COSEL

参考資料

TEST DATA OF SUS61215
SUCS61215

Regulated DC Power Supply
Feb 18, 2005

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COSEL CO.,LTD.

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

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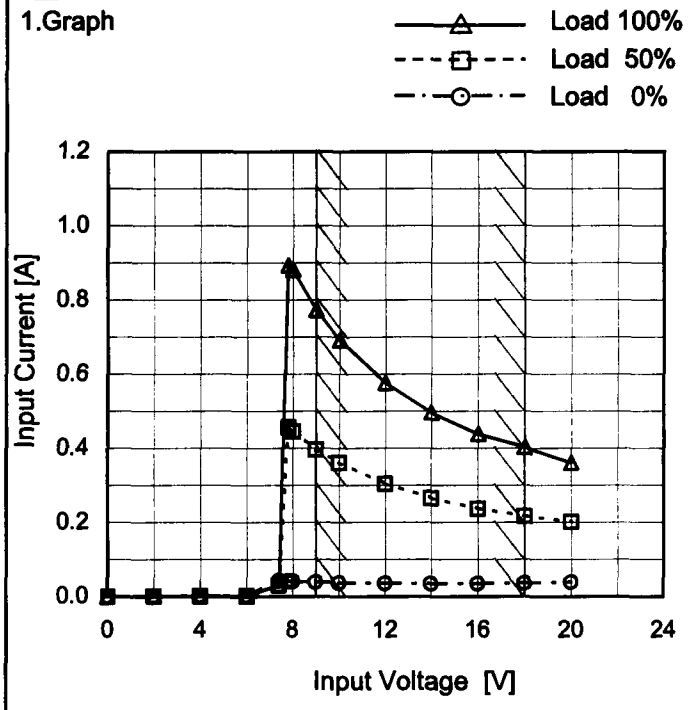
Testing Circuitry Figure A

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
2.0	0.001	0.001	0.001
4.0	0.001	0.001	0.001
6.0	0.002	0.002	0.002
7.4	0.043	0.032	0.031
7.8	0.042	0.457	0.894
8.0	0.041	0.446	0.882
9.0	0.039	0.397	0.774
10.0	0.037	0.361	0.693
12.0	0.035	0.304	0.577
14.0	0.034	0.266	0.497
16.0	0.035	0.237	0.439
18.0	0.037	0.217	0.403
20.0	0.039	0.202	0.361
--	-	-	-
--	-	-	-

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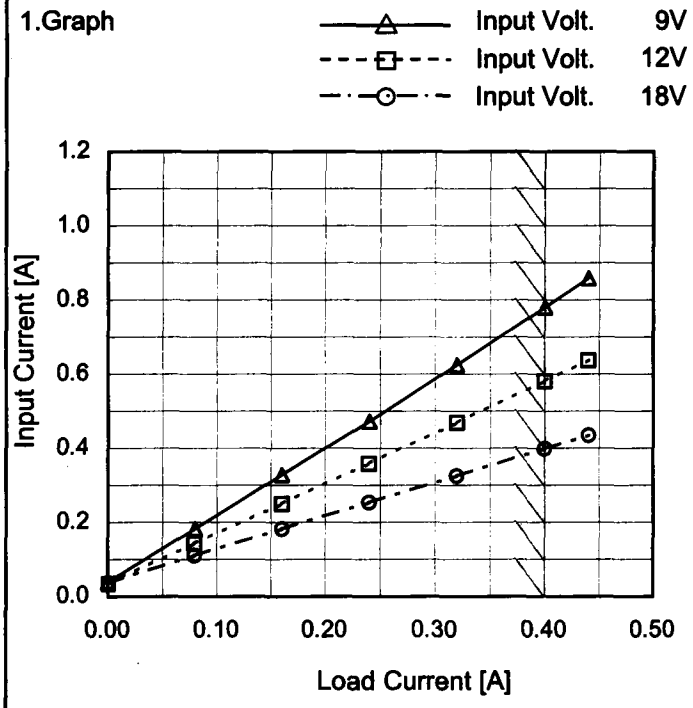
Model	SUS61215/SUCS61215
Item	Input Current (by Load Current)
Object	———————

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. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	0.039	0.035	0.037
0.08	0.183	0.143	0.110
0.16	0.329	0.250	0.182
0.24	0.473	0.359	0.253
0.32	0.625	0.469	0.325
0.40	0.780	0.581	0.398
0.44	0.859	0.637	0.434
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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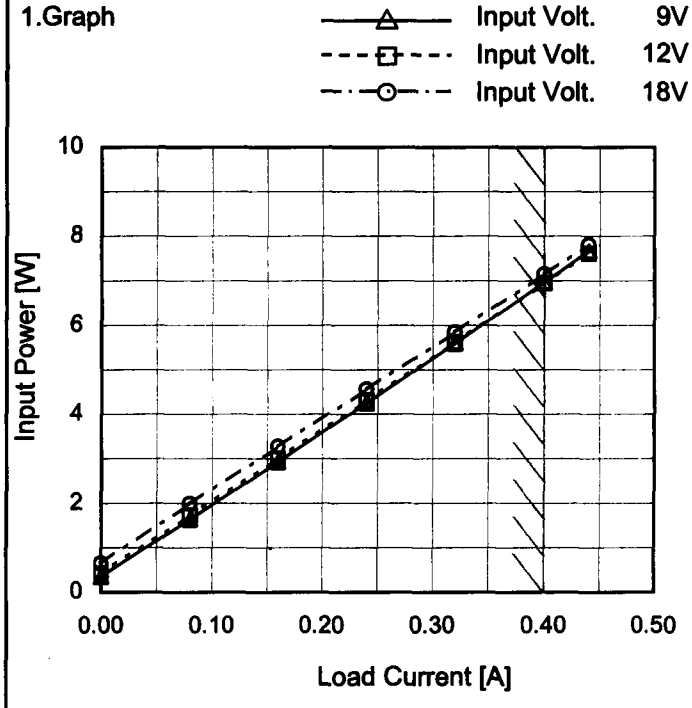
Model	SUS61215/SUCS61215
Item	Input Power (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

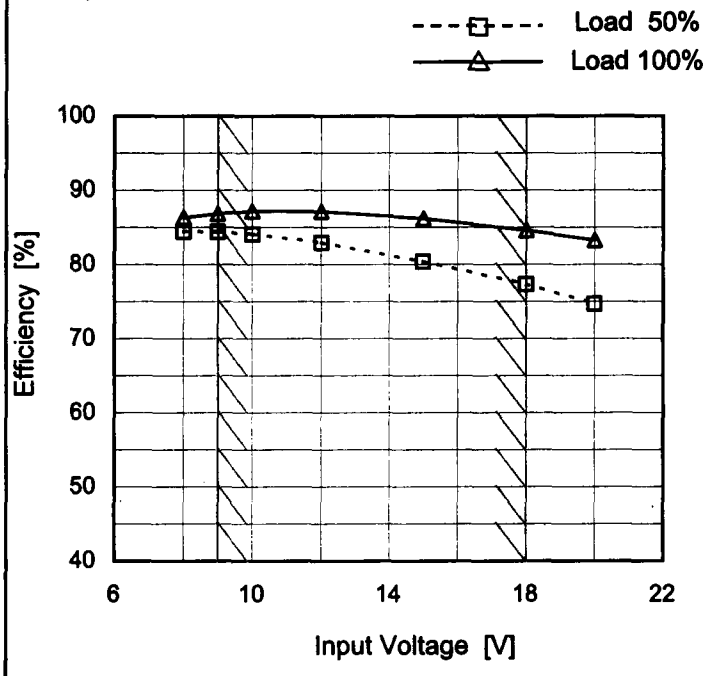
Load Current [A]	Input Power [W]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	0.35	0.42	0.65
0.08	1.63	1.72	1.99
0.16	2.93	3.00	3.28
0.24	4.25	4.30	4.56
0.32	5.60	5.62	5.85
0.40	6.97	6.95	7.15
0.44	7.67	7.62	7.81
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SUS61215/SUCS61215
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%
8	84.4	86.3
9	84.4	86.8
10	84.1	87.2
12	82.9	87.1
15	80.4	86.2
18	77.3	84.6
20	74.7	83.3
–	-	-
–	-	-

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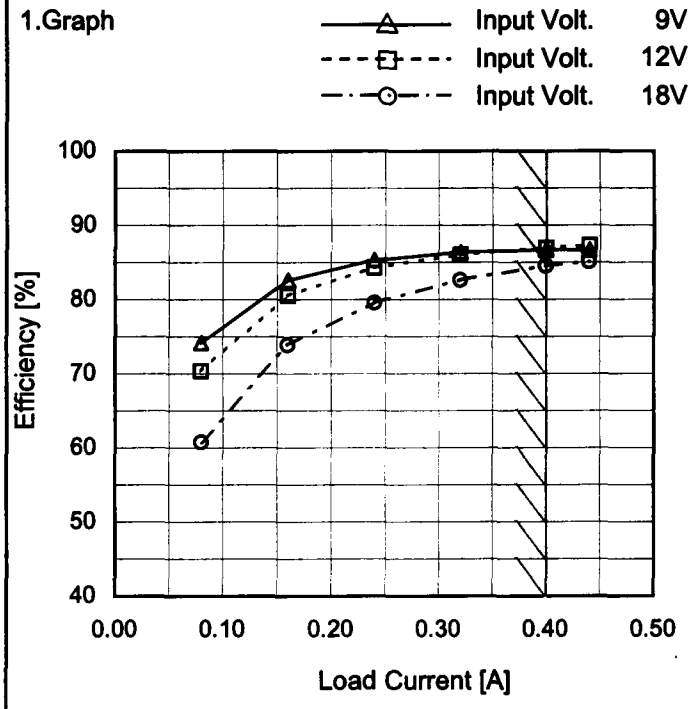
Model	SUS61215/SUCS61215
Item	Efficiency (by Load Current)
Object	———————

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. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	-	-	-
0.08	74.2	70.4	60.8
0.16	82.6	80.5	73.9
0.24	85.4	84.3	79.6
0.32	86.4	86.0	82.6
0.40	86.7	86.9	84.5
0.44	86.7	87.3	85.1
—	-	-	-
—	-	-	-
—	-	-	-
—	-	-	-

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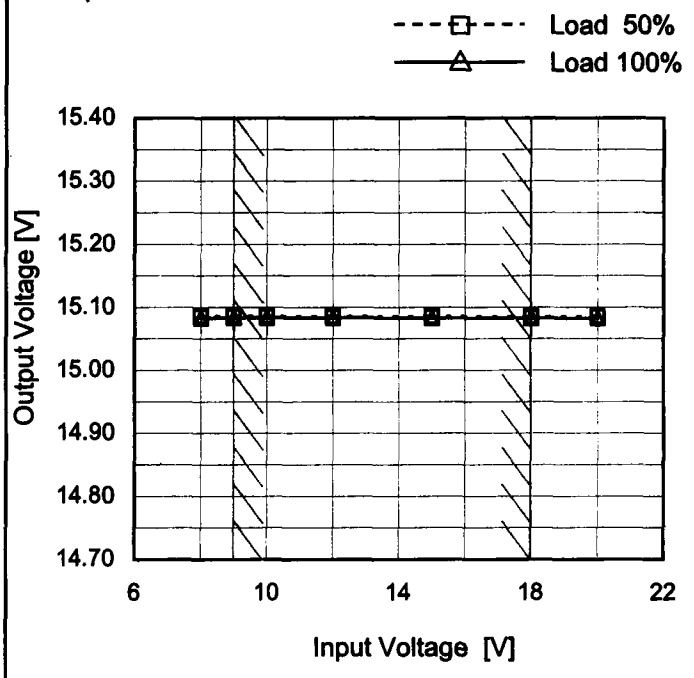
Model	SUS61215/SUCS61215
Item	Line Regulation
Object	+15V0.4A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

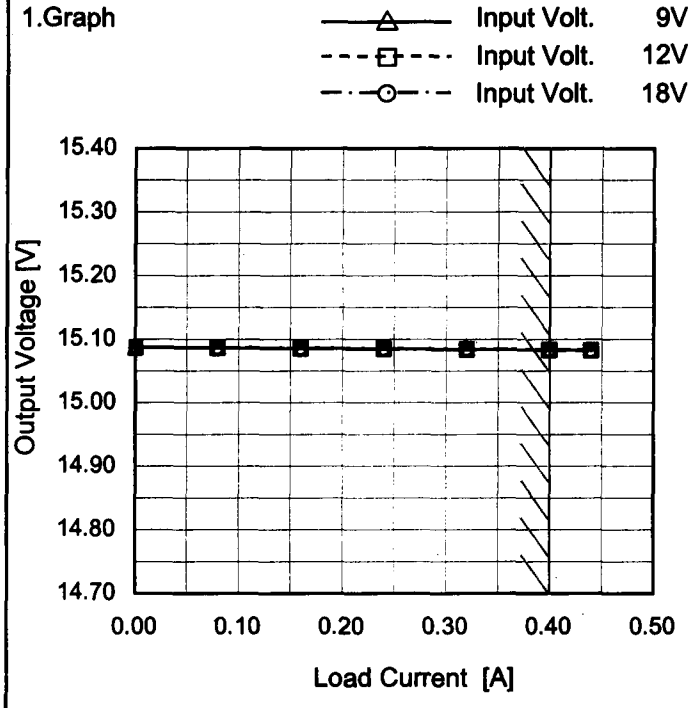
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
8	15.086	15.083
9	15.086	15.084
10	15.086	15.084
12	15.085	15.084
15	15.085	15.083
18	15.085	15.083
20	15.085	15.083
–	-	-
–	-	-

COSEL

Model	SUS61215/SUCS61215
Item	Load Regulation
Object	+15V0.4A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

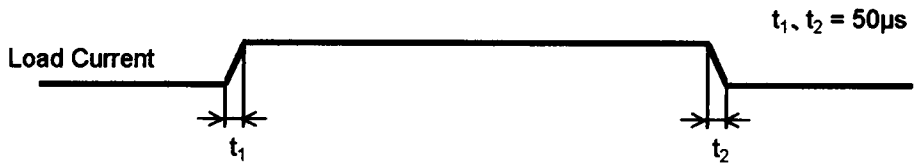
Load Current [A]	Output Voltage [V]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	15.087	15.087	15.087
0.08	15.087	15.087	15.086
0.16	15.086	15.086	15.085
0.24	15.085	15.085	15.084
0.32	15.084	15.084	15.084
0.40	15.084	15.084	15.083
0.44	15.083	15.083	15.082
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

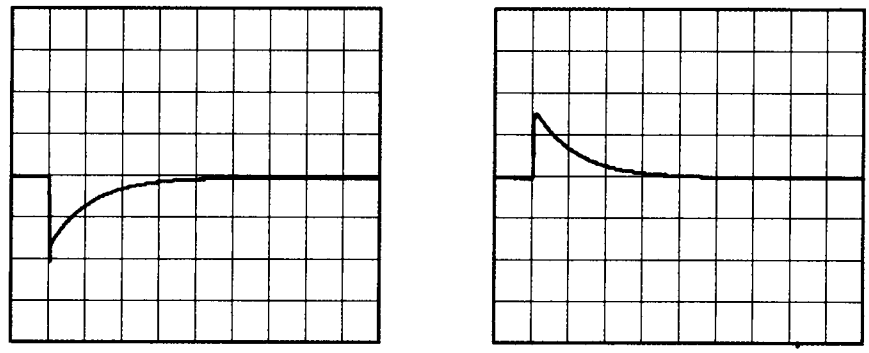
Model	SUS61215/SUCS61215
Item	Dynamic Load Response
Object	+15V0.4A

Temperature 25°C
Testing Circuitry Figure A

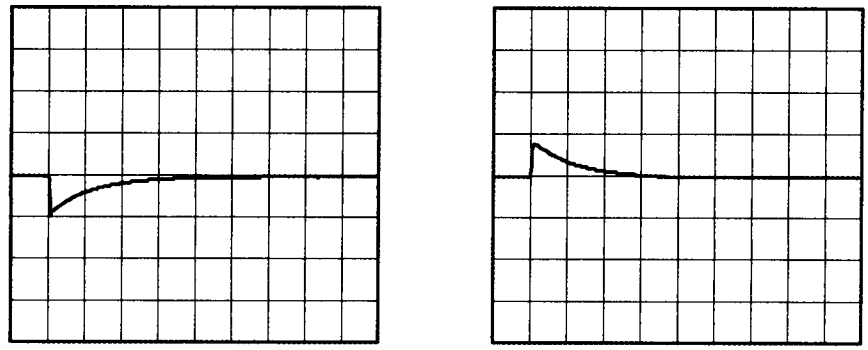
Input Volt. 12 V
Cycle 100 mS



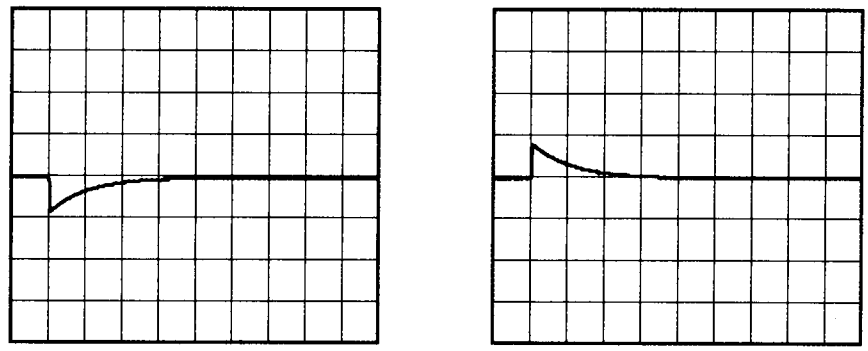
Min. Load (0A) ⟷
Load 100% (0.4A)



Min. Load (0A) ⟷
Load 50% (0.2A)



Load 50% (0.2A) ⟷
Load 100% (0.4A)



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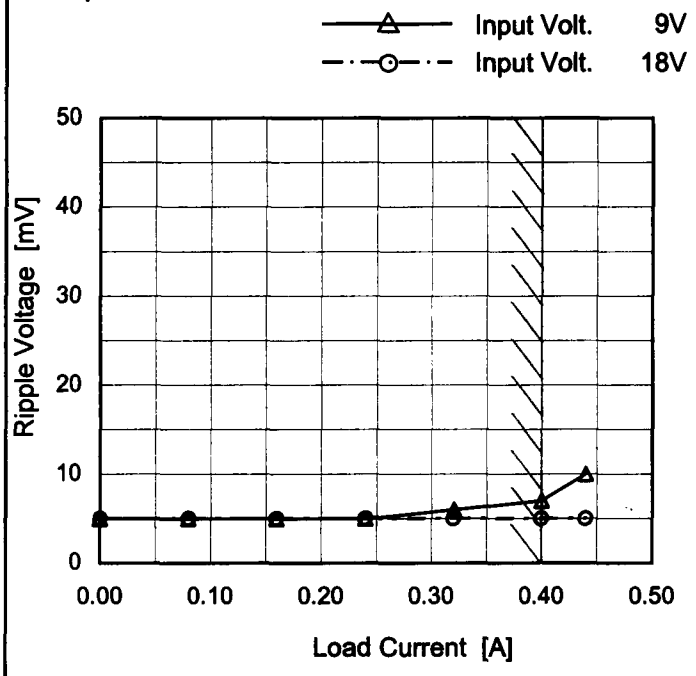
Model	SUS61215/SUCS61215
Item	Ripple Voltage (by Load Current)
Object	+15V0.4A

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]

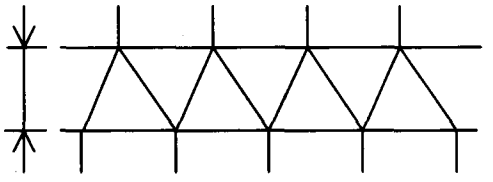


Fig.Complex Ripple Wave Form

2.Values

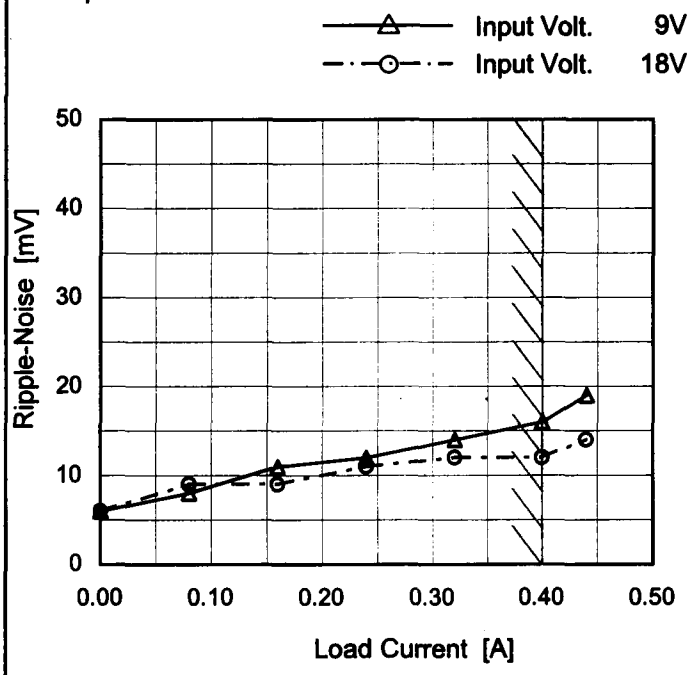
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 9 [V]	Input Volt. 18 [V]
0.00	5	5
0.08	5	5
0.16	5	5
0.24	5	5
0.32	6	5
0.40	7	5
0.44	10	5
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUS61215/SUCS61215
Item	Ripple-Noise
Object	+15V0.4A

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.

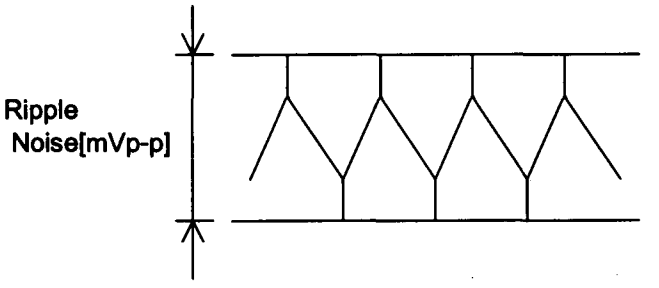


Fig.Complex Ripple Noise Wave Form

2.Values

Load Current [A]	Ripple-Noise [mV] Input Volt. 9 [V]	Ripple-Noise [mV] Input Volt. 18 [V]
0.00	6	6
0.08	8	9
0.16	11	9
0.24	12	11
0.32	14	12
0.40	16	12
0.44	19	14
–	-	-
–	-	-
–	-	-
–	-	-

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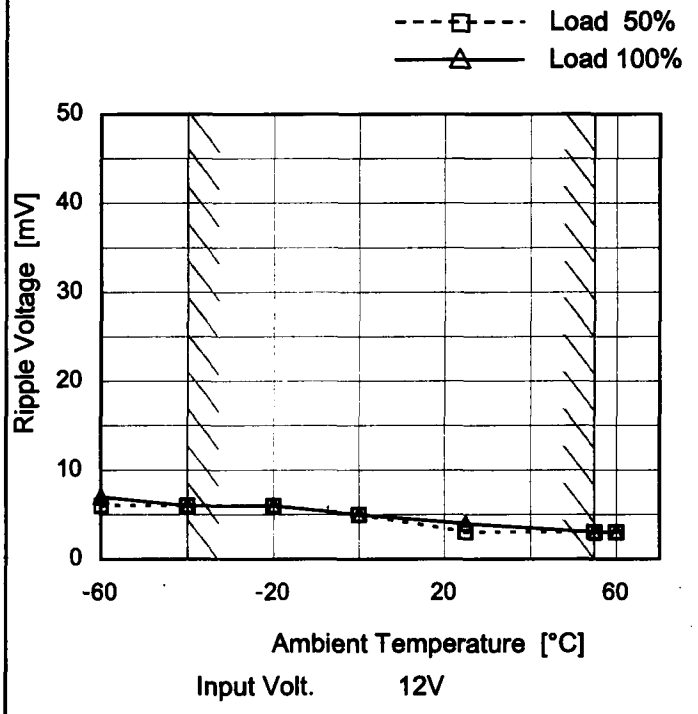
Model	SUS61215/SUCS61215
Item	Ripple Voltage (by Ambient Temp.)
Object	+15V0.4A

Testing Circuitry Figure B

1.Graph



Input Volt. 12V

Measured by 100 MHz Oscilloscope.

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

2.Values

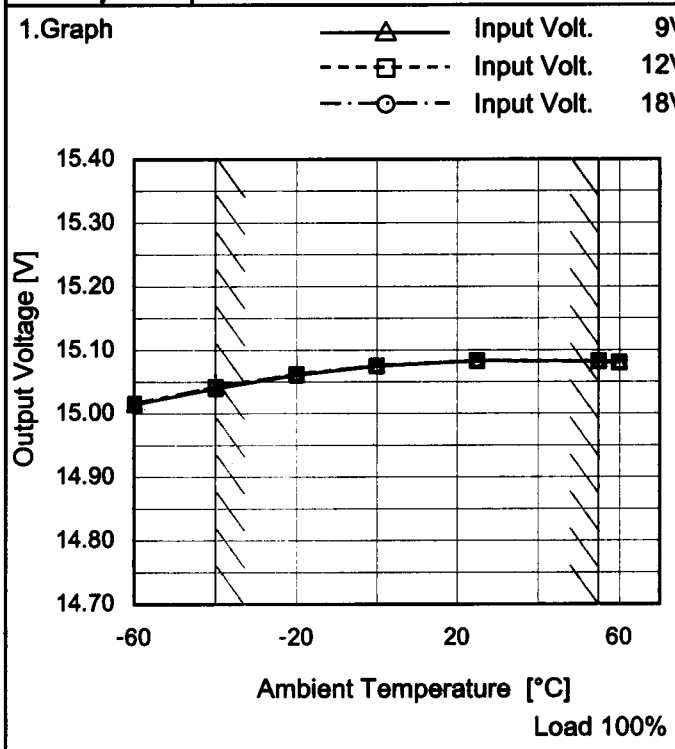
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	6	7
-40	6	6
-20	6	6
0	5	5
25	3	4
55	3	3
60	3	3
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUS61215/SUCS61215
Item	Ambient Temperature Drift
Object	+15V0.4A

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. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
-60	15.015	15.016	15.016
-40	15.040	15.042	15.042
-20	15.061	15.062	15.062
0	15.075	15.075	15.075
25	15.083	15.083	15.083
55	15.082	15.082	15.081
60	15.081	15.080	15.079
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SUS61215/SUCS61215	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+15V0.4A	

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 : 9 - 18V
Load Current : 0 - 0.4A

* 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	25	18	0	15.087	±24	±0.2
Minimum Voltage	-40	9	0.4	15.040		

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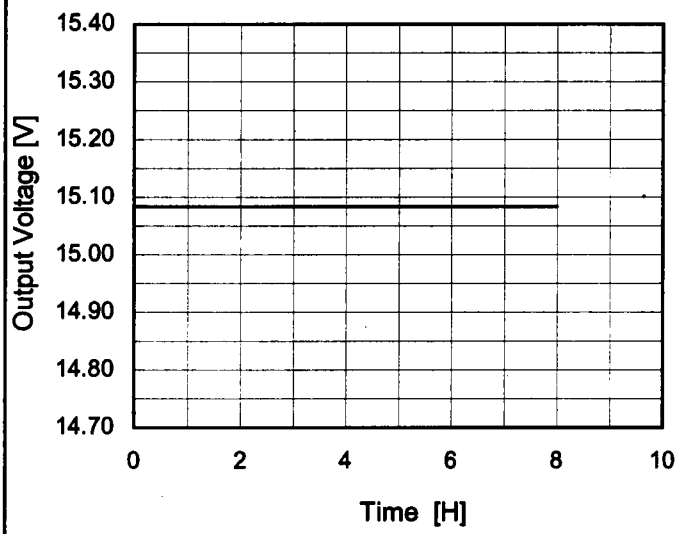
Model	SUS61215/SUCS61215
Item	Time Lapse Drift
Object	+15V0.4A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 12V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	15.086
0.5	15.084
1.0	15.084
2.0	15.084
3.0	15.084
4.0	15.084
5.0	15.084
6.0	15.084
7.0	15.084
8.0	15.084

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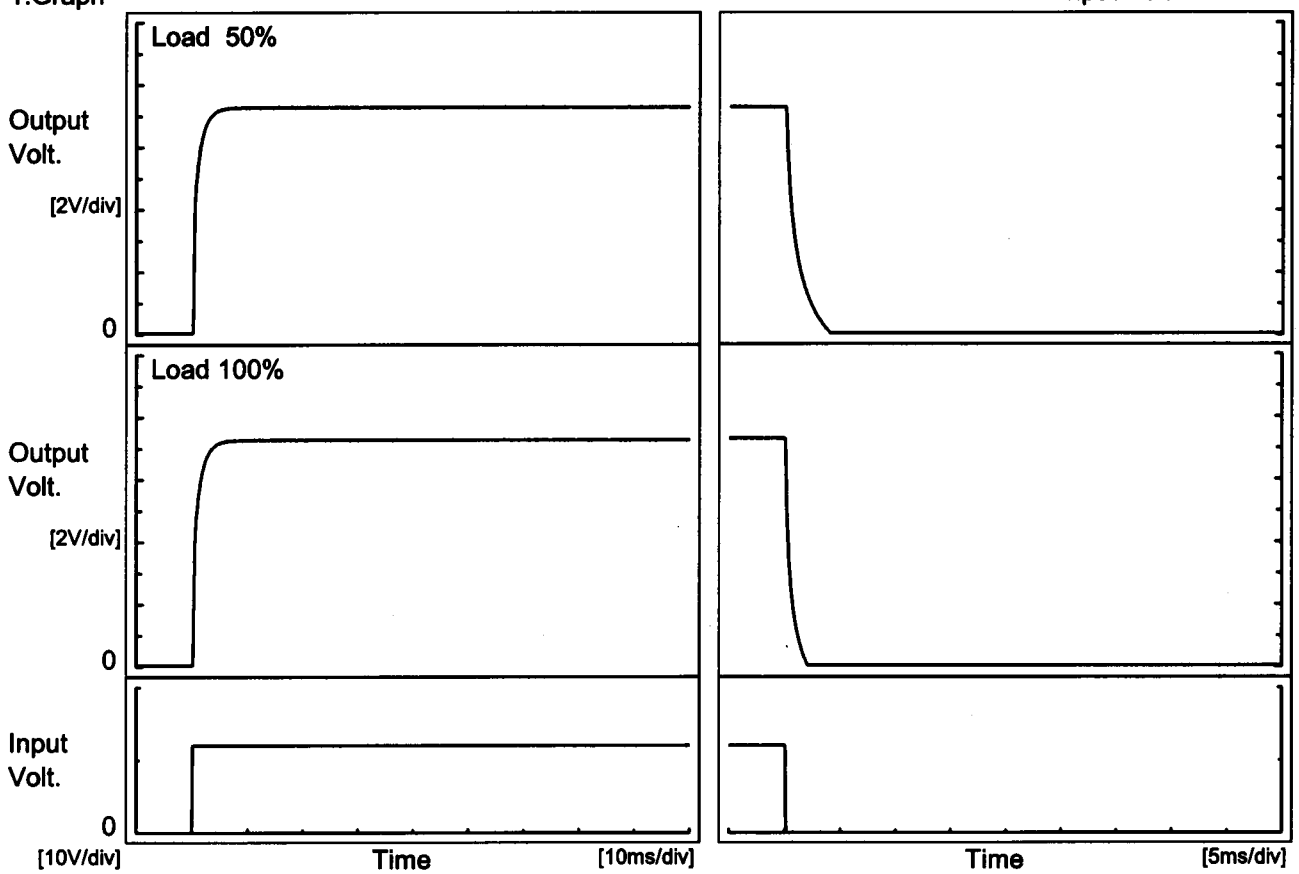
Model	SUS61215/SUCS61215
Item	Rise and Fall Time
Object	+15V0.4A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

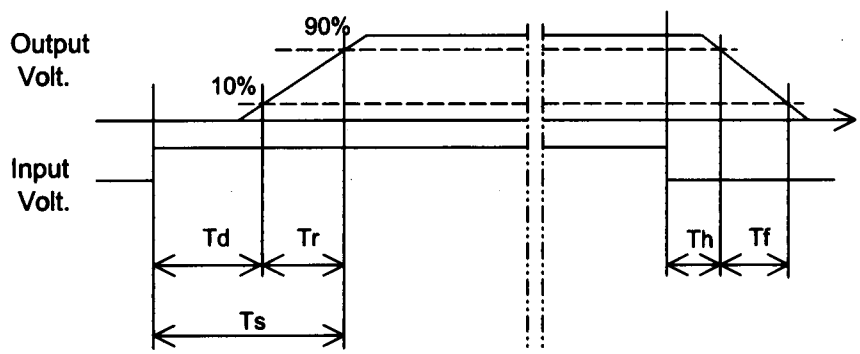
Input Volt. 12 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	0.2	2.6	2.8	0.1	2.5
100 %	0.2	2.7	2.9	0.1	1.3



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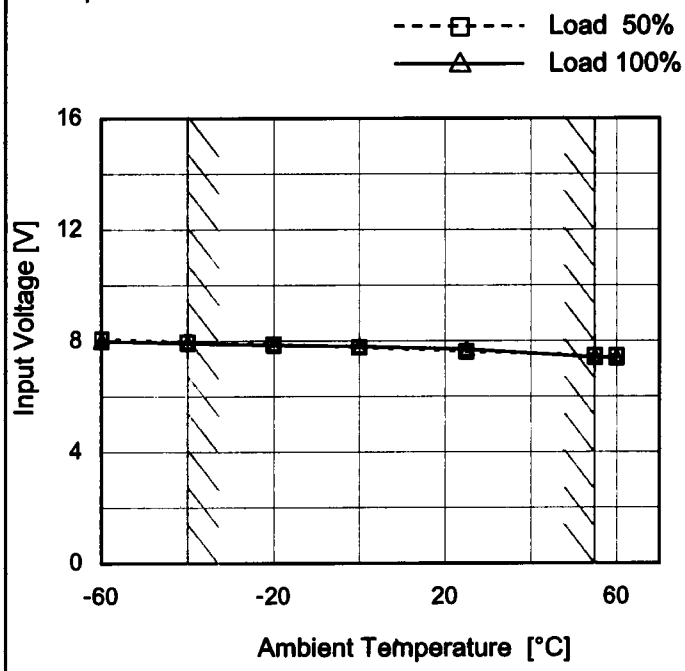
Model	SUS61215/SUCS61215
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+15V0.4A

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%
-60	8.1	8.0
-40	8.0	8.0
-20	7.9	7.9
0	7.8	7.9
25	7.7	7.7
55	7.5	7.5
60	7.5	7.4
--	-	-
--	-	-
--	-	-
--	-	-

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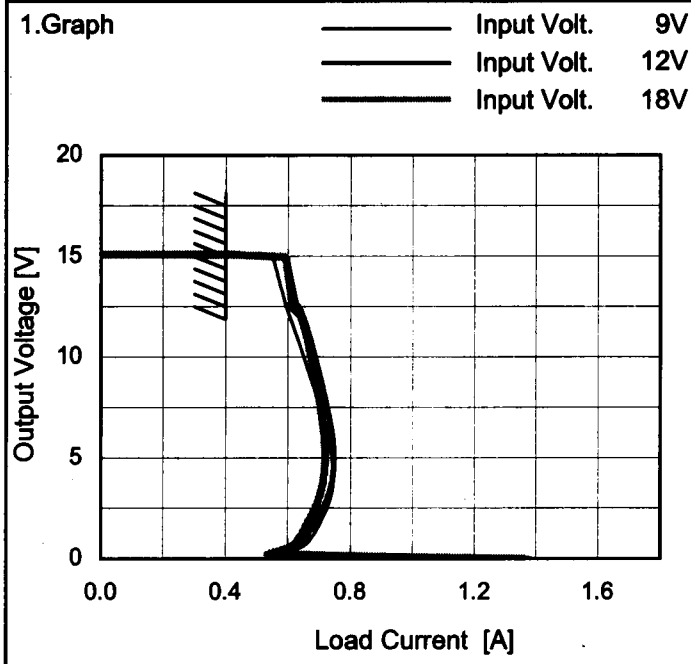
Model	SUS61215/SUCS61215
Item	Overcurrent Protection
Object	+15V0.4A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
15.0	0.40	0.40	0.40
14.3	0.56	0.60	0.60
13.5	0.58	0.61	0.61
12.0	0.60	0.65	0.64
10.5	0.64	0.68	0.67
9.0	0.67	0.70	0.69
7.5	0.70	0.73	0.70
6.0	0.73	0.74	0.72
4.5	0.75	0.75	0.72
3.0	0.74	0.73	0.70
1.5	0.70	0.67	0.66
0.0	1.42	1.38	1.36

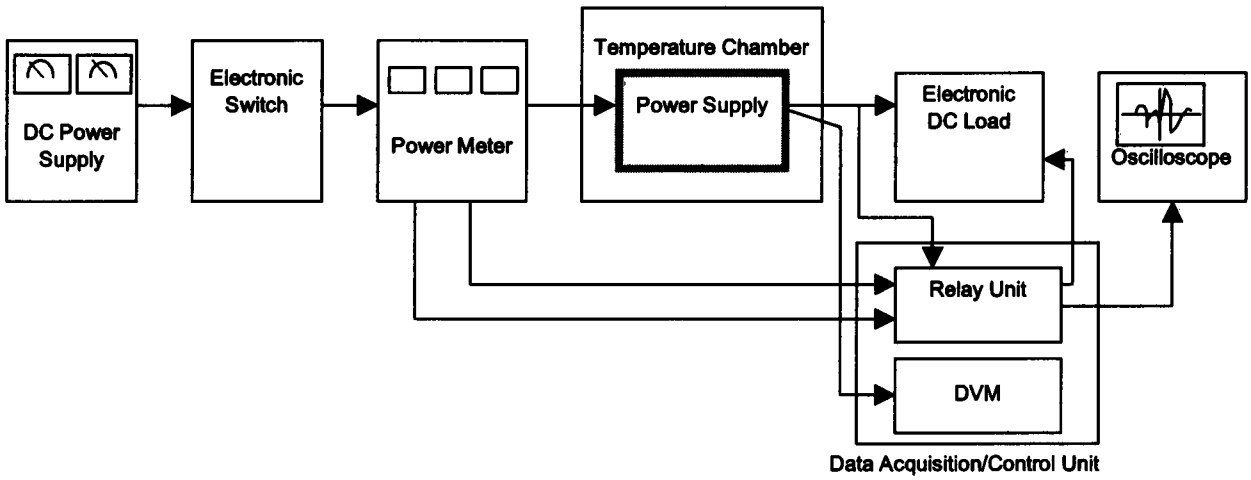


Figure A

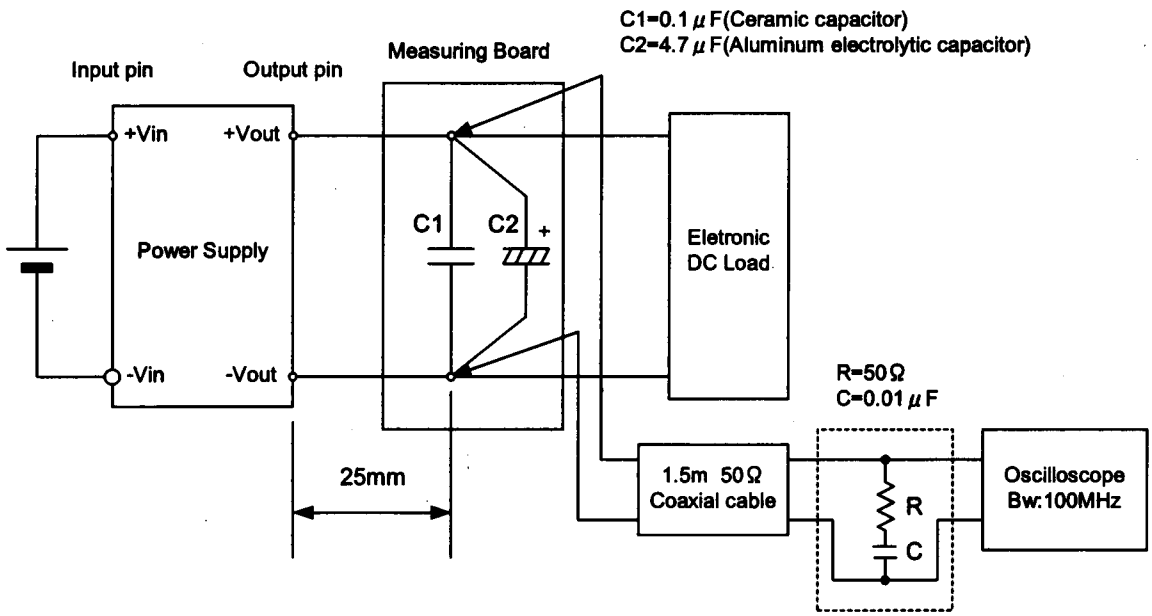


Figure B (Ripple and Ripple noise Characteristic)