</p>	2.Values																																																							
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Output Voltage [V]	Load Current [A]																																																								
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COSEL

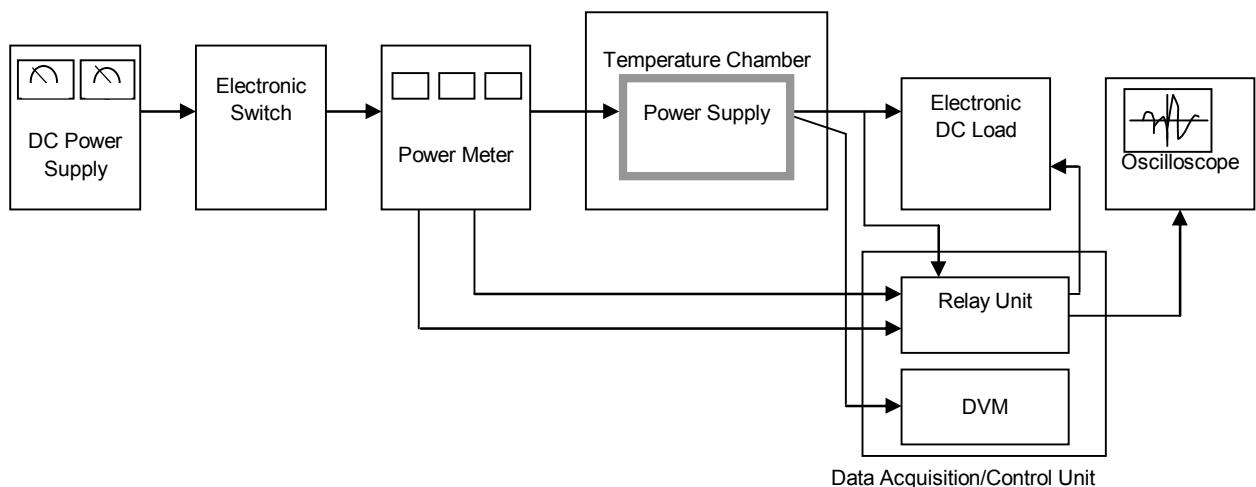


Figure A

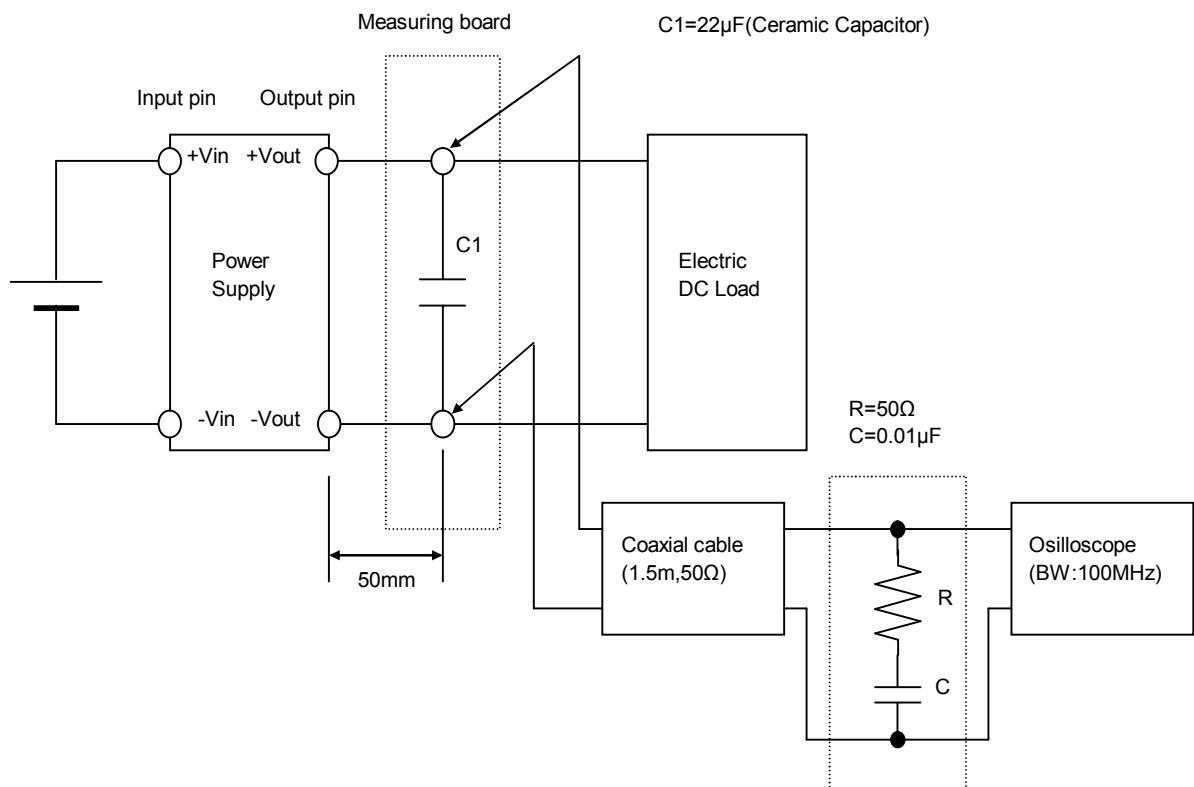


Figure B (Ripple and Ripple noise Characteristic)