COSEL

参考資料

TEST DATA OF SUTS104815

Regulated DC Power Supply
February 16, 2009

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COSEL CO.,LTD.

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

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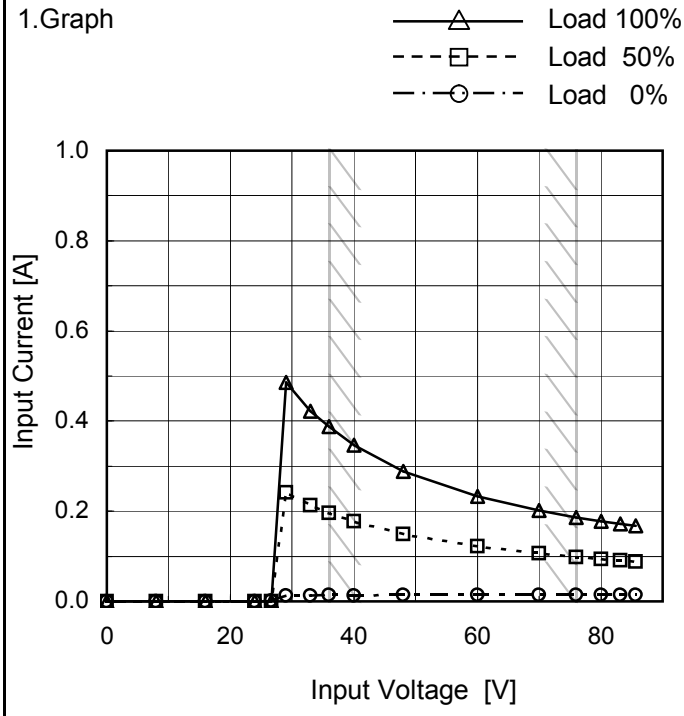

Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
8.0	0.000	0.000	0.000
16.0	0.000	0.000	0.000
24.0	0.001	0.001	0.001
26.6	0.001	0.001	0.001
29.0	0.013	0.241	0.486
33.0	0.013	0.212	0.422
36.0	0.014	0.196	0.387
40.0	0.013	0.177	0.347
48.0	0.014	0.149	0.289
60.0	0.014	0.122	0.233
70.0	0.014	0.106	0.201
76.0	0.014	0.099	0.187
80.0	0.014	0.094	0.178
83.2	0.014	0.091	0.172
85.6	0.014	0.088	0.167
--	-	-	-
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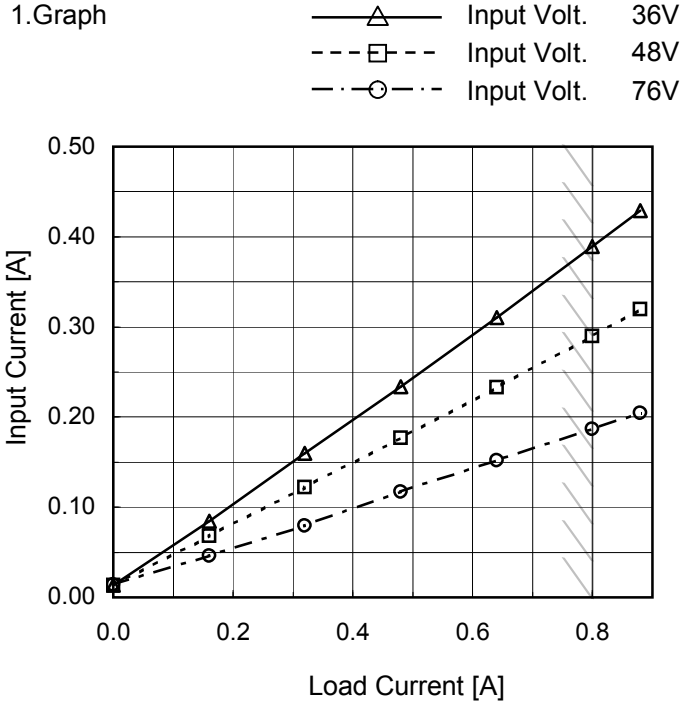
BC-10307

COSEL

Model	SUTS104815
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]
0.00	0.014	0.014	0.014
0.16	0.085	0.068	0.046
0.32	0.160	0.123	0.079
0.48	0.234	0.177	0.117
0.64	0.310	0.233	0.152
0.80	0.389	0.290	0.187
0.88	0.429	0.319	0.205
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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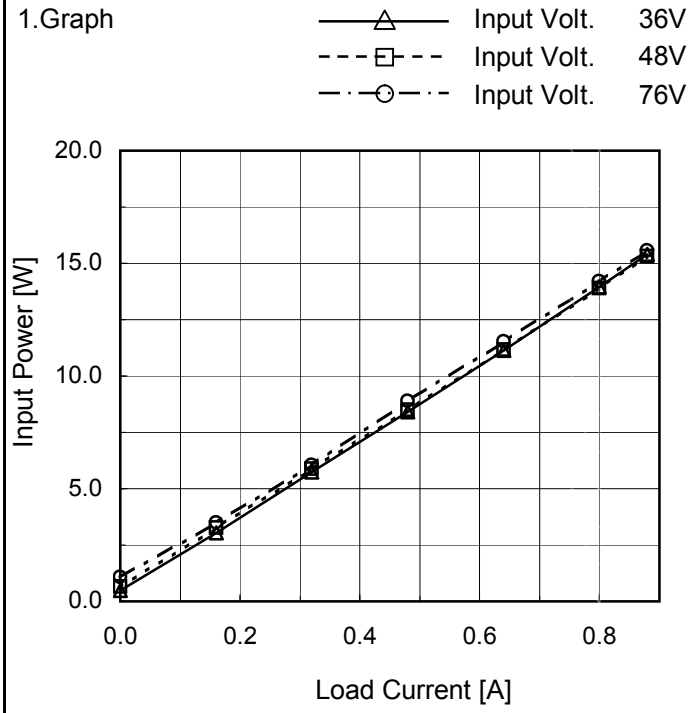
Model	SUTS104815
Item	Input Power (by Load Current)
Object	————————

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]
0.00	0.49	0.66	1.07
0.16	3.05	3.26	3.50
0.32	5.74	5.88	6.04
0.48	8.41	8.50	8.90
0.64	11.14	11.17	11.53
0.80	13.96	13.91	14.21
0.88	15.40	15.31	15.57
--	-	-	-
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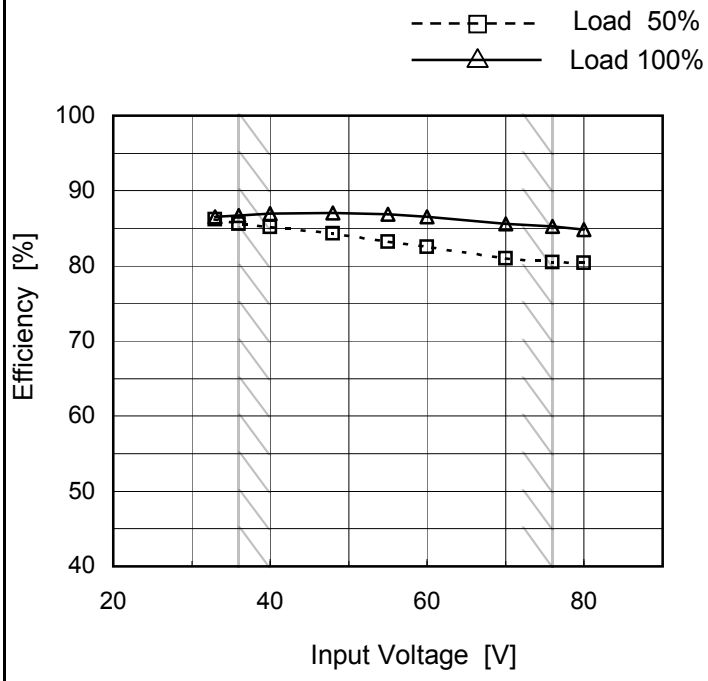
--	-	-	-
--	-	-	-

COSEL

Model	SUTS104815
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%
33	86.2	86.5
36	85.6	86.7
40	85.2	86.9
48	84.3	87.0
55	83.2	86.8
60	82.5	86.5
70	81.0	85.6
76	80.5	85.2
80	80.4	84.8

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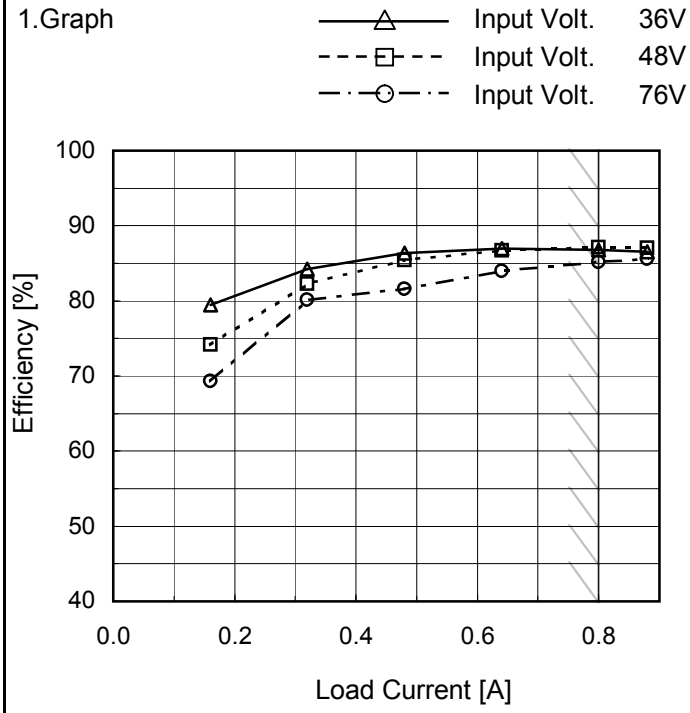
Model	SUTS104815
Item	Efficiency (by Load Current)
Object	————————

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]
0.00	-	-	-
0.16	79.5	74.2	69.3
0.32	84.3	82.3	80.1
0.48	86.4	85.4	81.6
0.64	87.0	86.7	84.0
0.80	86.8	87.1	85.2
0.88	86.5	87.0	85.6
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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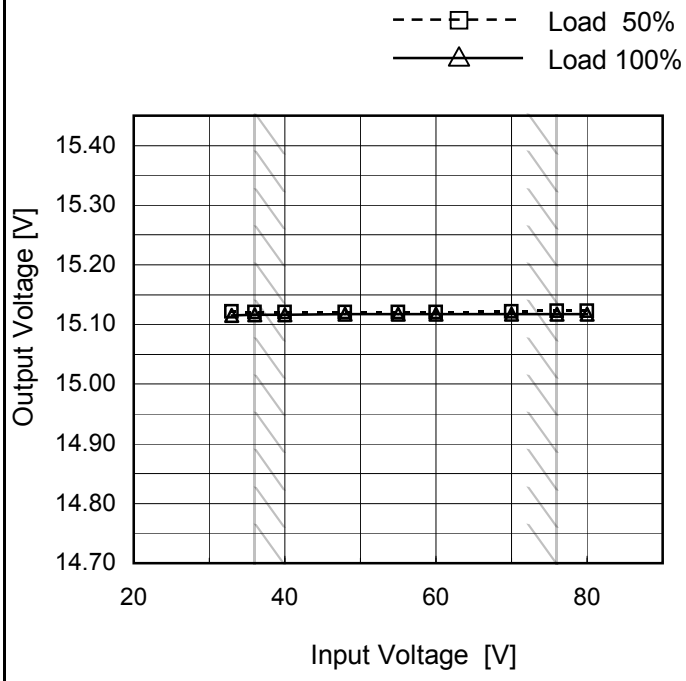
Model	SUTS104815
Item	Line Regulation
Object	+15V0.8A

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%
33	15.122	15.116
36	15.121	15.116
40	15.121	15.116
48	15.121	15.117
55	15.121	15.118
60	15.121	15.117
70	15.122	15.117
76	15.123	15.118
80	15.123	15.118

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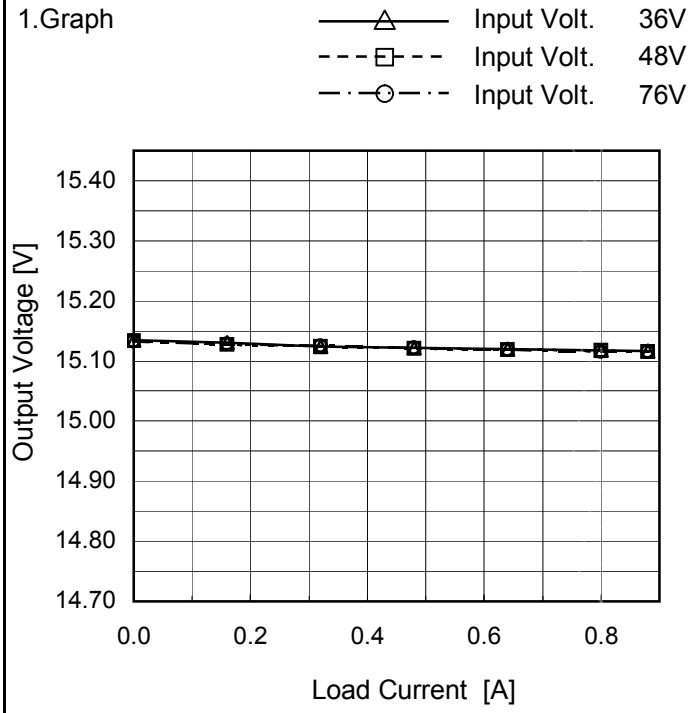
Model	SUTS104815
Item	Load Regulation
Object	+15V0.8A

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]
0.00	15.134	15.133	15.133
0.16	15.130	15.128	15.128
0.32	15.124	15.124	15.126
0.48	15.122	15.121	15.122
0.64	15.119	15.119	15.119
0.80	15.117	15.117	15.116
0.88	15.116	15.116	15.116
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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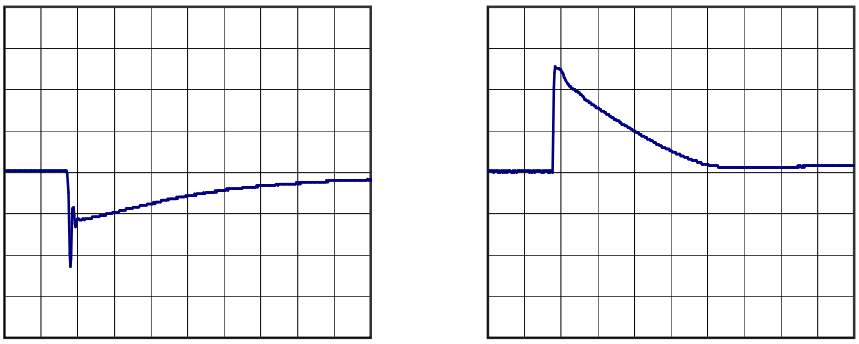
Model	SUTS104815
Item	Dynamic Load Response
Object	+15V0.8A

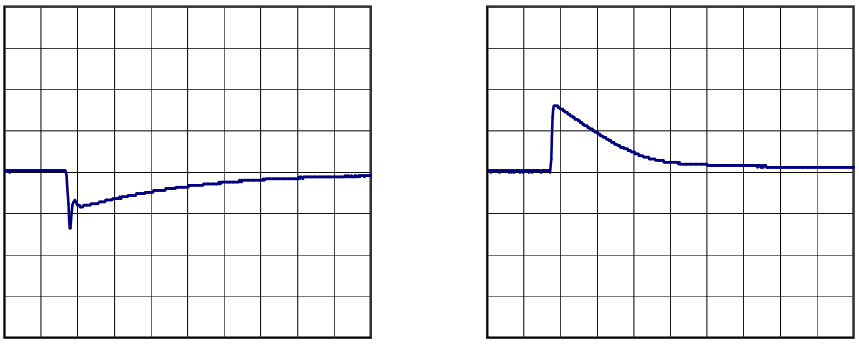
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 48 V
Cycle 100 mS

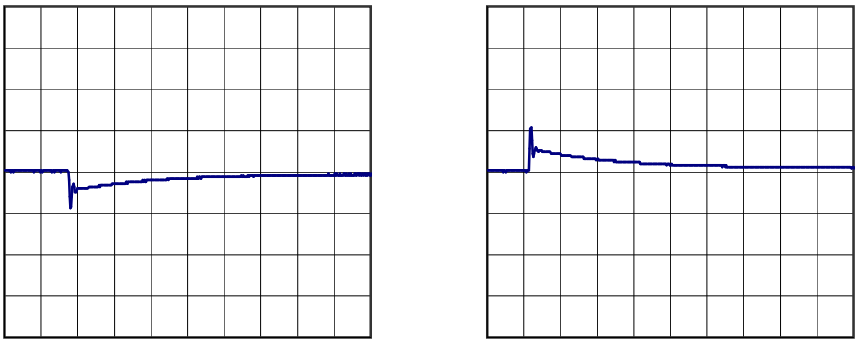
Min. Load (0A) ⟷
Load 100% (0.8A)



Min. Load (0A) ⟷
Load 50% (0.4A)



Load 50% (0.4A) ⟷
Load 100% (0.8A)



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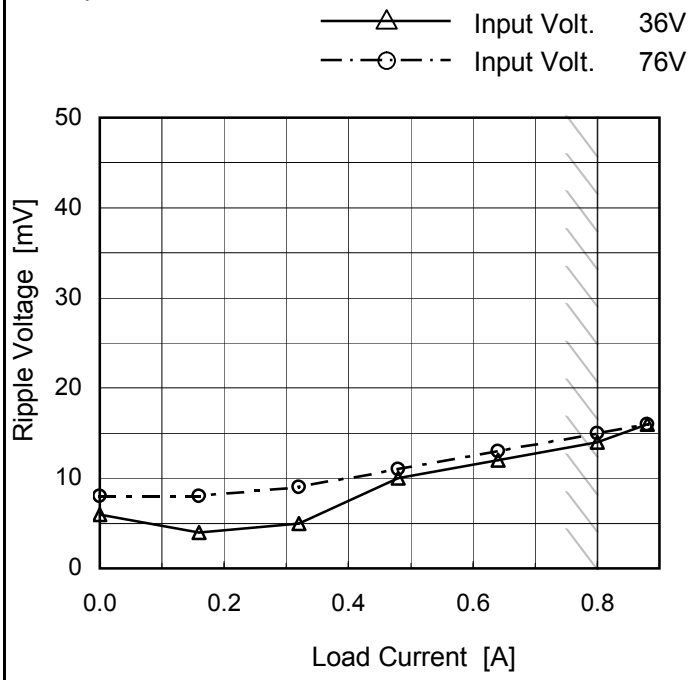
Model	SUTS104815
Item	Ripple Voltage (by Load Current)
Object	+15V0.8A

Temperature 25°C
Testing Circuitry Figure B

1.Graph



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]

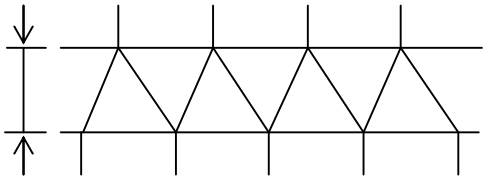


Fig.Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	6	8
0.16	4	8
0.32	5	9
0.48	10	11
0.64	12	13
0.80	14	15
0.88	16	16
--	-	-
--	-	-
--	-	-
--	-	-

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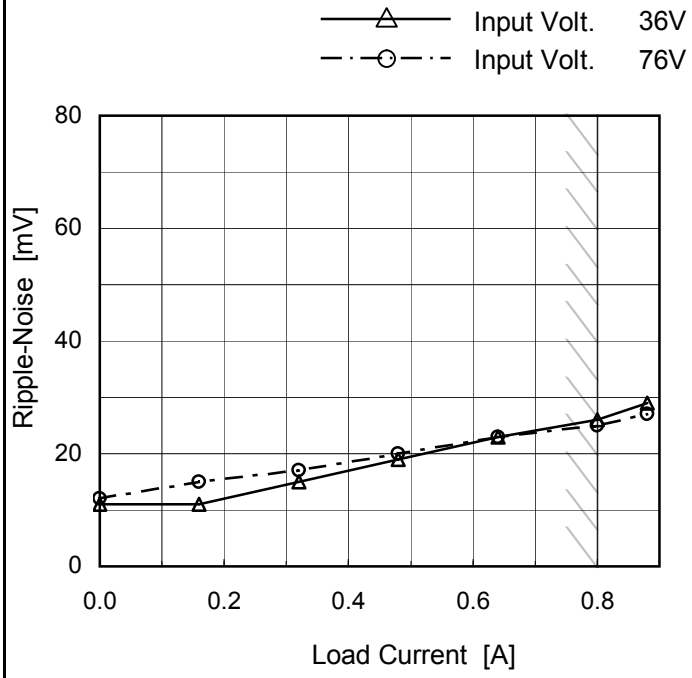
Model	SUTS104815
Item	Ripple-Noise
Object	+15V0.8A

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.

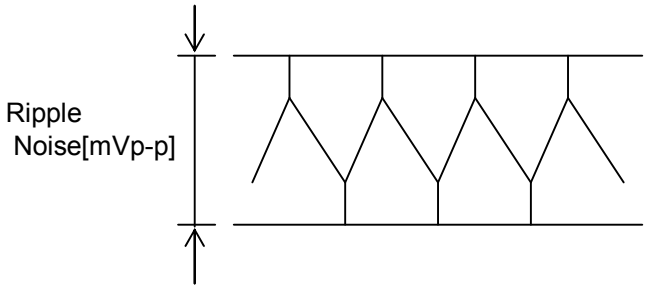


Fig.Complex Ripple Noise Wave Form

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	11	12
0.16	11	15
0.32	15	17
0.48	19	20
0.64	23	23
0.80	26	25
0.88	29	27
--	-	-
--	-	-
--	-	-
--	-	-

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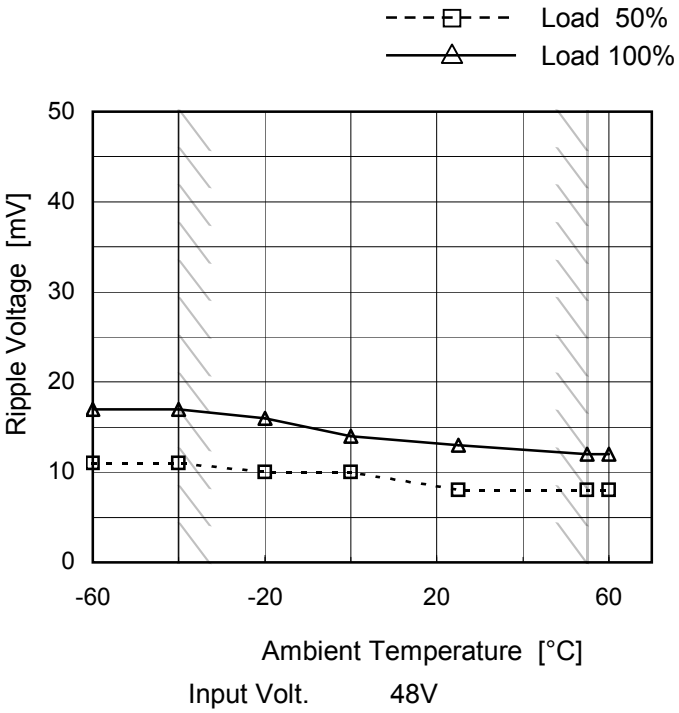
Model	SUTS104815
Item	Ripple Voltage (by Ambient Temp.)
Object	+15V0.8A

Testing Circuitry Figure B

1.Graph



Input Volt. 48V

Measured by 100 MHz Oscilloscope.

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

2.Values

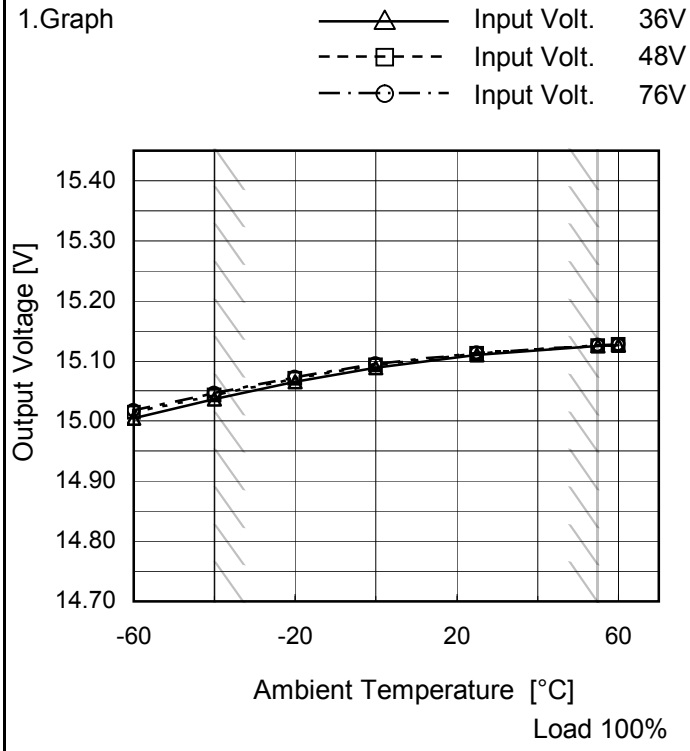
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	11	17
-40	11	17
-20	10	16
0	10	14
25	8	13
55	8	12
60	8	12
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUTS104815
Item	Ambient Temperature Drift
Object	+15V0.8A

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]
-60	15.005	15.014	15.018
-40	15.037	15.043	15.047
-20	15.065	15.071	15.073
0	15.089	15.093	15.095
25	15.110	15.113	15.114
55	15.125	15.126	15.126
60	15.126	15.127	15.127
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SUTS104815	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+15V0.8A	

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 - 0.8A

* 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

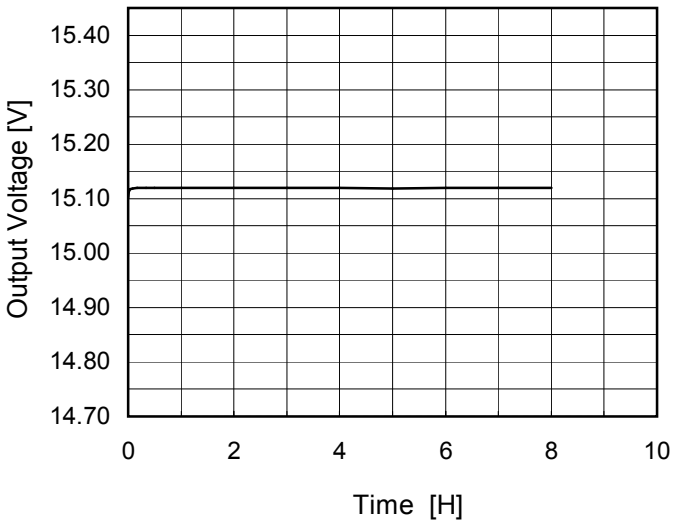
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	36	0	15.142	±53	±0.4
Minimum Voltage	-40	36	0.8	15.037		

COSEL

Model	SUTS104815
Item	Time Lapse Drift
Object	+15V0.8A

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	15.102
0.5	15.120
1.0	15.120
2.0	15.120
3.0	15.120
4.0	15.120
5.0	15.119
6.0	15.119
7.0	15.120
8.0	15.119

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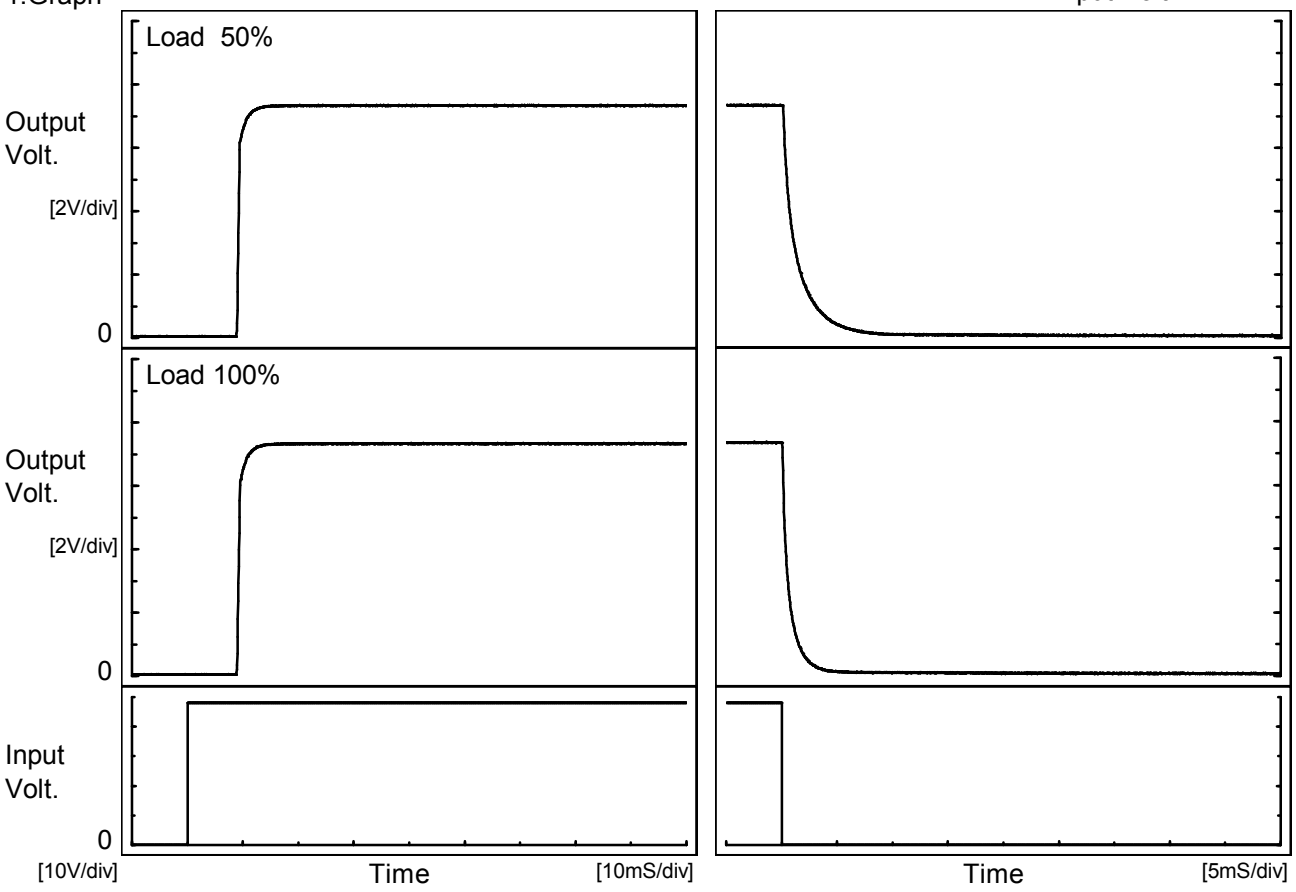
Model	SUTS104815
Item	Rise and Fall Time
Object	+15V0.8A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

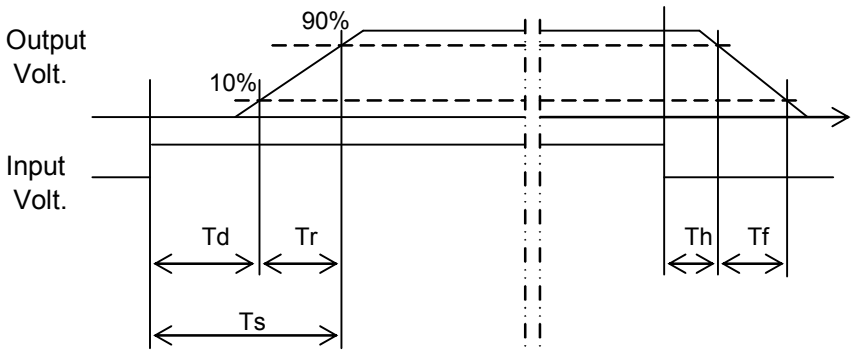
Input Volt. 48 V



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	9.0	1.5	10.5	0.1	3.4
100 %	9.1	1.6	10.7	0.1	1.7

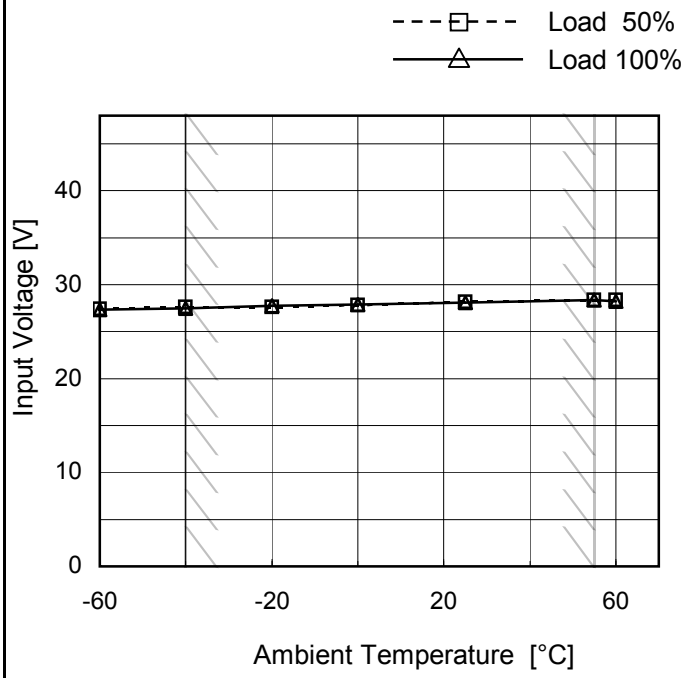


COSEL

Model	SUTS104815
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+15V0.8A

Testing Circuitry Figure A

1.Graph



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

2.Values

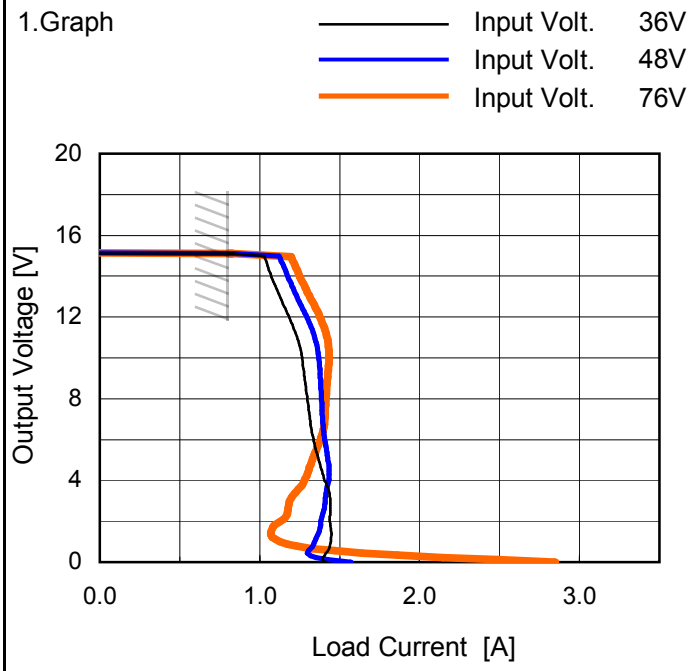
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	27.5	27.4
-40	27.6	27.6
-20	27.6	27.8
0	27.9	28.0
25	28.2	28.2
55	28.4	28.4
60	28.4	28.3
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUTS104815
Item	Overcurrent Protection
Object	+15V0.8A

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. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
15.0	0.80	0.81	0.80
14.3	1.06	1.16	1.23
13.5	1.10	1.20	1.27
12.0	1.18	1.29	1.38
10.5	1.25	1.36	1.43
9.0	1.28	1.38	1.42
7.5	1.30	1.39	1.41
6.0	1.34	1.41	1.38
4.5	1.39	1.43	1.31
3.0	1.44	1.41	1.20
1.5	1.45	1.37	1.07
0.0	1.42	1.57	2.84

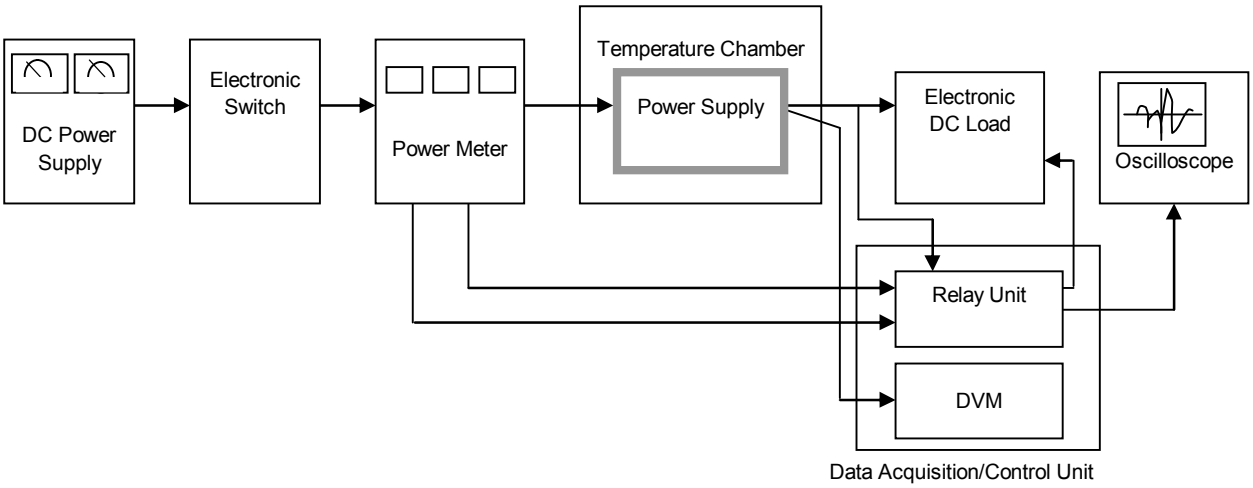


Figure A

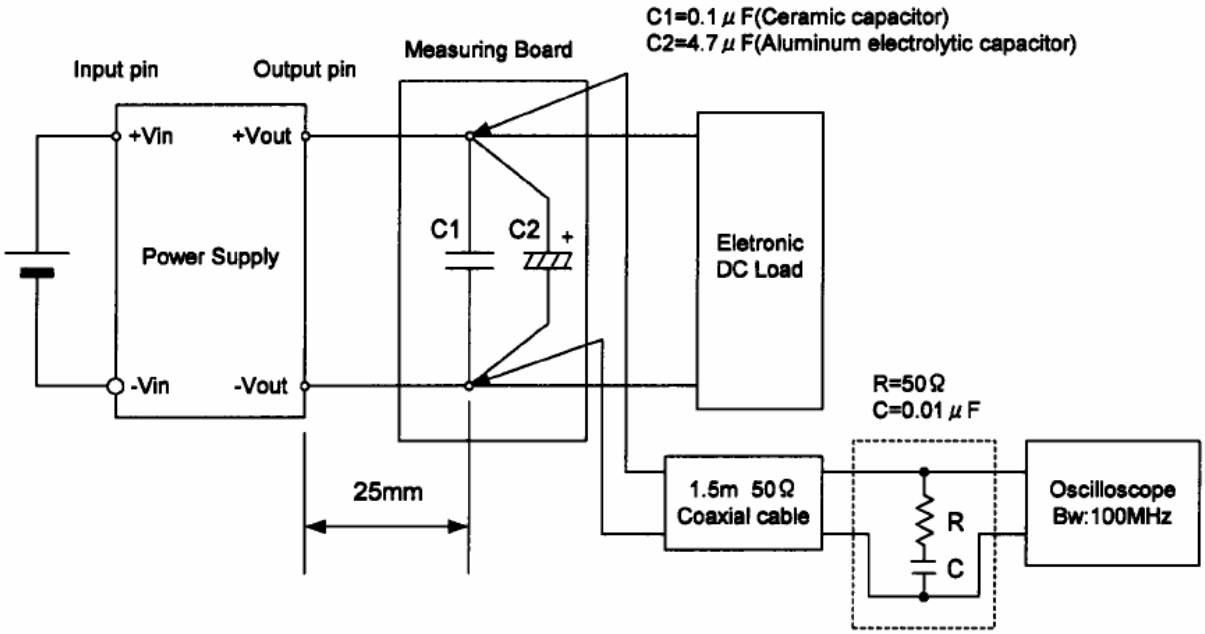


Figure B (Ripple and Ripple noise Characteristic)