

TEST DATA OF MHFS64805

Regulated DC Power Supply
October 27, 2021

Approved by : _____ Kenichi Tsukada

Design Manager

Prepared by : _____ Yoshihiko Saeki

Design Engineer

COSEL CO.,LTD.

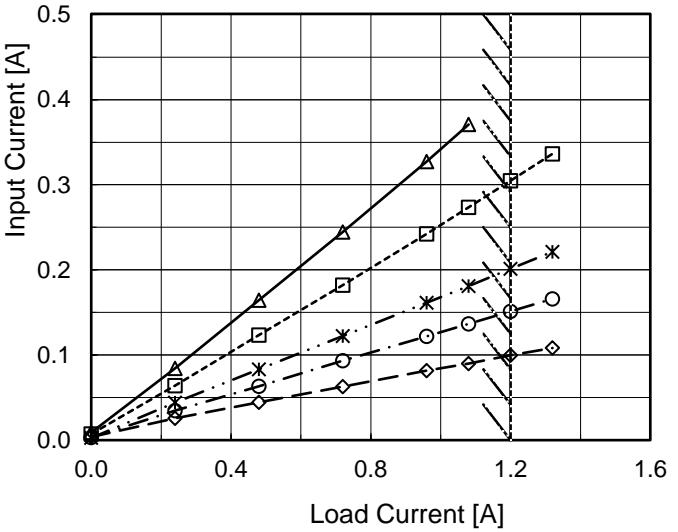


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Model	MHFS64805	Temperature Testing Circuitry	25°C Figure A																																																																													
Item	Input Current (by Load Current)																																																																															
Object	_____																																																																															
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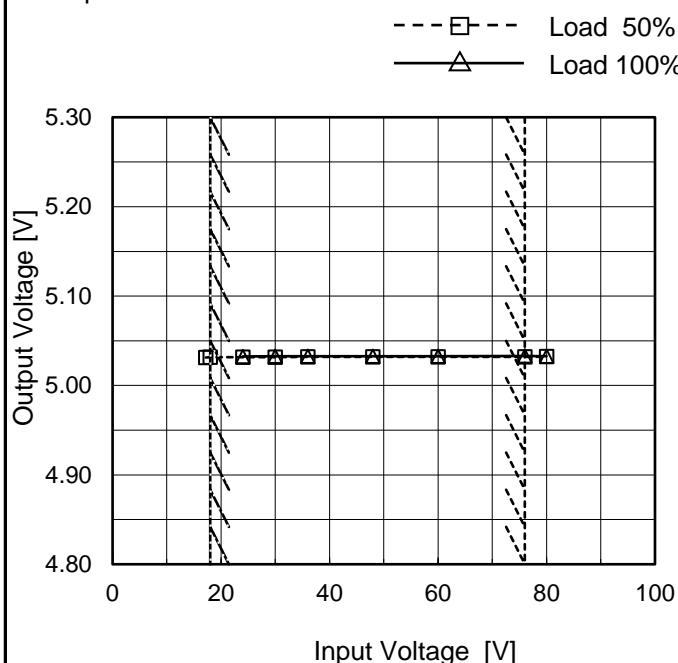
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1.Graph	<p>The graph plots Efficiency [%] on the y-axis (40 to 90) against Load Current [A] on the x-axis (0.0 to 1.6). Five data series are shown for different input voltages: 18V (solid line with open triangles), 24V (dashed line with open squares), 36V (dash-dot line with asterisks), 48V (dotted line with open circles), and 76V (dash-dot-dot line with open diamonds). All curves show efficiency increasing with load current until approximately 1.2A, after which efficiency drops sharply. A slanted line from the top-left to the bottom-right of the plot area indicates the rated load current range.</p>																																																																															
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Note: Slanted line shows the range of the rated load current.

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Model	MHFS64805	Temperature	25°C
Item	Line Regulation	Testing Circuitry	Figure A
Object	+5V1.2A		

1. Graph



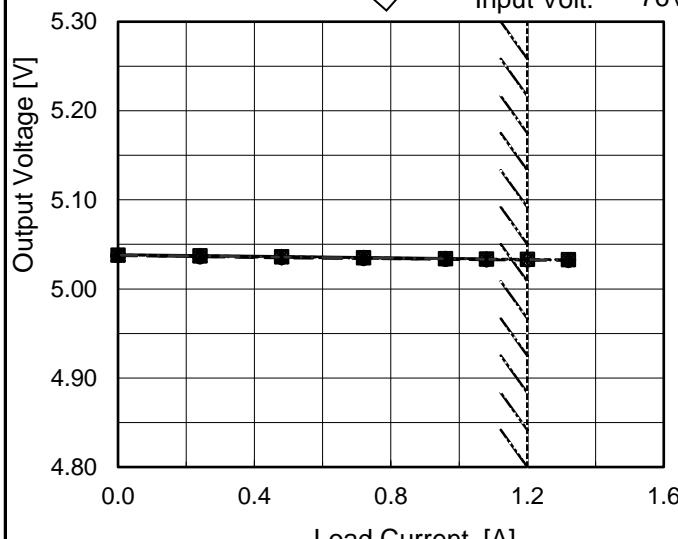
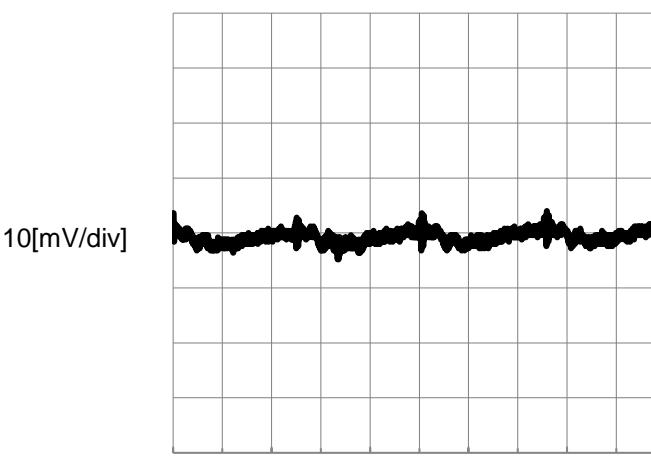
Note: Slanted line shows the range of the rated input voltage.

2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
17.2	5.031	*1
18.0	5.032	*1
24.0	5.032	5.033
30.0	5.032	5.033
36.0	5.032	5.033
48.0	5.032	5.033
60.0	5.032	5.033
76.0	5.032	5.033
80.0	5.032	5.033

*1 Maximum output current at 18V input
Voltage is 80% of rated load current.
Refer to instruction manuals for details of
input derating.

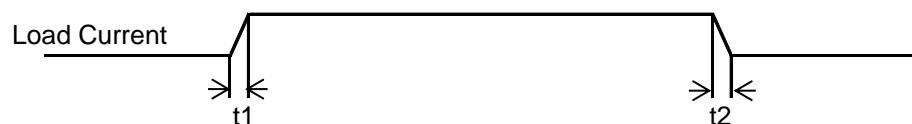
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Item	Ripple-Noise	Temperature	25°C																																																																													
Object	+5V1.2A	Testing Circuitry	Figure B																																																																													
1.Graph	<p>Input Voltage 48V Load 100%</p>  <p>10[mV/div]</p> <p>1[μs/div]</p>																																																																															

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Model	MHFS64805	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+5V1.2A		

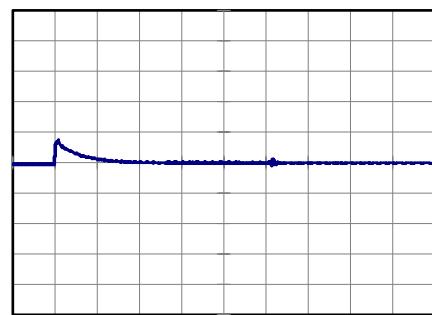
Input Volt. 48 V
 Cycle 100 ms

Response. $t_1=t_2=50\mu s$. Typ

Min.Load (0A)↔
 Load 100% (1.2A)

200 mV/div

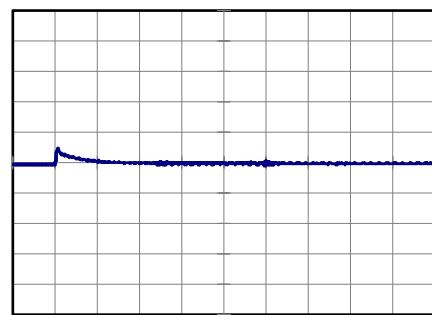
1 ms/div



Min.Load (0A)↔
 Load 50% (0.6A)

200 mV/div

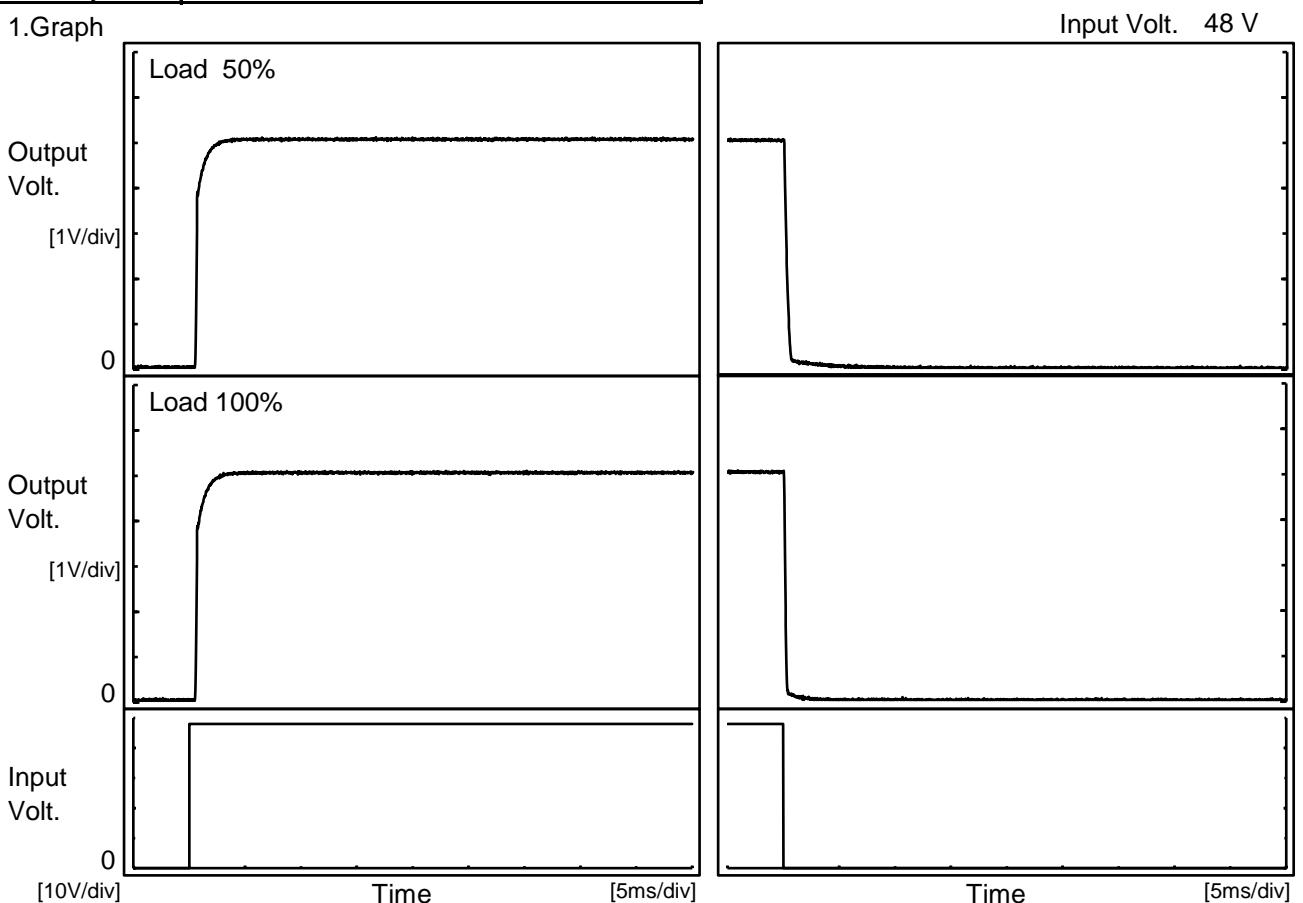
1 ms/div



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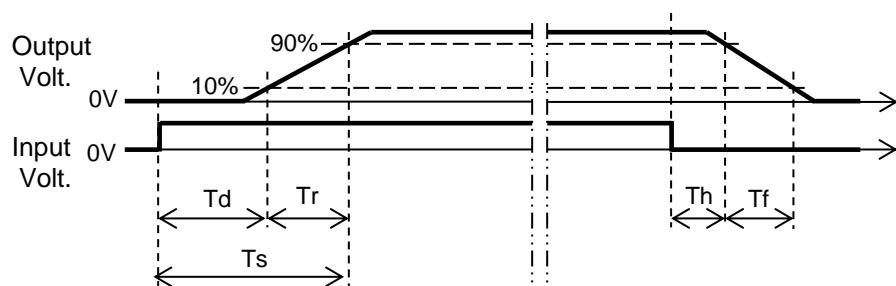
Model	MHFS64805	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+5V1.2A		

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		0.6	0.8	1.4	0.1	0.5	
100 %		0.6	0.8	1.4	0.1	0.2	



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Item	Overcurrent Protection																																																																																					
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1.50	2.195	2.369	2.407	2.315	2.263																																																																																	
1.00	2.218	2.433	2.499	2.422	2.369																																																																																	
0.50	2.562	2.654	2.592	2.391	2.372																																																																																	
0.00	2.562	2.596	2.471	2.299	2.164																																																																																	
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Note:	<p>Slanted line shows the range of the rated load current.</p> <p>Maximum output current at 18V input Voltage is 80% of rated load current.</p> <p>Refer to instruction manuals for details of input derating.</p>																																																																																					



Model	MHFS64805	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+5V1.2A	

1.Values

Load 100%

Ambient Temperature[°C]	Output Voltage [V]				
	Input Volt. 18V*1	Input Volt. 24V	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V
-40	5.019	5.019	5.019	5.019	5.019
25	5.030	5.030	5.031	5.031	5.031
55	5.036	5.036	5.036	5.037	5.037

*1 Load 80%

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+5V1.2A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 80%
-40	14.6	14.9
25	14.4	14.6
55	14.2	14.3

COSEL

Model	MHFS64805	Temperature	25°C																																																																													
Item	Switching frequency (by Load Current)	Testing Circuitry	Figure A																																																																													
Object	+5V1.2A																																																																															
1.Graph																																																																																
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="5">Switching Frequency [kHz]</th> </tr> <tr> <th>18[V]</th> <th>24[V]</th> <th>36[V]</th> <th>48[V]</th> <th>76[V]</th> </tr> </thead> <tbody> <tr> <td>0.00</td> <td>750</td> <td>834</td> <td>903</td> <td>909</td> <td>920</td> </tr> <tr> <td>0.24</td> <td>521</td> <td>607</td> <td>695</td> <td>732</td> <td>768</td> </tr> <tr> <td>0.48</td> <td>375</td> <td>460</td> <td>552</td> <td>596</td> <td>639</td> </tr> <tr> <td>0.72</td> <td>293</td> <td>368</td> <td>452</td> <td>496</td> <td>550</td> </tr> <tr> <td>0.96</td> <td>244</td> <td>307</td> <td>387</td> <td>431</td> <td>485</td> </tr> <tr> <td>1.08</td> <td>223</td> <td>283</td> <td>363</td> <td>406</td> <td>455</td> </tr> <tr> <td>1.20</td> <td>*1</td> <td>263</td> <td>338</td> <td>381</td> <td>435</td> </tr> <tr> <td>1.32</td> <td>*1</td> <td>246</td> <td>319</td> <td>360</td> <td>411</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>			Load Current [A]	Switching Frequency [kHz]					18[V]	24[V]	36[V]	48[V]	76[V]	0.00	750	834	903	909	920	0.24	521	607	695	732	768	0.48	375	460	552	596	639	0.72	293	368	452	496	550	0.96	244	307	387	431	485	1.08	223	283	363	406	455	1.20	*1	263	338	381	435	1.32	*1	246	319	360	411	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-
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COSEL

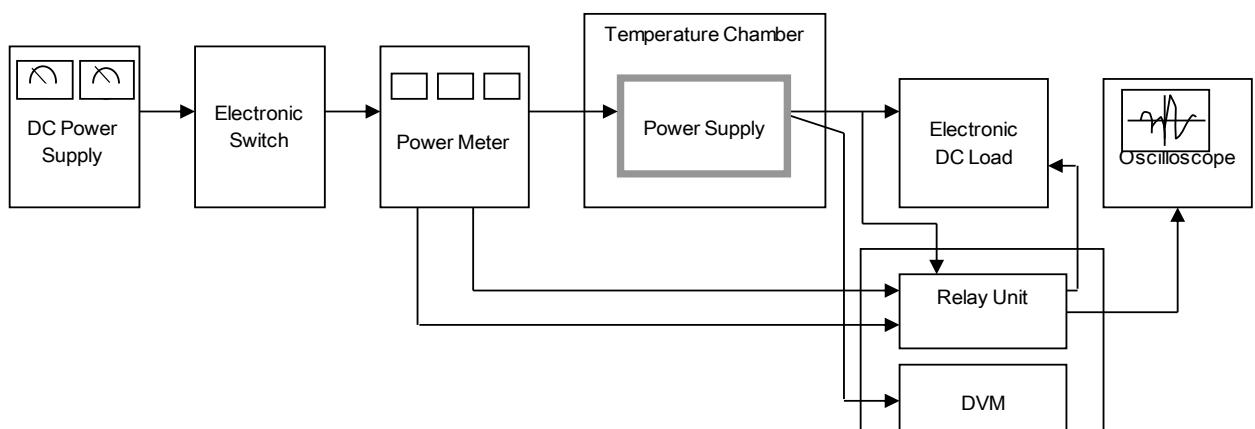


Figure A

Data Acquisition/Control Unit

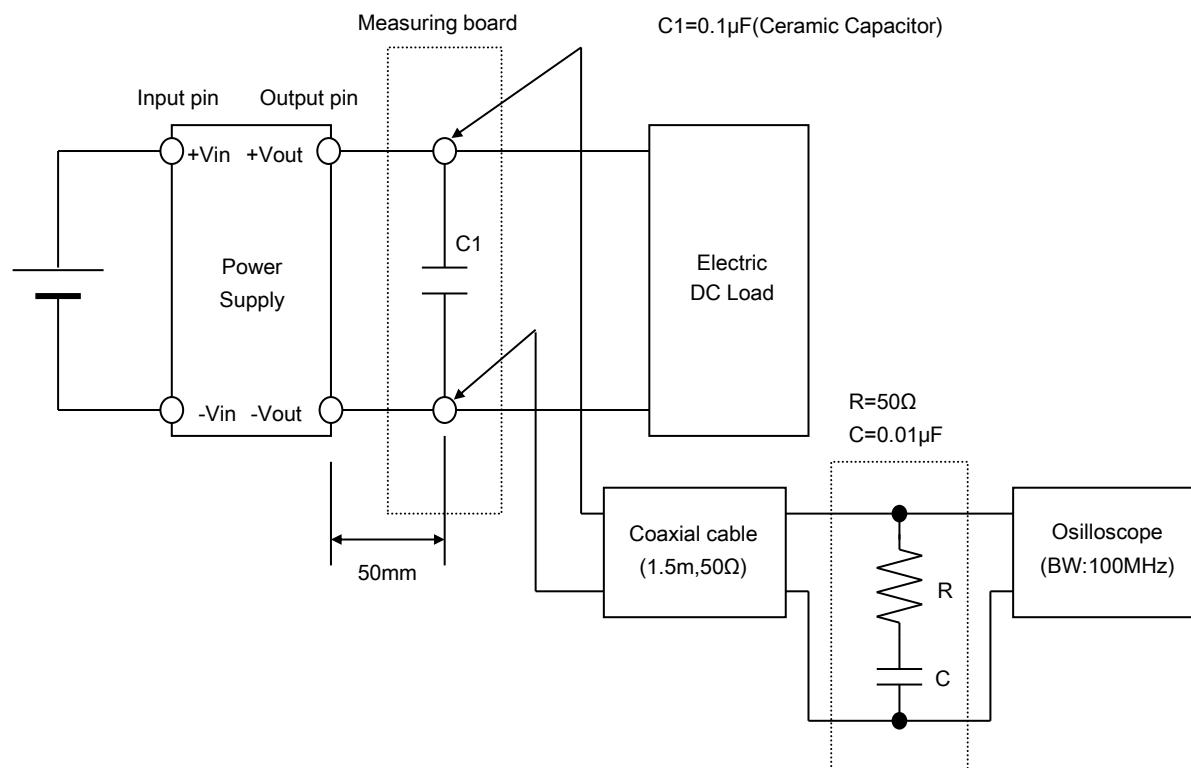


Figure B