For Reference

TEST DATA OF MUW1R54812

Regulated DC Power Supply
February 6, 2025

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Design Engineer

COSEL CO.,LTD.

COSEL

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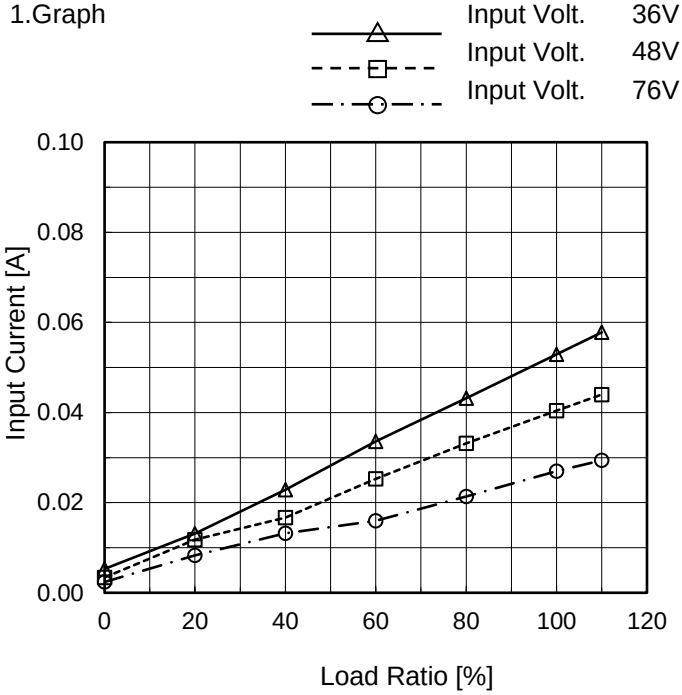
Model	MUW1R54812
Item	Input Current (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Load Ratio [%]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0	0.005	0.003	0.002
20	0.013	0.012	0.008
40	0.023	0.017	0.013
60	0.034	0.025	0.016
80	0.043	0.033	0.021
100	0.053	0.040	0.027
110	0.058	0.044	0.029
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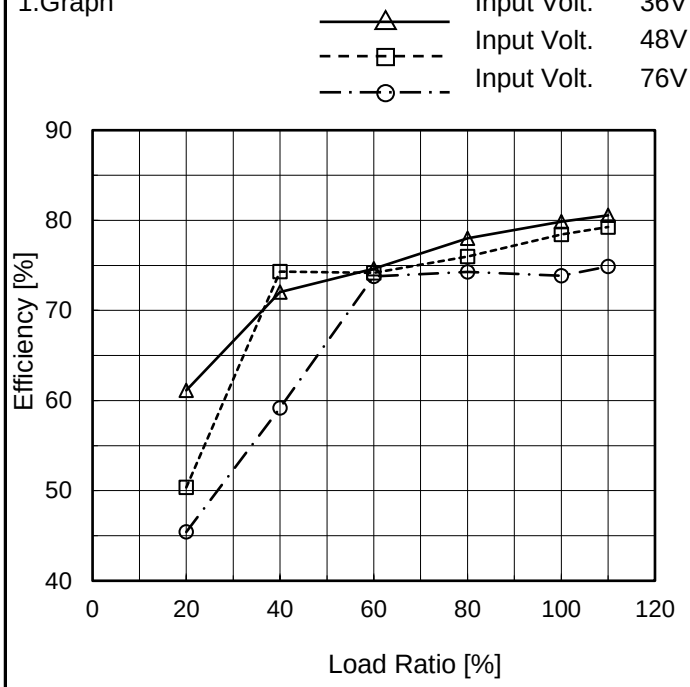
BC-12072

COSEL

Model	MUW1R54812
Item	Efficiency (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Load Ratio [%]	Efficiency [%] Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0	-	-	-
20	61.1	50.4	45.4
40	72.1	74.3	59.2
60	74.6	74.2	73.8
80	78.0	76.0	74.3
100	79.9	78.4	73.9
110	80.6	79.3	74.9
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--	-	-	-
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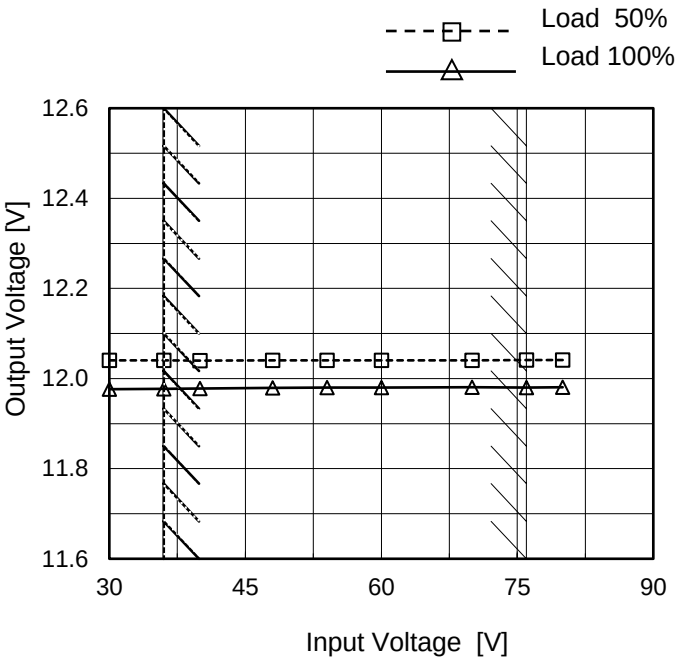
COSEL

Model	MUW1R54812
Item	Line Regulation
Object	+12V0.065A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



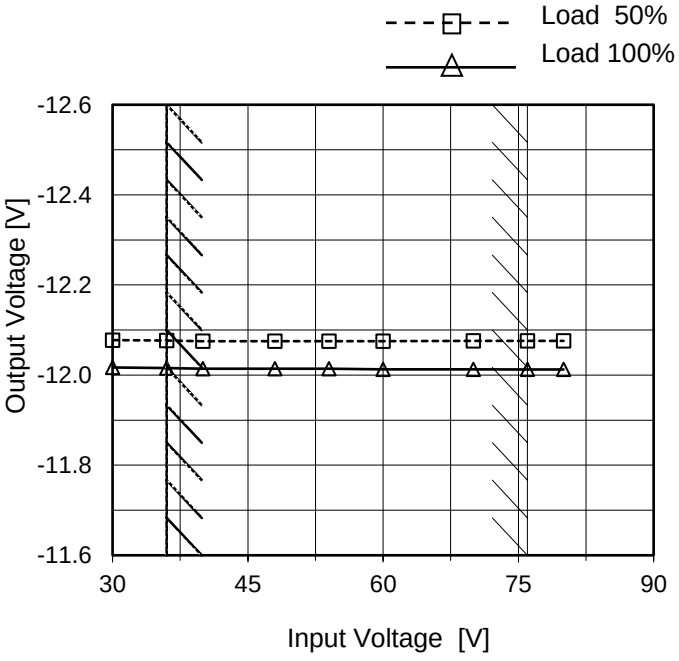
2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
30	12.041	11.976
36	12.041	11.977
40	12.040	11.978
48	12.040	11.979
54	12.041	11.980
60	12.040	11.980
70	12.041	11.981
76	12.041	11.980
80	12.041	11.981

-12V:Rated Load Current

Object	-12V0.065A

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%
30	-12.078	-12.017
36	-12.077	-12.016
40	-12.075	-12.014
48	-12.075	-12.014
54	-12.075	-12.014
60	-12.075	-12.013
70	-12.076	-12.013
76	-12.076	-12.012
80	-12.076	-12.012

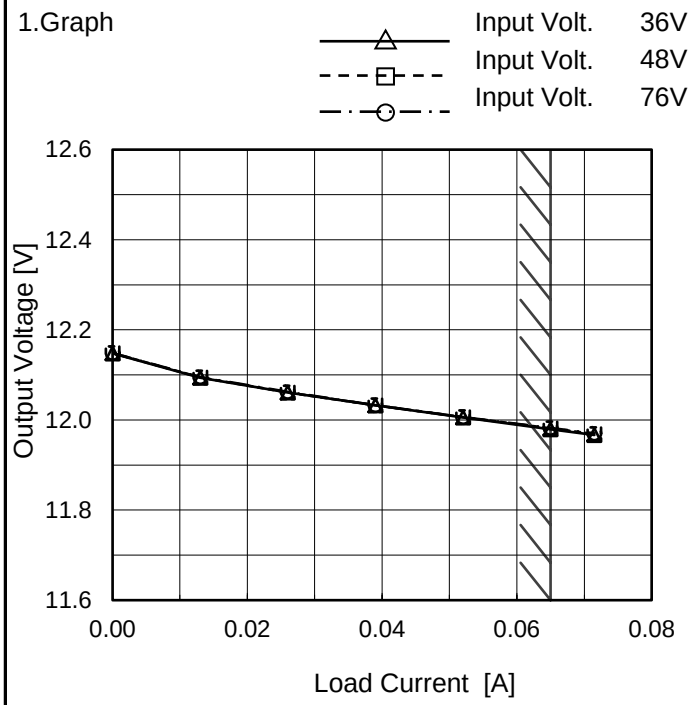
+12V:Rated Load Current

COSEL

Model	MUW1R54812
Item	Load Regulation
Object	+12V0.065A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.000	12.148	12.148	12.149
0.013	12.094	12.094	12.095
0.026	12.061	12.061	12.062
0.039	12.032	12.032	12.033
0.052	12.006	12.006	12.006
0.065	11.979	11.981	11.982
0.072	11.967	11.969	11.970
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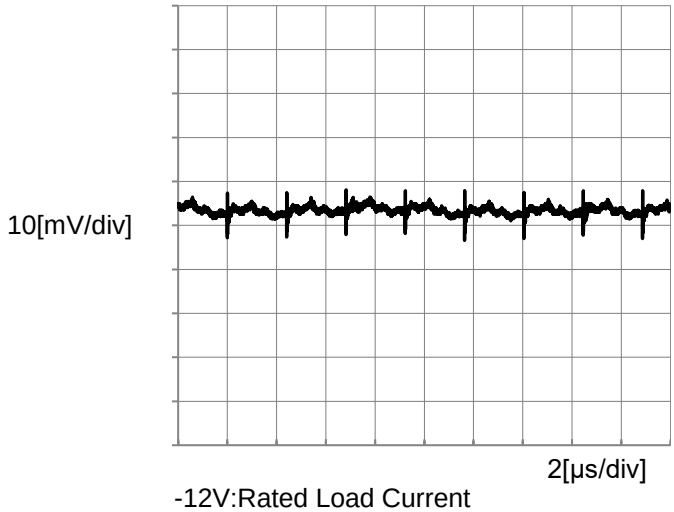
-12V:Rated Load Current

Item	Ripple-Noise
Object	+12V0.065A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 48V
Load 100%



-12V:Rated Load Current

BC-12072

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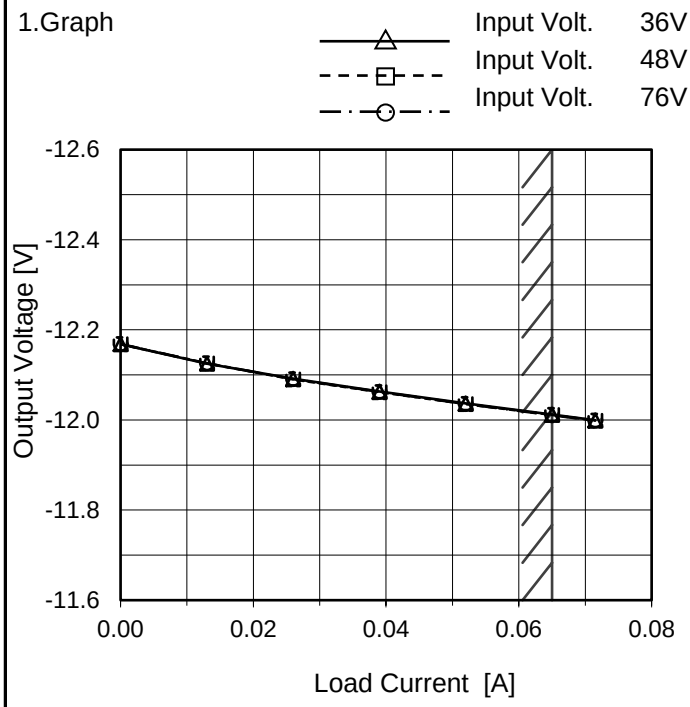
Model	MUW1R54812
Item	Load Regulation
Object	-12V0.065A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.000	-12.168	-12.168	-12.169
0.013	-12.125	-12.126	-12.126
0.026	-12.091	-12.090	-12.091
0.039	-12.063	-12.061	-12.062
0.052	-12.037	-12.035	-12.035
0.065	-12.012	-12.011	-12.010
0.072	-12.000	-11.999	-11.998
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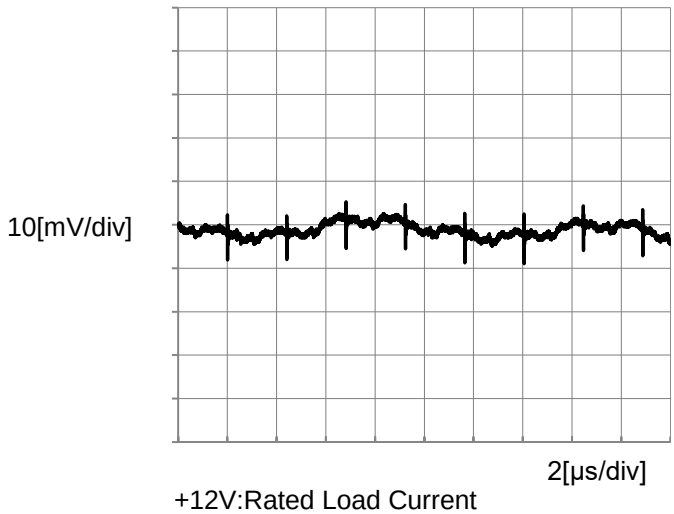
+12V:Rated Load Current

Item	Ripple-Noise
Object	-12V0.065A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 48V
Load 100%



+12V:Rated Load Current

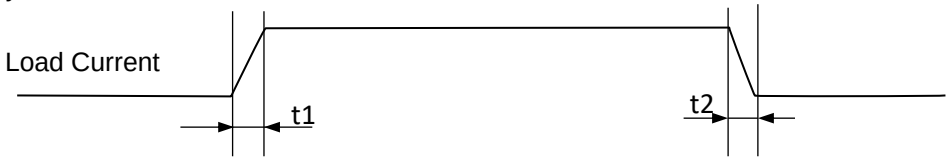
Model	MUW1R54812	
Item	Dynamic Load Response	Temperature 25°C Testing Circuitry Figure A
Object	+12V0.065A	

Input Volt. 48 V

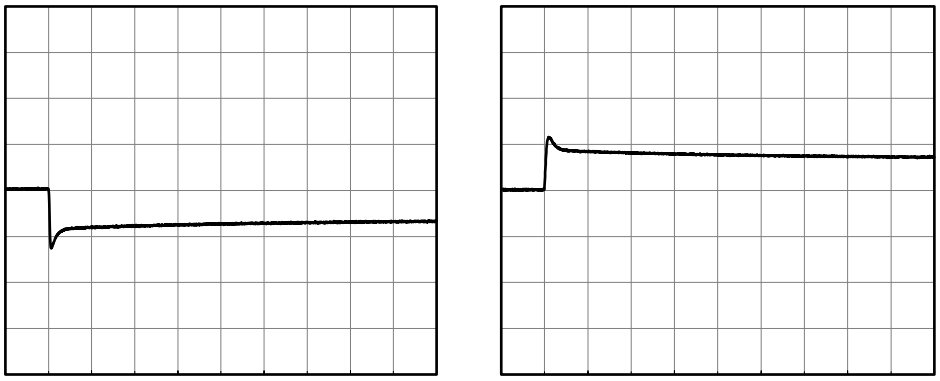
-12V:Rated Load Current

Response. t1=t2=50μs. Typ

Cycle 1000 ms



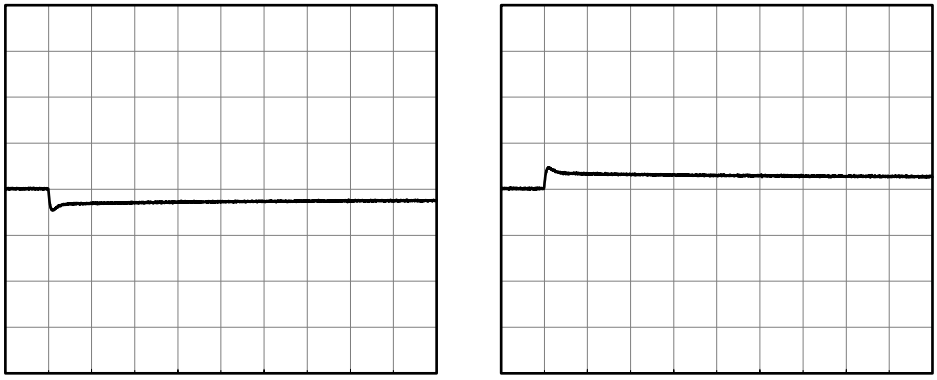
Load 0%(0A) ←→
Load 100%(0.065A)



200[mV/div]

1[ms/div] 1[ms/div]

Load 50%(0.0325A) ←→
Load 100%(0.065A)



200[mV/div]

1[ms/div] 1[ms/div]

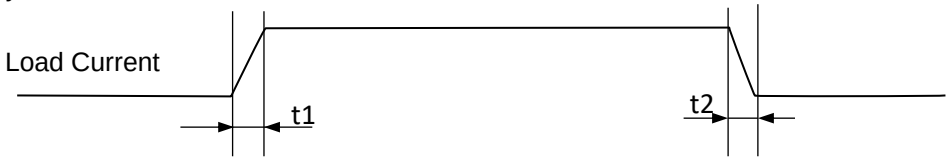
Model	MUW1R54812	
Item	Dynamic Load Response	Temperature 25°C Testing Circuitry Figure A
Object	-12V0.065A	

Input Volt. 48 V

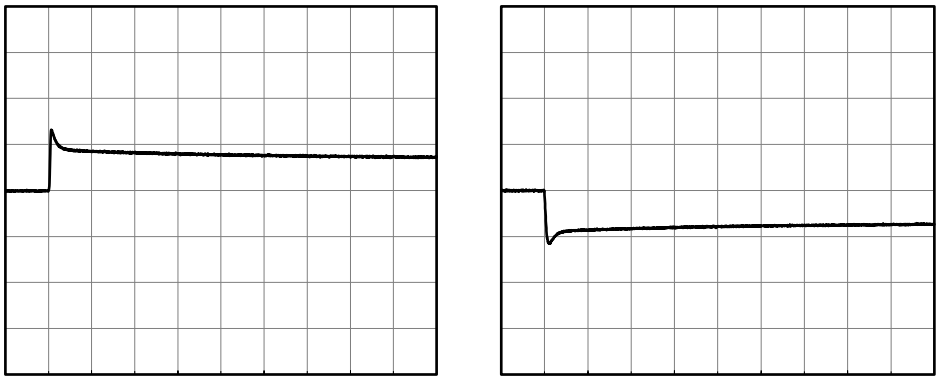
+12V:Rated Load Current

Response. t1=t2=50μs. Typ

Cycle 1000 ms



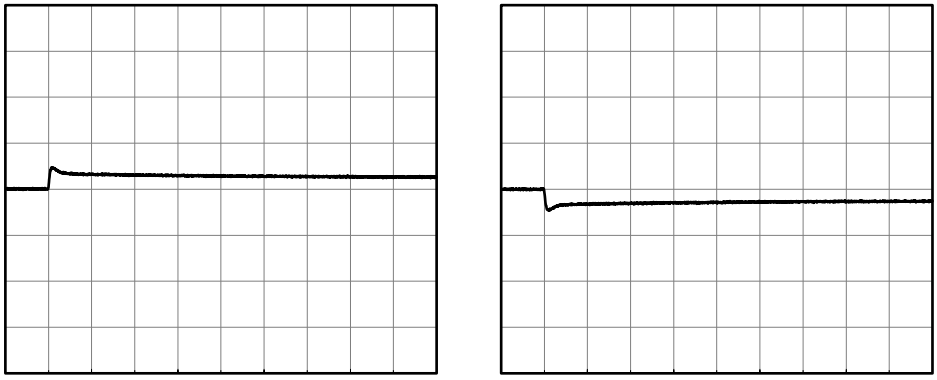
Load 0%(0A) ←→
Load 100%(0.065A)



200[mV/div]

1[ms/div] 1[ms/div]

Load 50%(0.0325A) ←→
Load 100%(0.065A)



200[mV/div]

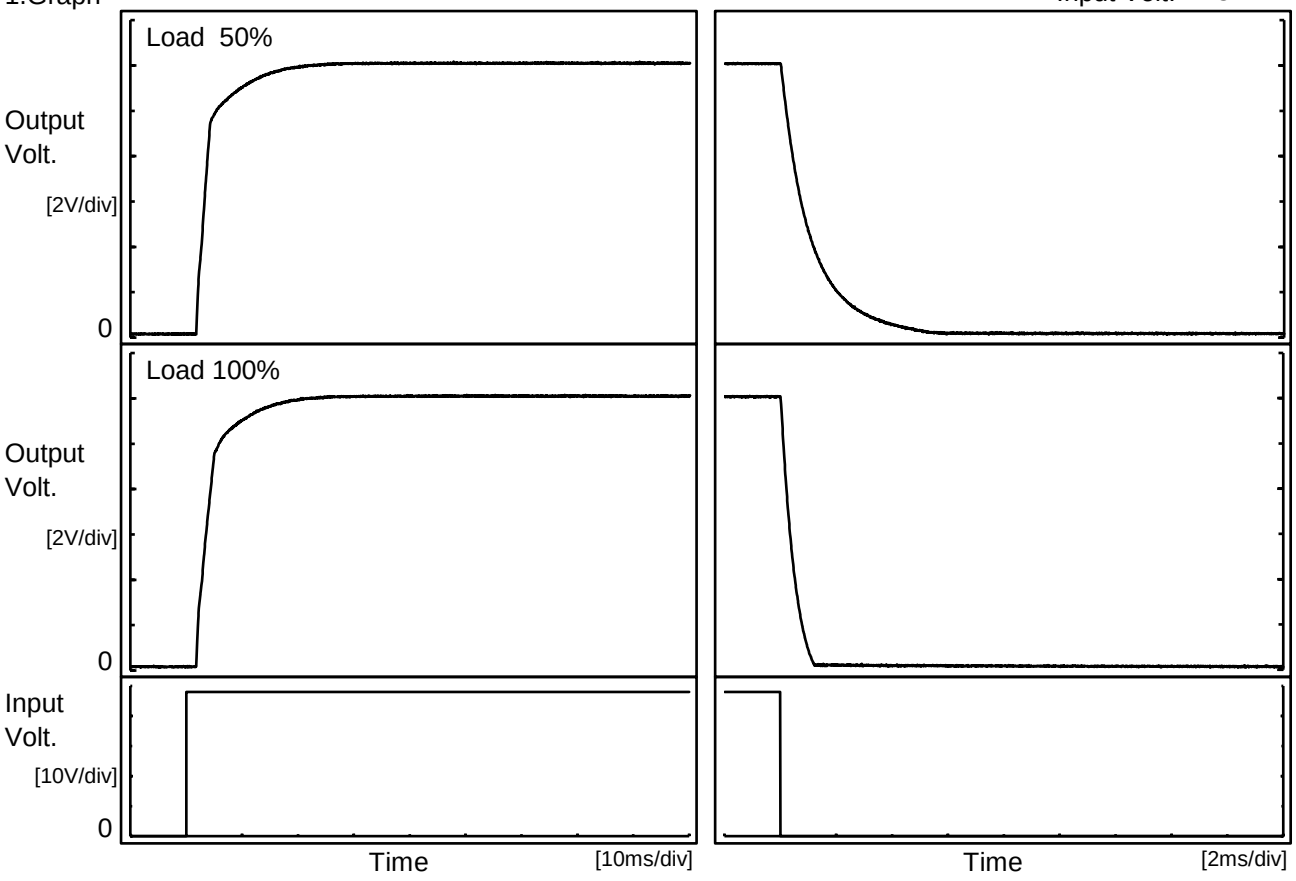
1[ms/div] 1[ms/div]

Model	MUW1R54812
Item	Rise and Fall Time
Object	+12V0.065A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

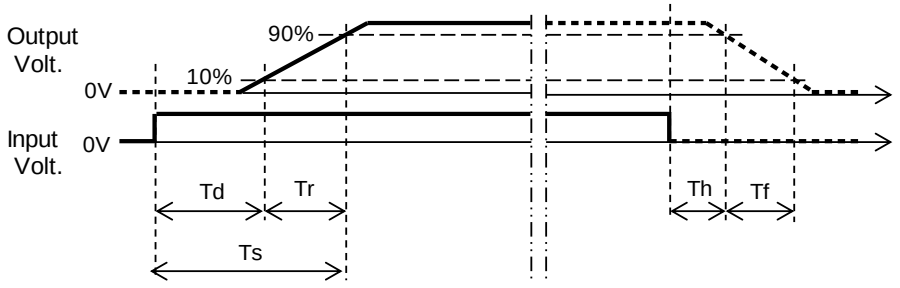
Input Volt. 48 V



2.Values

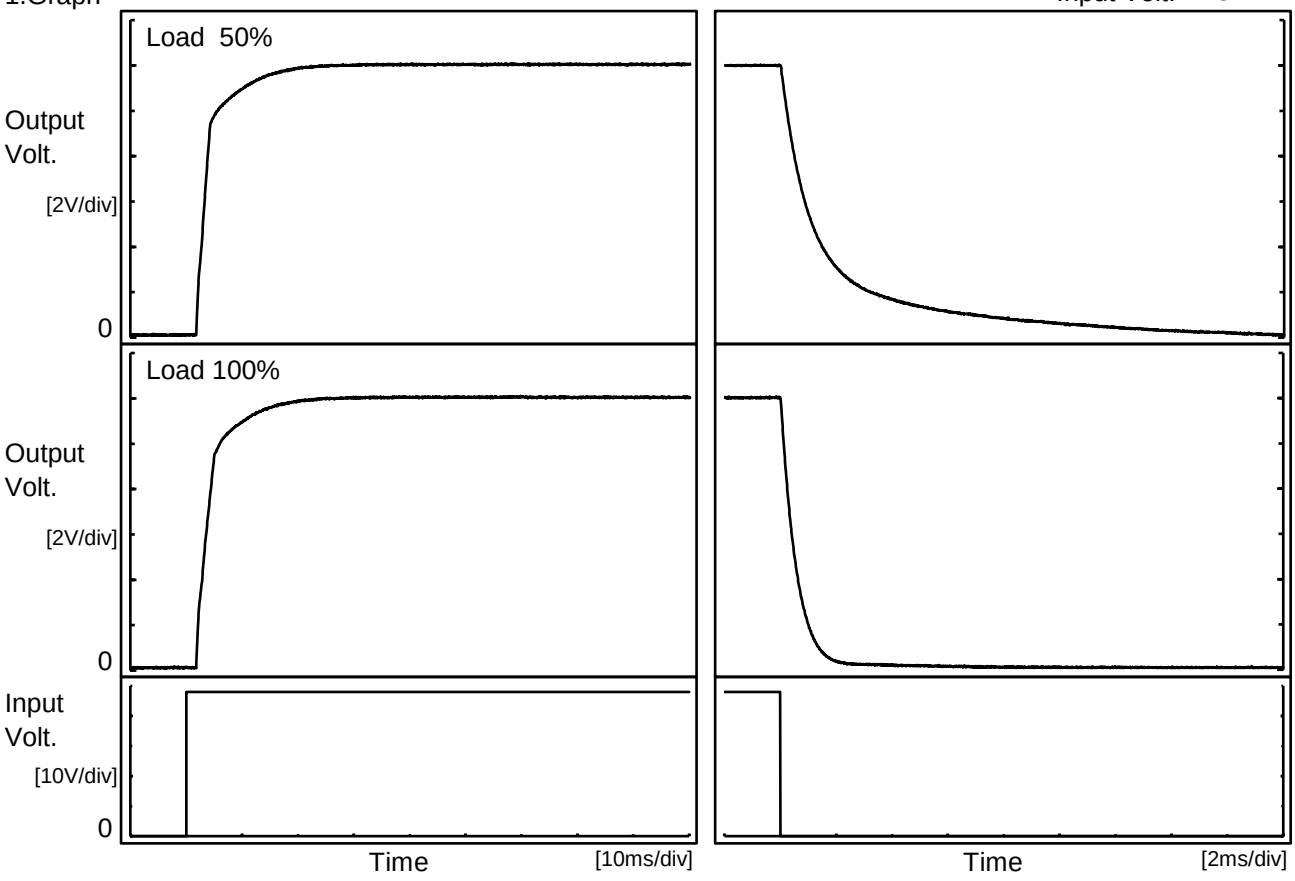
[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	2.0	7.0	9.0	0.1	2.6
100 %	2.0	7.1	9.1	0.1	0.8



Model	MUW1R54812	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	-12V0.065A	

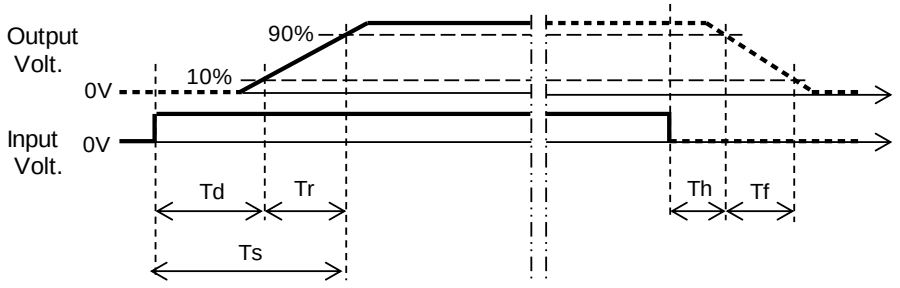
1.Graph



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	2.0	7.5	9.5	0.1	5.3
100 %	2.0	7.6	9.6	0.1	1.2



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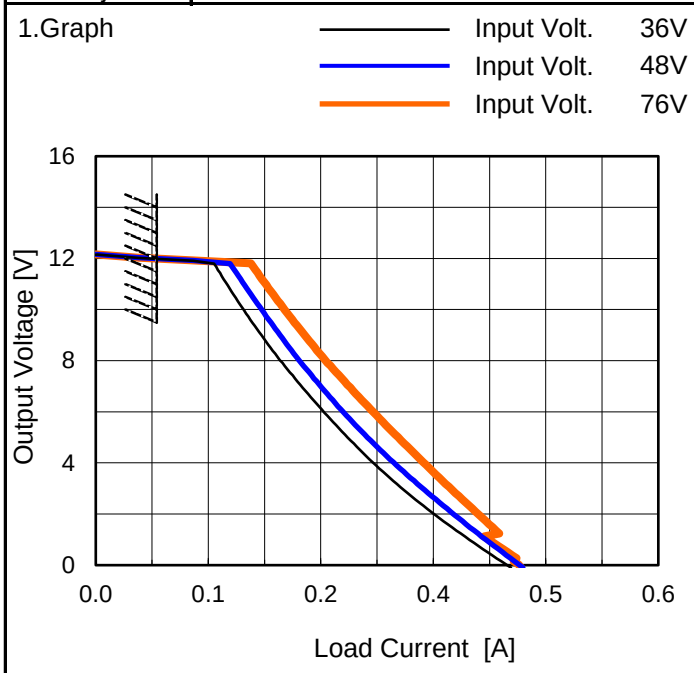
Model	MUW1R54812
Item	Overcurrent Protection
Object	+12V0.065A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Output Voltage [V]	Load Current [A] Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
11.4	0.13	0.15	0.17
10.8	0.14	0.16	0.18
9.6	0.16	0.18	0.21
8.4	0.19	0.21	0.24
7.2	0.21	0.23	0.26
6.0	0.24	0.26	0.29
4.8	0.27	0.29	0.33
3.6	0.31	0.33	0.36
2.4	0.35	0.37	0.39
1.2	0.39	0.41	0.43
0.0	0.44	0.46	0.45
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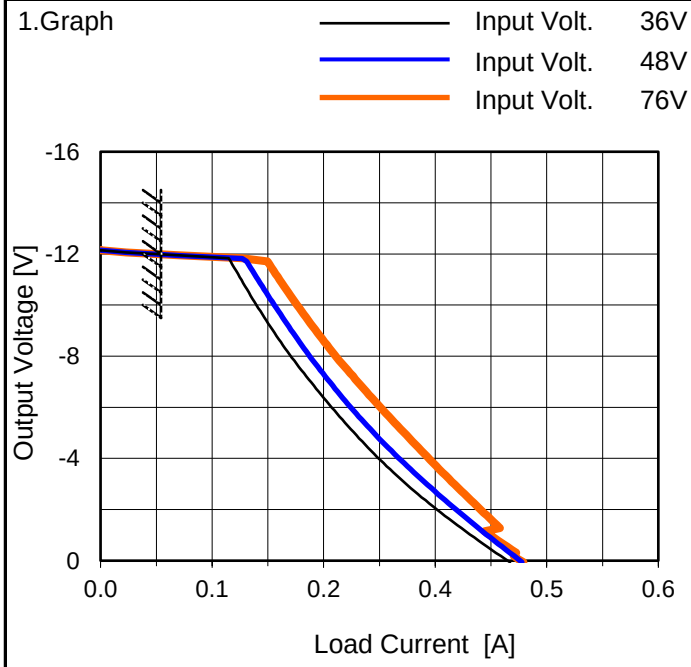
-12V:Rated Load Current

Object	-12V0.065A

1.Graph



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

2.Values

Output Voltage [V]	Load Current [A] Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-11.4	0.15	0.16	0.19
-10.8	0.15	0.17	0.20
-9.6	0.17	0.19	0.22
-8.4	0.20	0.22	0.24
-7.2	0.22	0.24	0.27
-6.0	0.25	0.27	0.30
-4.8	0.28	0.30	0.33
-3.6	0.31	0.33	0.36
-2.4	0.35	0.37	0.39
-1.2	0.39	0.41	0.43
0.0	0.44	0.45	0.45
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+12V:Rated Load Current

Model	MUW1R54812	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+12V0.065A	

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V
-40	11.894	11.897	11.898
25	11.980	11.982	11.983
85	12.007	12.009	12.010

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+12V0.065A	

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-40	28.2	28.2
25	28.4	28.4
85	28.4	28.4

Model	MUW1R54812	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	-12V0.065A	

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 36V	Input Volt. 48V	Input Volt. 76V
-40	-11.924	-11.923	-11.923
25	-12.010	-12.010	-12.009
85	-12.041	-12.040	-12.039

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	-12V0.065A	

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-40	28.2	28.2
25	28.4	28.4
85	28.4	28.4

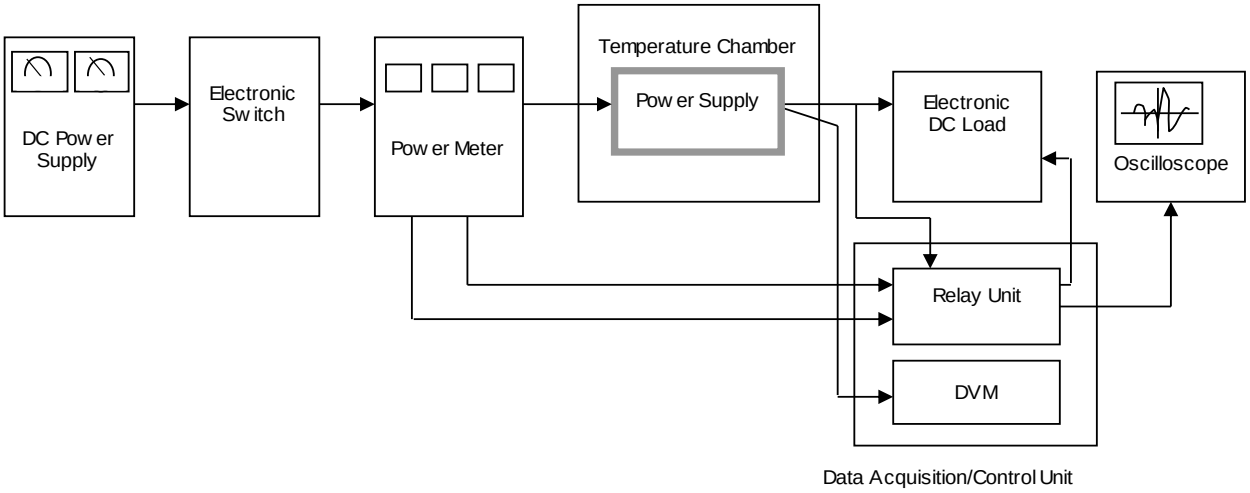

Figure A

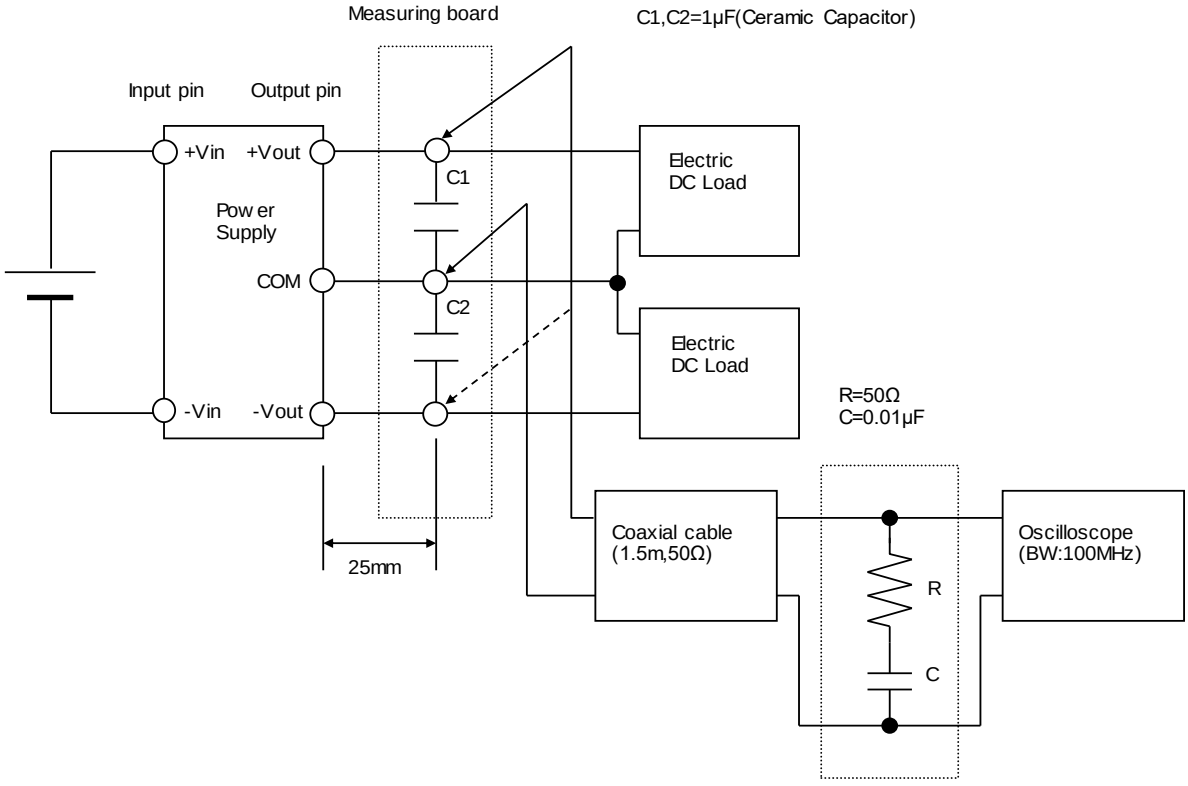

Figure B