

TEST DATA OF MODULE F

(AME series)

Regulated DC Power Supply
August 21, 2019

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Yoshimichi Hirokawa Design Manager

Prepared by : *Takashi Yamamine*
Takashi Yamamine Design Engineer

COSEL CO.,LTD.



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COSEL																																		
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Item	Line Regulation	Temperature 25°C Testing Circuitry Figure A																																
Object	+12V20A																																	
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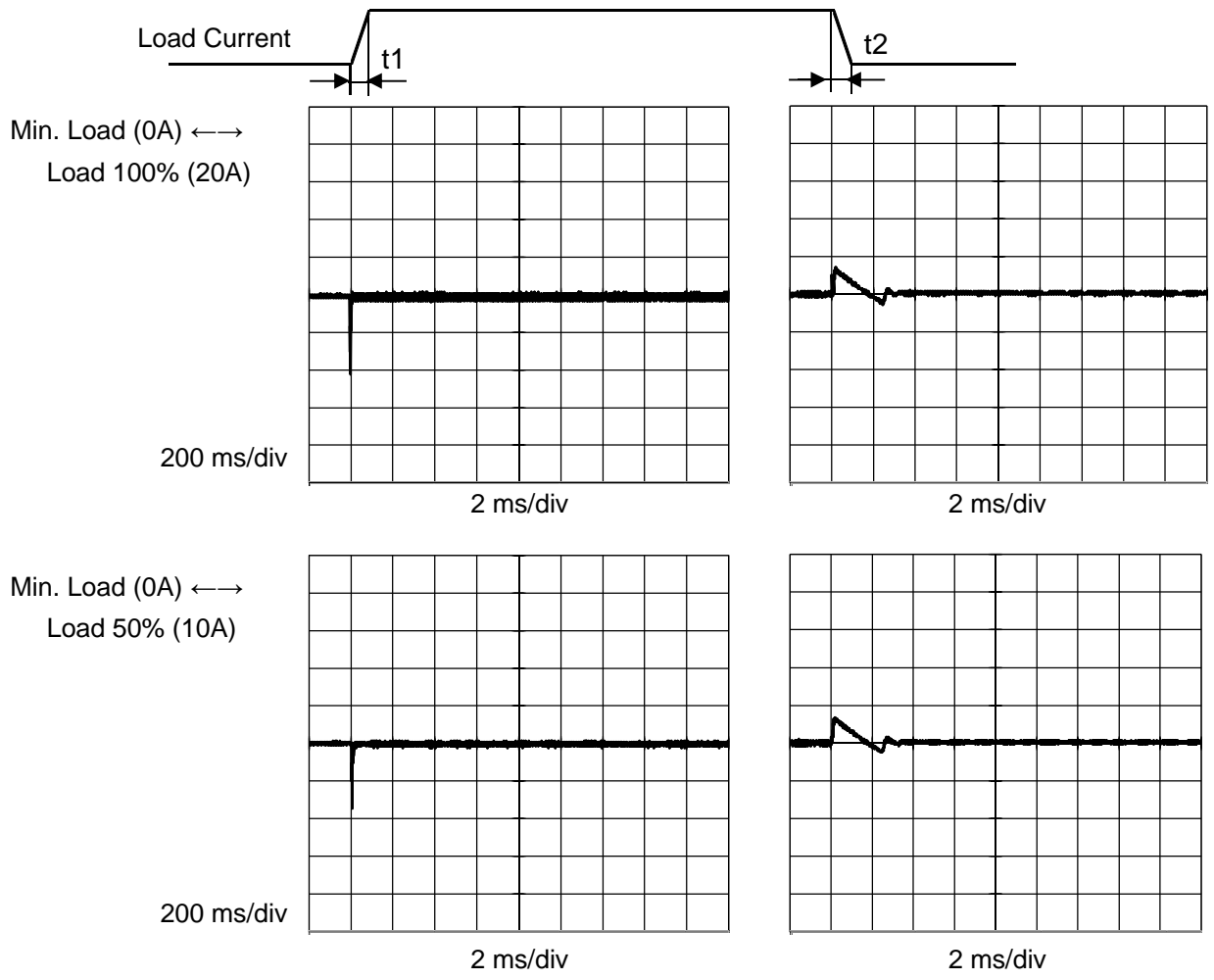


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Model		MODULE F	
Item		Temperature	25° C
Object		Testing Circuitry	Figure A
		+12V20A	

Input Volt. 100 V Response t1=t2=50us. Typ
 Cycle 1000 ms



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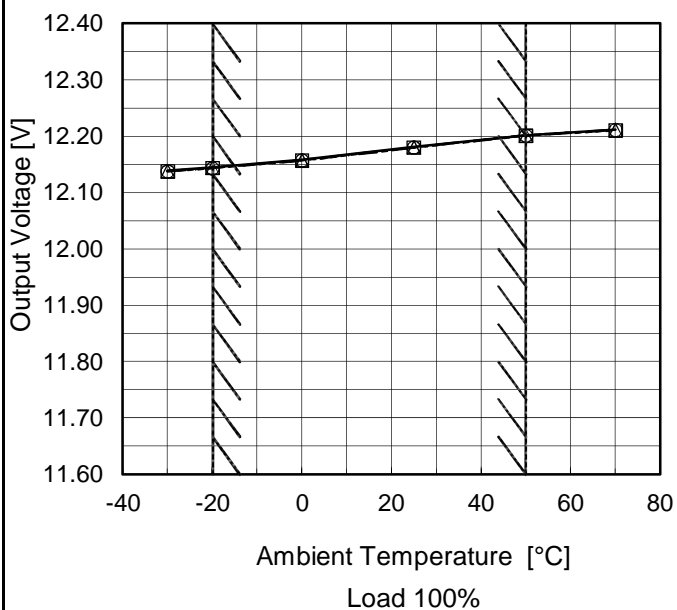
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Model	MODULE F
Item	Ambient Temperature Drift
Object	+12V20A

Testing Circuitry Figure A

1. Graph
- △— Input Volt. 100V
 - - - □ - - - Input Volt. 200V
 - · - ○ - · - - Input Volt. 230V



2. Value

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
-30	12.139	12.138	12.138
-20	12.144	12.144	12.143
0	12.158	12.157	12.157
25	12.181	12.180	12.180
50	12.201	12.201	12.201
70	12.212	12.211	12.211
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

Note:
Hatched line shows the range of the rated operating temperature.



COSEL		
Model	MODULE F	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+12V20A	

1. Output Voltage Accuracy

This means the output voltage fluctuation of the time the ambient temperature, the input voltage and/or the load current are varied arbitrarily in the range below.

Temperature : -20 - 50°C

Input Voltage : 85 - 264V

Load Current : 0 - 20A

* 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. Value

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	50	264	0.0	12.209	±33	±0.3
Minimum Voltage	-20	230	20.0	12.143		



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Item	Time Lapse Drift	Temperature 25°C Testing Circuitry Figure A																						
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<p>1. Graph</p> <p style="text-align: center;">Time [H]</p> <p>Input Voltage 100V Load 100%</p>		<p>2. Value</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>12.153</td></tr> <tr><td>0.5</td><td>12.178</td></tr> <tr><td>1.0</td><td>12.178</td></tr> <tr><td>2.0</td><td>12.178</td></tr> <tr><td>3.0</td><td>12.178</td></tr> <tr><td>4.0</td><td>12.178</td></tr> <tr><td>5.0</td><td>12.178</td></tr> <tr><td>6.0</td><td>12.178</td></tr> <tr><td>7.0</td><td>12.178</td></tr> <tr><td>8.0</td><td>12.178</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	12.153	0.5	12.178	1.0	12.178	2.0	12.178	3.0	12.178	4.0	12.178	5.0	12.178	6.0	12.178	7.0	12.178	8.0	12.178
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<p>Model MODULE F</p> <p>Item Overcurrent Protection</p> <p>Object +12V20A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																							
<p>1. Graph</p> <p> — Input Volt. 100V — Input Volt. 200V — Input Volt. 230V </p> <p>Note: Hatched line shows the range of the rated load current.</p> <p>Hiccup mode activates when the output voltage is below 6.0V.</p>		<p>2. Value</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. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>11.4</td><td>23.33</td><td>23.32</td><td>23.31</td></tr> <tr><td>10.8</td><td>23.53</td><td>23.52</td><td>23.52</td></tr> <tr><td>9.6</td><td>24.03</td><td>24.03</td><td>24.03</td></tr> <tr><td>8.5</td><td>24.54</td><td>24.53</td><td>24.52</td></tr> <tr><td>7.5</td><td>25.03</td><td>25.01</td><td>24.99</td></tr> <tr><td>6.0</td><td>25.94</td><td>25.92</td><td>25.91</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> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Output Voltage [V]	Load Current [A]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	11.4	23.33	23.32	23.31	10.8	23.53	23.52	23.52	9.6	24.03	24.03	24.03	8.5	24.54	24.53	24.52	7.5	25.03	25.01	24.99	6.0	25.94	25.92	25.91	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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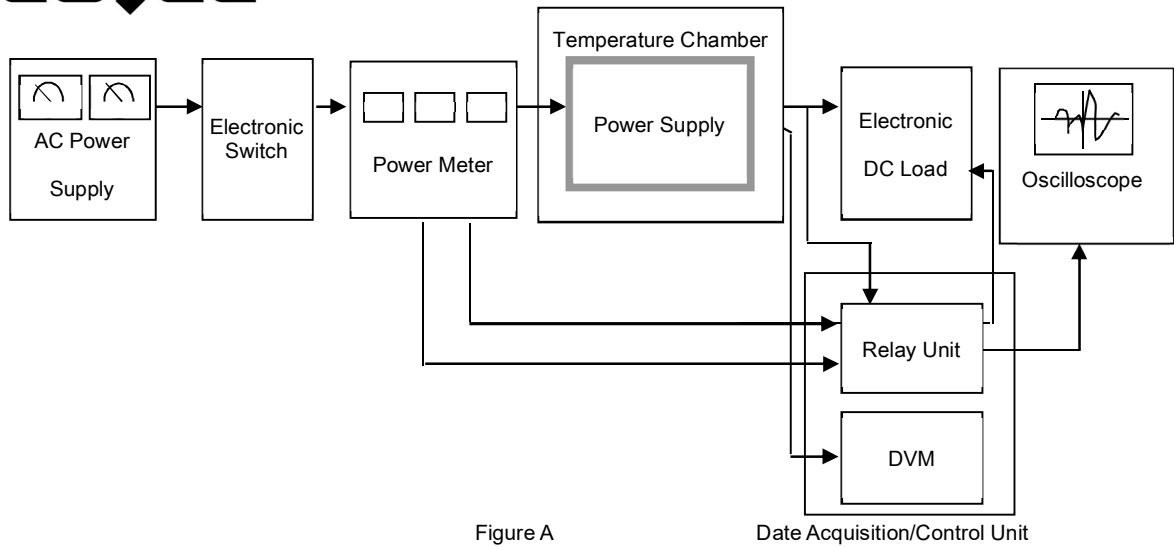


Figure A

Date Acquisition/Control Unit

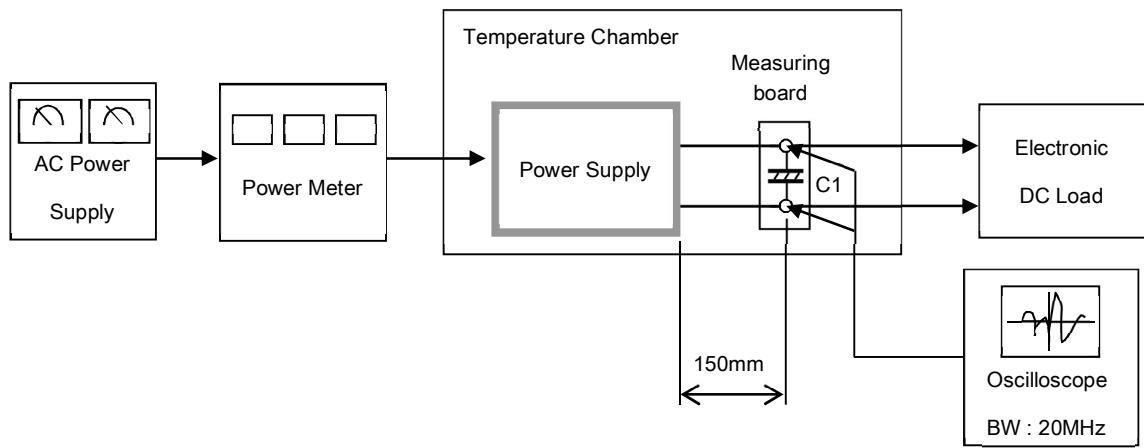


Figure B

C1 = 22 μ F
(Electrolytic capacitor)