

# TEST DATA OF MHFW64815

Regulated DC Power Supply  
October 27, 2021

Approved by : Kenichi Tsukada  
Design Manager

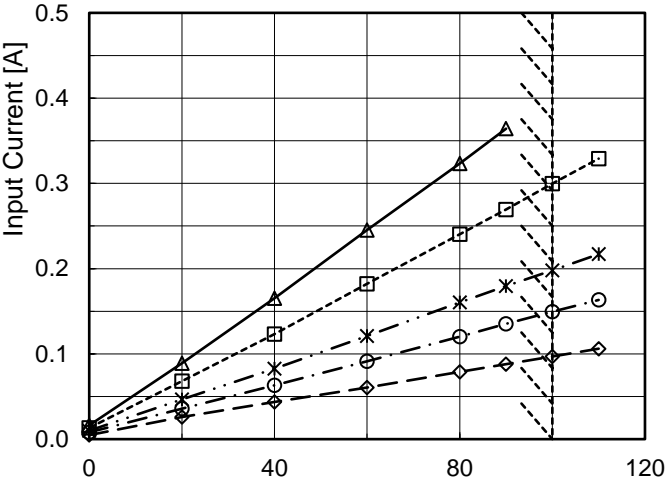
Prepared by : Yoshihiko Saeki  
Design Engineer

**COSEL CO.,LTD.**

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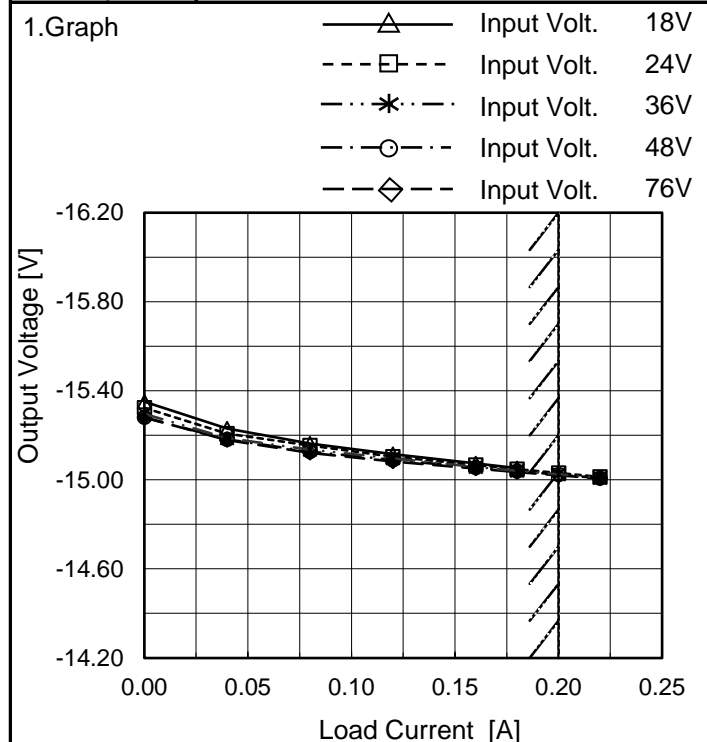
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Load Current [A]	Output Voltage [V]																																																																																		
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Item		Ripple-Noise	Temperature25°C																																																																																
Object		+15V0.2A	Testing CircuitryFigure B																																																																																
1.Graph		<div><div>Input Voltage48V</div><div>Load100%</div><div><div><div>10[mV/div]</div><div>1[μs/div]</div></div><div>-15V:Rated Load Current</div></div></div>																																																																																	



Model	MHFW64815
Item	Cross Regulation
Object	-15V0.2A



Temperature 25°C  
Testing Circuitry Figure A

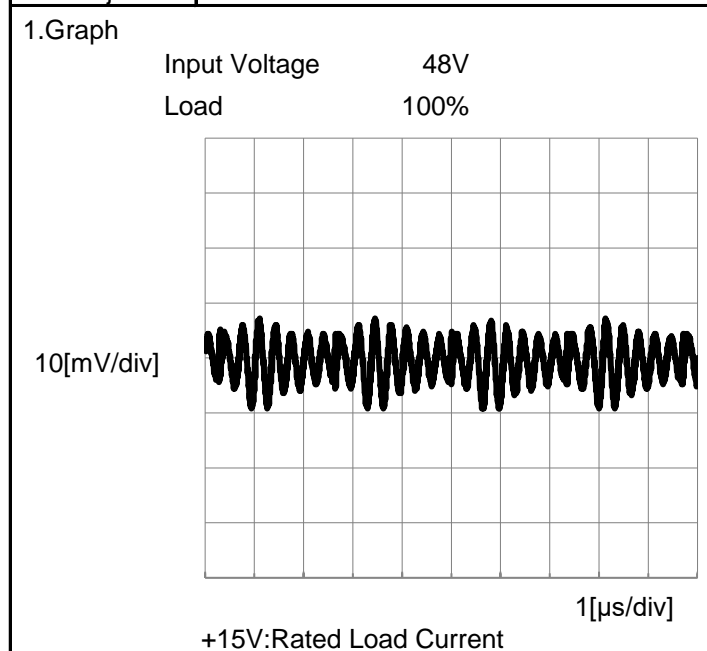
2.Values

Load Current [A]	Output Voltage [V]				
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	-15.351	-15.323	-15.296	-15.280	-15.280
0.04	-15.231	-15.208	-15.188	-15.181	-15.178
0.08	-15.163	-15.154	-15.136	-15.127	-15.121
0.12	-15.115	-15.104	-15.096	-15.089	-15.082
0.16	-15.073	-15.066	-15.058	-15.056	-15.050
0.18	-15.052	-15.048	-15.041	-15.039	-15.035
0.20	*1	-15.031	-15.025	-15.023	-15.020
0.22	*1	-15.013	-15.009	-15.008	-15.005
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

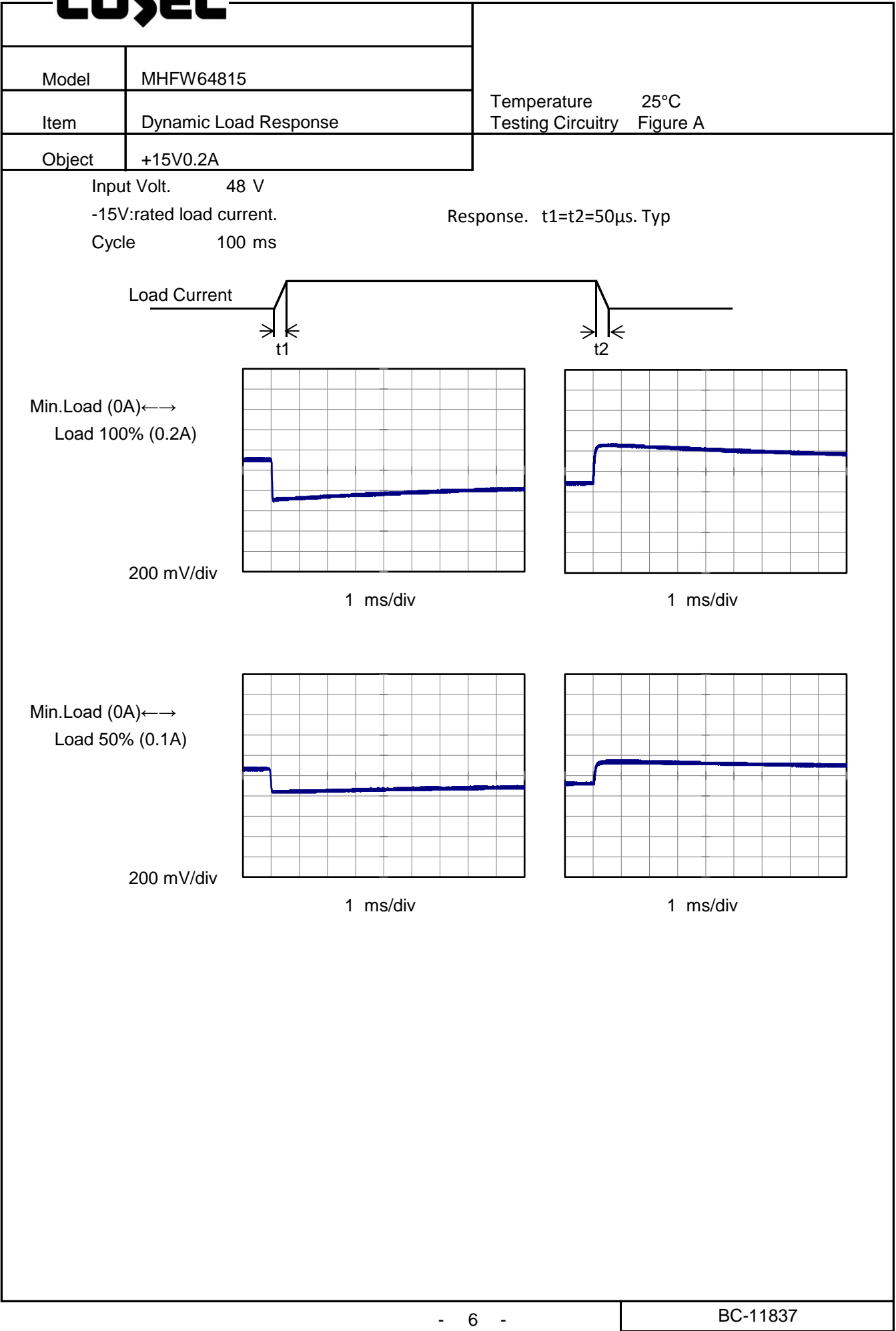
+15V:Rated Load Current

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

Item	Ripple-Noise
Object	-15V0.2A



Temperature 25°C  
Testing Circuitry Figure B







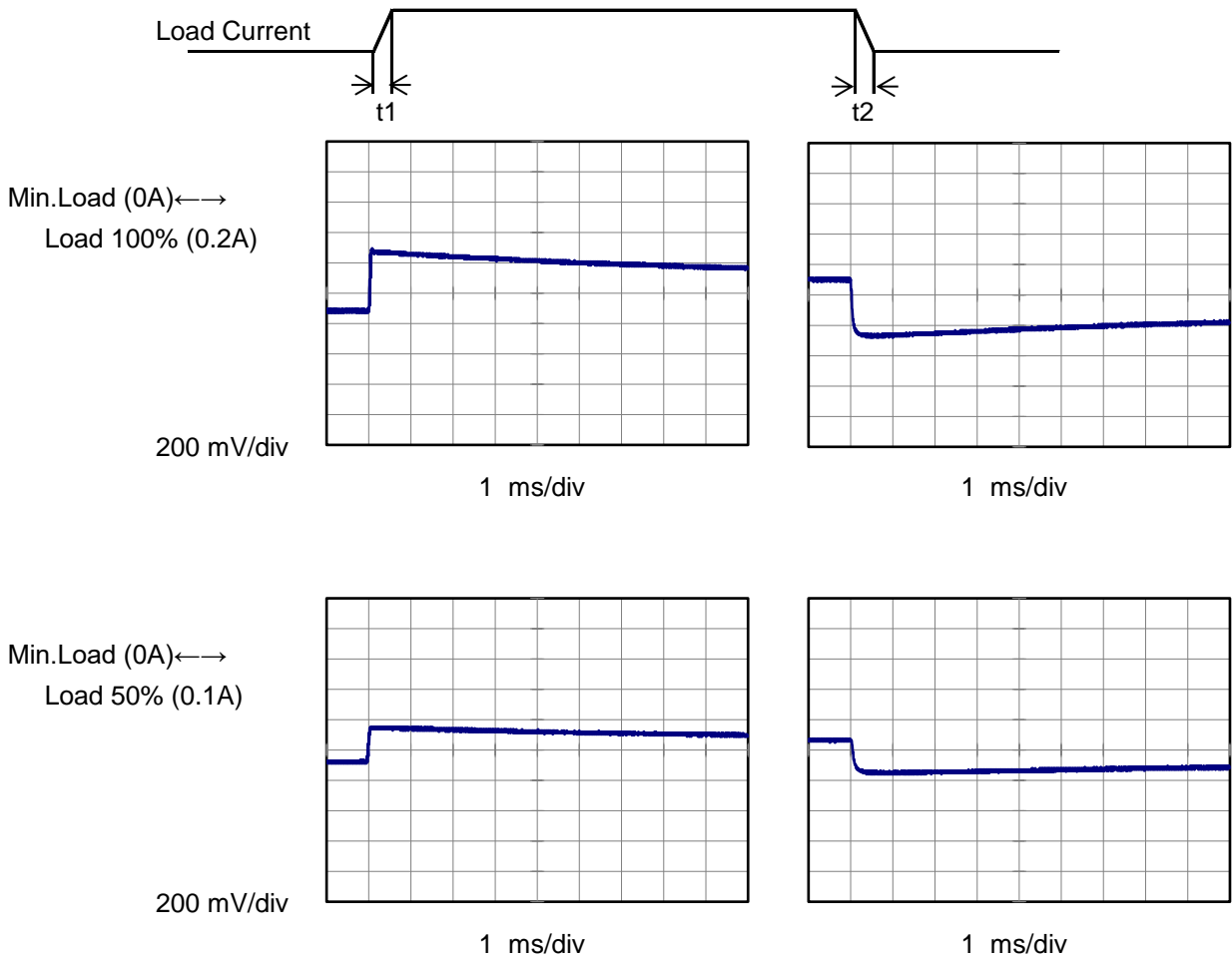
Model	MHFW64815		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	-15V0.2A		

Input Volt. 48 V

+15V:rated load current.

Cycle 100 ms

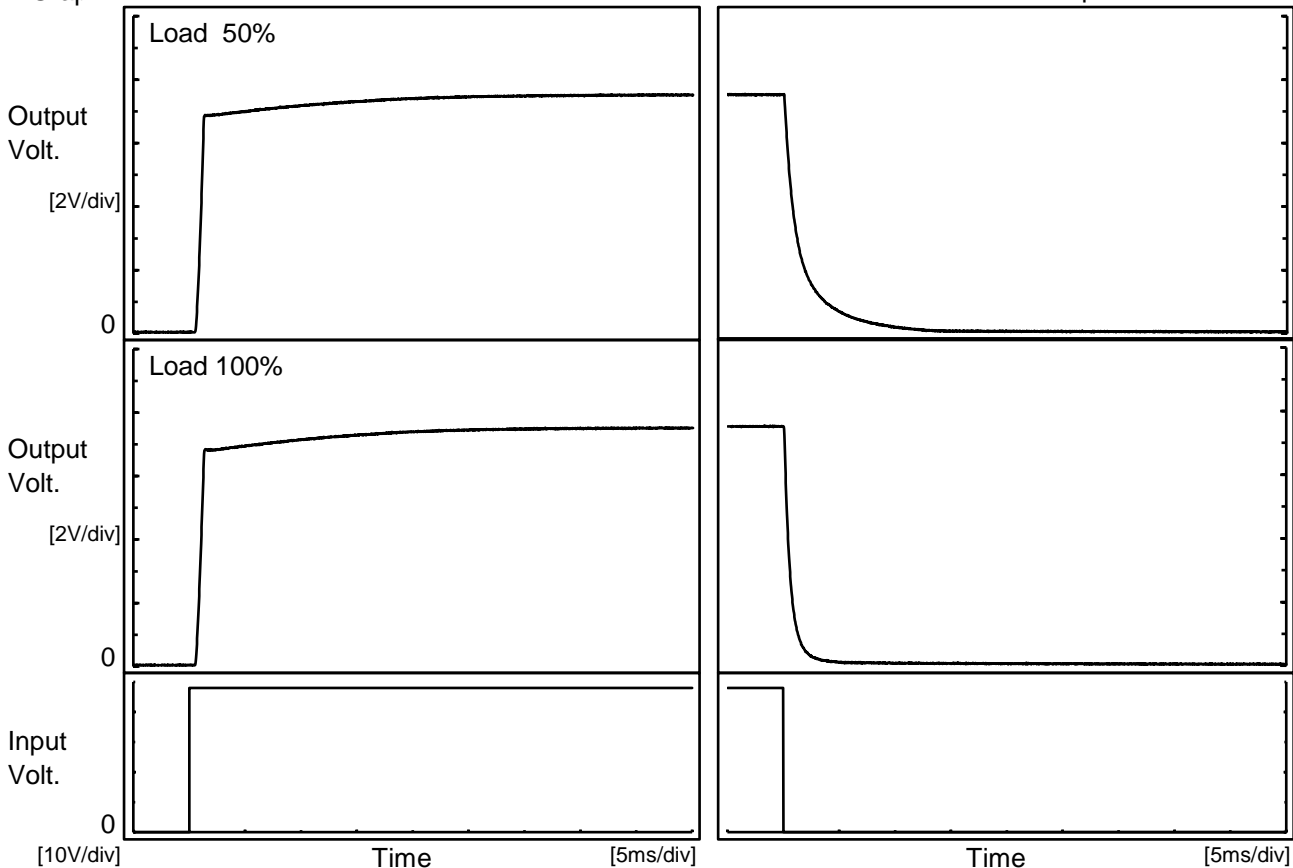
Response.  $t_1=t_2=50\mu\text{s}$ . Typ





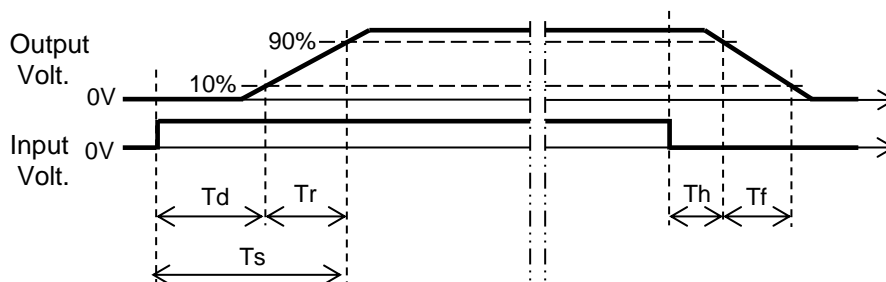
Model	MHFW64815	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V0.2A		

# 1.Graph



# 2.Values

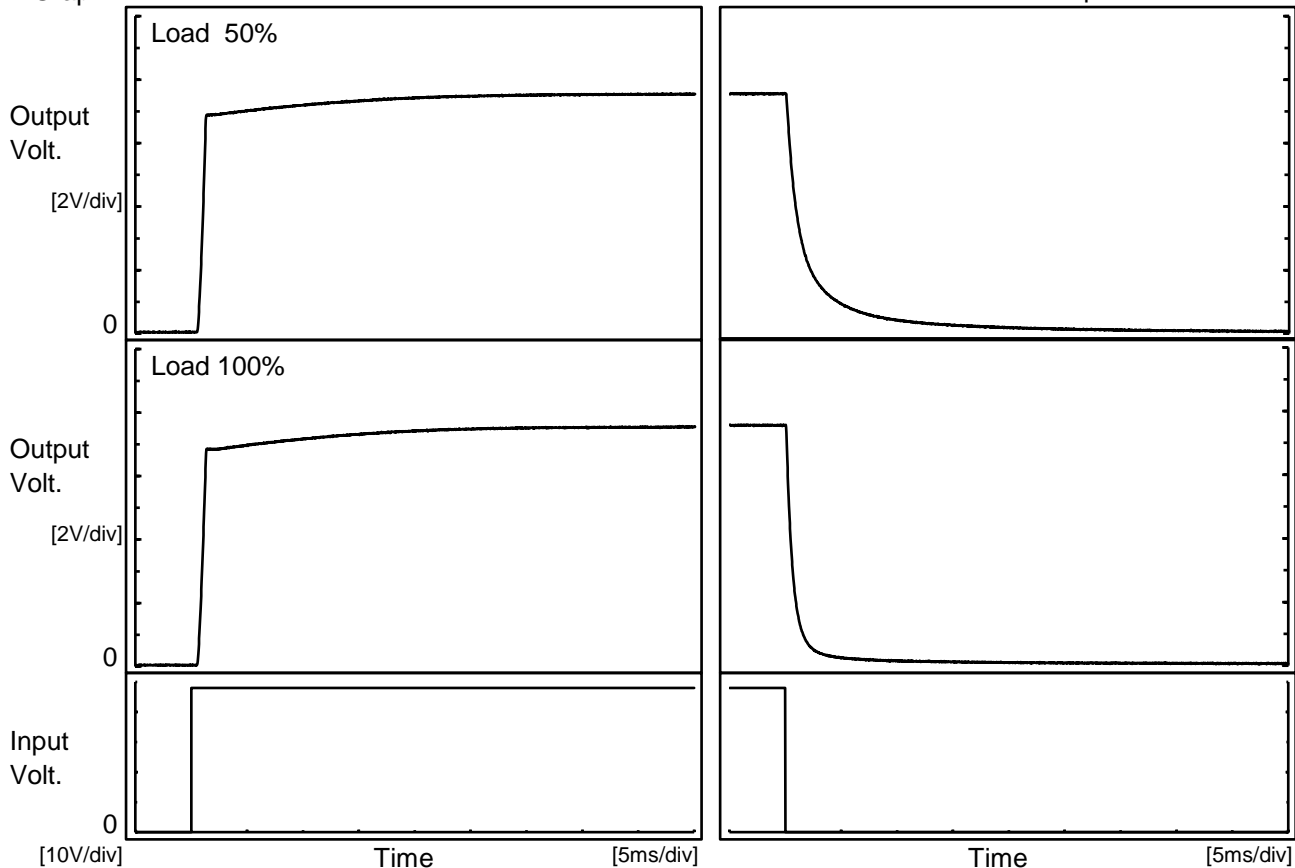
Load \ Time	Td	Tr	Ts	Th	Tf
50 %	0.7	0.6	1.3	0.2	4.3
100 %	0.7	0.7	1.4	0.1	1.4





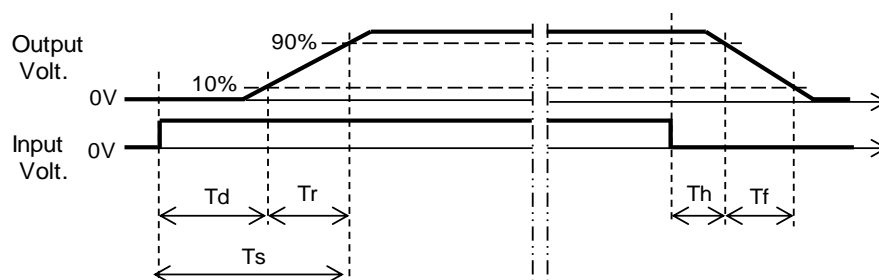
Model	MHFW64815	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	-15V0.2A		

# 1.Graph



# 2.Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.7	0.6	1.3	0.2	5.6
100 %		0.7	0.7	1.4	0.1	1.7





Model		MHFW64815		Temperature		25°C																																																																														
Item		Overcurrent Protection		Testing Circuitry		Figure A																																																																														
Object		+15V0.2A		2.Values																																																																																
1.Graph		<div><div><div></div><div>Input Volt.</div><div>18V</div></div><div><div></div><div>Input Volt.</div><div>24V</div></div><div><div></div><div>Input Volt.</div><div>36V</div></div><div><div></div><div>Input Volt.</div><div>48V</div></div><div><div></div><div>Input Volt.</div><div>76V</div></div></div> <div></div>																																																																																		
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Note: Slanted line shows the range of the rated load current.

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BC-11837



		Testing Circuitry Figure A
Model	MHFW64815	
Item	Ambient Temperature Drift	
Object	+15V0.2A	

## 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	14.926	14.931	14.939	14.942	14.943
25	14.992	14.992	14.999	15.001	15.002
60	14.994	14.992	14.999	15.000	15.002

\*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	14.4	14.4
25	14.2	14.2
60	14.0	14.1

# COSEL

		Testing Circuitry Figure A
Model	MHFW64815	
Item	Ambient Temperature Drift	
Object	-15V0.2A	

## 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	-14.961	-14.967	-14.963	-14.963	-14.962
25	-15.029	-15.029	-15.023	-15.021	-15.019
60	-15.029	-15.027	-15.022	-15.020	-15.017

\*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	14.4	14.4
25	14.2	14.2
60	14.0	14.1

Model		MHFW64815		Temperature 25°C																																																																														
Item		Switching frequency (by Load Current)		Testing Circuitry Figure A																																																																														
Object		+/-15V0.2A																																																																																
1.Graph		<div><div>—△—</div>Input Volt. 18V</div> <div><div>---□---</div>Input Volt. 24V</div> <div><div>-·-*·-·-</div>Input Volt. 36V</div> <div><div>-·-○-·-</div>Input Volt. 48V</div> <div><div>--◇--</div>Input Volt. 76V</div>																																																																																
<div>Switching Frequency [kHz]</div> <div><div>10000</div><div>1000</div><div>100</div><div>0.000.050.100.150.200.25</div><div>Load Current [A]</div></div>																																																																																		
<div>Note: Slanted line shows the range of the rated load current.</div> <div>When load current is low, MH operates intermittently, so switching frequency would not become constant.</div>																																																																																		
				2.Values																																																																														
				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="5">Switching Frequency [kHz]</th></tr><tr><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>0.00</td><td>617</td><td>700</td><td>798</td><td>849</td><td>849</td></tr><tr><td>0.04</td><td>453</td><td>532</td><td>642</td><td>712</td><td>764</td></tr><tr><td>0.08</td><td>348</td><td>429</td><td>553</td><td>619</td><td>678</td></tr><tr><td>0.12</td><td>280</td><td>365</td><td>470</td><td>531</td><td>593</td></tr><tr><td>0.16</td><td>240</td><td>312</td><td>406</td><td>471</td><td>543</td></tr><tr><td>0.18</td><td>224</td><td>292</td><td>383</td><td>441</td><td>513</td></tr><tr><td>0.20</td><td>*1</td><td>270</td><td>367</td><td>421</td><td>486</td></tr><tr><td>0.22</td><td>*1</td><td>258</td><td>345</td><td>404</td><td>467</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. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.00	617	700	798	849	849	0.04	453	532	642	712	764	0.08	348	429	553	619	678	0.12	280	365	470	531	593	0.16	240	312	406	471	543	0.18	224	292	383	441	513	0.20	*1	270	367	421	486	0.22	*1	258	345	404	467	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-
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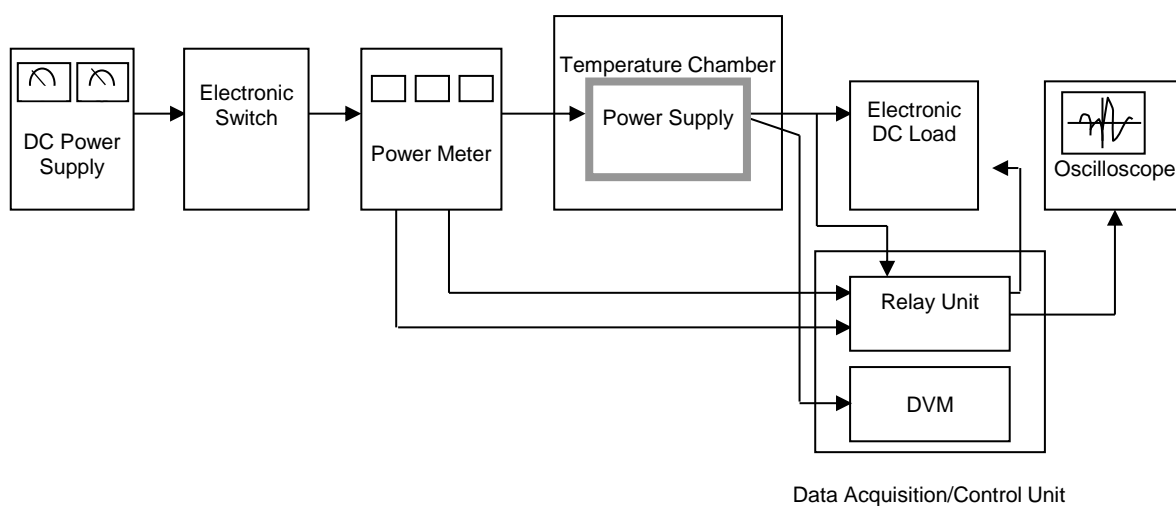


Figure A

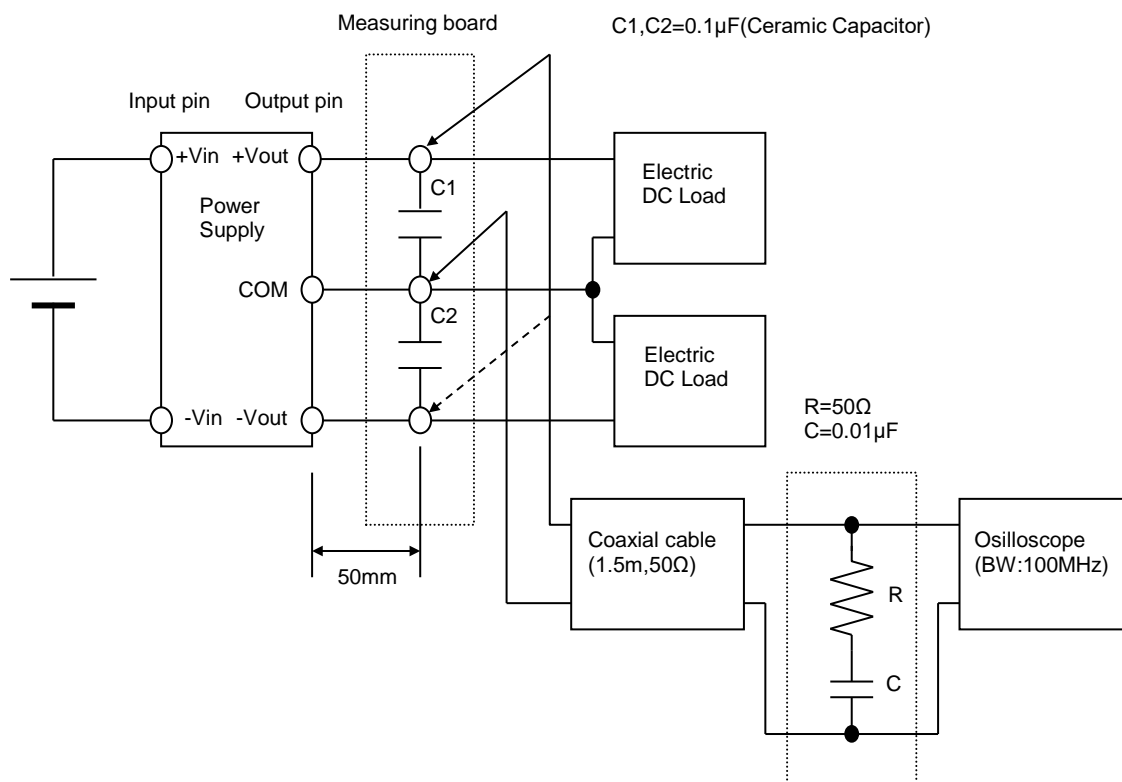


Figure B