



TEST DATA OF MHFS31215

Regulated DC Power Supply
May 25, 2020

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COSEL CO.,LTD.

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Model		MHFS31215		Temperature 25°C																																																																														
Item		Input Current (by Load Current)		Testing Circuitry Figure A																																																																														
Object																																																																																		
1.Graph		<div><div><div>—△—</div><div>Input Volt.</div><div>4.5V</div></div><div><div>---□---</div><div>Input Volt.</div><div>5V</div></div><div><div>---*---</div><div>Input Volt.</div><div>9V</div></div><div><div>---○---</div><div>Input Volt.</div><div>12V</div></div><div><div>---◇---</div><div>Input Volt.</div><div>18V</div></div></div> <div><table><caption>Graph Data Points (Approximate)</caption><thead><tr><th>Load Current [A]</th><th>4.5V [A]</th><th>5V [A]</th><th>9V [A]</th><th>12V [A]</th><th>18V [A]</th></tr></thead><tbody><tr><td>0.00</td><td>0.050</td><td>0.047</td><td>0.032</td><td>0.013</td><td>0.010</td></tr><tr><td>0.04</td><td>0.198</td><td>0.179</td><td>0.106</td><td>0.083</td><td>0.060</td></tr><tr><td>0.08</td><td>0.340</td><td>0.305</td><td>0.178</td><td>0.137</td><td>0.099</td></tr><tr><td>0.12</td><td>0.480</td><td>0.439</td><td>0.249</td><td>0.192</td><td>0.135</td></tr><tr><td>0.16</td><td>0.642</td><td>0.572</td><td>0.322</td><td>0.245</td><td>0.172</td></tr><tr><td>0.20</td><td>0.794</td><td>0.708</td><td>0.399</td><td>0.301</td><td>0.209</td></tr><tr><td>0.22</td><td>0.879</td><td>0.780</td><td>0.436</td><td>0.330</td><td>0.228</td></tr></tbody></table></div>		Load Current [A]	4.5V [A]	5V [A]	9V [A]	12V [A]	18V [A]	0.00	0.050	0.047	0.032	0.013	0.010	0.04	0.198	0.179	0.106	0.083	0.060	0.08	0.340	0.305	0.178	0.137	0.099	0.12	0.480	0.439	0.249	0.192	0.135	0.16	0.642	0.572	0.322	0.245	0.172	0.20	0.794	0.708	0.399	0.301	0.209	0.22	0.879	0.780	0.436	0.330	0.228	2.Values																														
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Model

MHFS31215

Item

Efficiency (by Load Current)

Object

1.Graph

—△—

Input Volt.

4.5V

---□---

Input Volt.

5V

-·-·*-·-

Input Volt.

9V

-·-○-·-

Input Volt.

12V

---◇---

Input Volt.

18V

Efficiency [%]

90

80

70

60

50

0.00

0.05

0.10

0.15

0.20

0.25

0.04

0.08

0.12

0.16

0.18

0.20

0.22

Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Efficiency [%]				
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	-	-	-	-	-
0.04	69.6	68.9	64.5	62.2	57.6
0.08	79.0	79.0	75.7	73.6	68.2
0.12	82.3	82.3	80.1	78.6	74.4
0.16	83.1	83.3	82.8	81.4	77.9
0.18	83.1	83.5	83.4	82.5	79.1
0.20	83.3	83.5	83.8	82.9	80.0
0.22	83.5	83.8	84.1	83.4	80.8
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--	-	-	-	-	-
--	-	-	-	-	-

- 2 -

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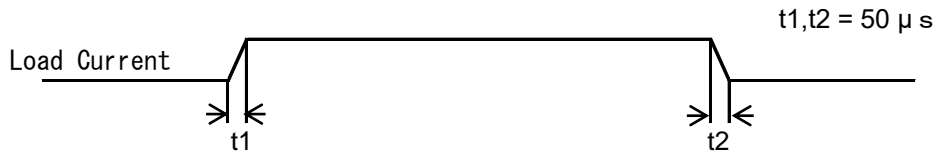
Model		MHFS31215	Temperature		25°C																																
Item		Line Regulation	Testing Circuitry		Figure A																																
Object		+15V0.2A																																			
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BC-11607



Model	MHFS31215		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	+15V0.2A		

Input Volt. 12 V
Cycle 100 ms



Min.Load (0A) ←→
Load 100% (0.2A)

200 mV/div

4 ms/div

4 ms/div

Min.Load (0A) ←→
Load 50% (0.1A)

200 mV/div

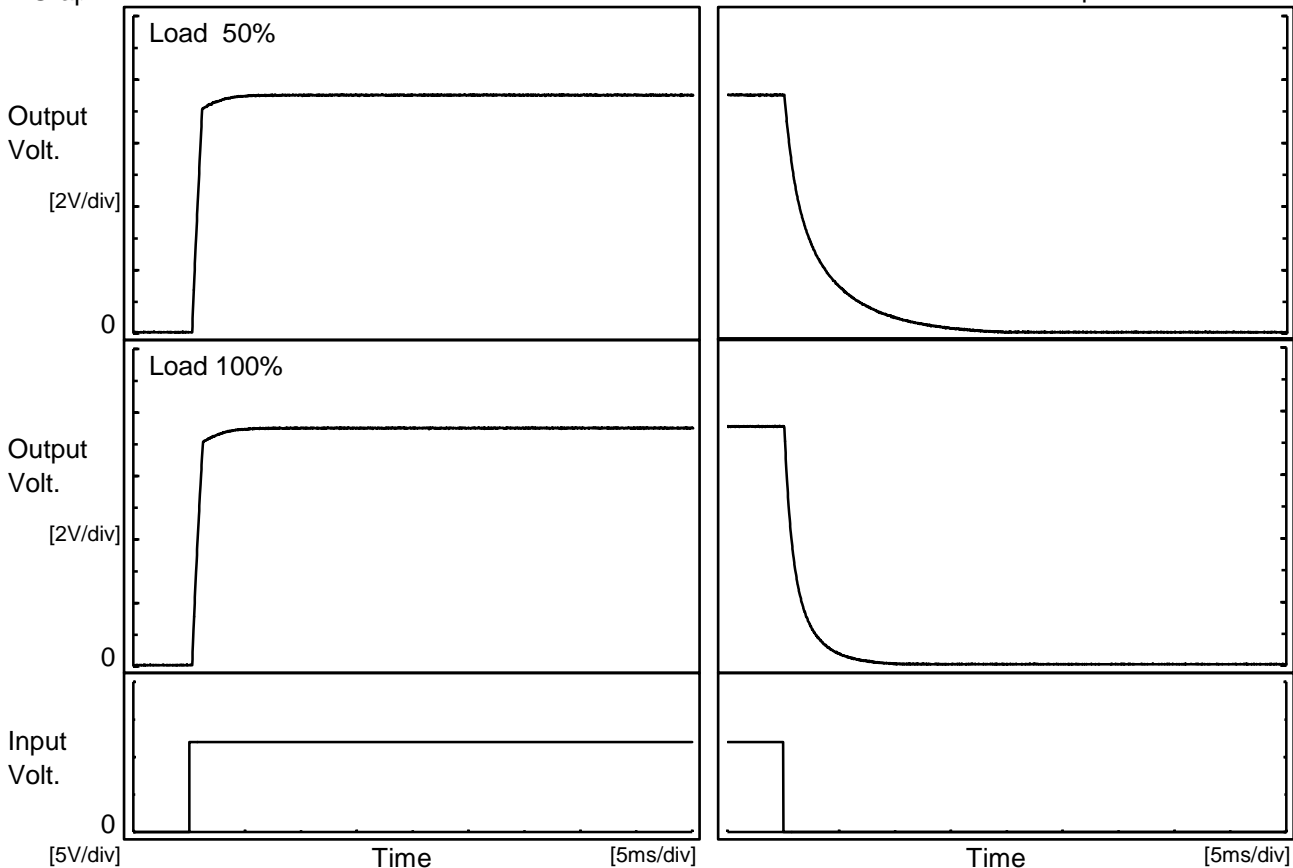
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4 ms/div



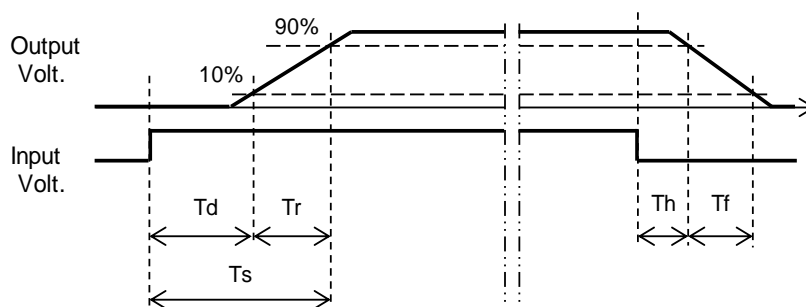
Model	MHFS31215	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V0.2A		

1.Graph



2.Values

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	0.4	0.8	1.2	0.3	7.6
100 %	0.4	0.8	1.2	0.2	3.2



Model		MHFS31215		Temperature		25°C																																																																																				
Item		Overcurrent Protection		Testing Circuitry		Figure A																																																																																				
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COSEL

		Testing Circuitry Figure A
Model	MHFS31215	
Item	Ambient Temperature Drift	
Object	+15V0.2A	


1.Values

Ambient Temperature[°C]	Output Voltage [V]				
	Input Volt. 4.5V	Input Volt. 5V	Input Volt. 9V	Input Volt. 12V	Input Volt. 18V
-40	14.861	14.862	14.864	14.865	14.866
25	14.981	14.982	14.982	14.983	14.983
75	15.020	15.020	15.021	15.022	15.022

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+15V0.2A	

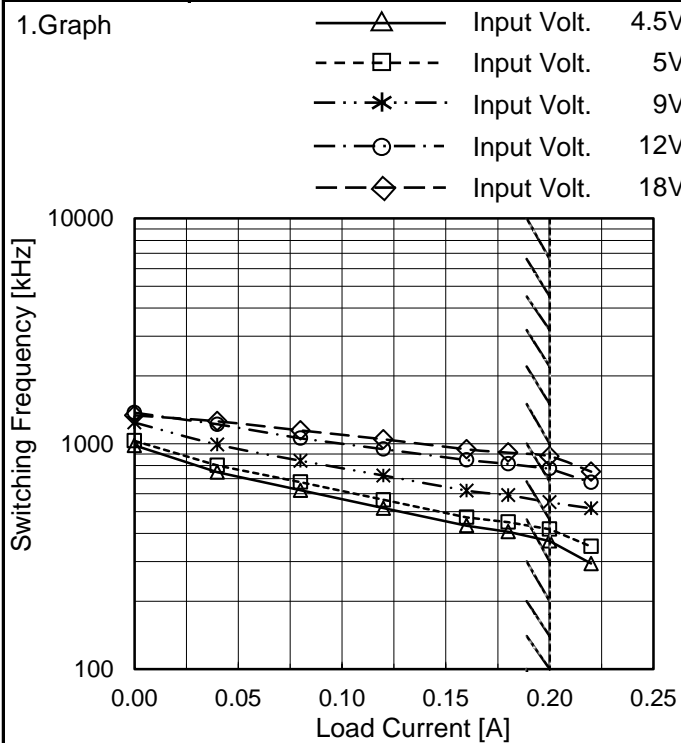
1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	3.6	3.6
25	3.5	3.6
75	3.5	3.6

	
Model	MHFS31215
Item	Switching frequency (by Load Current)
Object	+15V0.2A

Temperature	25°C
Testing Circuitry	Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

When load current is low, MH operates intermittently, so switching frequency would not become constant.

2.Values

Load Current [A]	Switching Frequency [kHz]				
	Input Volt.	Input Volt.	Input Volt.	Input Volt.	Input Volt.
	4.5[V]	5[V]	9[V]	12[V]	18[V]
0.00	983	1032	1243	1375	1338
0.04	748	802	992	1220	1258
0.08	622	677	841	1059	1147
0.12	518	564	723	947	1047
0.16	433	472	620	847	945
0.18	407	449	591	815	913
0.20	371	418	550	775	879
0.22	294	350	517	674	752
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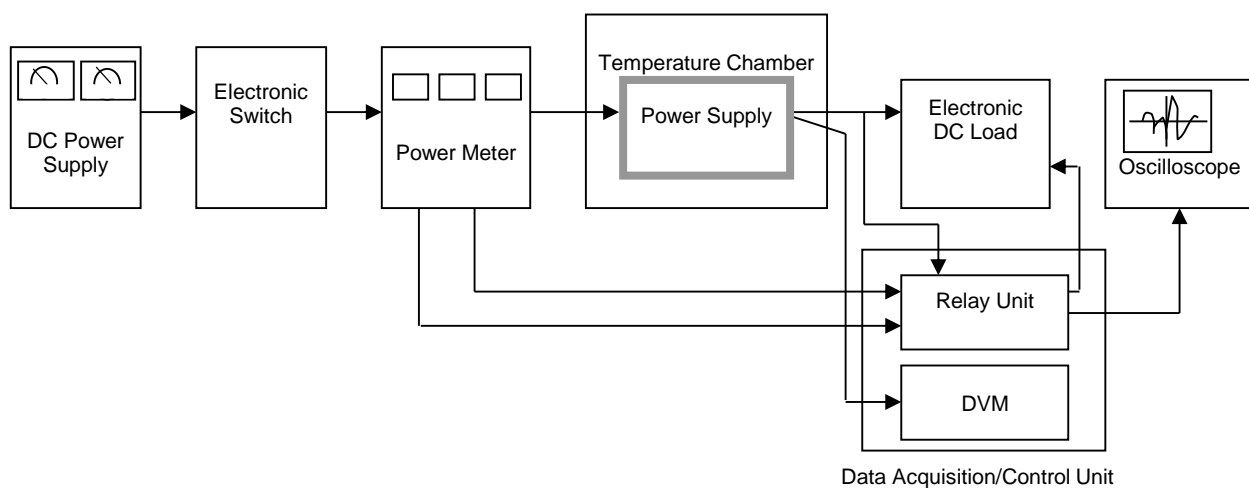


Figure A

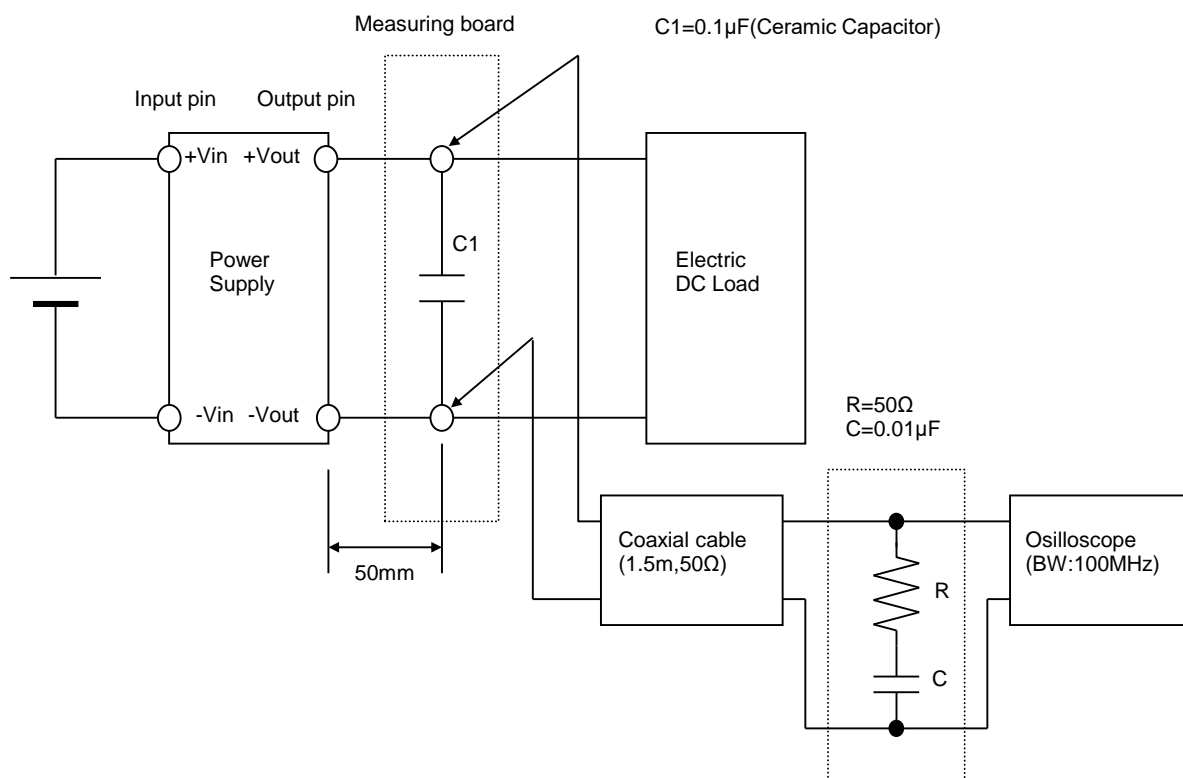


Figure B