

TEST DATA OF MHFW61215

Regulated DC Power Supply
October 27, 2021

Approved by : Kenichi Tsukada
Design Manager

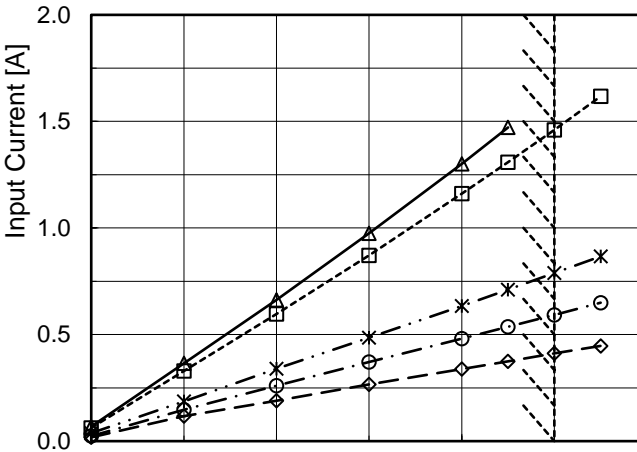
Prepared by : Yoshihiko Saeki
Design Engineer

COSEL CO.,LTD.

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Model		MHFW61215		Temperature 25°C																																																																															
Item		Input Current (by Load Current)		Testing Circuitry Figure A																																																																															
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Model		MHFW61215	
Item		Line Regulation	
Object		+15V0.2A	
1.Graph		2.Values	

Output Voltage [V]		Output Voltage [V]	
		Load 50%	Load 100%
16.20			
15.80			
15.40			
15.00			
14.60			
14.20			
	0	5	10
		15	20
		25	

		</	



Model		MHFW61215		Temperature25°C																																																																														
Item		Cross Regulation		Testing CircuitryFigure A																																																																														
Object		+15V0.2A																																																																																
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-5-

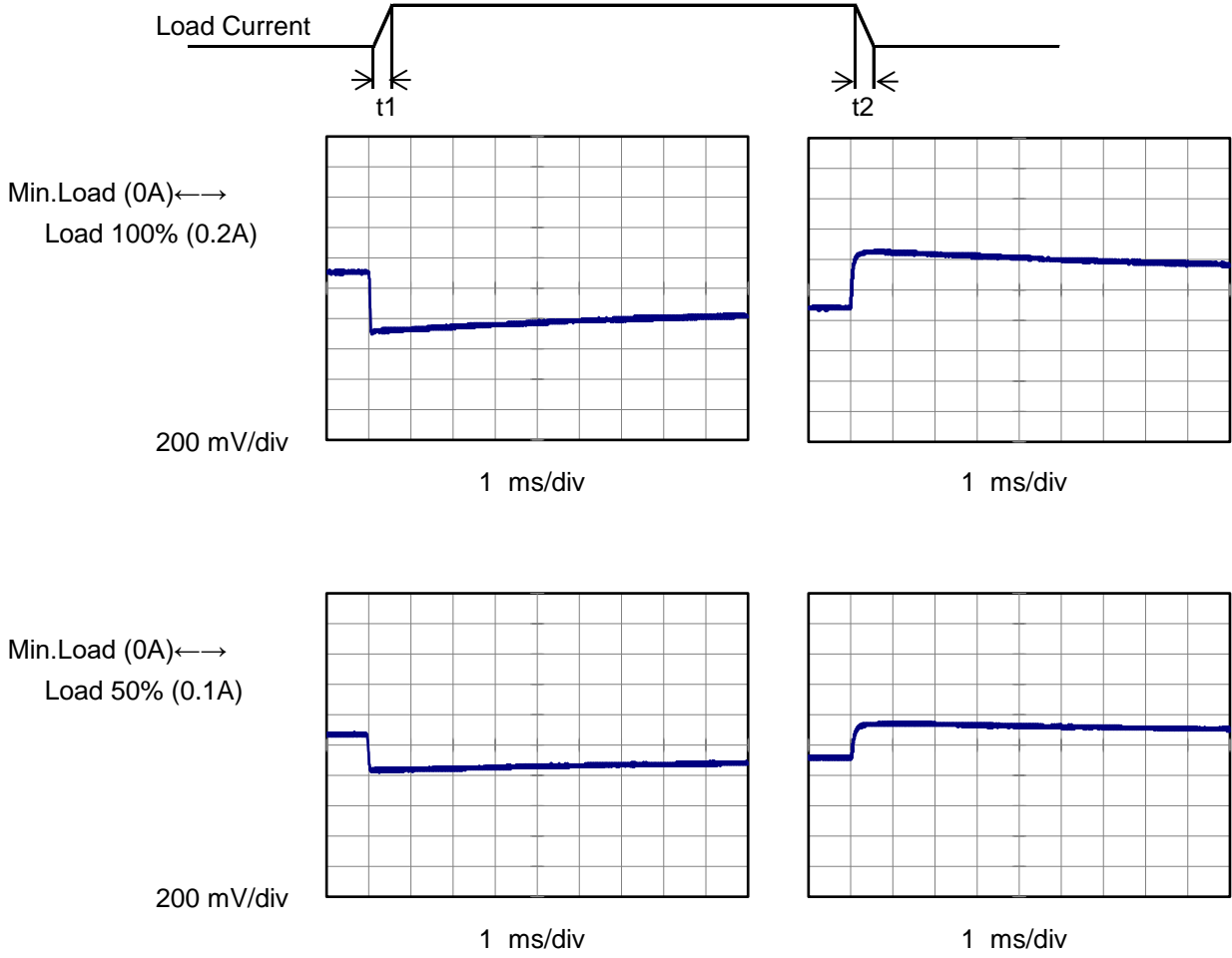
BC-11823



Model		MHFW61215	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+15V0.2A	

Input Volt. 12 V
-15V:rated load current.
Cycle 100 ms

Response. t1=t2=50μs. Typ





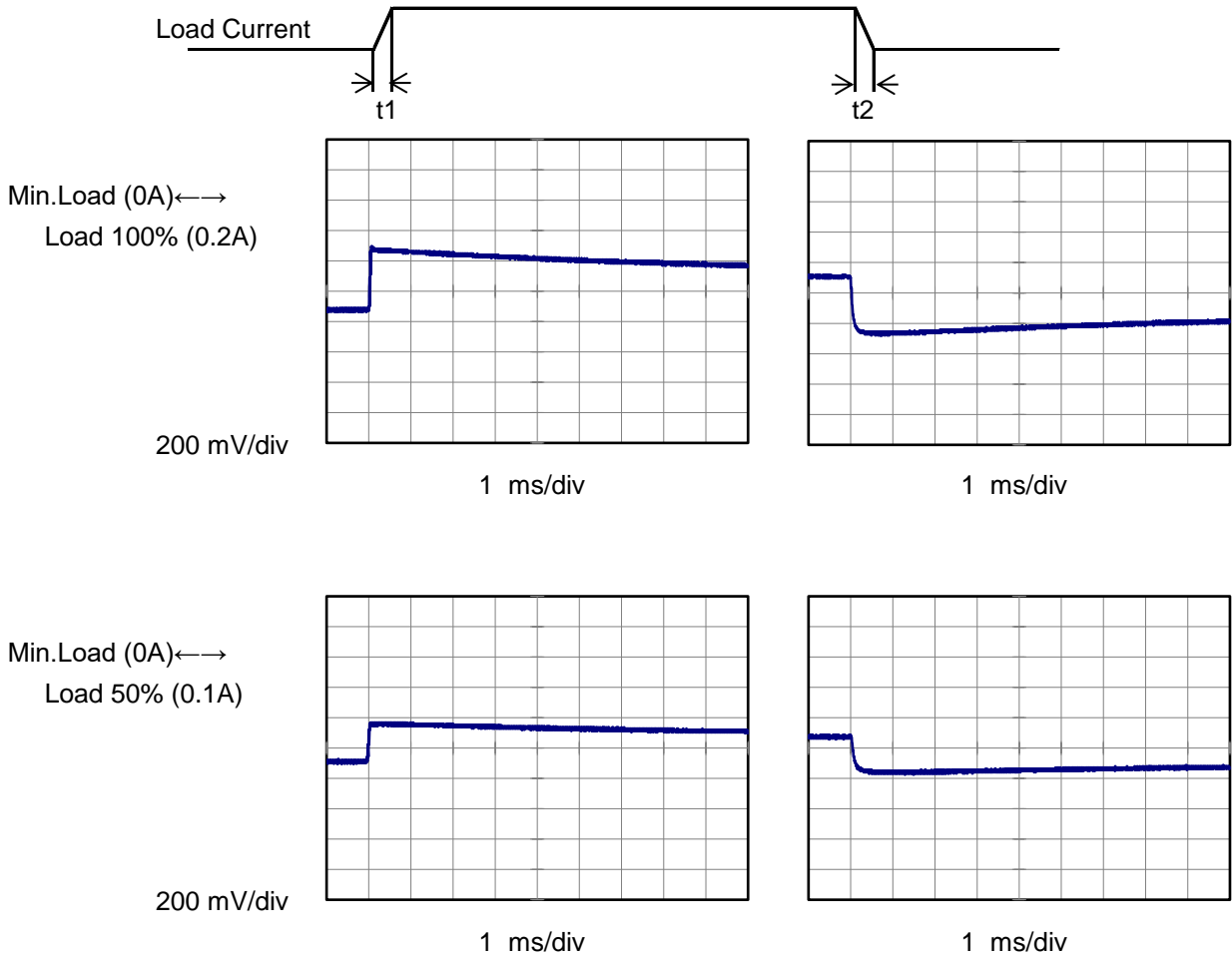
Model	MHFW61215		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	-15V0.2A		

Input Volt. 12 V

+15V:rated load current.

Cycle 100 ms

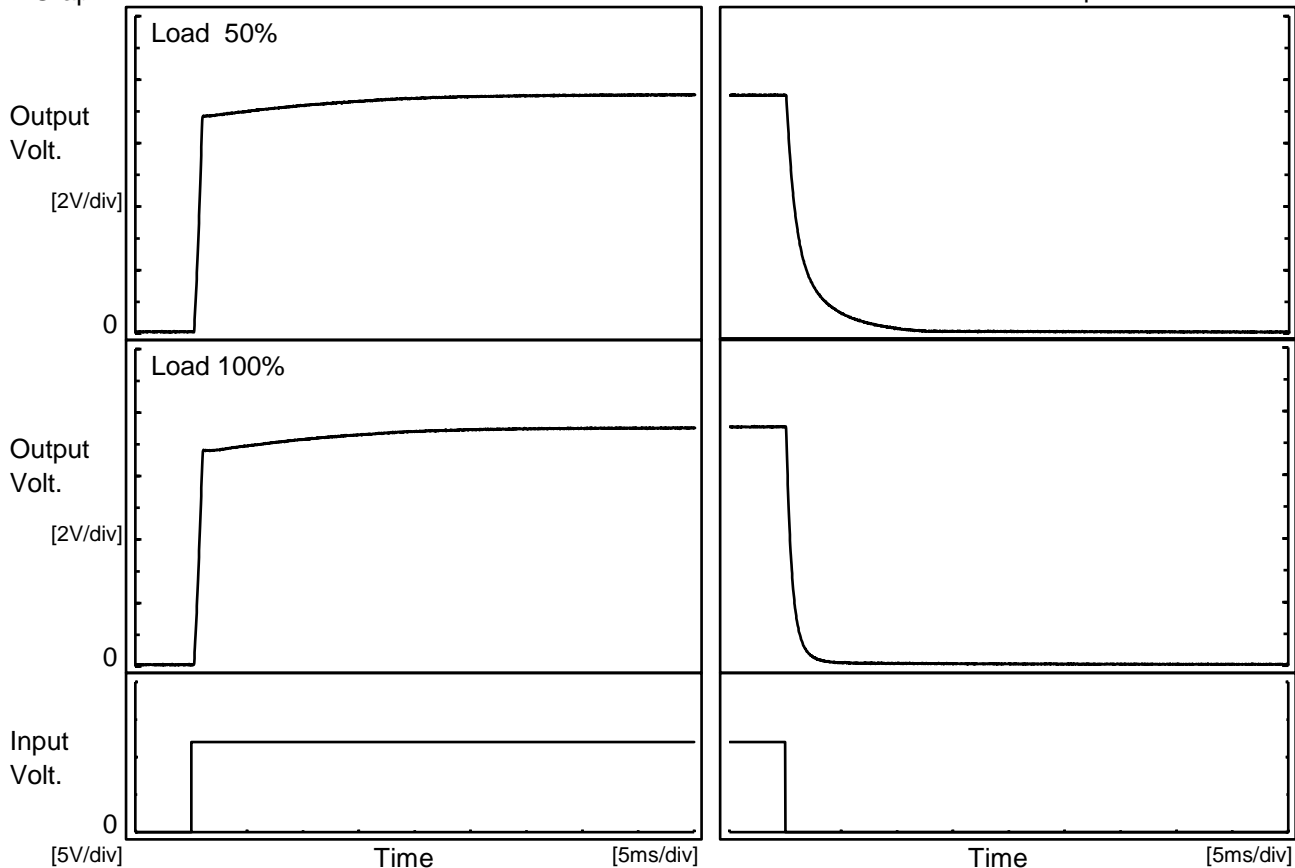
Response. $t_1=t_2=50\mu\text{s}$. Typ





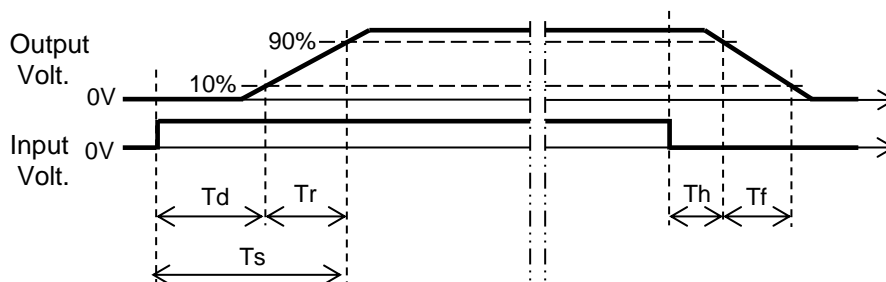
Model	MHFW61215	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V0.2A		

1.Graph



2.Values

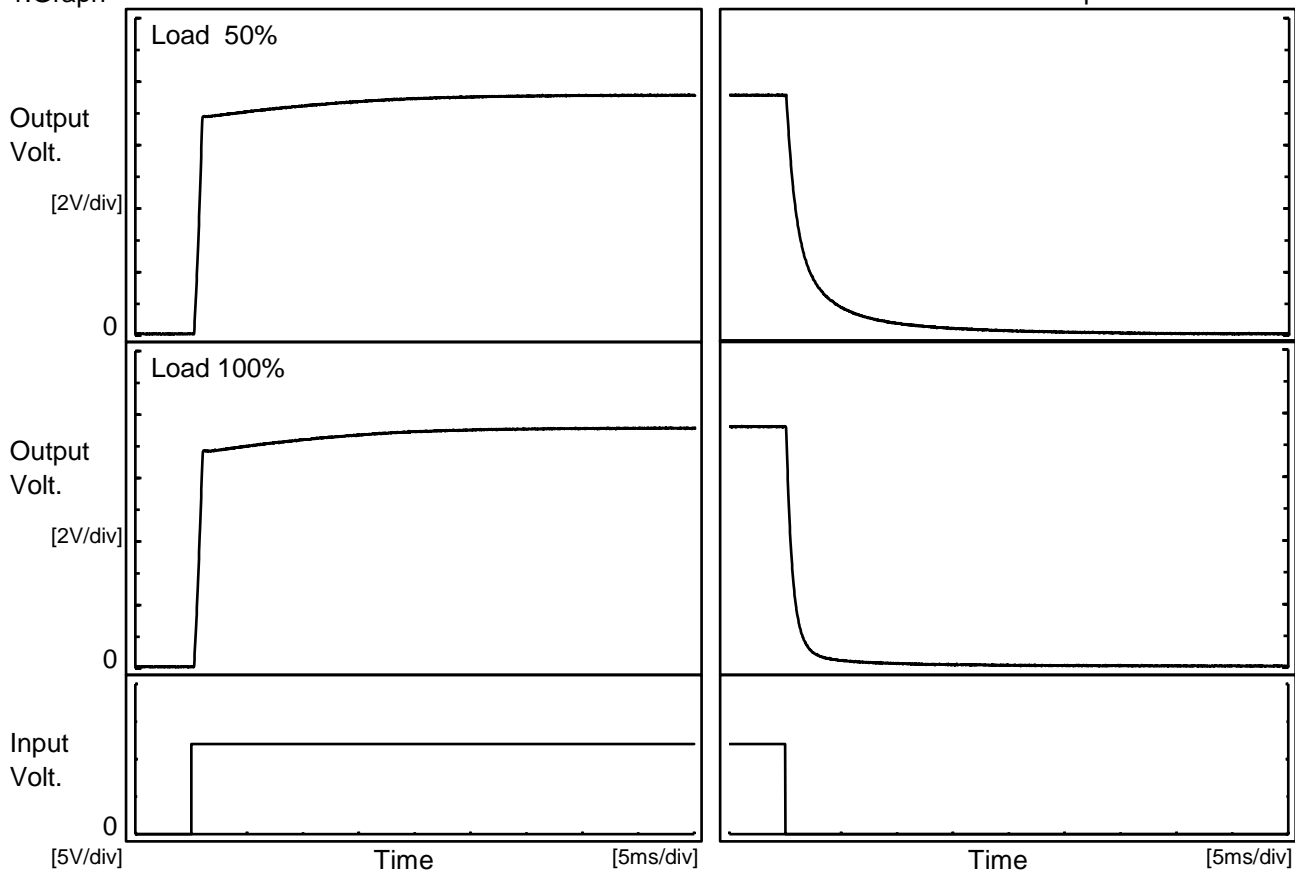
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.4	0.6	1.0	0.2	4.1
100 %		0.4	0.7	1.1	0.1	1.3





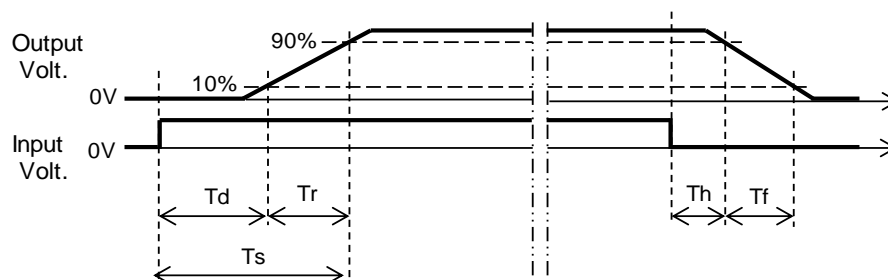
Model	MHFW61215	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	-15V0.2A		

1.Graph

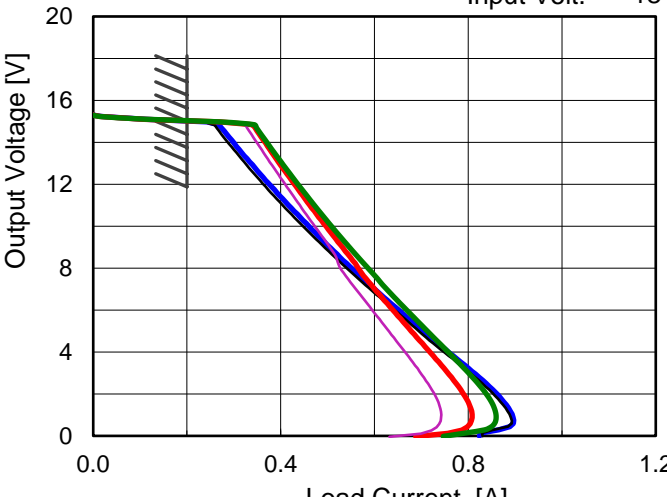
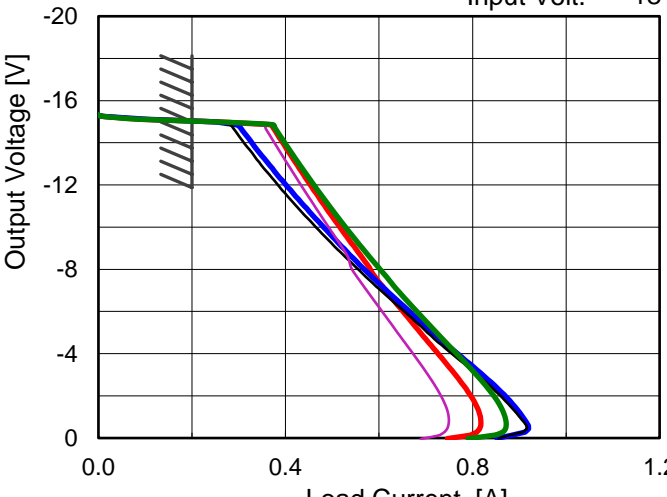


2.Values

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	0.4	0.6	1.0	0.2	5.4
100 %	0.4	0.7	1.1	0.1	1.7





Model		MHFW61215		Temperature 25°C	
Item		Overcurrent Protection		Testing Circuitry Figure A	
Object		+15V0.2A		2.Values	
1.Graph		<div><div><div></div><div>Input Volt. 4.5V</div></div><div><div></div><div>Input Volt. 5V</div></div><div><div></div><div>Input Volt. 9V</div></div><div><div></div><div>Input Volt. 12V</div></div><div><div></div><div>Input Volt. 18V</div></div></div> 			
Object		-15V0.2A		2.Values	
1.Graph		<div><div><div></div><div>Input Volt. 4.5V</div></div><div><div></div><div>Input Volt. 5V</div></div><div><div></div><div>Input Volt. 9V</div></div><div><div></div><div>Input Volt. 12V</div></div><div><div></div><div>Input Volt. 18V</div></div></div> 			
		Note: Slanted line shows the range of the rated load current.		Maximum output current at 4.5V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.	

Output Voltage [V]	Load Current [A]				
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
14.3	0.279	0.290	0.362	0.358	0.342
13.5	0.306	0.317	0.386	0.381	0.359
12.0	0.362	0.374	0.435	0.428	0.408
10.5	0.423	0.435	0.487	0.476	0.455
9.0	0.488	0.500	0.542	0.528	0.502
7.5	0.559	0.568	0.601	0.577	0.539
6.0	0.642	0.650	0.668	0.639	0.595
4.5	0.718	0.727	0.732	0.696	0.646
3.0	0.799	0.808	0.797	0.754	0.696
1.5	0.869	0.876	0.850	0.800	0.736
0.0	0.831	0.824	0.747	0.688	0.632

-15V:Rated Load Current

Output Voltage [V]	Load Current [A]				
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
-14.3	0.303	0.320	0.390	0.387	0.370
-13.5	0.328	0.345	0.413	0.408	0.390
-12.0	0.382	0.399	0.459	0.451	0.432
-10.5	0.441	0.457	0.508	0.497	0.475
-9.0	0.504	0.519	0.560	0.546	0.520
-7.5	0.572	0.585	0.616	0.592	0.554
-6.0	0.653	0.664	0.680	0.650	0.607
-4.5	0.726	0.738	0.742	0.705	0.655
-3.0	0.806	0.817	0.805	0.761	0.703
-1.5	0.877	0.886	0.857	0.807	0.741
0.0	0.856	0.852	0.791	0.746	0.690

+15V:Rated Load Current

BC-11823

COSEL

		Testing Circuitry Figure A
Model	MHFW61215	
Item	Ambient Temperature Drift	
Object	+15V0.2A	

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	14.917	14.919	14.929	14.932	14.935
25	15.010	15.007	15.018	15.020	15.022
55	15.023	15.019	15.030	15.032	15.033

*1 Load 80%

-15V:Rated Load Current

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 80%
-40	3.5	3.5
25	3.5	3.5
55	3.5	3.5

COSEL

		Testing Circuitry Figure A
Model	MHFW61215	
Item	Ambient Temperature Drift	
Object	-15V0.2A	

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	-14.956	-14.963	-14.959	-14.958	-14.957
25	-15.047	-15.050	-15.043	-15.041	-15.039
55	-15.059	-15.060	-15.053	-15.051	-15.048

*1 Load 80%

+15V:Rated Load Current

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 80%
-40	3.5	3.5
25	3.5	3.5
55	3.5	3.5

Model		MHFW61215	Temperature 25°C																																																																														
Item		Switching frequency (by Load Current)	Testing Circuitry Figure A																																																																														
Object		+/-15V0.2A																																																																															
1.Graph		<div><div>—△—</div>Input Volt. 4.5V</div> <div><div>---□---</div>Input Volt. 5V</div> <div><div>-·-*·-</div>Input Volt. 9V</div> <div><div>-·-○-</div>Input Volt. 12V</div> <div><div>---◇---</div>Input Volt. 18V</div> <p>Switching Frequency [kHz]</p> <p>Load Current [A]</p>	2.Values																																																																														
			<table><tr><th rowspan="2">Load Current [A]</th><th colspan="5">Switching Frequency [kHz]</th></tr><tr><th>Input Volt. 4.5[V]</th><th>Input Volt. 5[V]</th><th>Input Volt. 9[V]</th><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th></tr><tr><td>0.00</td><td>1020</td><td>1068</td><td>1227</td><td>1191</td><td>1197</td></tr><tr><td>0.04</td><td>614</td><td>666</td><td>894</td><td>962</td><td>1021</td></tr><tr><td>0.08</td><td>441</td><td>482</td><td>698</td><td>767</td><td>845</td></tr><tr><td>0.12</td><td>341</td><td>378</td><td>574</td><td>650</td><td>733</td></tr><tr><td>0.16</td><td>275</td><td>306</td><td>489</td><td>561</td><td>642</td></tr><tr><td>0.18</td><td>250</td><td>279</td><td>454</td><td>525</td><td>607</td></tr><tr><td>0.20</td><td>*1</td><td>256</td><td>424</td><td>496</td><td>574</td></tr><tr><td>0.22</td><td>*1</td><td>237</td><td>398</td><td>466</td><td>544</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></table>		Load Current [A]	Switching Frequency [kHz]					Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	0.00	1020	1068	1227	1191	1197	0.04	614	666	894	962	1021	0.08	441	482	698	767	845	0.12	341	378	574	650	733	0.16	275	306	489	561	642	0.18	250	279	454	525	607	0.20	*1	256	424	496	574	0.22	*1	237	398	466	544	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-
Load Current [A]	Switching Frequency [kHz]																																																																																
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When load current is low, MH operates intermittently, so switching frequency would not become constant.																																																																																	

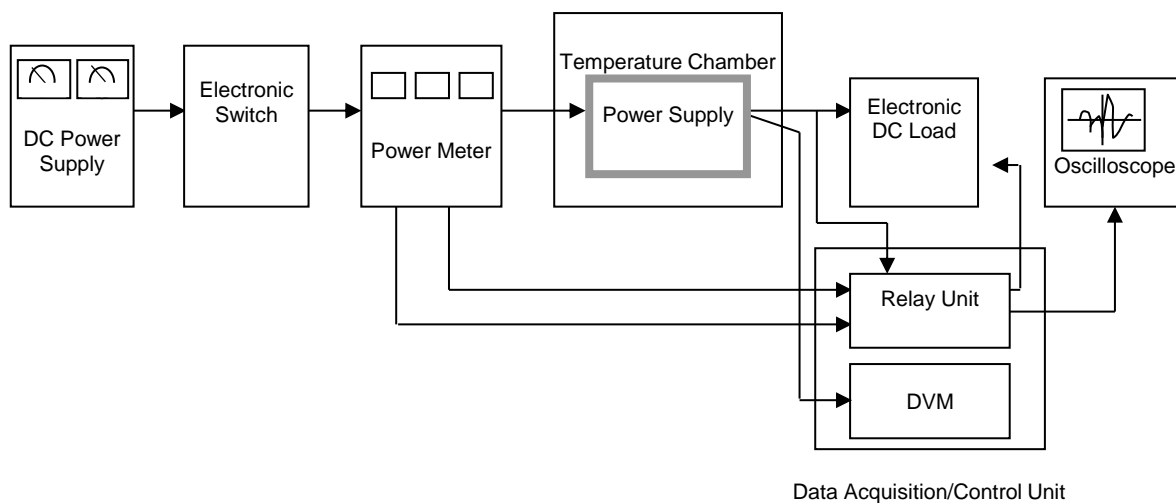


Figure A

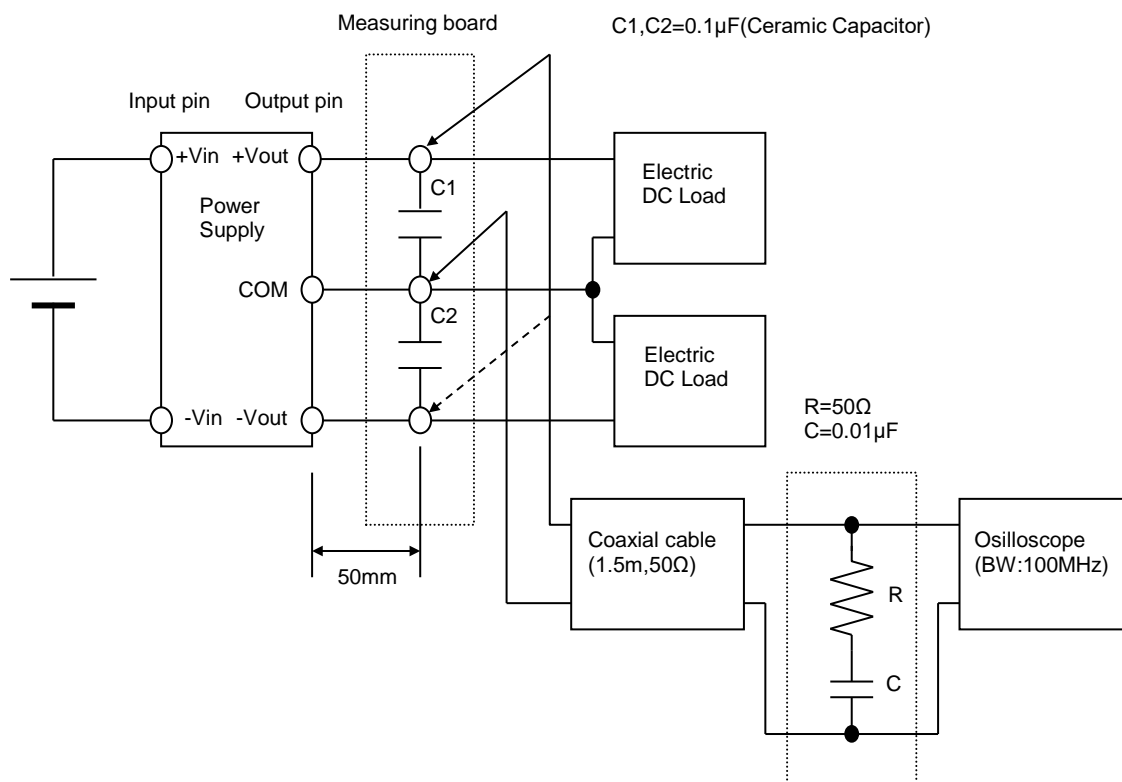


Figure B