



TEST DATA OF MHFW34812

Regulated DC Power Supply
July 2, 2020

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COSEL CO.,LTD.

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Model

MHFW34812

Item

Input Current (by Load Current)

Object

1.Graph

—△—

Input Volt.

18V

---□---

Input Volt.

24V

-·-·*-·-

Input Volt.

36V

-·-○-·-

Input Volt.

48V

--◇--

Input Volt.

76V

Input Current [A]

0.40

0.30

0.20

0.10

0.00

0

20

40

60

80

100

120

Load Ratio [%]

2.Values

Load Ratio [%]	Input Current [A]				
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0	0.010	0.008	0.007	0.004	0.004
20	0.047	0.035	0.025	0.019	0.014
40	0.085	0.064	0.044	0.034	0.024
60	0.126	0.094	0.064	0.048	0.033
80	0.167	0.125	0.083	0.063	0.042
90	0.188	0.140	0.094	0.071	0.047
100	0.209	0.155	0.104	0.078	0.052
110	0.230	0.171	0.114	0.086	0.057
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

BC-11622

Model

MHFW34812

Item

Efficiency (by Load Current)

Object

1.Graph

—△—

Input Volt.

18V

---□---

Input Volt.

24V

-·-·*-·-

Input Volt.

36V

-·-○-·-

Input Volt.

48V

---◇---

Input Volt.

76V

Efficiency [%]

90

80

70

60

50

0

20

40

60

80

100

120

Load Ratio [%]

2.Values

Load Ratio [%]	Efficiency [%]				
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0	-	-	-	-	-
20	70.7	69.3	66.9	64.4	54.8
40	78.7	78.4	76.7	74.7	66.6
60	81.1	80.9	79.9	78.8	72.8
80	81.6	82.0	81.7	80.8	76.3
90	81.6	82.3	82.0	81.4	77.3
100	81.7	82.6	82.3	81.8	78.1
110	81.7	82.7	82.8	82.1	78.9
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

Temperature

25°C

Testing Circuitry

Figure A

BC-11622

<div>LOREL</div>																																	
Model	MHFW34812	Temperature	25°C																														
Item	Line Regulation	Testing Circuitry	Figure A																														
Object	+12V0.13A																																
<div>1.Graph</div> <div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <div><div><div>Output Voltage [V]</div><div>12.60</div><div>12.40</div><div>12.20</div><div>12.00</div><div>11.80</div><div>11.60</div></div><div><div>0</div><div>15</div><div>30</div><div>45</div><div>60</div><div>75</div><div>90</div></div><div><div>Input Voltage [V]</div></div></div> <div><div>2.Values</div><table><tr><th rowspan="2">Input Voltage [V]</th><th colspan="2">Output Voltage [V]</th></tr><tr><th>Load 50%</th><th>Load 100%</th></tr><tr><td>17.2</td><td>12.104</td><td>12.016</td></tr><tr><td>18.0</td><td>12.105</td><td>12.017</td></tr><tr><td>24.0</td><td>12.098</td><td>12.018</td></tr><tr><td>30.0</td><td>12.093</td><td>12.018</td></tr><tr><td>36.0</td><td>12.091</td><td>12.018</td></tr><tr><td>48.0</td><td>12.089</td><td>12.019</td></tr><tr><td>60.0</td><td>12.090</td><td>12.019</td></tr><tr><td>76.0</td><td>12.090</td><td>12.019</td></tr><tr><td>80.0</td><td>12.090</td><td>12.020</td></tr></table><div>-12V:Rated Load Current</div></div>		Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	17.2	12.104	12.016	18.0	12.105	12.017	24.0	12.098	12.018	30.0	12.093	12.018	36.0	12.091	12.018	48.0	12.089	12.019	60.0	12.090	12.019	76.0	12.090	12.019	80.0	12.090	12.020
Input Voltage [V]	Output Voltage [V]																																
	Load 50%	Load 100%																															
17.2	12.104	12.016																															
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Input Voltage [V]	Output Voltage [V]																																
	Load 50%	Load 100%																															
17.2	-12.119	-12.030																															
18.0	-12.119	-12.030																															
24.0	-12.111	-12.029																															
30.0	-12.104	-12.029																															
36.0	-12.102	-12.029																															
48.0	-12.099	-12.028																															
60.0	-12.099	-12.028																															
76.0	-12.099	-12.028																															
80.0	-12.099	-12.028																															
<div>Note: Slanted line shows the range of the rated input voltage.</div>																																	

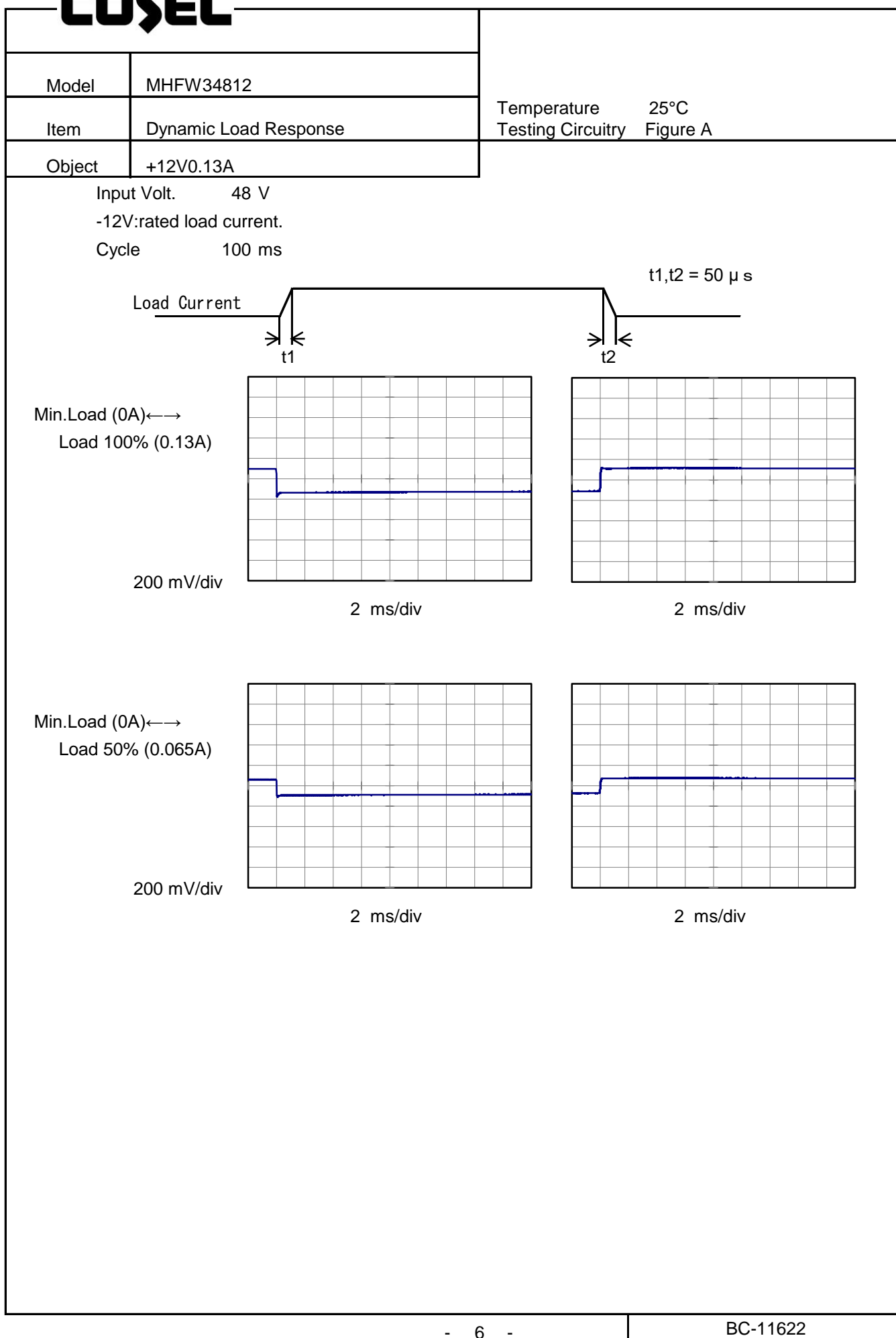
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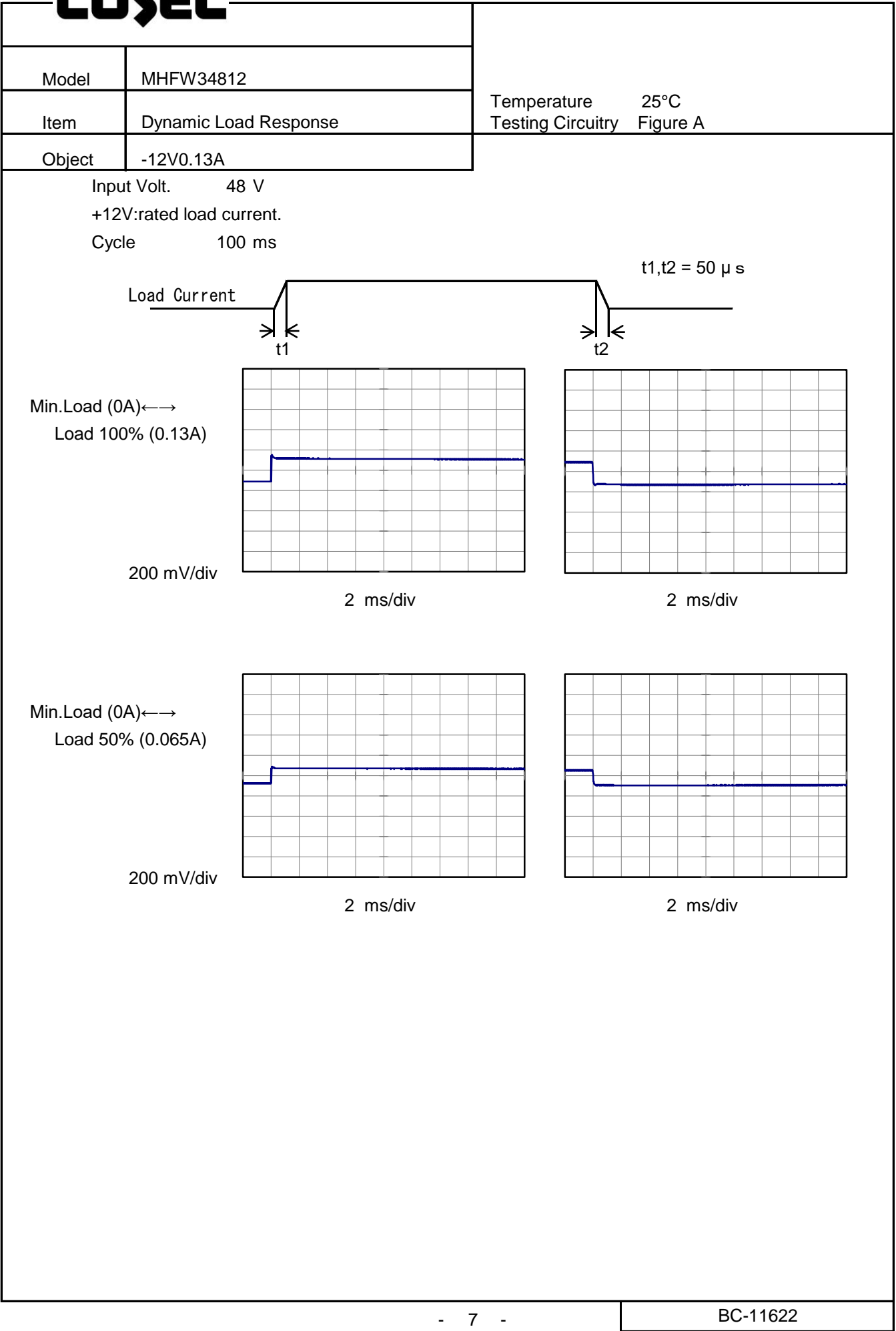
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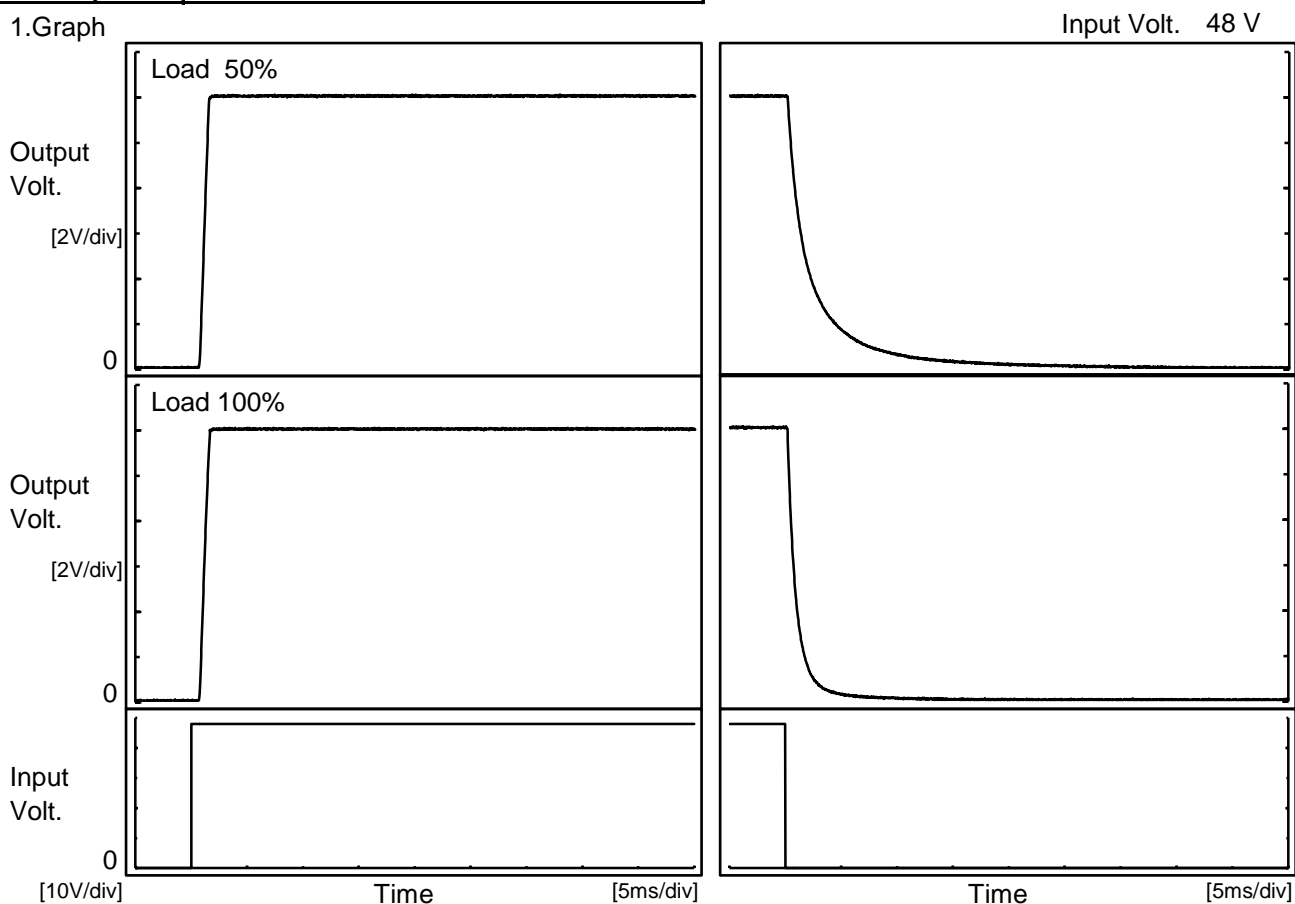






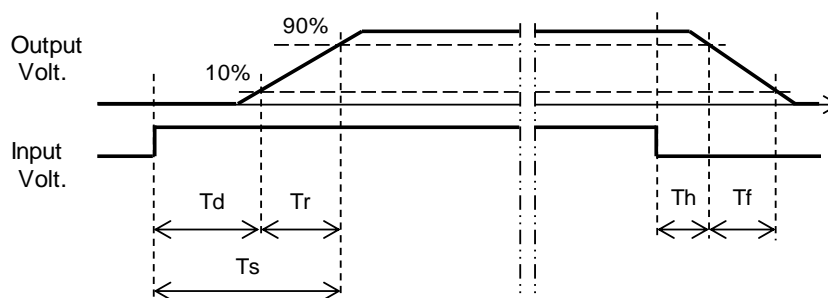
Model	MHFW34812	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+12V0.13A		

1.Graph



2.Values

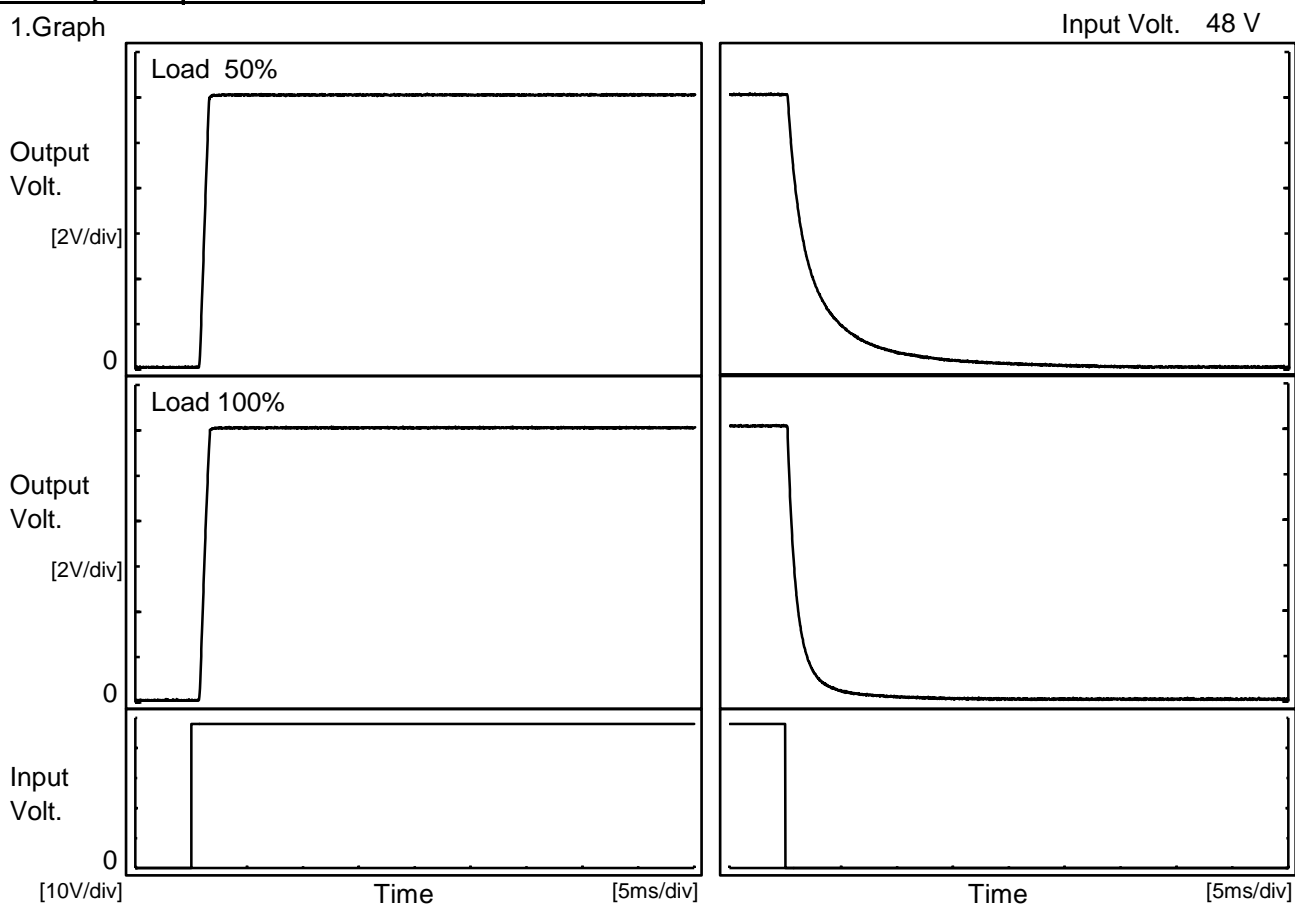
Load \ Time	Td	Tr	Ts	Th	Tf
50 %	0.8	0.7	1.5	0.4	6.1
100 %	0.8	0.8	1.6	0.3	2.0





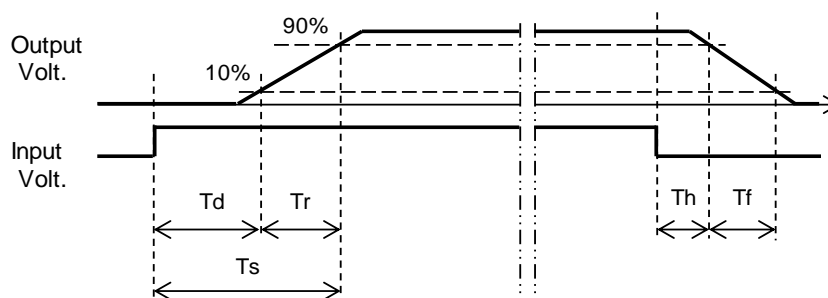
Model	MHFW34812	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	-12V0.13A		

1.Graph



2.Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.9	0.7	1.6	0.4	6.5
100 %		0.8	0.8	1.6	0.3	2.3





Model		MHFW34812	Temperature		25°C
Item		Overcurrent Protection	Testing Circuitry		Figure A
Object		+12V0.13A	2.Values		
1.Graph		<div> <div>—</div>Input Volt. 18V <div>—</div>Input Volt. 24V <div>—</div>Input Volt. 36V <div>—</div>Input Volt. 48V <div>—</div>Input Volt. 76V </div>			
Object		-12V0.13A	2.Values		
1.Graph		<div> <div>—</div>Input Volt. 18V <div>—</div>Input Volt. 24V <div>—</div>Input Volt. 36V <div>—</div>Input Volt. 48V <div>—</div>Input Volt. 76V </div>			
		Note: Slanted line shows the range of the rated load current.			
			-12V:Rated Load Current		
			+12V:Rated Load Current		

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		Testing Circuitry Figure A
Model	MHFW34812	
Item	Ambient Temperature Drift	
Object	+12V0.13A	

1.Values

Ambient Temperature[°C]	Output Voltage [V]				
	Input Volt. 18V	Input Volt. 24V	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V
-40	11.944	11.946	11.948	11.948	11.950
25	12.015	12.017	12.018	12.019	12.020
70	12.020	12.021	12.022	12.022	12.023

-12V:Rated Load Current

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+12V0.13A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	14.5	14.5
25	14.2	14.2
70	14.1	14.2

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		Testing Circuitry Figure A
Model	MHFW34812	
Item	Ambient Temperature Drift	
Object	-12V0.13A	

1.Values

Ambient Temperature[°C]	Output Voltage [V]				
	Input Volt. 18V	Input Volt. 24V	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V
-40	-11.959	-11.959	-11.959	-11.960	-11.960
25	-12.030	-12.029	-12.028	-12.028	-12.028
70	-12.035	-12.033	-12.032	-12.031	-12.031

+12V:Rated Load Current

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	-12V0.13A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	14.5	14.5
25	14.2	14.2
70	14.0	14.1

Model

MHFW34812

Item

Switching frequency (by Load Current)

Object

+/-12V0.13A

1.Graph

—△—

Input Volt.

18V

---□---

Input Volt.

24V

---*---

Input Volt.

36V

---○---

Input Volt.

48V

---◇---

Input Volt.

76V

Switching Frequency [kHz]

10000

1000

100

0.00

0.04

0.08

0.12

0.16

Load Current [A]

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. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.000	704	796	875	942	915
0.026	540	652	743	845	872
0.052	455	556	643	740	805
0.078	381	462	548	657	733
0.104	319	413	498	589	659
0.117	305	381	468	566	640
0.130	287	362	438	540	617
0.143	254	322	452	479	558
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

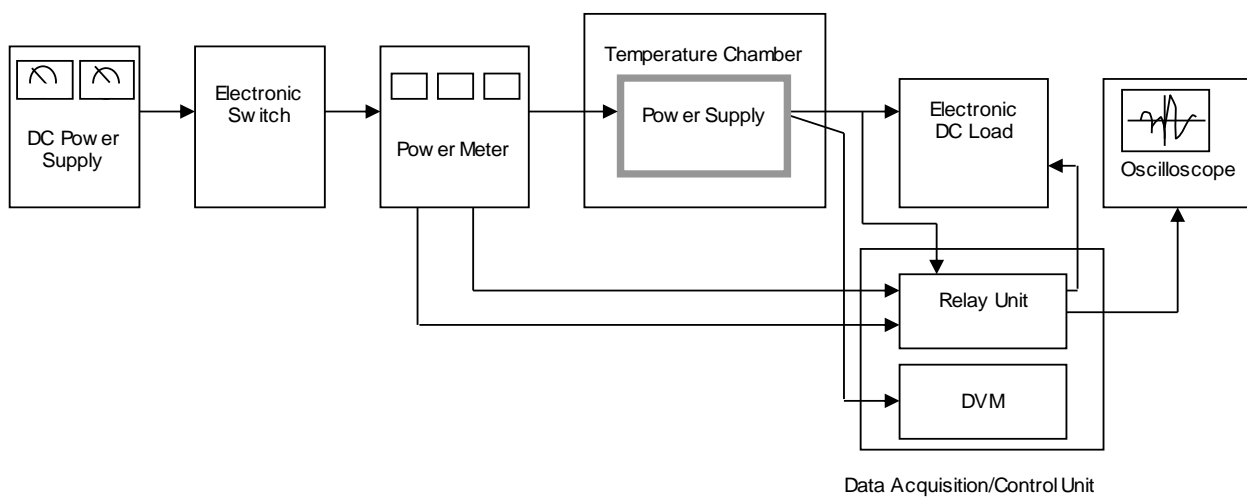


Figure A

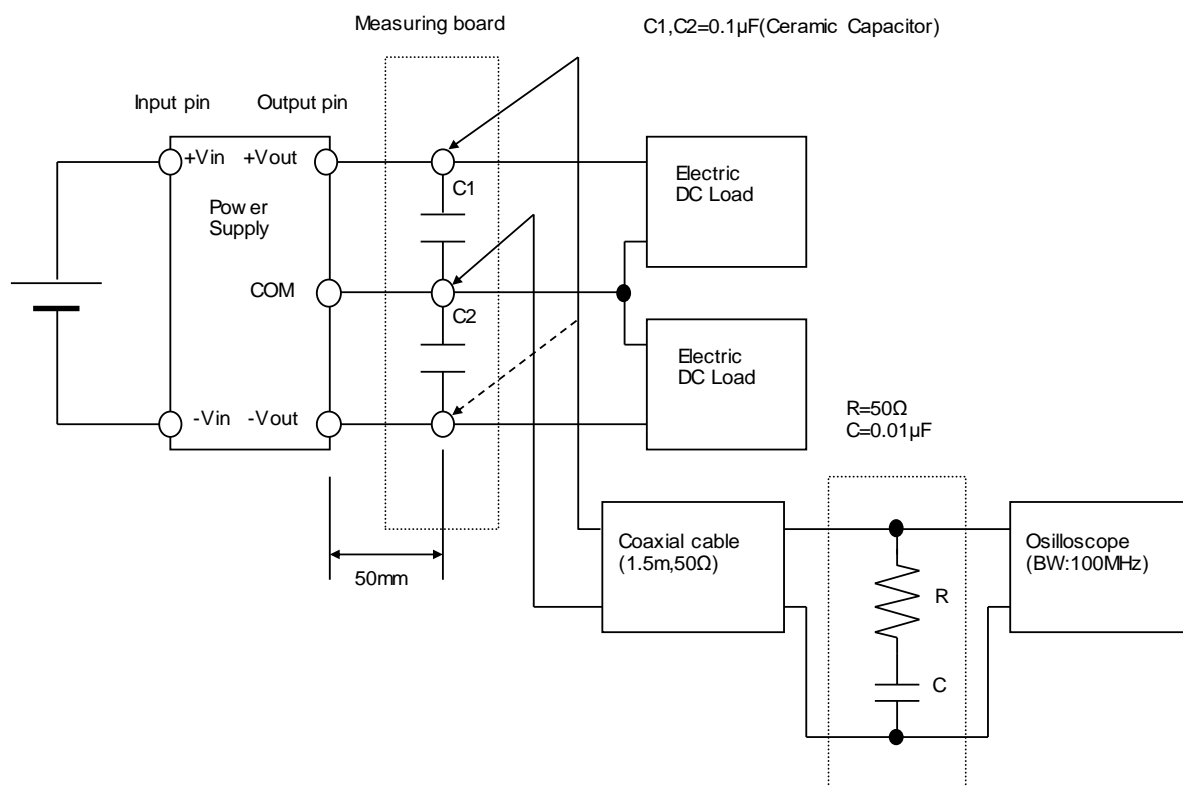


Figure B