COSEL

参考資料

TEST DATA OF CHS80483R3

Regulated DC Power Supply
September 28, 2011

Approved by : Yoshimichi Hirokawa
Yoshimichi Hirokawa Design Manager

Prepared by : Sakae Minamide
Sakae Minamide Design Engineer

COSEL CO.,LTD.

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CONTENTS

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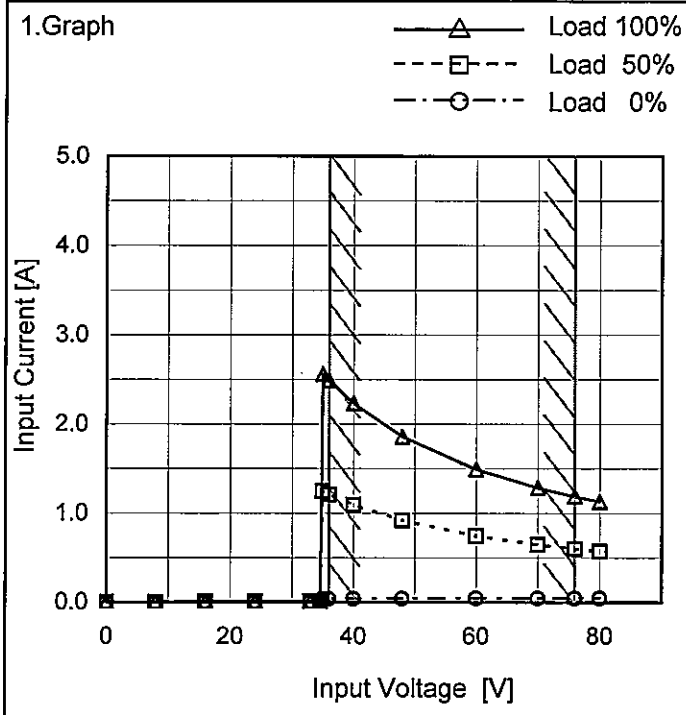
Model	CHS80483R3
Item	Input Current (by Input Voltage)
Object	———————

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]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
8.0	0.000	0.000	0.000
16.0	0.009	0.009	0.009
24.0	0.009	0.009	0.009
33.0	0.009	0.009	0.009
34.6	0.009	0.009	0.009
35.0	0.039	1.245	2.562
36.0	0.039	1.211	2.490
40.0	0.040	1.093	2.234
48.0	0.042	0.918	1.862
60.0	0.045	0.744	1.494
70.0	0.046	0.646	1.287
76.0	0.047	0.599	1.189
80.0	0.047	0.572	1.131
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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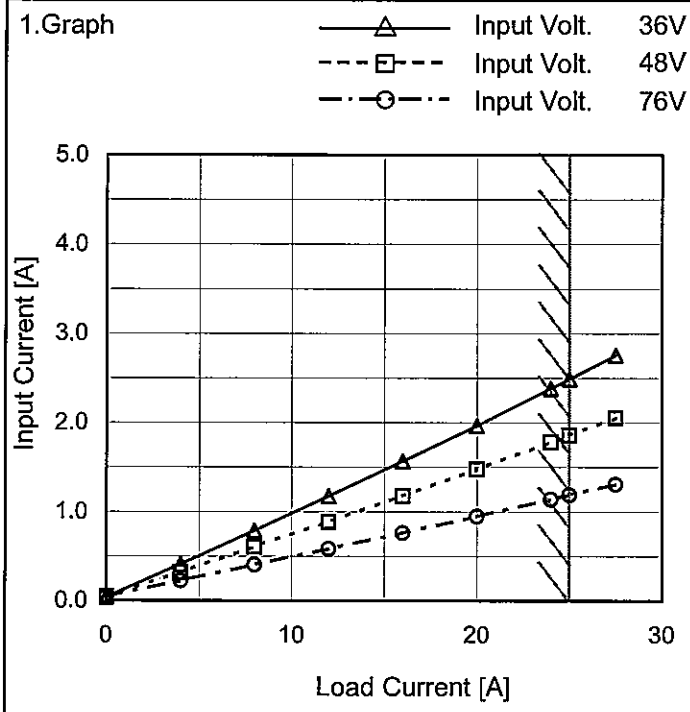
Model	CHS80483R3
Item	Input Current (by Load Current)
Object	————————

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]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.039	0.042	0.047
4.0	0.411	0.321	0.223
8.0	0.787	0.603	0.401
12.0	1.174	0.889	0.581
16.0	1.565	1.178	0.763
20.0	1.966	1.476	0.947
24.0	2.382	1.781	1.138
25.0	2.490	1.862	1.189
27.5	2.754	2.052	1.306
--	-	-	-
--	-	-	-

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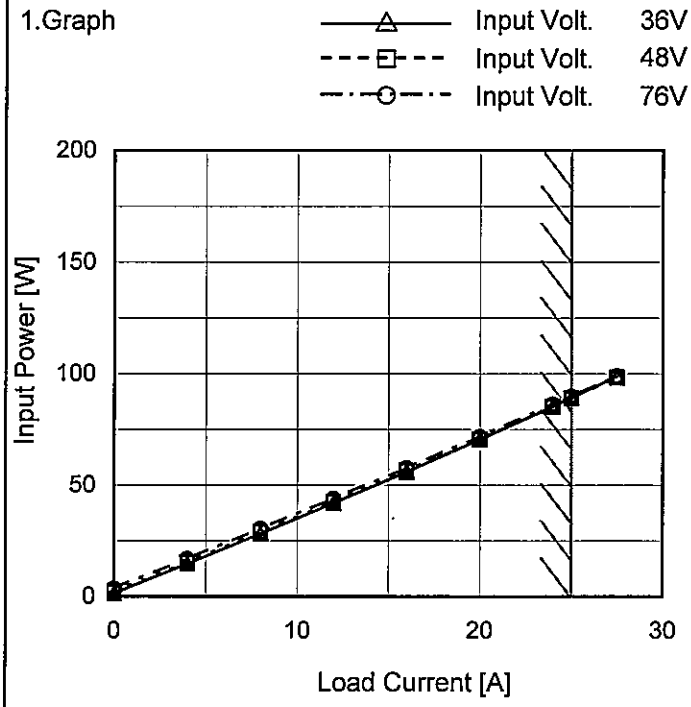
Model	CHS80483R3
Item	Input Power (by Load Current)
Object	————————

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]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	1.4	2.0	3.6
4.0	14.8	15.4	16.9
8.0	28.3	28.9	30.5
12.0	42.0	42.6	44.0
16.0	56.1	56.4	57.8
20.0	70.6	70.6	71.9
24.0	85.4	85.2	86.3
25.0	89.3	89.0	89.9
27.5	98.9	98.3	99.0
--	-	-	-
--	-	-	-

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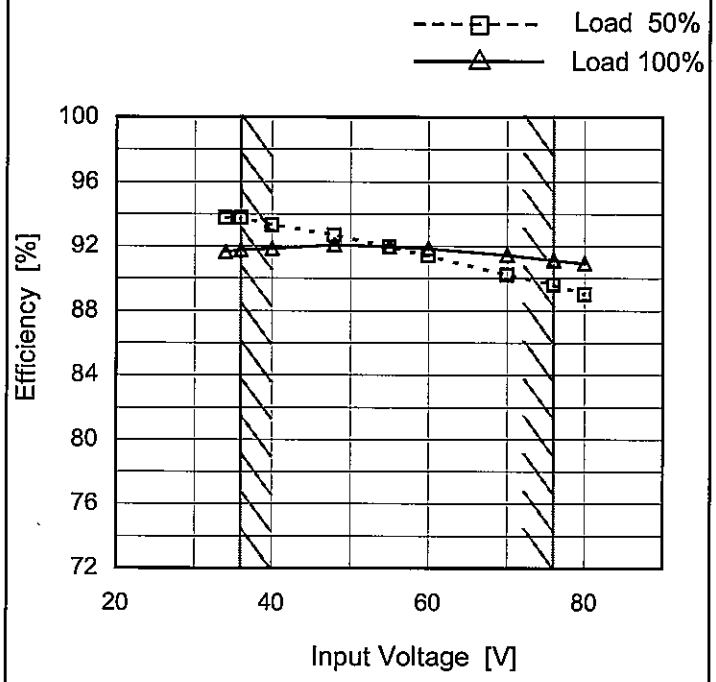
Model	CHS80483R3
Item	Efficiency (by Input Voltage)
Object	

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]	Efficiency [%]	
	Load 50%	Load 100%
34	93.8	91.7
36	93.8	91.8
40	93.3	91.9
48	92.7	92.1
55	92.0	92.0
60	91.4	91.9
70	90.2	91.4
76	89.6	91.1
80	89.0	90.9

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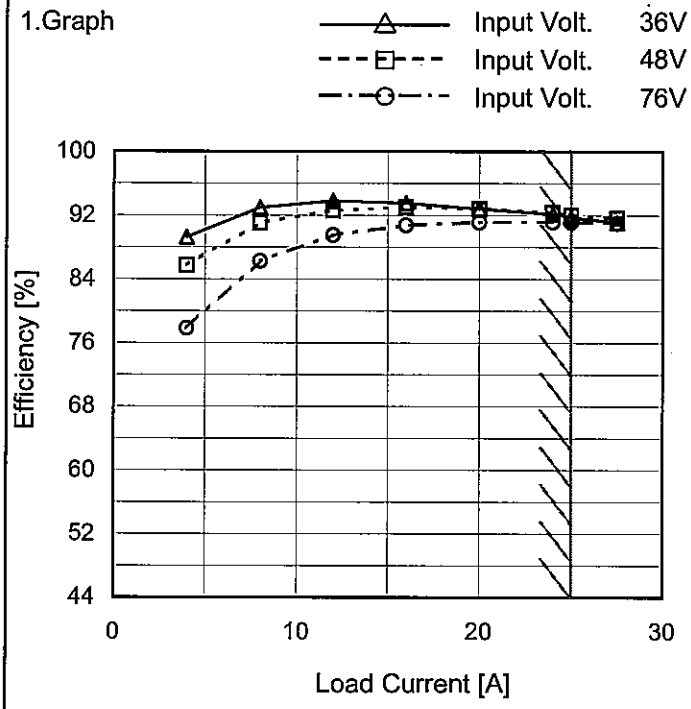
Model	CHS80483R3
Item	Efficiency (by Load Current)
Object	————————

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]	Efficiency [%] Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	-	-	-
4.0	89.3	85.8	77.8
8.0	93.0	91.0	86.2
12.0	93.8	92.6	89.5
16.0	93.5	93.0	90.7
20.0	92.8	92.8	91.1
24.0	92.1	92.3	91.2
25.0	91.8	92.1	91.1
27.5	91.1	91.6	91.0
--	-	-	-
--	-	-	-

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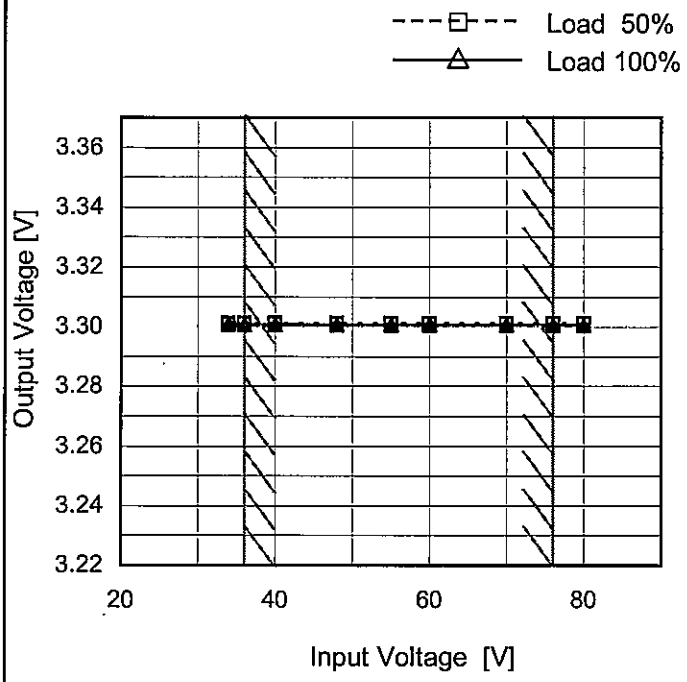
Model	CHS80483R3
Item	Line Regulation
Object	+3.3V25A

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%
34	3.301	3.301
36	3.301	3.301
40	3.301	3.301
48	3.301	3.301
55	3.301	3.301
60	3.301	3.301
70	3.301	3.301
76	3.301	3.300
80	3.301	3.300

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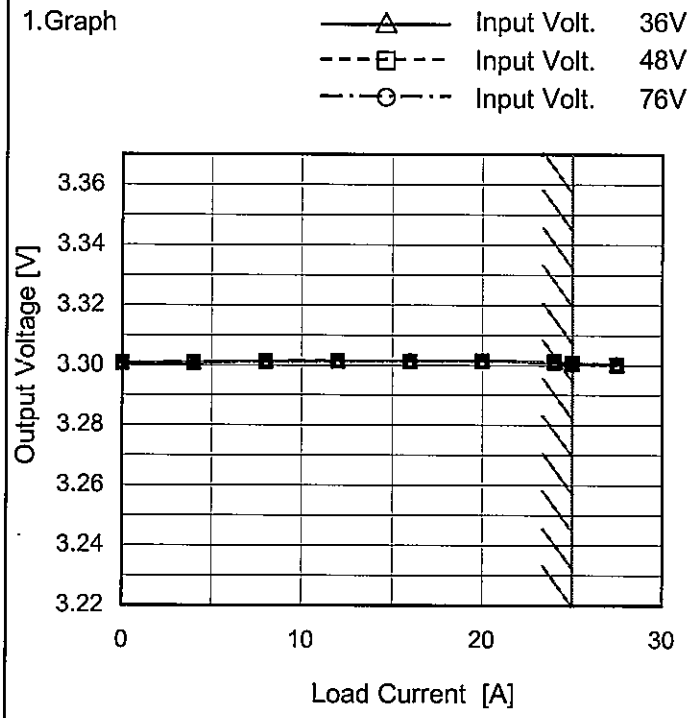
Model	CHS80483R3
Item	Load Regulation
Object	+3.3V25A

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]
0.0	3.301	3.301	3.301
4.0	3.301	3.301	3.301
8.0	3.301	3.301	3.301
12.0	3.301	3.301	3.301
16.0	3.301	3.301	3.301
20.0	3.301	3.301	3.301
24.0	3.301	3.301	3.301
25.0	3.301	3.301	3.300
27.5	3.300	3.300	3.300
--	-	-	-
--	-	-	-

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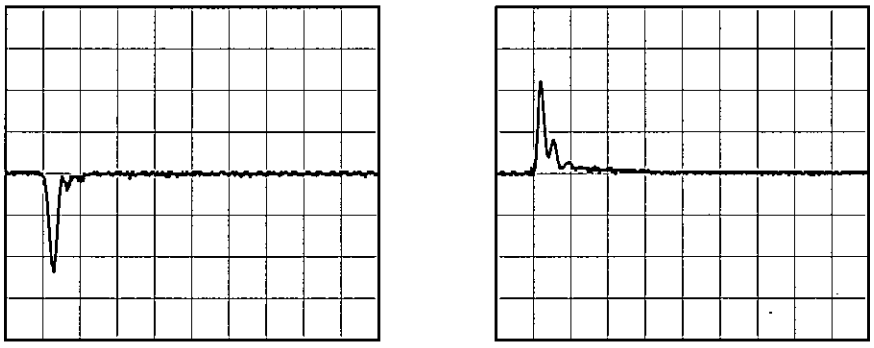
Model	CHS80483R3		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	+3.3V25A		

Input Volt. 48 V
Cycle 5 ms

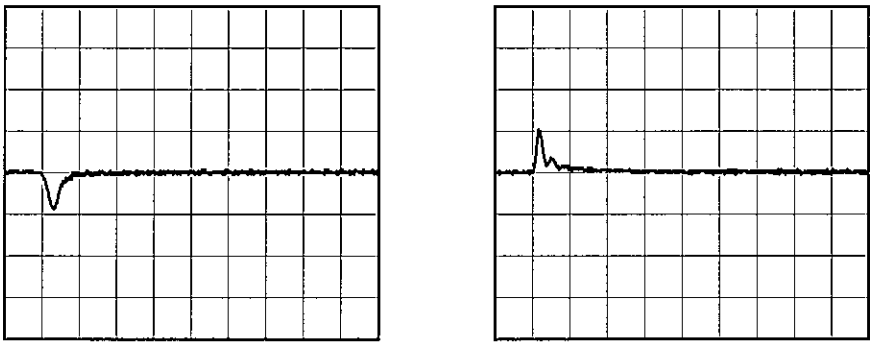
Min. Load (0A) ⟷
Load 100% (25A)



100mV/div

200 μ s/div 200 μ s/div

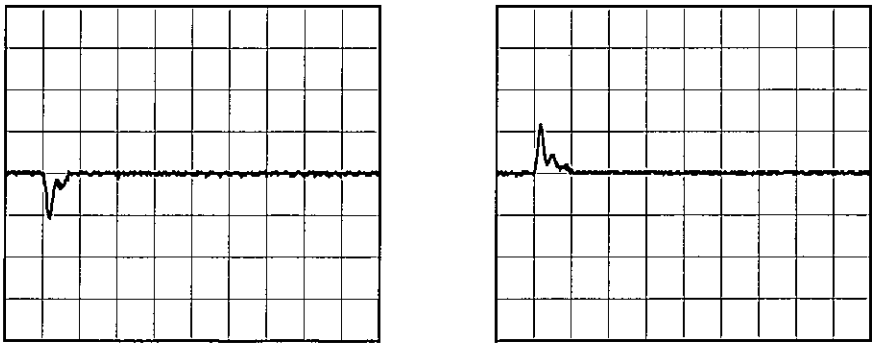
Min. Load (0A) ⟷
Load 50% (12.5A)



100mV/div

200 μ s/div 200 μ s/div

Load 50% (12.5A) ⟷
Load 100% (25A)



100mV/div

200 μ s/div 200 μ s/div

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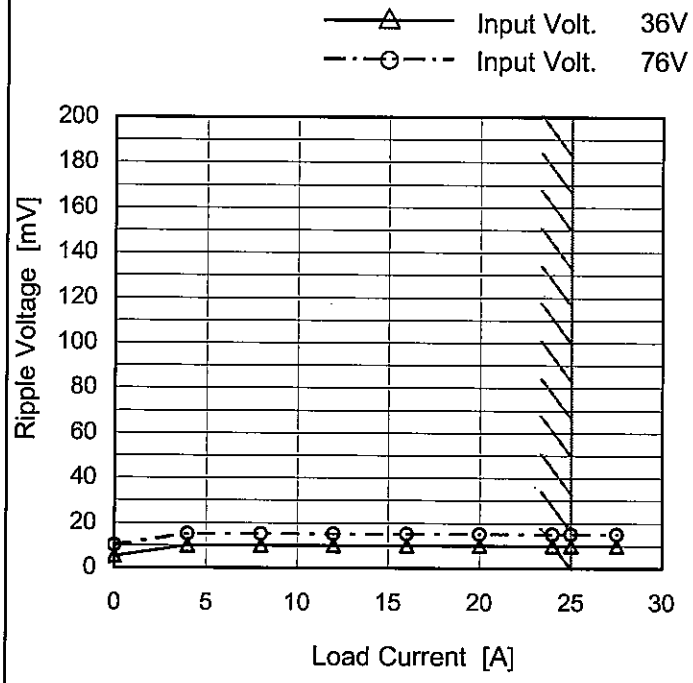
Model	CHS80483R3
Item	Ripple Voltage (by Load Current)
Object	+3.3V25A

Temperature 25°C
Testing Circuitry Figure B

1.Graph



Measured by 100 MHz Oscilloscope.
Ripple Voltage is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	5	10
4.0	10	15
8.0	10	15
12.0	10	15
16.0	10	15
20.0	10	15
24.0	10	15
25.0	10	15
27.5	10	15
--	-	-
--	-	-

T1: Due to AC Input Line
T2: Due to Switching

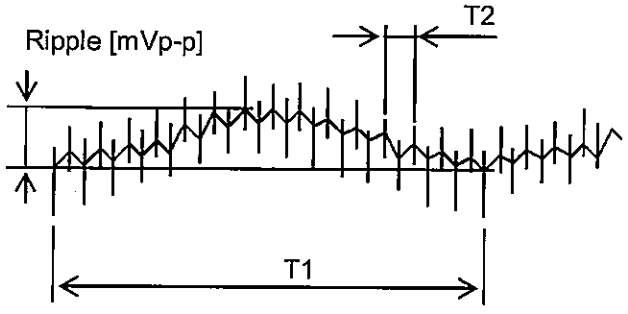


Fig. Complex Ripple Wave Form

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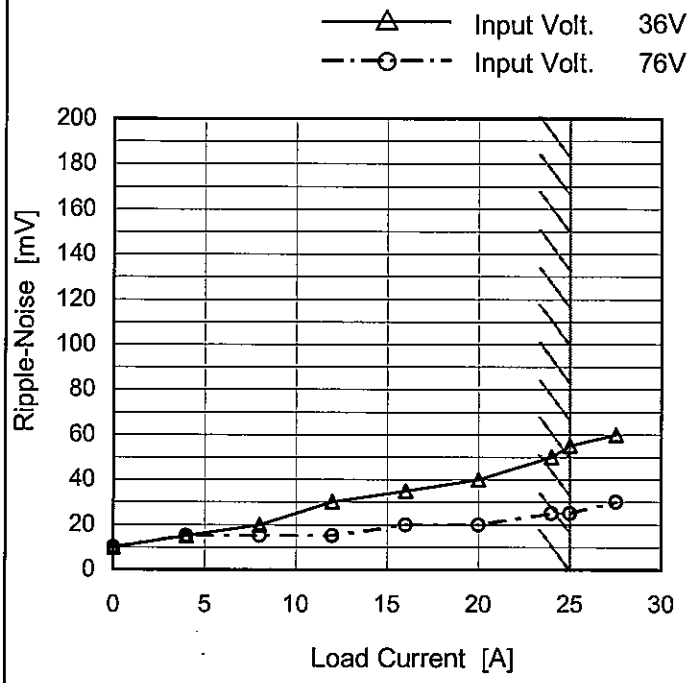
Model	CHS80483R3
Item	Ripple-Noise
Object	+3.3V25A

Temperature 25°C
Testing Circuitry Figure B

1.Graph



Measured by 100 MHz Oscilloscope.
Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

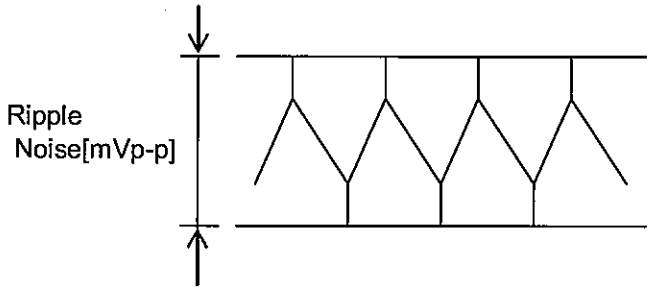


Fig.Complex Ripple Noise Wave Form

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	10	10
4.0	15	15
8.0	20	15
12.0	30	15
16.0	35	20
20.0	40	20
24.0	50	25
25.0	55	25
27.5	60	30
--	-	-
--	-	-

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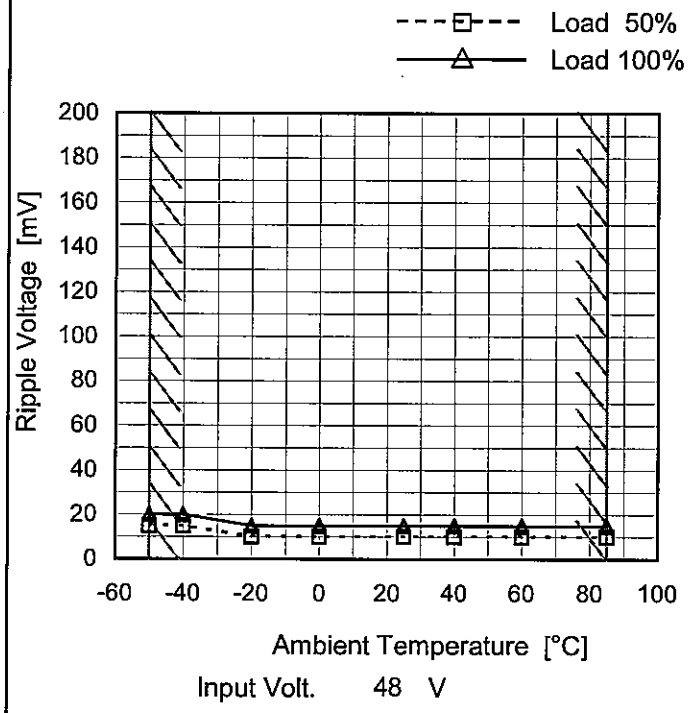
Model	CHS80483R3
Item	Ripple Voltage (by Ambient Temp.)
Object	+3.3V25A

Testing Circuitry Figure A

1.Graph



Input Volt. 48 V

Measured by 100 MHz Oscilloscope.

Note: Slanted line shows the range of the rated ambient temperature.

2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-50	15	20
-40	15	20
-20	10	15
0	10	15
25	10	15
40	10	15
60	10	15
85	10	15
--	-	-
--	-	-
--	-	-

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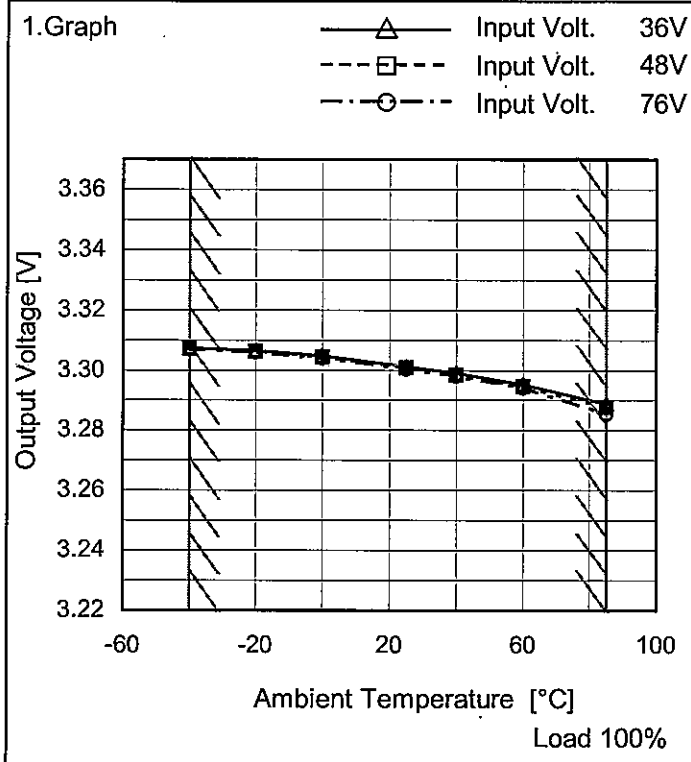
Model	CHS80483R3
Item	Ambient Temperature Drift
Object	+3.3V25A

Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated ambient temperature.

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-40	3.307	3.307	3.307
-20	3.307	3.306	3.306
0	3.305	3.304	3.304
25	3.301	3.301	3.300
40	3.299	3.298	3.298
60	3.295	3.295	3.294
85	3.289	3.288	3.286
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	CHS80483R3	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3.3V25A	

1.Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -40 - 85°C
Input Voltage : 36 - 76V
Load Current : 0 - 25A

* Output Voltage Accuracy = ±(Maximum of Output Voltage - Minimum of Output Voltage) / 2

$$\text{* Output Voltage Accuracy (Ration)} = \frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$$

2.Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-40	36	0	3.308	±11	±0.3
Minimum Voltage	85	76	25	3.286		

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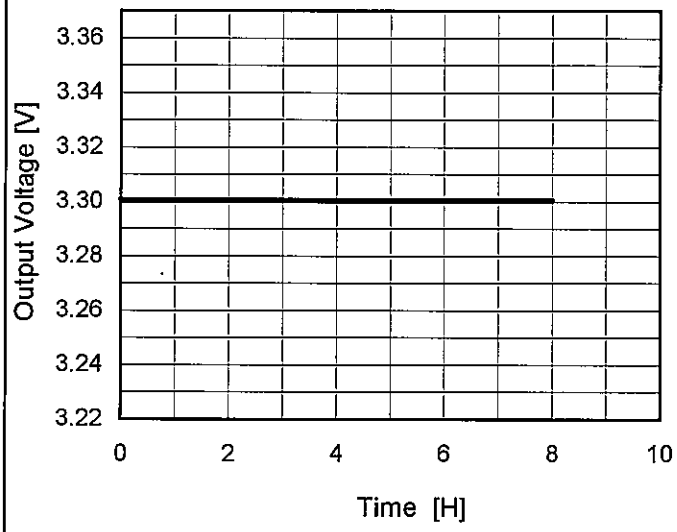
Model	CHS80483R3
Item	Time Lapse Drift
Object	+3.3V25A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 48V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	3.301
0.5	3.301
1.0	3.301
2.0	3.301
3.0	3.301
4.0	3.301
5.0	3.301
6.0	3.301
7.0	3.301
8.0	3.301

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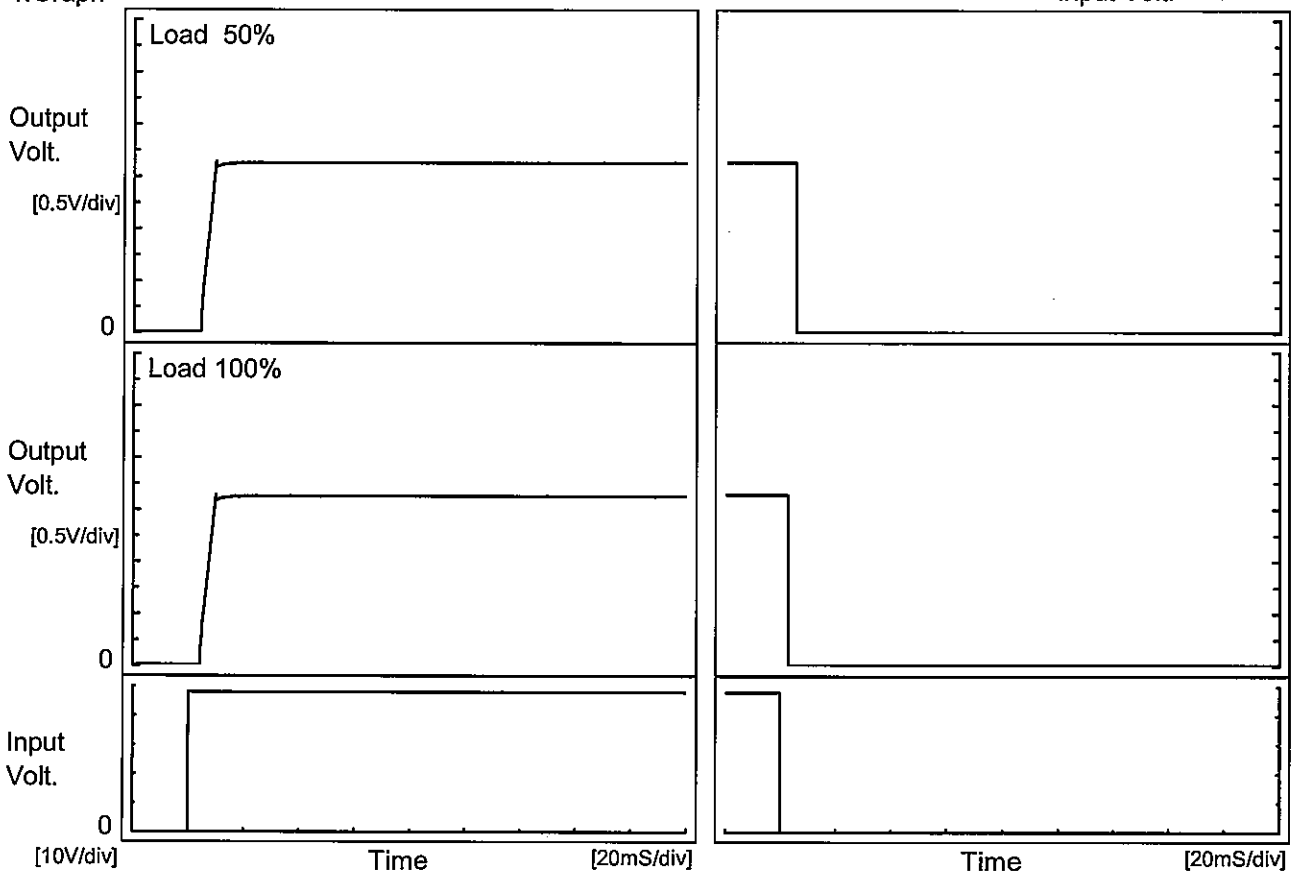
Model	CHS80483R3
Item	Rise and Fall Time
Object	+3.3V25A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

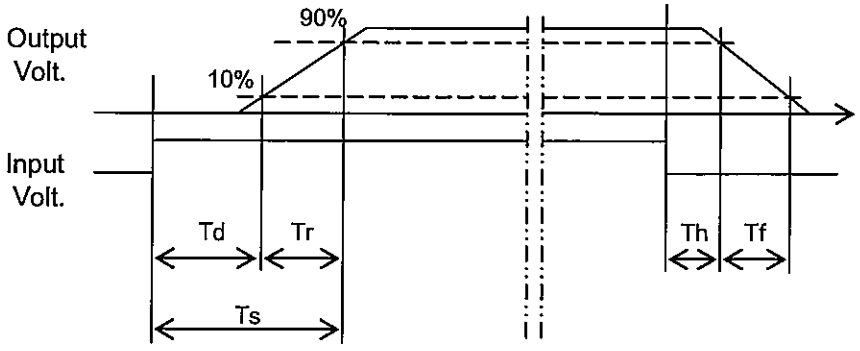
Input Volt. 48 V



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	4.3	4.7	9.0	5.3	0.1
100 %	4.3	4.9	9.2	2.7	0.1



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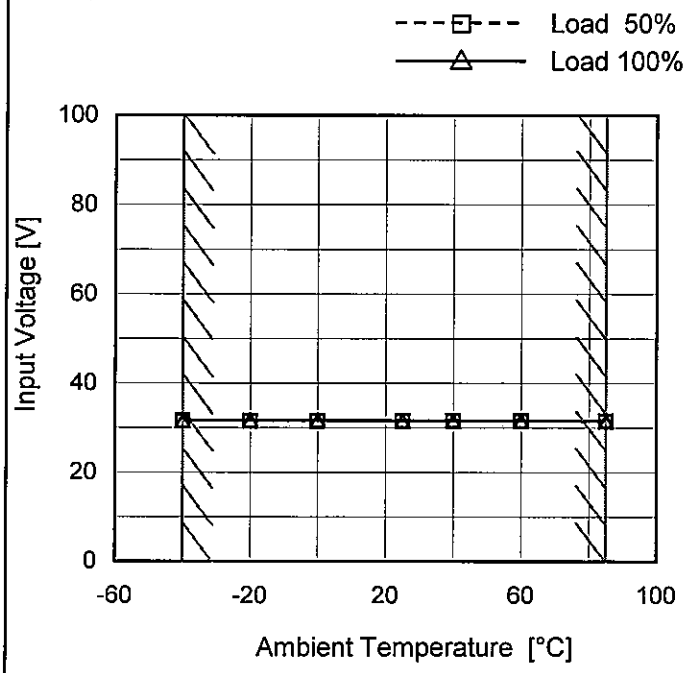
Model	CHS80483R3
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3.3V25A

Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated ambient temperature.

2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	31.6	31.7
-20	31.6	31.7
0	31.6	31.7
25	31.6	31.7
40	31.6	31.7
60	31.6	31.6
85	31.5	31.6
---	-	-
---	-	-
---	-	-
---	-	-

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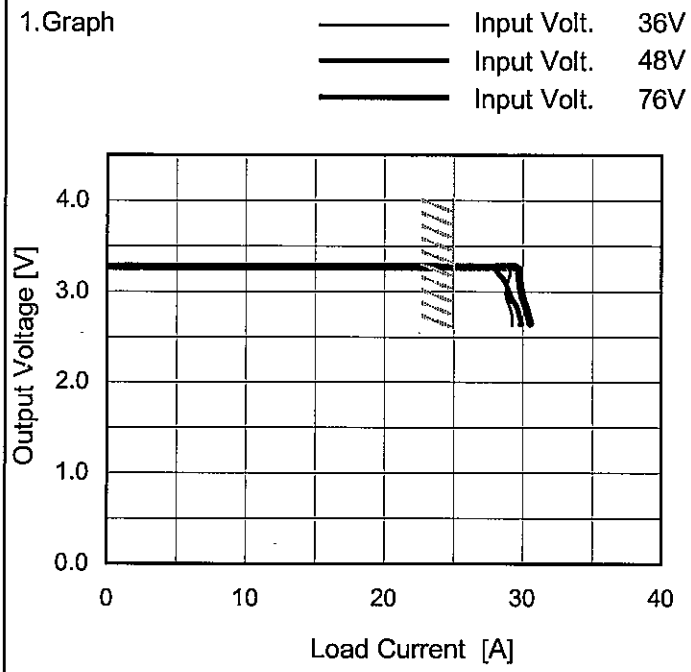
Model	CHS80483R3
Item	Overcurrent Protection
Object	+3.3V25A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

Intermittent operation occurs when the output voltage drops down 2.64V or less.

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
3.30	25.29	25.31	25.29
3.14	29.07	28.77	29.77
2.97	28.78	29.05	29.87
2.64	29.20	29.49	30.53
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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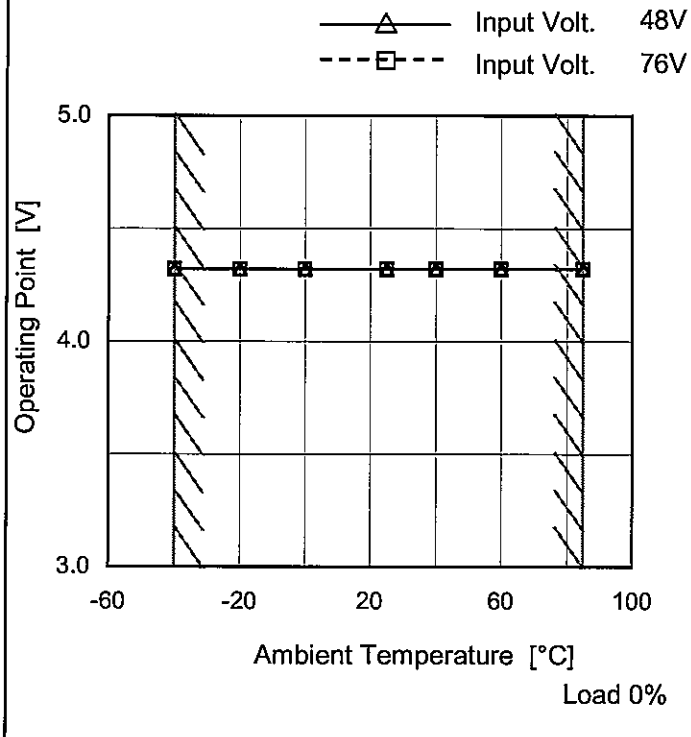
Model	CHS80483R3
Item	Overvoltage Protection
Object	+3.3V25A

Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated ambient temperature.

2.Values

Ambient Temperature [°C]	Operating Point [V]	
	Input Volt. 48[V]	Input Volt. 76[V]
-40	4.32	4.32
-20	4.32	4.32
0	4.32	4.32
25	4.32	4.32
40	4.32	4.32
60	4.32	4.32
85	4.32	4.32
--	-	-
--	-	-
--	-	-
--	-	-

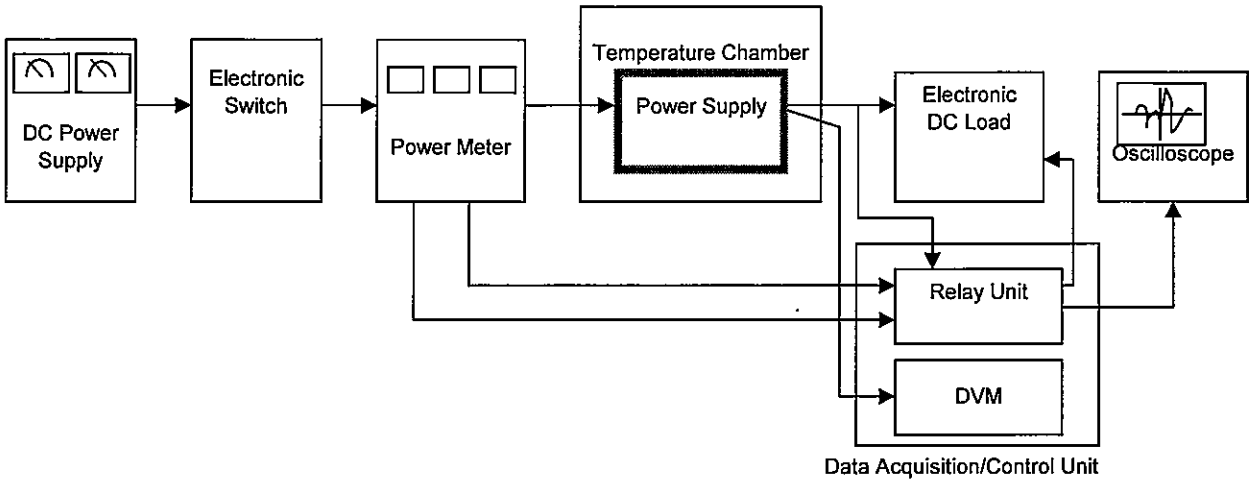


Figure A

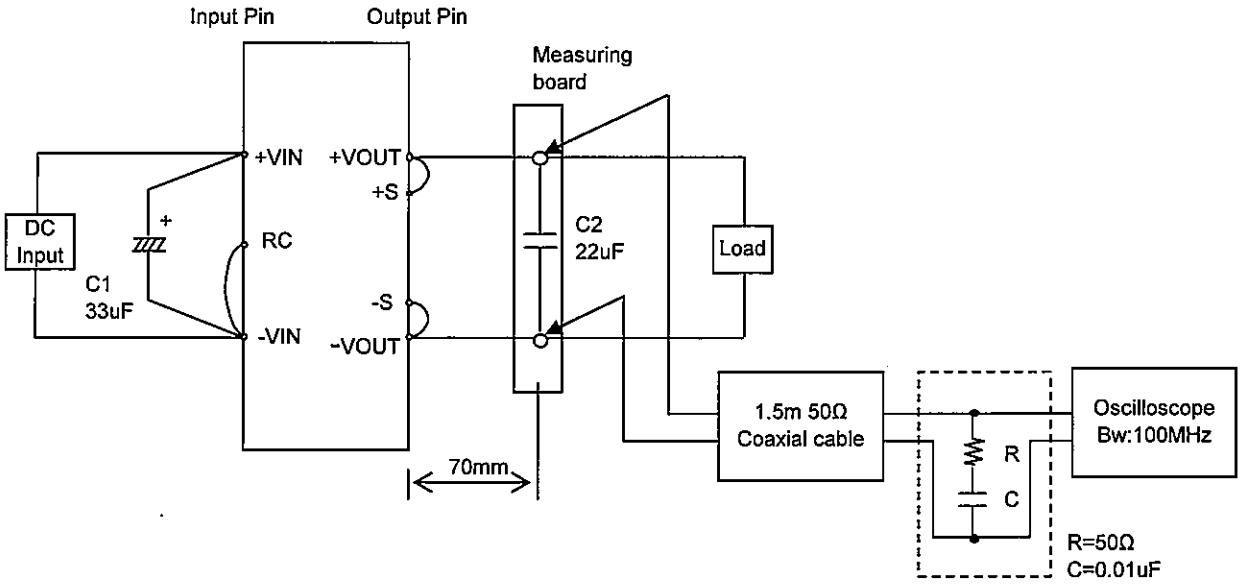


Figure B