COSEL

参考資料

TEST DATA OF SNDHS50B05

Regulated DC Power Supply
June 30, 2011

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COSEL CO.,LTD.

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Object	————————

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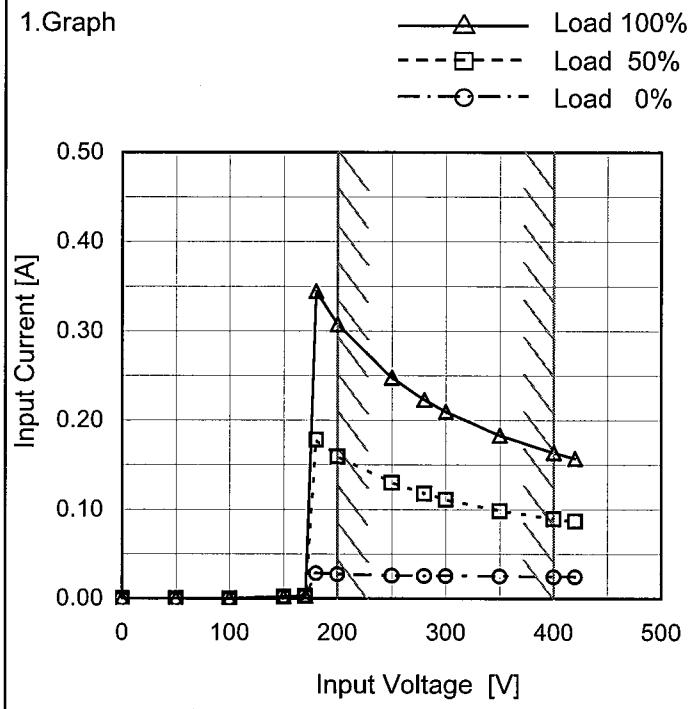


Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
50	0.000	0.000	0.000
100	0.000	0.000	0.000
150	0.002	0.002	0.002
170	0.003	0.003	0.003
180	0.028	0.178	0.345
200	0.027	0.159	0.308
250	0.026	0.130	0.248
280	0.026	0.118	0.223
300	0.025	0.111	0.210
350	0.025	0.098	0.183
400	0.025	0.089	0.164
420	0.025	0.087	0.158
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

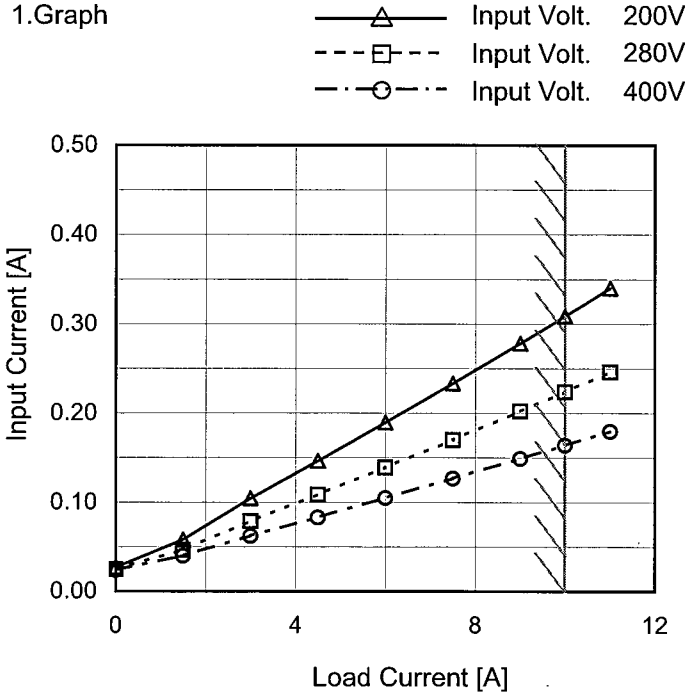
BC-10580

COSEL

Model	SNDHS50B05
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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.0	0.027	0.025	0.024
1.5	0.058	0.046	0.040
3.0	0.104	0.079	0.062
4.5	0.147	0.109	0.083
6.0	0.190	0.139	0.105
7.5	0.234	0.170	0.127
9.0	0.279	0.202	0.149
10.0	0.309	0.224	0.164
11.0	0.340	0.246	0.180
--	-	-	-
--	-	-	-

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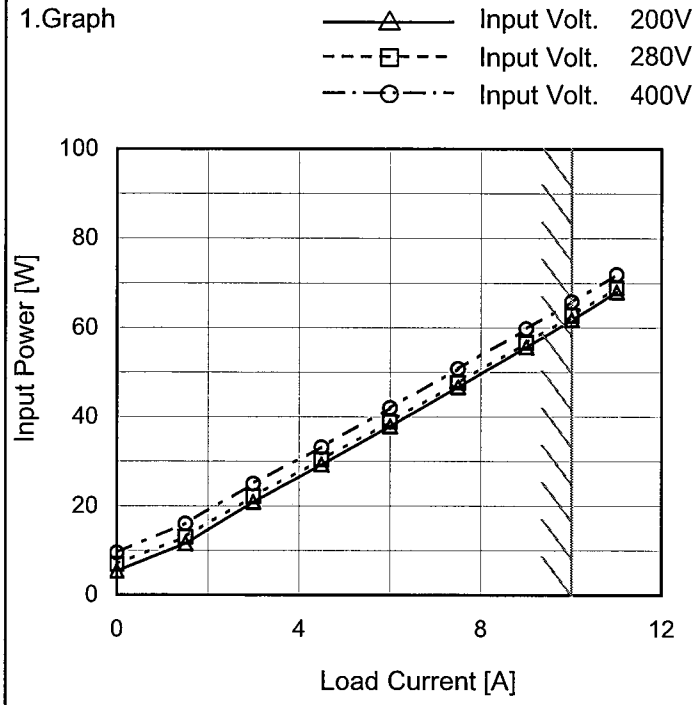
Model	SNDHS50B05
Item	Input Power (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

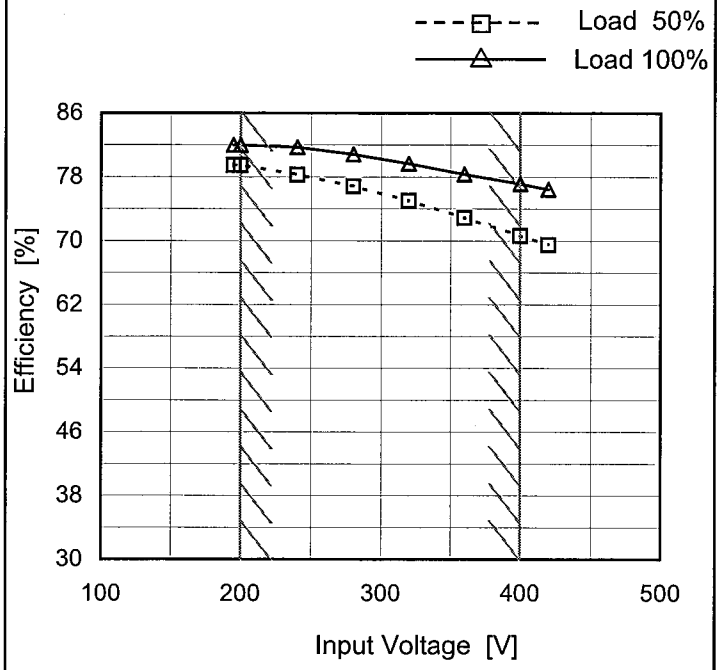
Load Current [A]	Input Power [W]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.0	5.40	6.90	9.50
1.5	11.60	13.00	16.00
3.0	20.90	22.10	25.00
4.5	29.30	30.40	33.20
6.0	37.90	38.90	42.00
7.5	46.70	47.60	50.80
9.0	55.70	56.60	59.80
10.0	61.80	62.70	65.80
11.0	68.00	68.90	71.90
--	-	-	-
--	-	-	-

COSEL

Model	SNDHS50B05
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%
195	79.5	82.0
200	79.5	82.0
240	78.3	81.8
280	76.8	80.8
320	75.0	79.7
360	72.9	78.3
400	70.6	77.2
420	69.5	76.5
--	-	-

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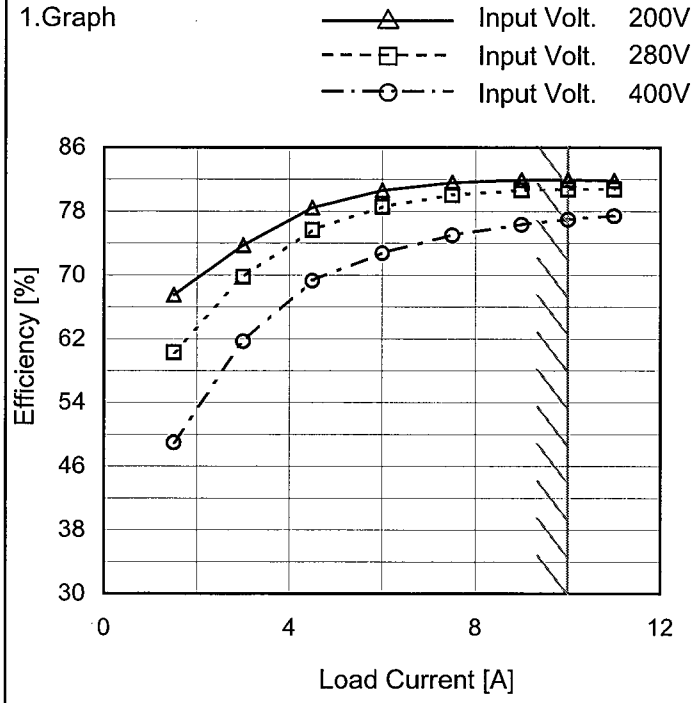
Model	SNDHS50B05
Item	Efficiency (by Load Current)
Object	————————

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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.0	-	-	-
1.5	67.5	60.3	49.0
3.0	73.8	69.8	61.7
4.5	78.5	75.7	69.3
6.0	80.6	78.6	72.8
7.5	81.6	80.1	75.0
9.0	81.9	80.6	76.3
10.0	82.0	80.8	77.0
11.0	81.8	80.8	77.4
--	-	-	-
--	-	-	-

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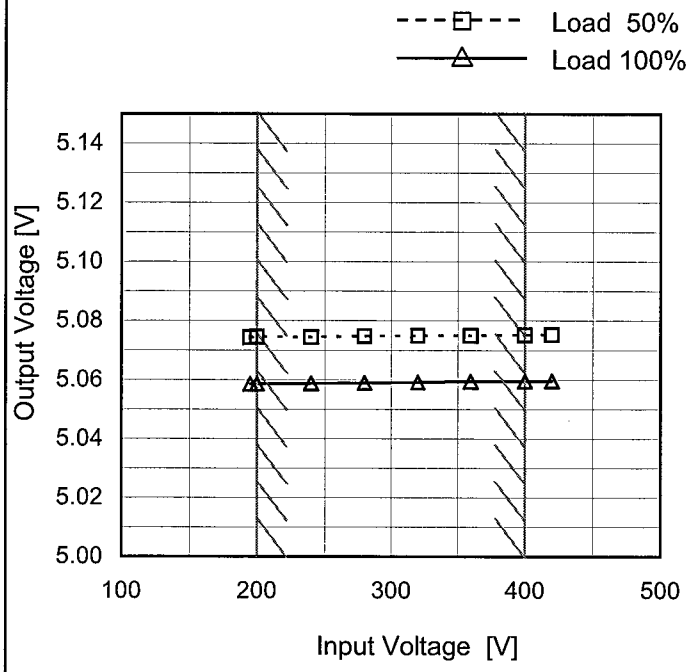
Model	SNDHS50B05
Item	Line Regulation
Object	+5V10A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

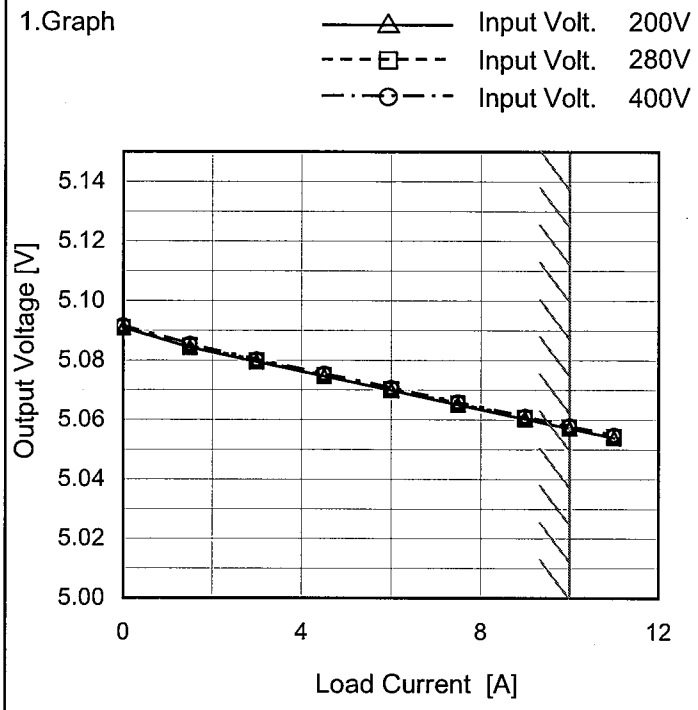
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
195	5.074	5.059
200	5.075	5.059
240	5.074	5.059
280	5.075	5.059
320	5.075	5.059
360	5.075	5.059
400	5.075	5.060
420	5.075	5.060
--	-	-

COSEL

Model	SNDHS50B05
Item	Load Regulation
Object	+5V10A

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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
0.0	5.091	5.091	5.092
1.5	5.084	5.085	5.086
3.0	5.080	5.080	5.080
4.5	5.075	5.075	5.076
6.0	5.070	5.070	5.071
7.5	5.065	5.066	5.066
9.0	5.060	5.061	5.061
10.0	5.057	5.058	5.058
11.0	5.054	5.054	5.055
--	-	-	-
--	-	-	-

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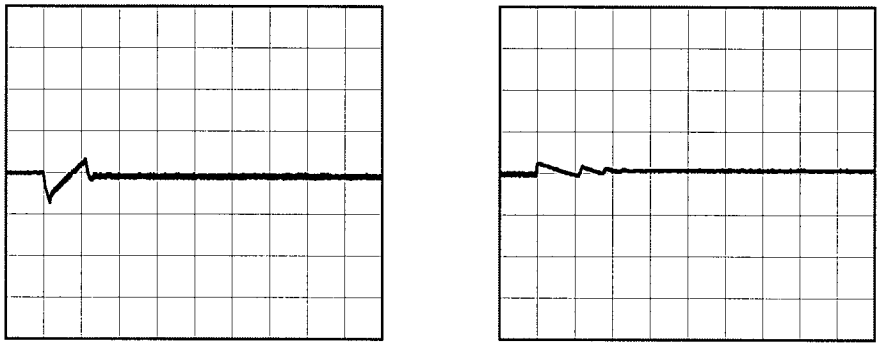
Model	SNDHS50B05
Item	Dynamic Load Response
Object	+5V10A

Temperature 25°C
Testing Circuitry Figure A

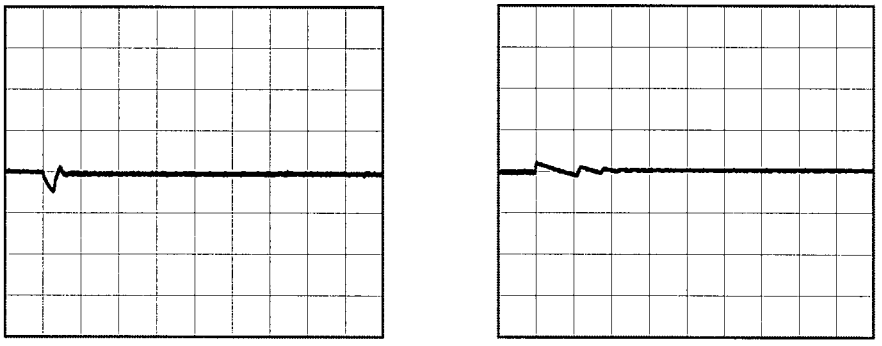
Input Volt. 280 V
Cycle 1000 ms

Load Current
10A/50 μs

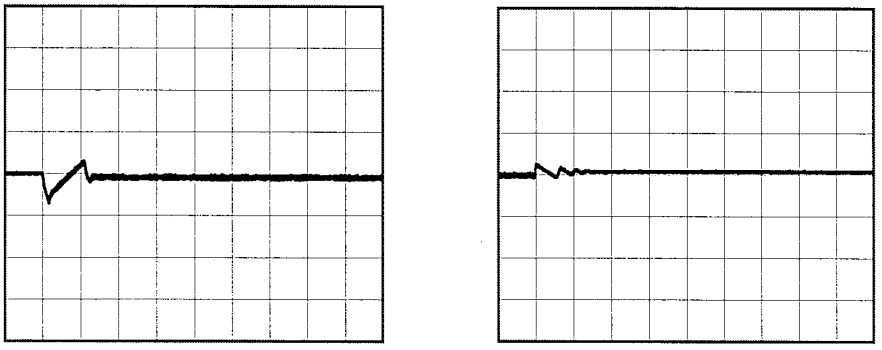
Min. Load (0A) ⟷
Load 100% (10A)



Min. Load (0A) ⟷
Load 50% (5A)



Load 10% (1A) ⟷
Load 100% (10A)



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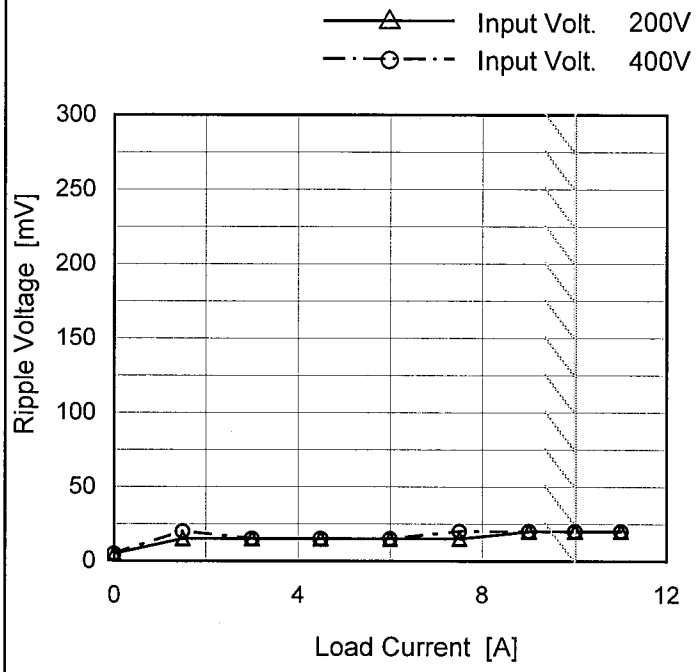
Model	SNDHS50B05
Item	Ripple Voltage (by Load Current)
Object	+5V10A

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.

Ripple [mVp-p]

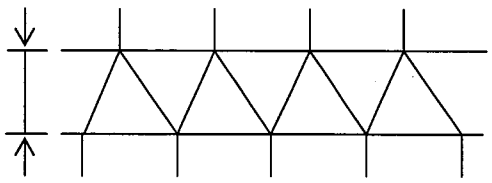


Fig.Complex Ripple Wave Form

2.Values

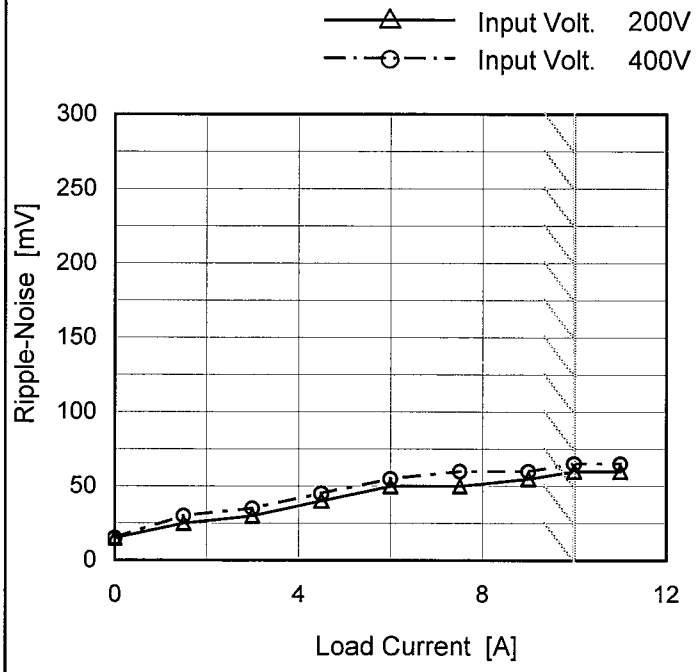
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 200 [V]	Input Volt. 400 [V]
0.0	5	5
1.5	15	20
3.0	15	15
4.5	15	15
6.0	15	15
7.5	15	20
9.0	20	20
10.0	20	20
11.0	20	20
--	-	-
--	-	-

COSEL

Model	SNDHS50B05
Item	Ripple-Noise
Object	+5V10A

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.

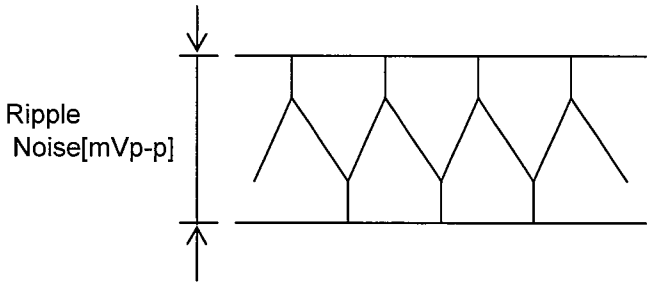


Fig.Complex Ripple Noise Wave Form

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 200 [V]	Input Volt. 400 [V]
0.0	15	15
1.5	25	30
3.0	30	35
4.5	40	45
6.0	50	55
7.5	50	60
9.0	55	60
10.0	60	65
11.0	60	65
--	-	-
--	-	-

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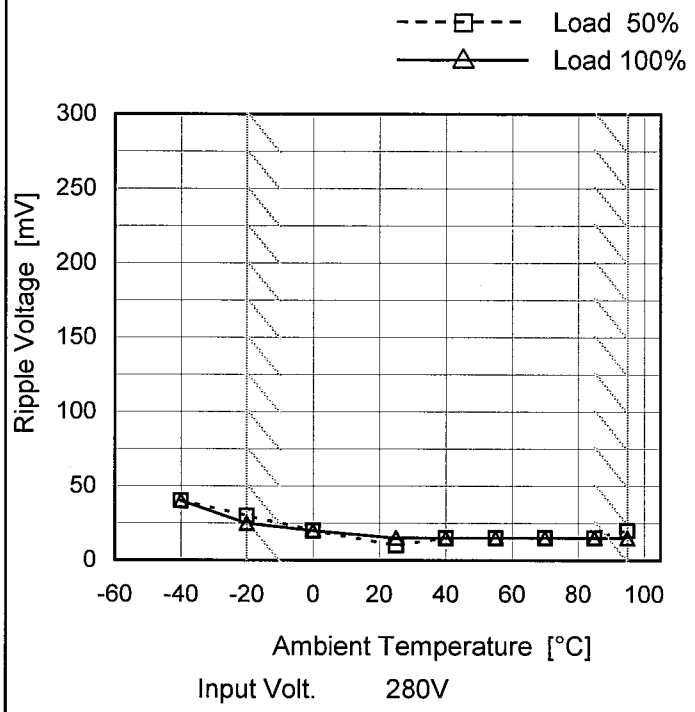
Model	SNDHS50B05
Item	Ripple Voltage (by Ambient Temp.)
Object	+5V10A

Testing Circuitry Figure B

1.Graph



Input Volt. 280V

Measured by 100 MHz Oscilloscope.

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

2.Values

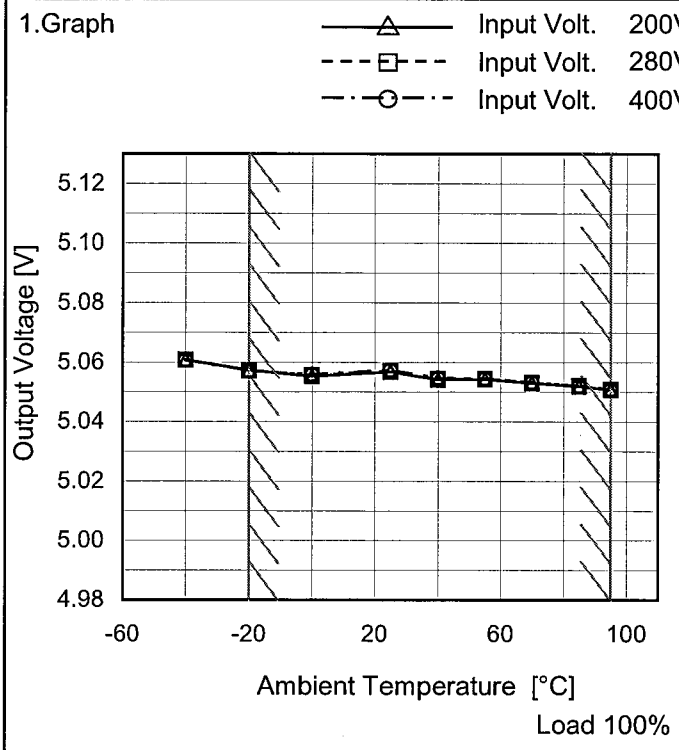
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	40	40
-20	30	25
0	20	20
25	10	15
40	15	15
55	15	15
70	15	15
85	15	15
95	20	15
--	-	-
--	-	-

COSEL

Model	SNDHS50B05
Item	Ambient Temperature Drift
Object	+5V10A

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. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
-40	5.061	5.061	5.061
-20	5.057	5.057	5.057
0	5.055	5.056	5.056
25	5.057	5.057	5.057
40	5.054	5.055	5.055
55	5.054	5.055	5.055
70	5.053	5.053	5.053
85	5.052	5.052	5.052
95	5.051	5.051	5.051
--	-	-	-
--	-	-	-

COSEL

Model	SNDHS50B05	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+5V10A	

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 : -20 - 95°C
Input Voltage : 200 - 400V
Load Current : 0 - 10A

* 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

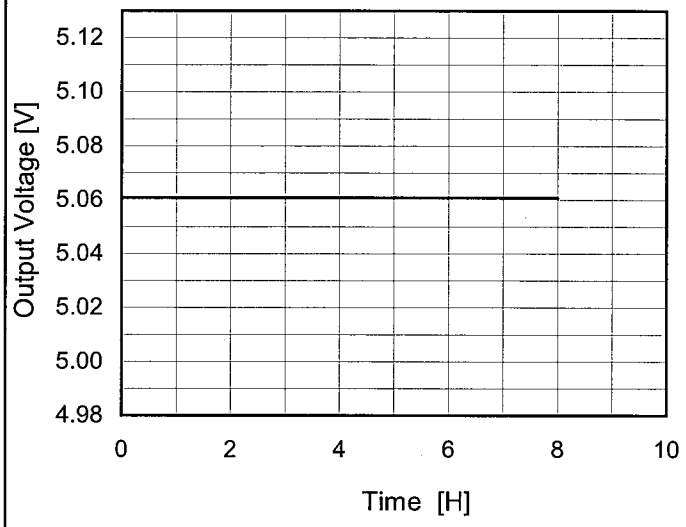
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	95	280	0	5.093	±21	±0.4
Minimum Voltage	95	200	10	5.051		

COSEL

Model	SNDHS50B05
Item	Time Lapse Drift
Object	+5V10A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 280V
Load 100%

2.Values

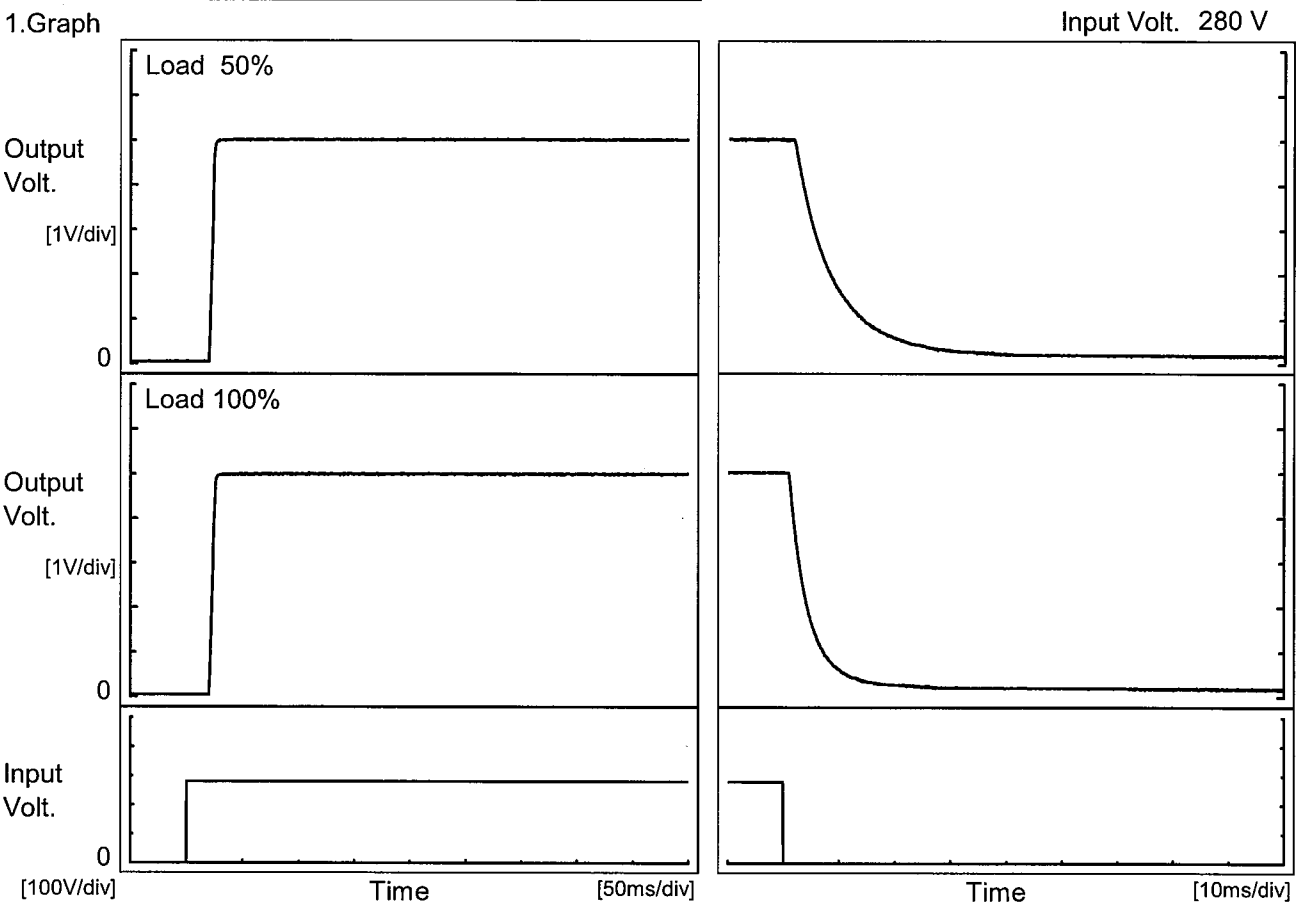
Time since start [H]	Output Voltage [V]
0.0	5.061
0.5	5.061
1.0	5.061
2.0	5.061
3.0	5.061
4.0	5.061
5.0	5.061
6.0	5.061
7.0	5.061
8.0	5.061

COSEL

Model	SNDHS50B05
Item	Rise and Fall Time
Object	+5V10A

Temperature 25°C
Testing Circuitry Figure A

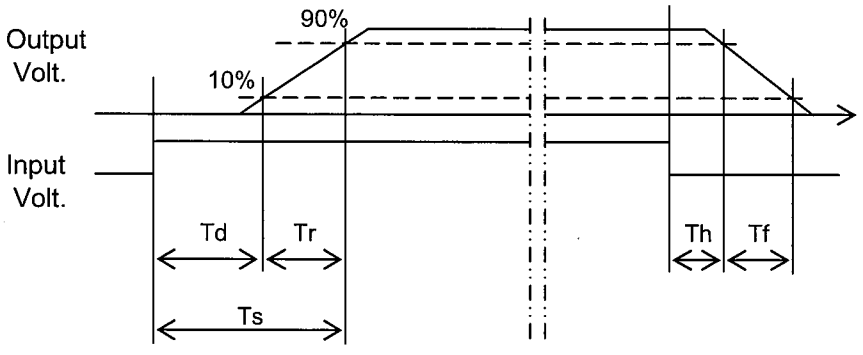
1.Graph



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	21.0	3.8	24.8	2.6	18.7
100 %	21.3	4.5	25.8	1.3	9.8

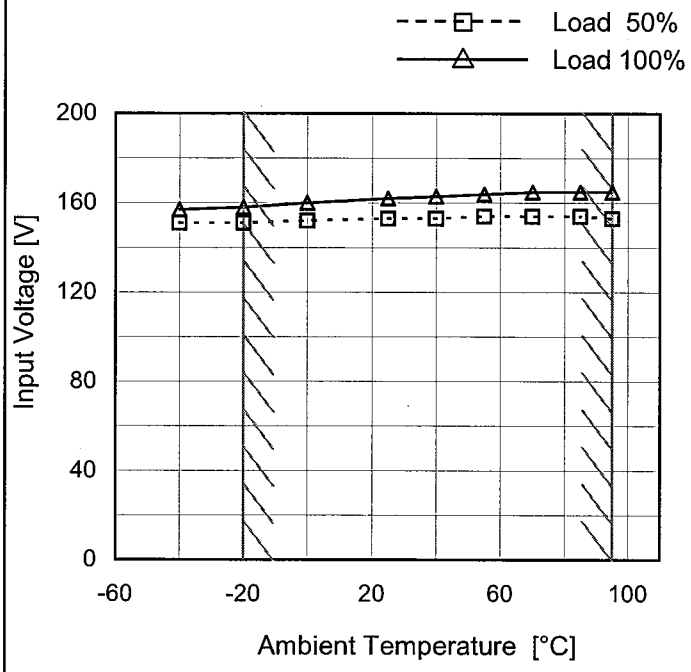


COSEL

Model	SNDHS50B05
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V10A

Testing Circuitry Figure A

1.Graph



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

2.Values

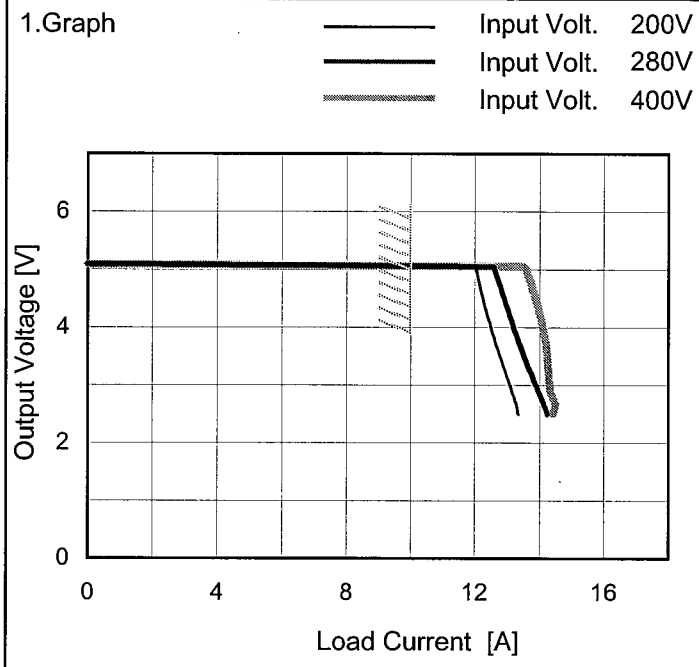
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	151	157
-20	151	158
0	152	160
25	153	162
40	153	163
55	154	164
70	154	165
85	154	165
95	153	165
--	-	-
--	-	-

COSEL

Model	SNDHS50B05
Item	Overcurrent Protection
Object	+5V10A

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 is from 2.5V to 0V.

2.Values

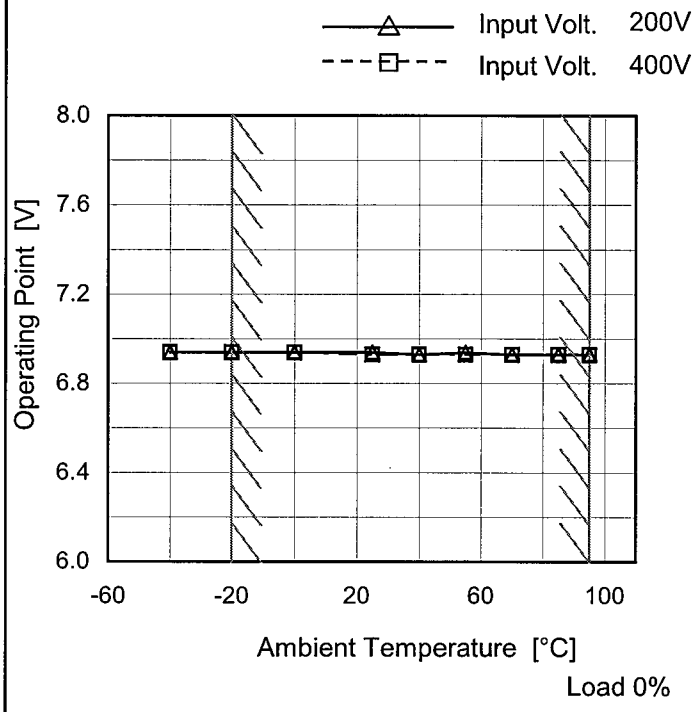
Output Voltage [V]	Load Current [A]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
4.75	12.15	12.75	13.75
4.50	12.23	12.89	13.85
4.00	12.49	13.20	14.10
3.50	12.76	13.51	14.24
3.00	13.07	13.86	14.32
2.50	13.36	14.25	14.43
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SNDHS50B05
Item	Overvoltage Protection
Object	+5V10A

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. 200[V]	Input Volt. 400[V]
-40	6.94	6.94
-20	6.94	6.94
0	6.94	6.94
25	6.94	6.93
40	6.93	6.93
55	6.94	6.93
70	6.93	6.93
85	6.93	6.93
95	6.93	6.93
--	-	-
--	-	-

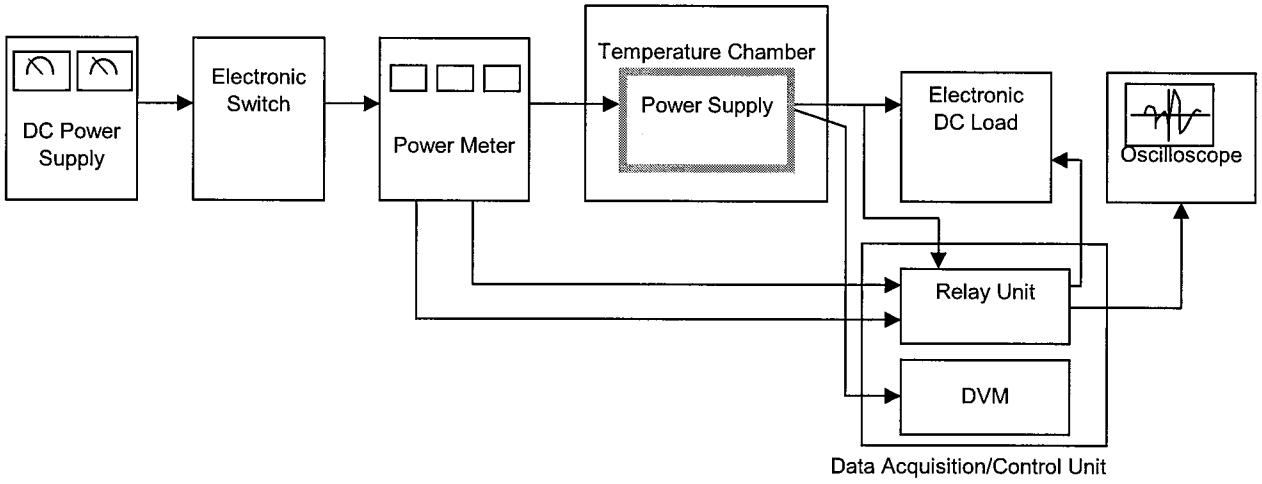


Figure A

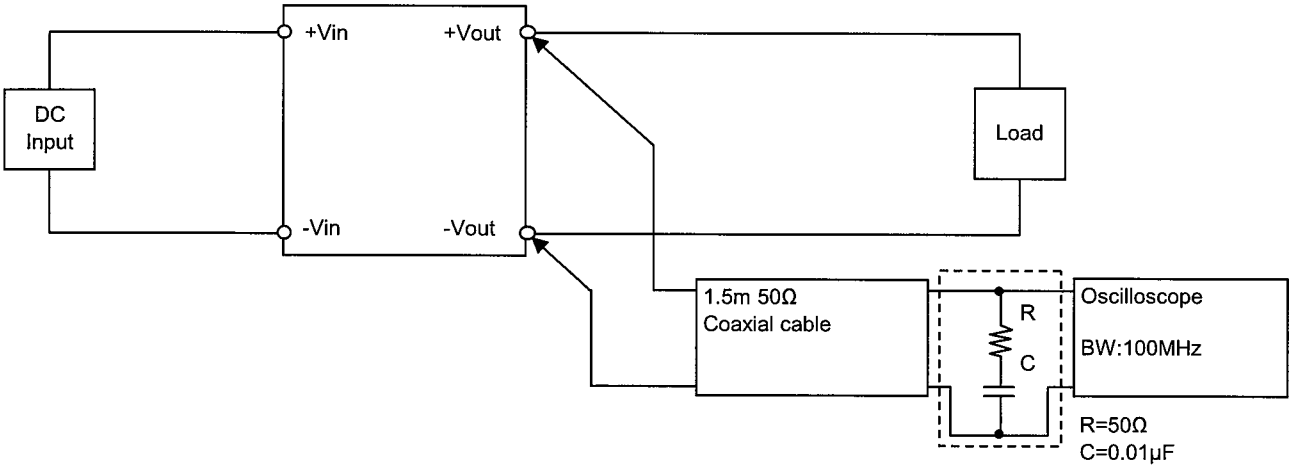


Figure B（Ripple and Ripple noise Characteristic）