COSEL

TEST DATA OF SUS10483R3
SUCS10483R3

Regulated DC Power Supply
Mar 25, 2005

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COSEL CO.,LTD.

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CONTENTS

(Final Page 18)

COSEL

Model	SUS10483R3/SUCS10483R3
Item	Input Current (by Input Voltage)
Object	

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

               —△—   Load 100%
               - - -□- - -   Load 50%
               —·—○—·—   Load 0%

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	0.000	0.000	0.000
8	0.000	0.000	0.000
16	0.000	0.000	0.000
24	0.001	0.001	0.001
29	0.013	0.181	0.359
33	0.013	0.160	0.311
36	0.013	0.148	0.284
40	0.013	0.134	0.256
48	0.013	0.111	0.214
60	0.013	0.092	0.174
70	0.014	0.082	0.152
76	0.014	0.077	0.141
80	0.014	0.075	0.135
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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Model	SUS10483R3/SUCS10483R3
Item	Input Current (by Load Current)
Object	————————

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

——△——	Input Volt.	36V
- - -◻- - -	Input Volt.	48V
—·—○—·—	Input Volt.	76V

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]
0.00	0.013	0.013	0.014
0.52	0.065	0.051	0.039
1.04	0.119	0.092	0.064
1.56	0.175	0.134	0.089
2.08	0.231	0.176	0.116
2.60	0.289	0.217	0.143
2.86	0.319	0.239	0.156
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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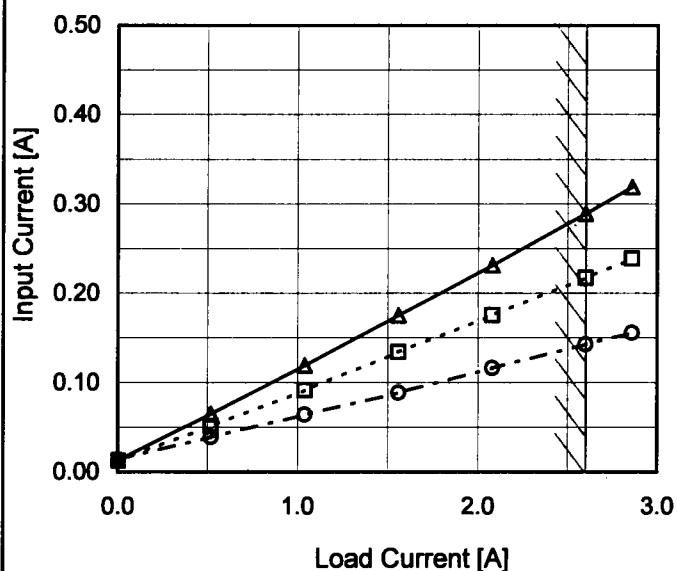| Model	SUS10483R3/SUCS10483R3
Item	Input Power (by Load Current)
Object	————————

Temperature　　　25°C
Testing Circuitry　Figure A

1.Graph

————△———— Input Volt.　36V
- - - ⊟- - - Input Volt.　48V
— · —O— · · Input Volt.　76V
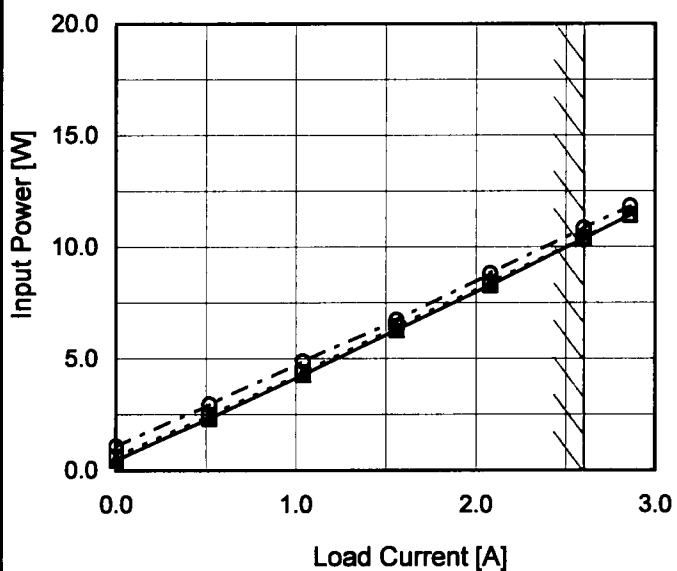
Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	0.46	0.61	1.07
0.52	2.33	2.46	2.96
1.04	4.28	4.38	4.88
1.56	6.29	6.43	6.74
2.08	8.30	8.40	8.83
2.60	10.37	10.40	10.85
2.86	11.44	11.43	11.84
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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Model	SUS10483R3/SUCS10483R3
Item	Efficiency (by Input Voltage)
Object	

Temperature　　　25°C
Testing Circuitry　　Figure A

1.Graph

- - -🔲- - -　Load　50%
———△———　Load 100%

Efficiency [%] vs Input Voltage [V]

Note: Slanted line shows the range of the rated
input voltage.

2.Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
33	81.9	82.4
36	81.3	82.6
40	80.6	82.7
48	80.8	82.4
55	80.2	81.9
60	78.7	81.3
70	75.3	80.1
76	73.5	79.2
80	72.5	78.6

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Model	SUS10483R3/SUCS10483R3
Item	Efficiency (by Load Current)
Object	

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

———△——— Input Volt. 36V
- - -◻- - - Input Volt. 48V
—·—◯—·· Input Volt. 76V

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]
0.00	-	-	-
0.52	74.4	70.5	58.8
1.04	80.8	78.9	70.9
1.56	82.2	80.4	76.7
2.08	82.9	81.9	78.0
2.60	82.7	82.5	79.2
2.86	82.4	82.5	79.8
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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Model	SUS10483R3/SUCS10483R3
Item	Line Regulation
Object	+3.3V2.6A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph
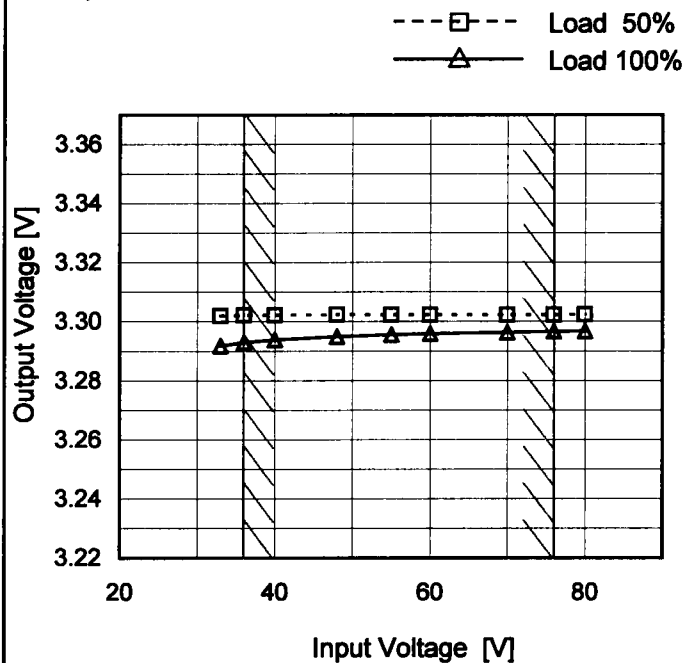
--- ⊟ --- Load 50%
—— △ —— Load 100%

Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
33	3.302	3.292
36	3.302	3.293
40	3.302	3.294
48	3.302	3.295
55	3.302	3.296
60	3.302	3.296
70	3.302	3.296
76	3.302	3.297
80	3.302	3.297

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Model	SUS10483R3/SUCS10483R3
Item	Load Regulation
Object	+3.3V2.6A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

———△——— Input Volt.   36V
- - -Ð- - - Input Volt.   48V
—·—O—·· Input Volt.   76V
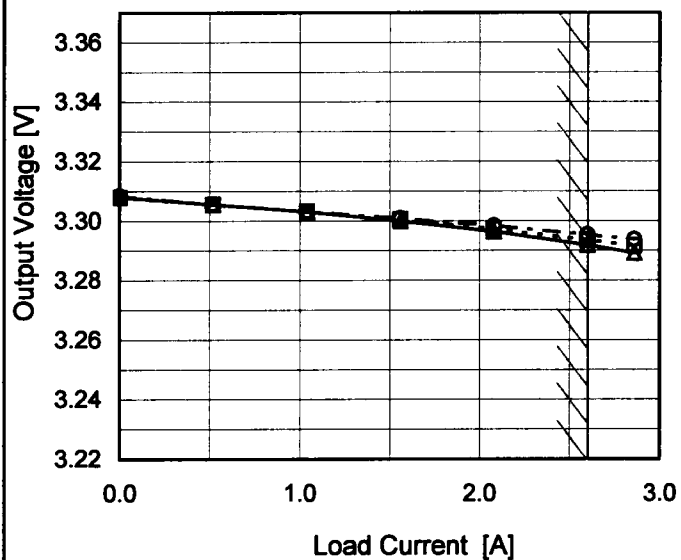
Load Current [A]

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]
0.00	3.308	3.308	3.309
0.52	3.306	3.306	3.306
1.04	3.303	3.303	3.303
1.56	3.300	3.301	3.301
2.08	3.296	3.297	3.298
2.60	3.292	3.294	3.295
2.86	3.289	3.292	3.294
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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Model	SUS10483R3/SUCS10483R3
Item	Dynamic Load Response
Object	+3.3V2.6A

Temperature 25°C
Testing Circuitry Figure A

Input Volt. 48 V
Cycle 100 mS

t_1、t_2 = 50µs

Load Current

t_1 t_2
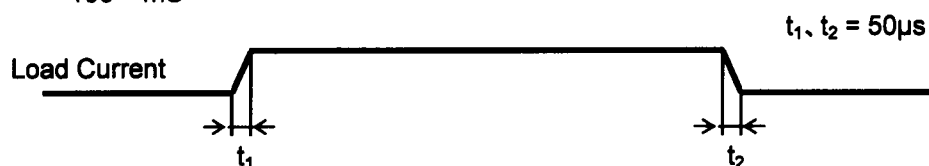
Min. Load (0A) ←→
Load 100% (2.6A)

200mV/div
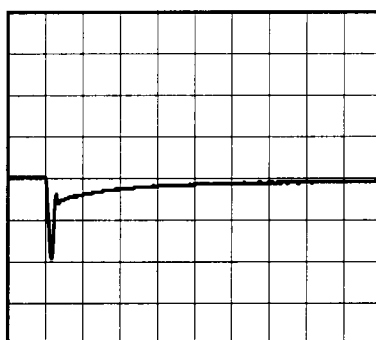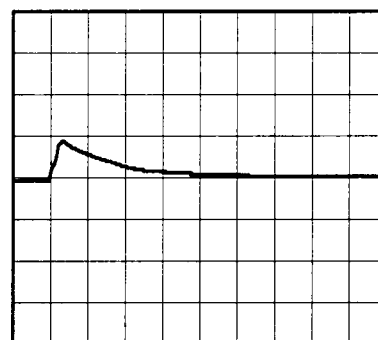
200µs/div   200µs/div

Min. Load (0A) ←→
Load 50% (1.3A)

200mV/div
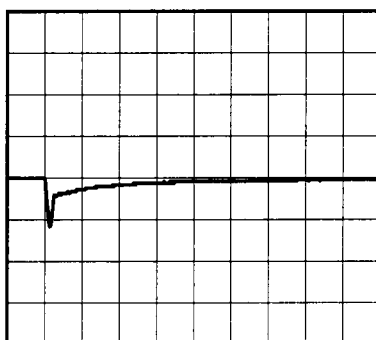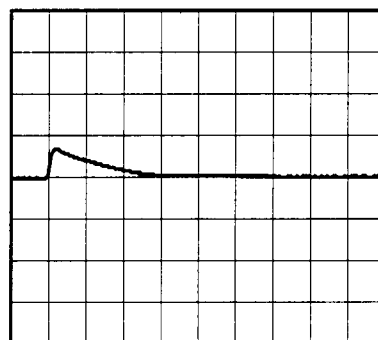
200µs/div   200µs/div

Load 50% (1.3A) ←→
Load 100% (2.6A)

200mV/div

200µs/div   200µs/div

BC-3810
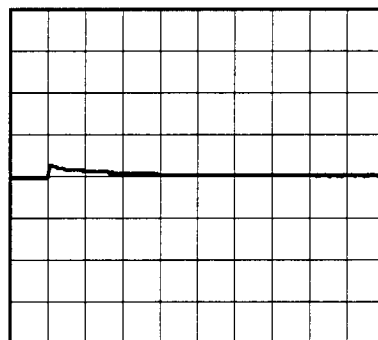
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Model	SUS10483R3/SUCS10483R3
Item	Ripple Voltage (by Load Current)
Object	+3.3V2.6A

Temperature   25°C
Testing Circuitry   Figure B

1.Graph

———△———   Input Volt.   36V
— · —O— · ·   Input Volt.   76V
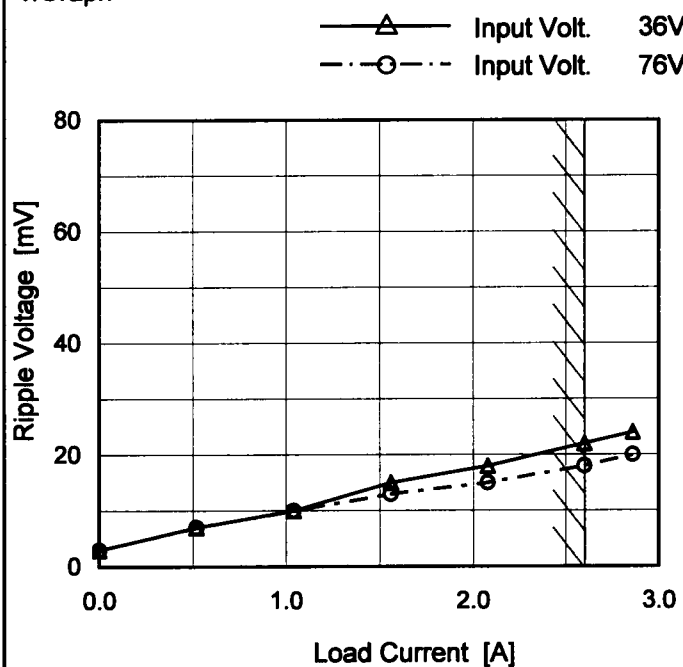
Load Current [A]

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.

Ripple [mVp-p]
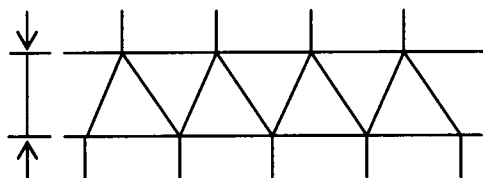
Fig.Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	3	3
0.52	7	7
1.04	10	10
1.56	15	13
2.08	18	15
2.60	22	18
2.86	24	20
—	-	-
—	-	-
—	-	-
—	-	-

BC-3810

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Model	SUS10483R3/SUCS10483R3
Item	Ripple-Noise
Object	+3.3V2.6A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

—△— Input Volt. 36V
—·—○—·· Input Volt. 76V

Load Current [A]

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.

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	6	9
0.52	19	18
1.04	26	25
1.56	34	31
2.08	40	35
2.60	48	42
2.86	54	44
—	-	-
—	-	-
—	-	-
—	-	-

Ripple
Noise[mVp-p]

Fig.Complex Ripple Noise Wave Form

BC-3810

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Model	SUS10483R3/SUCS10483R3
Item	Ripple Voltage (by Ambient Temp.)
Object	+3.3V2.6A

Testing Circuitry   Figure B

1.Graph

- - - ◘ - - -   Load 50%
———△———   Load 100%

Ripple Voltage [mV] vs Ambient Temperature [°C]

Input Volt.   48V
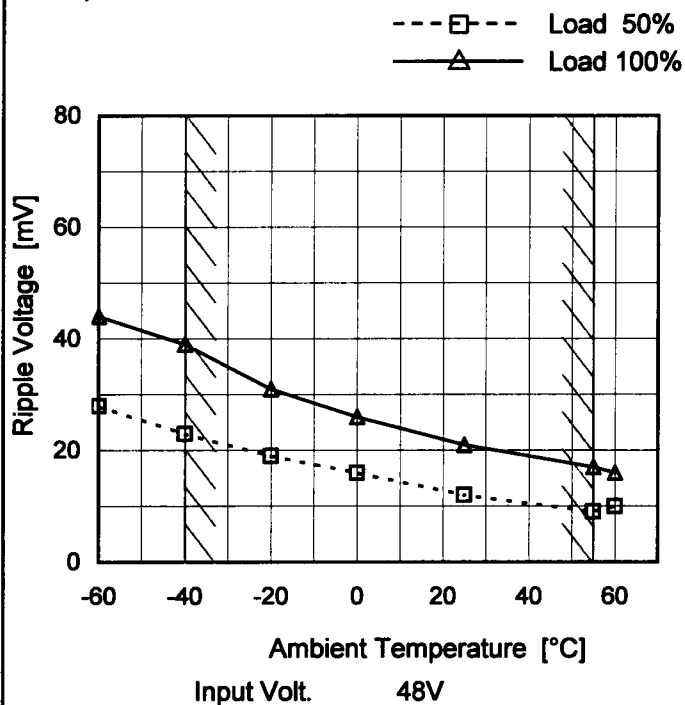
Measured by 100 MHz Oscilloscope.
Note: Slanted line shows the range of the rated
ambient temperature.

2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	28	44
-40	23	39
-20	19	31
0	16	26
25	12	21
55	9	17
60	10	16
—	-	-
—	-	-
—	-	-
—	-	-

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Model	SUS10483R3/SUCS10483R3
Item	Ambient Temperature Drift
Object	+3.3V2.6A

Testing Circuitry   Figure A

1.Graph

—△— Input Volt. 36V
--- ⊟ --- Input Volt. 48V
— ·· ⊖ — ·· Input Volt. 76V

Output Voltage [V]

Ambient Temperature [°C]

Load 100%
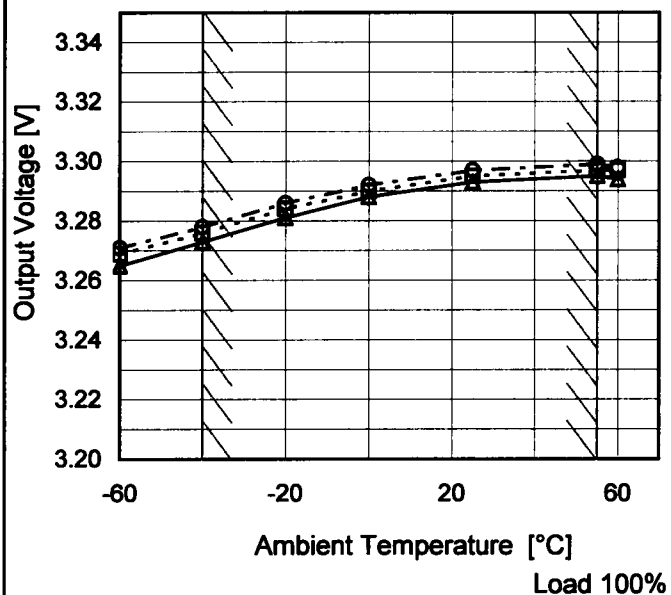
Note: Slanted line shows the range of the rated
ambient temperature.

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-60	3.265	3.269	3.271
-40	3.273	3.276	3.278
-20	3.281	3.284	3.286
0	3.288	3.290	3.292
25	3.293	3.295	3.297
55	3.295	3.297	3.299
60	3.294	3.297	3.298
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

BC-3810

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Model	SUS10483R3/SUCS10483R3	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3.3V2.6A	

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 - 55°C

Input Voltage   : 36 - 76V

Load Current   : 0 - 2.6A

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

* Output Voltage Accuracy (Ration) = $\dfrac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}}$ × 100

2.Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	76	0	3.312	±20	±0.6
Minimum Voltage	-40	36	2.6	3.273		

BC-3810

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Model	SUS10483R3/SUCS10483R3
Item	Time Lapse Drift
Object	+3.3V2.6A

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	3.300
0.5	3.302
1.0	3.302
2.0	3.302
3.0	3.302
4.0	3.302
5.0	3.302
6.0	3.302
7.0	3.302
8.0	3.302

BC-3810

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Model	SUS10483R3/SUCS10483R3
Item	Rise and Fall Time
Object	+3.3V2.6A

Temperature	25°C
Testing Circuitry	Figure A

1.Graph

Input Volt.　48 V

Load 50%

Output Volt.
[0.5V/div]

0

Load 100%

Output Volt.
[0.5V/div]

0

Input Volt.

0

[10V/div]　　　Time　　　[10mS/div]　　　Time　　　[5mS/div]

2.Values

[mS]

Load\Time	Td	Tr	Ts	Th	Tf
50 %	7.6	0.9	8.5	0.2	0.4
100 %	7.5	0.9	8.4	0.1	0.2

Output Volt.

90%

10%

Input Volt.

Td　Tr

Th　Tf

Ts

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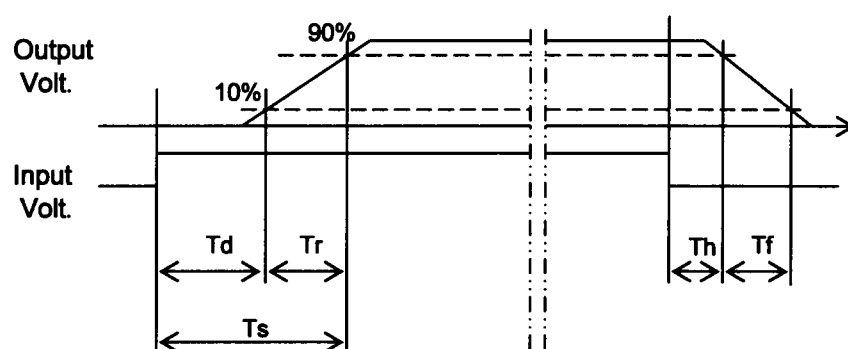
Model	SUS10483R3/SUCS10483R3
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3.3V2.6A

Testing Circuitry   Figure A

1.Graph

- - - ⊟ - - - Load 50%
———△——— Load 100%

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

2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	26.6	26.8
-40	26.9	26.8
-20	27.0	27.0
0	27.3	27.2
25	27.4	27.4
55	27.6	27.8
60	27.8	27.8
–	-	-
–	-	-
–	-	-
–	-	-

BC-3810

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Model	SUS10483R3/SUCS10483R3
Item	Overcurrent Protection
Object	+3.3V2.6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

——————— Input Volt. 36V
——————— Input Volt. 48V
——————— Input Volt. 76V

Load Current [A]

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]
3.30	3.05	3.08	3.12
3.14	3.75	4.05	4.20
2.97	3.89	4.23	4.45
2.64	4.25	4.62	4.73
2.31	4.50	4.85	4.80
1.98	4.60	4.91	4.72
1.65	4.62	4.91	4.59
1.32	4.65	4.90	4.36
0.99	4.79	4.97	3.81
0.66	5.09	4.73	3.34
0.33	4.96	4.32	2.83
0.00	4.43	3.86	2.70

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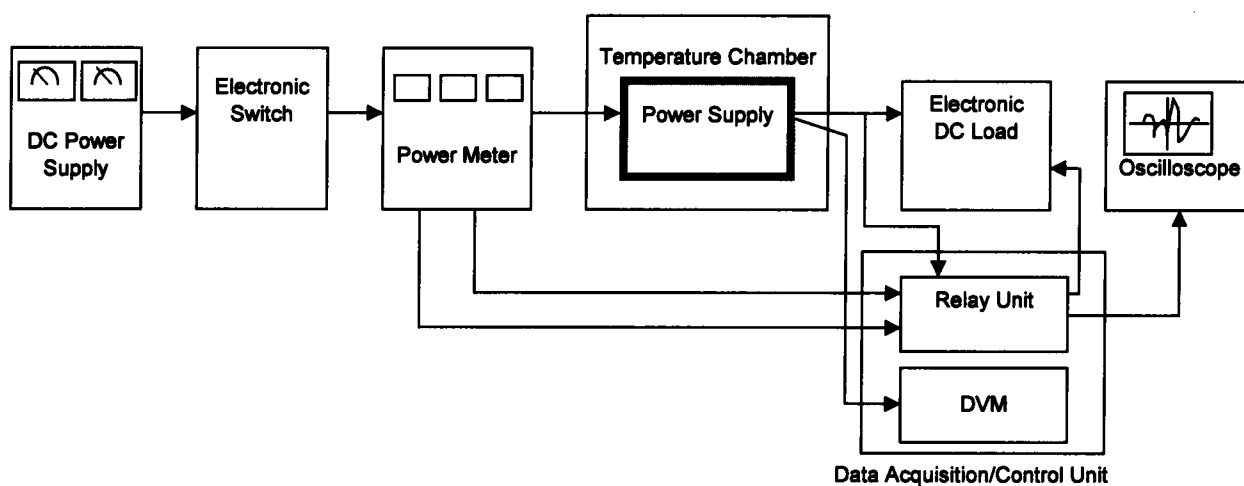

Figure A

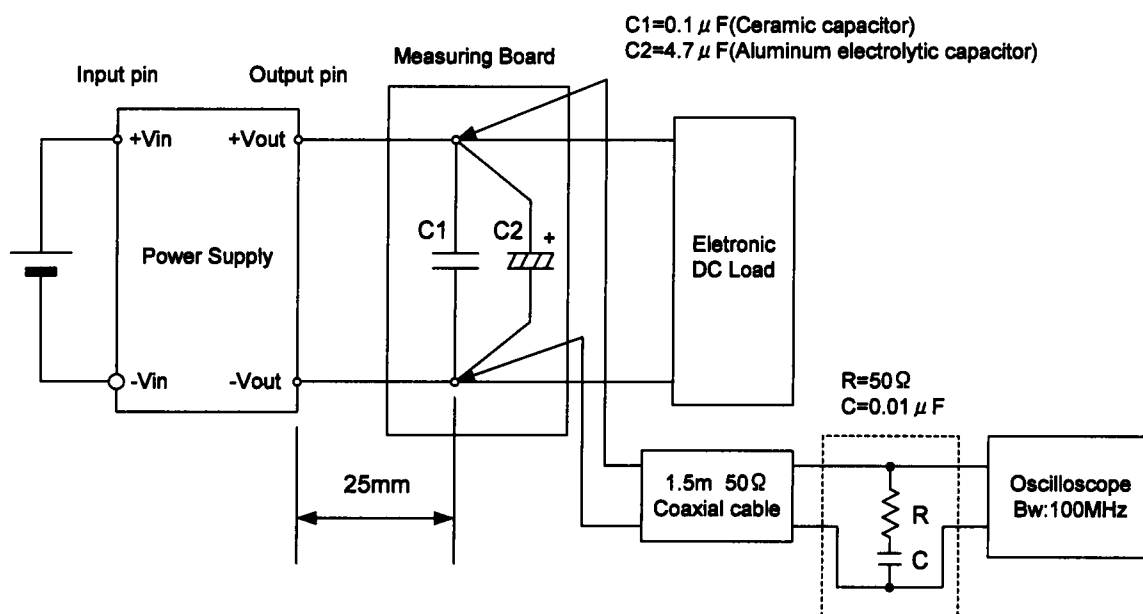C1=0.1 μF(Ceramic capacitor)
C2=4.7 μF(Aluminum electrolytic capacitor)

Figure B (Ripple and Ripple noise Characteristic)

BC-3810