

TEST DATA OF MHFS6123R3

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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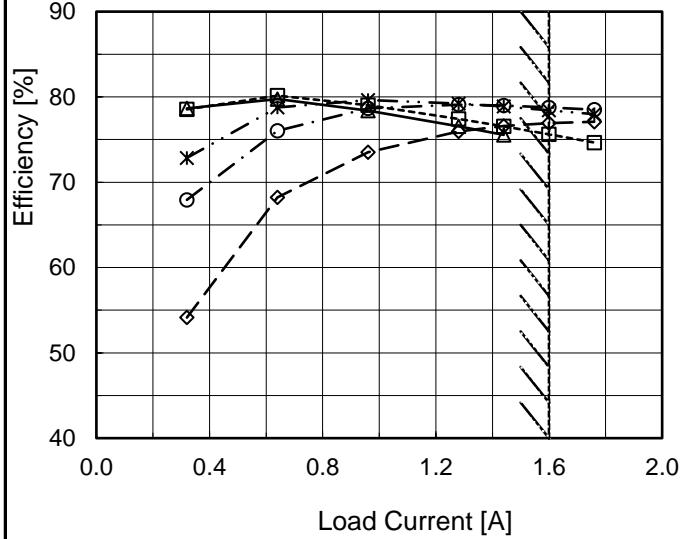
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Model	MHFS6123R3	Temperature Testing Circuitry	25°C Figure A																																																																													
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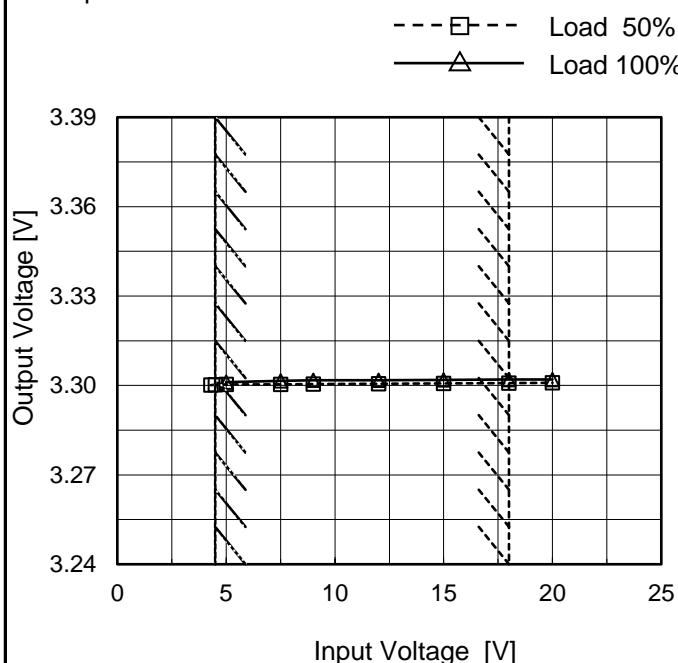
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Model	MHFS6123R3
Item	Line Regulation
Object	+3.3V1.6A

Temperature 25°C
Testing Circuitry Figure A

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%
4.3	3.300	*1
4.5	3.300	*1
5.0	3.300	3.301
7.5	3.300	3.302
9.0	3.301	3.302
12.0	3.301	3.302
15.0	3.301	3.302
18.0	3.301	3.302
20.0	3.301	3.302

*1 Maximum output current at 4.5V input
Voltage is 80% of rated load current.
Refer to instruction manuals for details of
input derating.

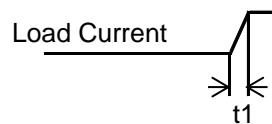
COSEL

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Item	Ripple-Noise	Temperature	25°C																																																																													
Object	+3.3V1.6A	Testing Circuitry	Figure B																																																																													
1.Graph	<p>Input Voltage 12V Load 100%</p> <p>10[mV/div]</p> <p>1[μs/div]</p>																																																																															

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Model	MHFS6123R3	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+3.3V1.6A		

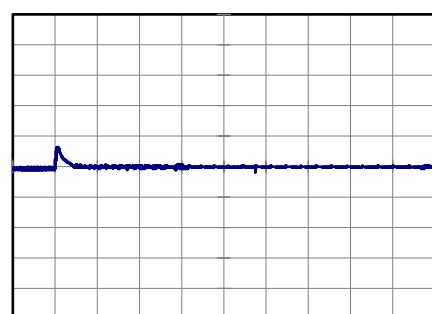
Input Volt. 12 V
 Cycle 100 ms

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

Min.Load (0A)↔
 Load 100% (1.6A)

200 mV/div

1 ms/div

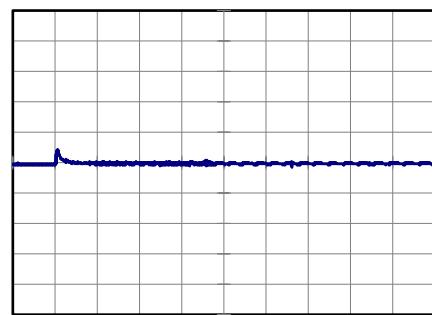


1 ms/div

Min.Load (0A)↔
 Load 50% (0.8A)

200 mV/div

1 ms/div



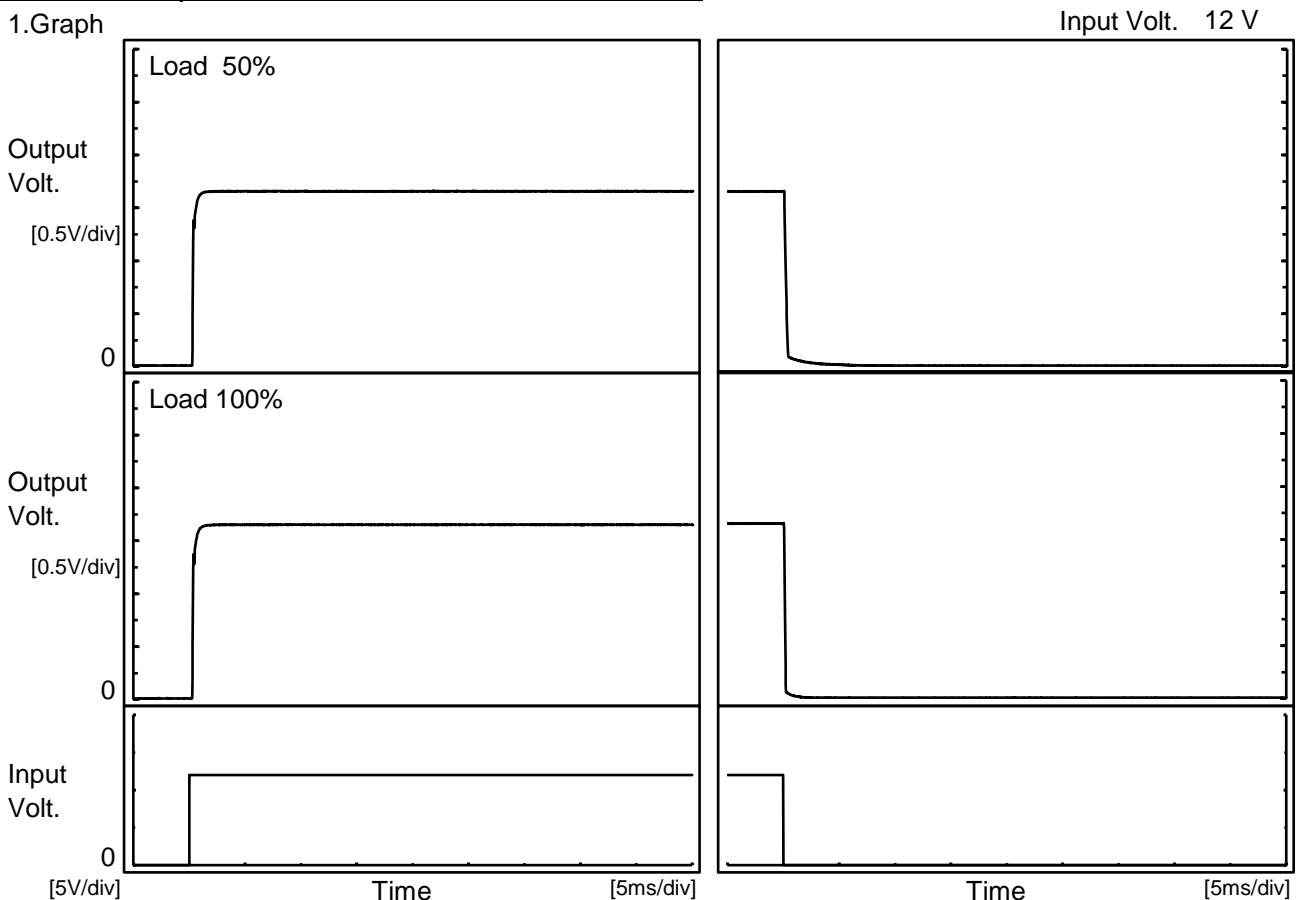
1 ms/div

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Model	MHFS6123R3
Item	Rise and Fall Time
Object	+3.3V1.6A

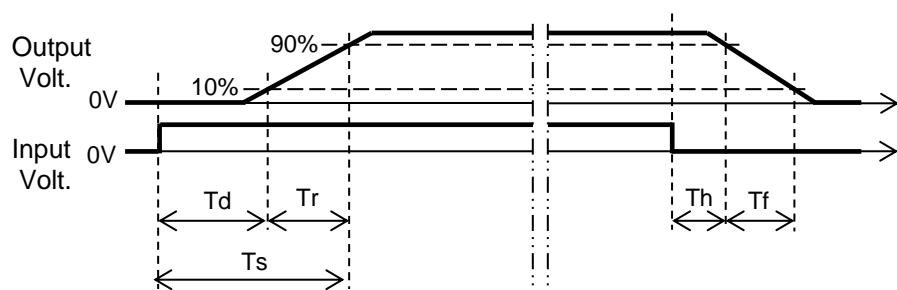
Temperature 25°C
Testing Circuitry Figure A

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		0.3	0.3	0.6	0.1	0.3	
100 %		0.3	0.3	0.6	0.1	0.1	



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Model	MHFS6123R3	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+3.3V1.6A	

1.Values

Load 100%

Ambient Temperature[°C]	Output Voltage [V]				
	Input Volt. 4.5V *1	Input Volt. 5V	Input Volt. 9V	Input Volt. 12V	Input Volt. 18V
-40	3.290	3.289	3.290	3.290	3.290
25	3.299	3.299	3.299	3.300	3.300
50	3.304	3.303	3.304	3.304	3.304

*1 Load 80%

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+3.3V1.6A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 80%
-40	3.6	3.6
25	3.5	3.6
50	3.5	3.5

COSEL

Model	MHFS6123R3	Temperature Testing Circuitry	25°C Figure A																																																																													
Item	Switching frequency (by Load Current)																																																																															
Object	+3.3V1.6A																																																																															
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>4.5[V]</th> <th>5[V]</th> <th>9[V]</th> <th>12[V]</th> <th>18[V]</th> </tr> </thead> <tbody> <tr> <td>0.00</td> <td>1141</td> <td>1184</td> <td>1180</td> <td>1162</td> <td>1119</td> </tr> <tr> <td>0.32</td> <td>562</td> <td>595</td> <td>736</td> <td>786</td> <td>836</td> </tr> <tr> <td>0.64</td> <td>353</td> <td>377</td> <td>507</td> <td>555</td> <td>609</td> </tr> <tr> <td>0.96</td> <td>255</td> <td>274</td> <td>386</td> <td>429</td> <td>475</td> </tr> <tr> <td>1.28</td> <td>198</td> <td>214</td> <td>311</td> <td>350</td> <td>393</td> </tr> <tr> <td>1.44</td> <td>178</td> <td>193</td> <td>284</td> <td>320</td> <td>363</td> </tr> <tr> <td>1.60</td> <td>*1</td> <td>175</td> <td>260</td> <td>296</td> <td>335</td> </tr> <tr> <td>1.76</td> <td>*1</td> <td>160</td> <td>241</td> <td>274</td> <td>312</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]					4.5[V]	5[V]	9[V]	12[V]	18[V]	0.00	1141	1184	1180	1162	1119	0.32	562	595	736	786	836	0.64	353	377	507	555	609	0.96	255	274	386	429	475	1.28	198	214	311	350	393	1.44	178	193	284	320	363	1.60	*1	175	260	296	335	1.76	*1	160	241	274	312	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-
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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.

*1 Maximum output current at 4.5V input Voltage is 80% of rated load current.
Refer to instruction manuals for details of input derating.

COSEL

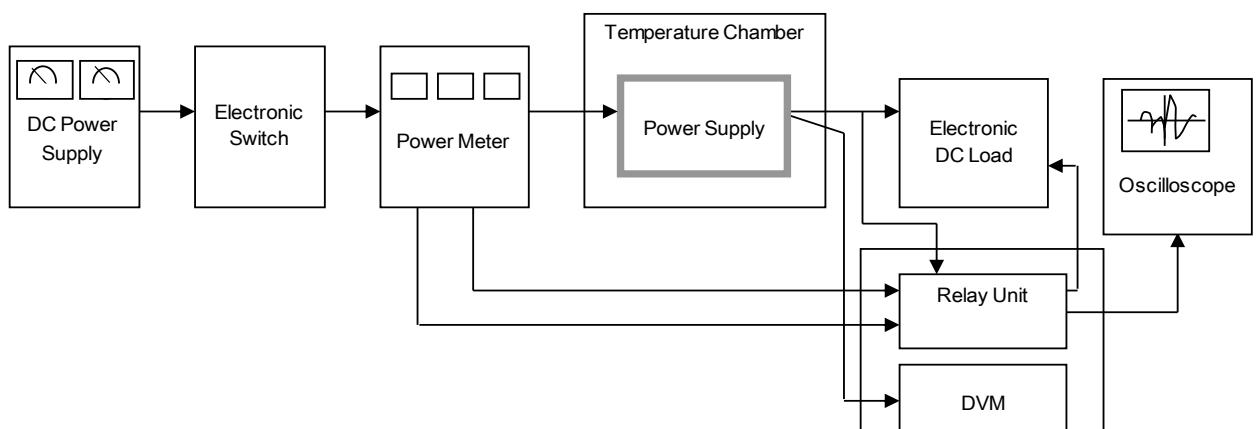


Figure A

Data Acquisition/Control Unit

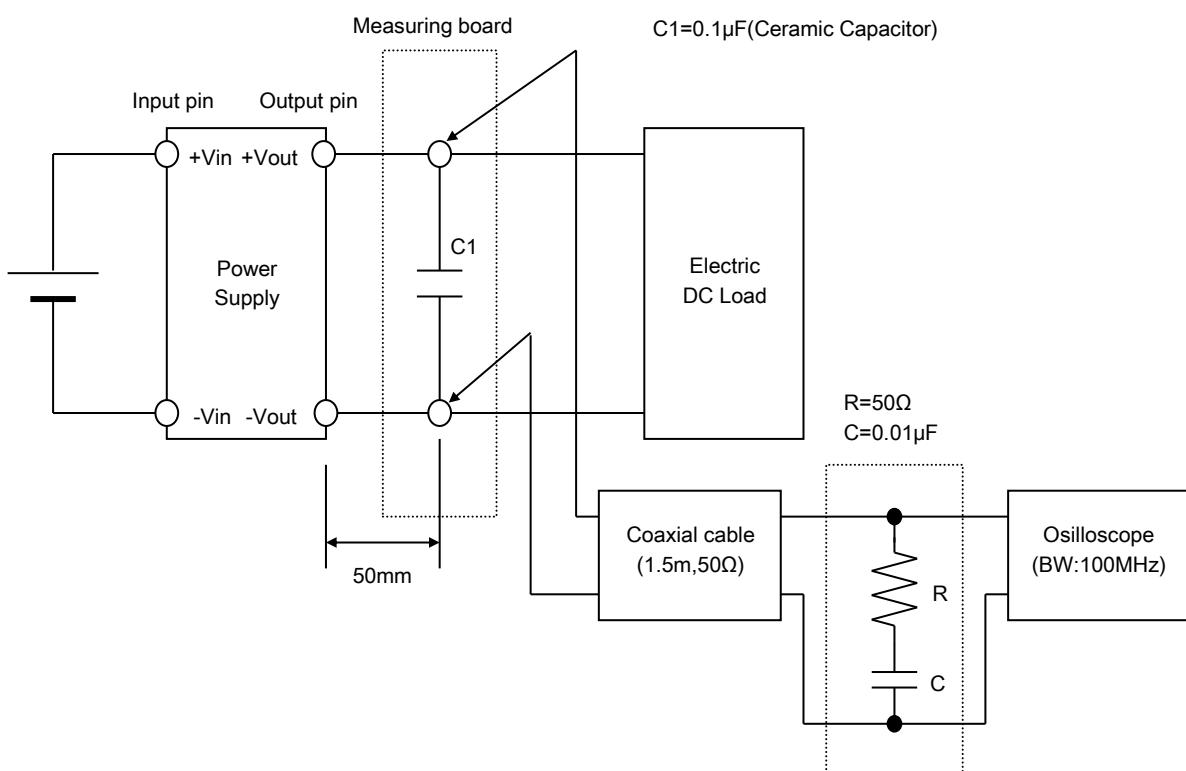


Figure B