



# TEST DATA OF SUS102415 SUCS102415

Regulated DC Power Supply  
Mar 28, 2005

Approved by : Tetsuo Sugimori  
Tetsuo Sugimori Design Manager

Prepared by : Yoshimichi Hirokawa  
Yoshimichi Hirokawa Design Engineer

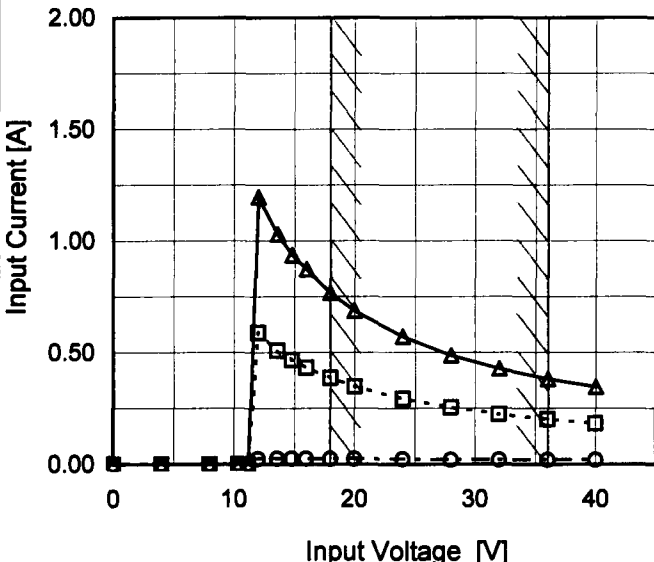
**COSEL CO.,LTD.**

## CONTENTS

1.Input Current (by Input Voltage) . . . . .	1
2.Input Current (by Load Current) . . . . .	2
3.Input Power (by Load Current) . . . . .	3
4.Efficiency (by Input Voltage) . . . . .	4
5.Efficiency (by Load Current) . . . . .	5
6.Line Regulation . . . . .	6
7.Load Regulation . . . . .	7
8.Dynamic Load Response . . . . .	8
9.Ripple Voltage (by Load Current) . . . . .	9
10.Ripple-Noise . . . . .	10
11.Ripple Voltage (by Ambient Temperature) . . . . .	11
12.Ambient Temperature Drift . . . . .	12
13.Output Voltage Accuracy . . . . .	13
14.Time Lapse Drift . . . . .	14
15.Rise and Fall Time . . . . .	15
16.Minimum Input Voltage for Regulated Output Voltage . . . . .	16
17.Overcurrent Protection . . . . .	17
18.Figure of Testing Circuitry . . . . .	18

(Final Page 18)

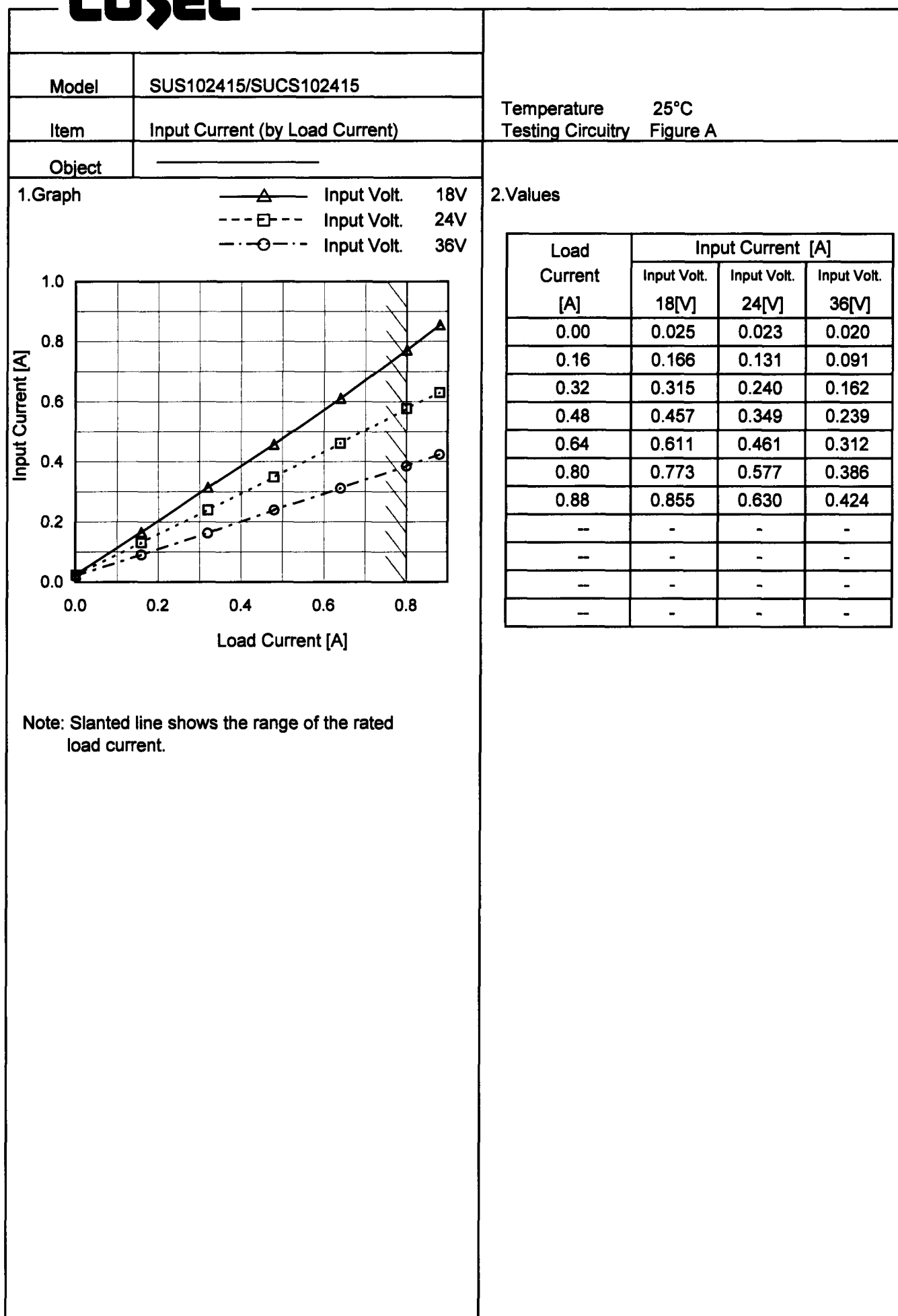
# COSEL

Model		SUS102415/SUCS102415																																																																																
Item		Input Current (by Input Voltage)																																																																																
Object																																																																																		
1.Graph		<div><div><div>—△—</div><div>Load 100%</div></div><div><div>---□---</div><div>Load 50%</div></div><div><div>-○-</div><div>Load 0%</div></div></div> <div><p>Note: Slanted line shows the range of the rated input voltage.</p></div>																																																																																
2.Values		<table><tr><th rowspan="2">Input Voltage [V]</th><th colspan="3">Input Current [A]</th></tr><tr><th>Load 0%</th><th>Load 50%</th><th>Load 100%</th></tr><tr><td>0.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>4.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>8.0</td><td>0.001</td><td>0.001</td><td>0.001</td></tr><tr><td>10.4</td><td>0.001</td><td>0.001</td><td>0.001</td></tr><tr><td>11.2</td><td>0.001</td><td>0.001</td><td>0.001</td></tr><tr><td>12.0</td><td>0.025</td><td>0.589</td><td>1.197</td></tr><tr><td>13.6</td><td>0.025</td><td>0.508</td><td>1.030</td></tr><tr><td>14.8</td><td>0.026</td><td>0.467</td><td>0.937</td></tr><tr><td>16.0</td><td>0.026</td><td>0.433</td><td>0.874</td></tr><tr><td>18.0</td><td>0.025</td><td>0.387</td><td>0.768</td></tr><tr><td>20.0</td><td>0.024</td><td>0.348</td><td>0.687</td></tr><tr><td>24.0</td><td>0.022</td><td>0.293</td><td>0.571</td></tr><tr><td>28.0</td><td>0.021</td><td>0.254</td><td>0.488</td></tr><tr><td>32.0</td><td>0.020</td><td>0.225</td><td>0.428</td></tr><tr><td>36.0</td><td>0.020</td><td>0.201</td><td>0.382</td></tr><tr><td>40.0</td><td>0.020</td><td>0.182</td><td>0.346</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Input Voltage [V]	Input Current [A]			Load 0%	Load 50%	Load 100%	0.0	0.000	0.000	0.000	4.0	0.000	0.000	0.000	8.0	0.001	0.001	0.001	10.4	0.001	0.001	0.001	11.2	0.001	0.001	0.001	12.0	0.025	0.589	1.197	13.6	0.025	0.508	1.030	14.8	0.026	0.467	0.937	16.0	0.026	0.433	0.874	18.0	0.025	0.387	0.768	20.0	0.024	0.348	0.687	24.0	0.022	0.293	0.571	28.0	0.021	0.254	0.488	32.0	0.020	0.225	0.428	36.0	0.020	0.201	0.382	40.0	0.020	0.182	0.346	--	-	-	-	--	-	-	-
Input Voltage [V]	Input Current [A]																																																																																	
	Load 0%	Load 50%	Load 100%																																																																															
0.0	0.000	0.000	0.000																																																																															
4.0	0.000	0.000	0.000																																																																															
8.0	0.001	0.001	0.001																																																																															
10.4	0.001	0.001	0.001																																																																															
11.2	0.001	0.001	0.001																																																																															
12.0	0.025	0.589	1.197																																																																															
13.6	0.025	0.508	1.030																																																																															
14.8	0.026	0.467	0.937																																																																															
16.0	0.026	0.433	0.874																																																																															
18.0	0.025	0.387	0.768																																																																															
20.0	0.024	0.348	0.687																																																																															
24.0	0.022	0.293	0.571																																																																															
28.0	0.021	0.254	0.488																																																																															
32.0	0.020	0.225	0.428																																																																															
36.0	0.020	0.201	0.382																																																																															
40.0	0.020	0.182	0.346																																																																															
--	-	-	-																																																																															
--	-	-	-																																																																															

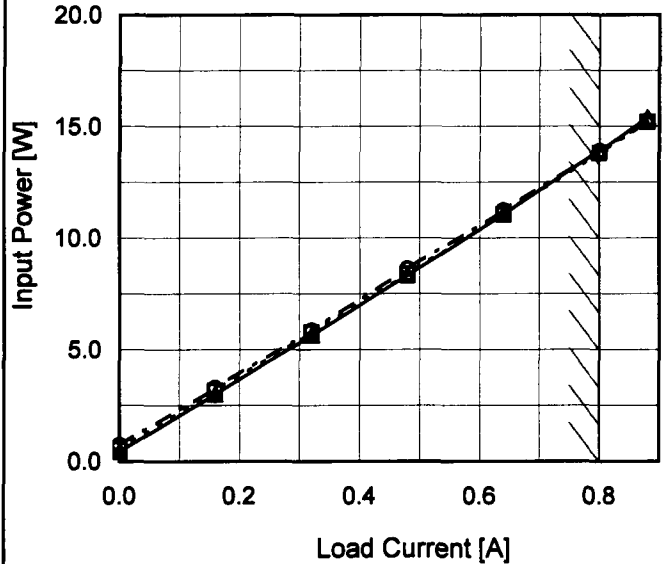
- 1 -

BC-3807

# COSEL



# COSEL

Model		SUS102415/SUCS102415		Temperature25°C																																																				
Item		Input Power (by Load Current)		Testing CircuitryFigure A																																																				
Object																																																								
1.Graph		<div><div><div>—△—</div><div>Input Volt.</div><div>18V</div></div><div><div>---□---</div><div>Input Volt.</div><div>24V</div></div><div><div>-○-</div><div>Input Volt.</div><div>36V</div></div></div> <div><p>Input Power [W]</p><p>Load Current [A]</p><p>Note: Slanted line shows the range of the rated load current.</p></div>		2.Values																																																				
		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Input Power [W]</th></tr><tr><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>0.00</td><td>0.45</td><td>0.55</td><td>0.73</td></tr><tr><td>0.16</td><td>3.00</td><td>3.15</td><td>3.29</td></tr><tr><td>0.32</td><td>5.65</td><td>5.78</td><td>5.86</td></tr><tr><td>0.48</td><td>8.33</td><td>8.39</td><td>8.62</td></tr><tr><td>0.64</td><td>11.07</td><td>11.07</td><td>11.24</td></tr><tr><td>0.80</td><td>13.91</td><td>13.81</td><td>13.89</td></tr><tr><td>0.88</td><td>15.39</td><td>15.20</td><td>15.23</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>				Load Current [A]	Input Power [W]			Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	0.00	0.45	0.55	0.73	0.16	3.00	3.15	3.29	0.32	5.65	5.78	5.86	0.48	8.33	8.39	8.62	0.64	11.07	11.07	11.24	0.80	13.91	13.81	13.89	0.88	15.39	15.20	15.23	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Input Power [W]																																																							
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]																																																					
0.00	0.45	0.55	0.73																																																					
0.16	3.00	3.15	3.29																																																					
0.32	5.65	5.78	5.86																																																					
0.48	8.33	8.39	8.62																																																					
0.64	11.07	11.07	11.24																																																					
0.80	13.91	13.81	13.89																																																					
0.88	15.39	15.20	15.23																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					

-3-

BC-3807

# COSEL

Model		SUS102415/SUCS102415																																	
Item		Efficiency (by Input Voltage)																																	
Object																																			
1.Graph		2.Values																																	
<div><div><div><div><div></div><div></div></div><div></div><div></div></div><div><div>Load 50%</div></div></div><div><div><div><div></div><div></div></div><div></div><div></div></div><div><div>Load 100%</div></div></div></div> <div><div><div><div><div>90</div><div>80</div><div>70</div><div>60</div><div>50</div><div>40</div></div><div>Efficiency [%]</div></div><div><div><div><div>10</div><div>20</div><div>30</div><div>40</div></div><div>Input Voltage [V]</div></div></div></div></div> <div><div>Note: Slanted line shows the range of the rated input voltage.</div></div>		<table><tr><th rowspan="2">Input Voltage [V]</th><th colspan="2">Efficiency [%]</th></tr><tr><th>Load 50%</th><th>Load 100%</th></tr><tr><td>16</td><td>86.5</td><td>85.6</td></tr><tr><td>18</td><td>86.2</td><td>86.3</td></tr><tr><td>20</td><td>86.0</td><td>86.8</td></tr><tr><td>24</td><td>84.9</td><td>87.0</td></tr><tr><td>30</td><td>83.5</td><td>86.8</td></tr><tr><td>36</td><td>82.3</td><td>86.5</td></tr><tr><td>40</td><td>82.2</td><td>86.1</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Input Voltage [V]	Efficiency [%]		Load 50%	Load 100%	16	86.5	85.6	18	86.2	86.3	20	86.0	86.8	24	84.9	87.0	30	83.5	86.8	36	82.3	86.5	40	82.2	86.1	--	-	-	--	-	-
Input Voltage [V]	Efficiency [%]																																		
	Load 50%	Load 100%																																	
16	86.5	85.6																																	
18	86.2	86.3																																	
20	86.0	86.8																																	
24	84.9	87.0																																	
30	83.5	86.8																																	
36	82.3	86.5																																	
40	82.2	86.1																																	
--	-	-																																	
--	-	-																																	

# COSEL

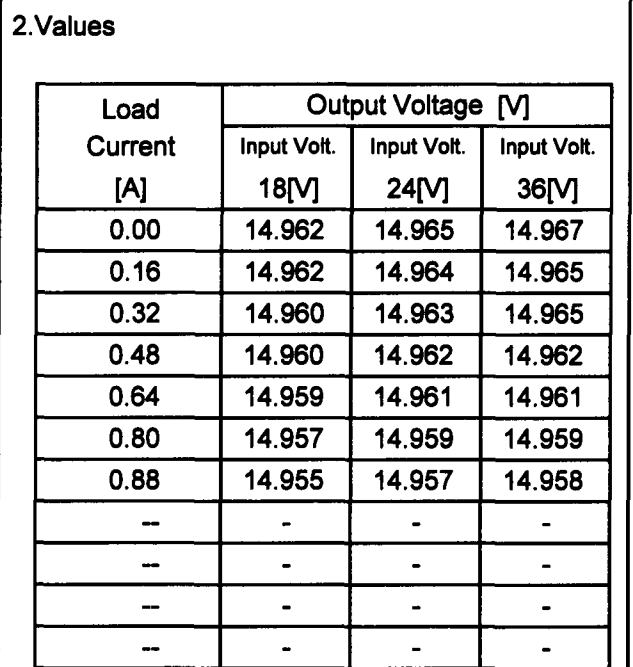
Model		SUS102415/SUCS102415		Temperature 25°C																																																				
Item		Efficiency (by Load Current)		Testing Circuitry Figure A																																																				
Object																																																								
1.Graph		<div><div><div>—△—</div><div>Input Volt.</div><div>18V</div></div><div><div>---□---</div><div>Input Volt.</div><div>24V</div></div><div><div>-·-○-·-</div><div>Input Volt.</div><div>36V</div></div></div> <div><div>Efficiency [%]</div><div>Load Current [A]</div></div>		2.Values																																																				
		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Efficiency [%]</th></tr><tr><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.16</td><td>80.2</td><td>76.4</td><td>73.3</td></tr><tr><td>0.32</td><td>85.2</td><td>83.2</td><td>82.1</td></tr><tr><td>0.48</td><td>86.6</td><td>86.0</td><td>83.7</td></tr><tr><td>0.64</td><td>86.9</td><td>86.9</td><td>85.6</td></tr><tr><td>0.80</td><td>86.4</td><td>87.0</td><td>86.5</td></tr><tr><td>0.88</td><td>85.9</td><td>87.0</td><td>86.8</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>				Load Current [A]	Efficiency [%]			Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	0.00	-	-	-	0.16	80.2	76.4	73.3	0.32	85.2	83.2	82.1	0.48	86.6	86.0	83.7	0.64	86.9	86.9	85.6	0.80	86.4	87.0	86.5	0.88	85.9	87.0	86.8	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Efficiency [%]																																																							
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]																																																					
0.00	-	-	-																																																					
0.16	80.2	76.4	73.3																																																					
0.32	85.2	83.2	82.1																																																					
0.48	86.6	86.0	83.7																																																					
0.64	86.9	86.9	85.6																																																					
0.80	86.4	87.0	86.5																																																					
0.88	85.9	87.0	86.8																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
Note: Slanted line shows the range of the rated load current.																																																								

# COSEL

Model	SUS102415/SUCS102415	Temperature 25°C Testing Circuitry Figure A																															
Item	Line Regulation																																
Object	+15V0.8A																																
1.Graph		2.Values																															
<div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <table><thead><tr><th>Input Voltage [V]</th><th>Output Voltage [V] Load 50%</th><th>Output Voltage [V] Load 100%</th></tr></thead><tbody><tr><td>16</td><td>14.958</td><td>14.957</td></tr><tr><td>18</td><td>14.960</td><td>14.956</td></tr><tr><td>20</td><td>14.961</td><td>14.955</td></tr><tr><td>24</td><td>14.962</td><td>14.955</td></tr><tr><td>30</td><td>14.962</td><td>14.954</td></tr><tr><td>36</td><td>14.963</td><td>14.953</td></tr><tr><td>40</td><td>14.963</td><td>14.953</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table>		Input Voltage [V]	Output Voltage [V] Load 50%	Output Voltage [V] Load 100%	16	14.958	14.957	18	14.960	14.956	20	14.961	14.955	24	14.962	14.955	30	14.962	14.954	36	14.963	14.953	40	14.963	14.953	--	-	-	--	-	-		
Input Voltage [V]	Output Voltage [V] Load 50%	Output Voltage [V] Load 100%																															
16	14.958	14.957																															
18	14.960	14.956																															
20	14.961	14.955																															
24	14.962	14.955																															
30	14.962	14.954																															
36	14.963	14.953																															
40	14.963	14.953																															
--	-	-																															
--	-	-																															
Note: Slanted line shows the range of the rated input voltage.																																	



Temperature	25°C
Testing Circuitry	Figure A

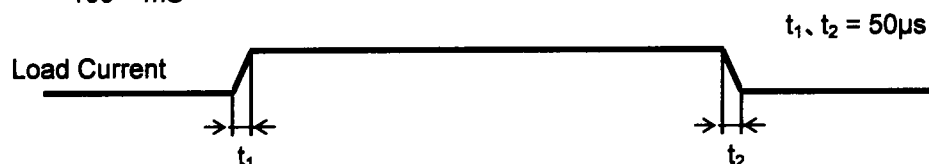


- 7 -

# COSEL

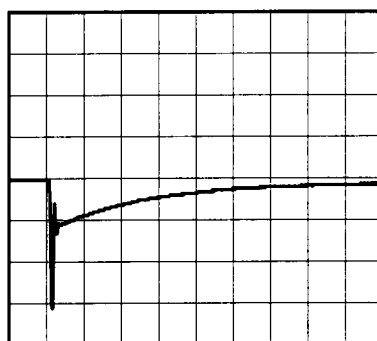
Model	SUS102415/SUCS102415	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+15V0.8A		

Input Volt. 24 V  
Cycle 100 mS

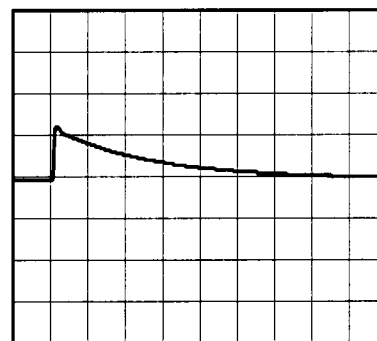


Min. Load (0A)  $\longleftrightarrow$   
Load 100% (0.8A)

200mV/div



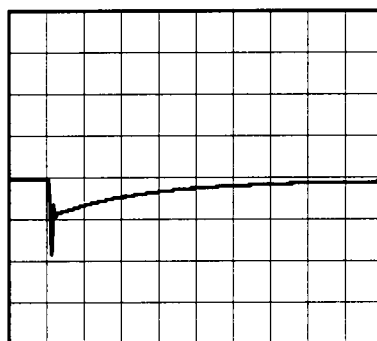
500µs/div



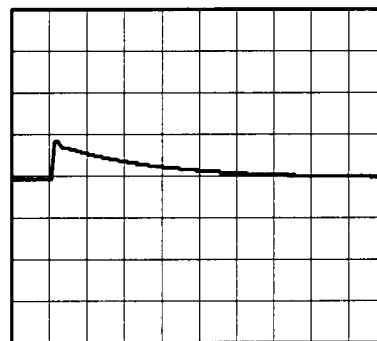
500µs/div

Min. Load (0A)  $\longleftrightarrow$   
Load 50% (0.4A)

200mV/div



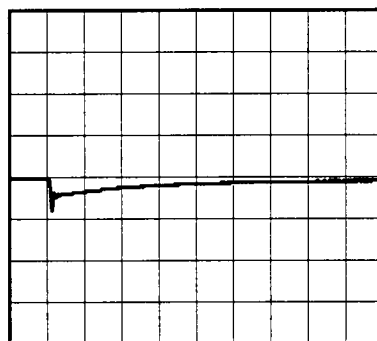
500µs/div



500µs/div

Load 50% (0.4A)  $\longleftrightarrow$   
Load 100% (0.8A)

200mV/div



500µs/div



500µs/div

# COSEL

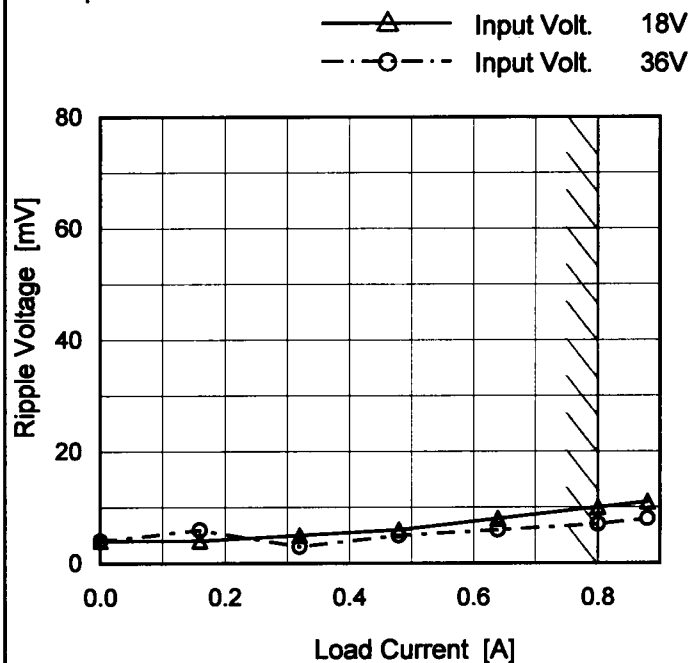
**Model** SUS102415/SUCS102415

**Item** Ripple Voltage (by Load Current)

**Object** +15V0.8A

**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]

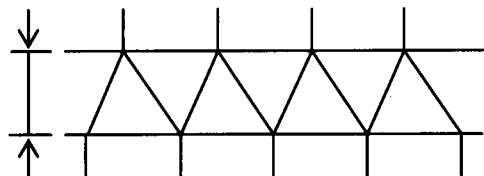


Fig. Complex Ripple Wave Form

## 2. Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 18 [V]	Input Volt. 36 [V]
0.00	4	4
0.16	4	6
0.32	5	3
0.48	6	5
0.64	8	6
0.80	10	7
0.88	11	8
—	—	—
—	—	—
—	—	—
—	—	—

**COSEL**

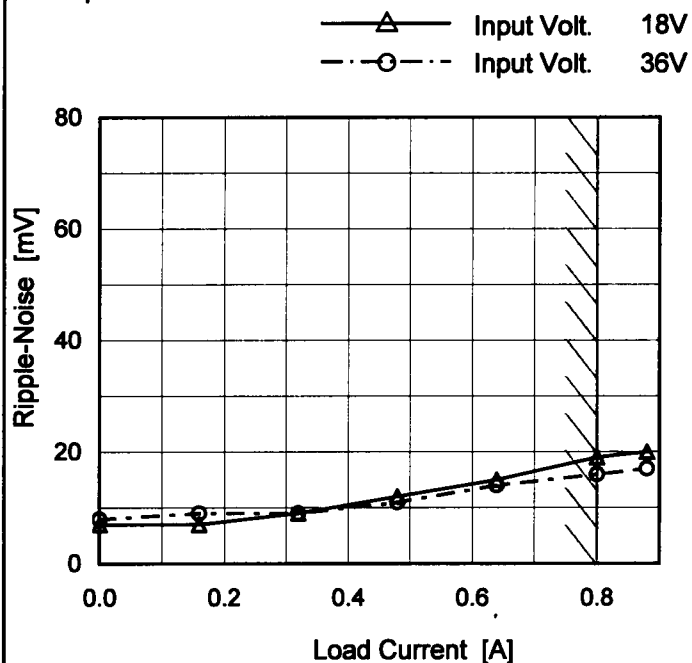
Model SUS102415/SUCS102415

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.

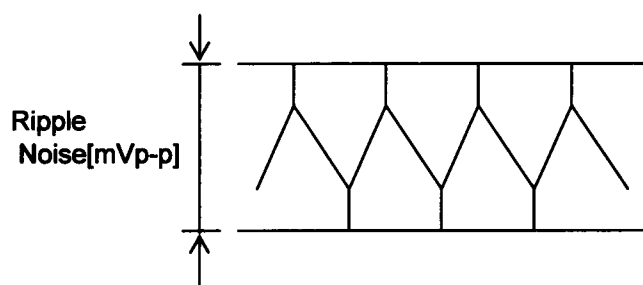


Fig.Complex Ripple Noise Wave Form

## 2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 18 [V]	Input Volt. 36 [V]
0.00	7	8
0.16	7	9
0.32	9	9
0.48	12	11
0.64	15	14
0.80	19	16
0.88	20	17
—	—	—
—	—	—
—	—	—
—	—	—

**COSEL**

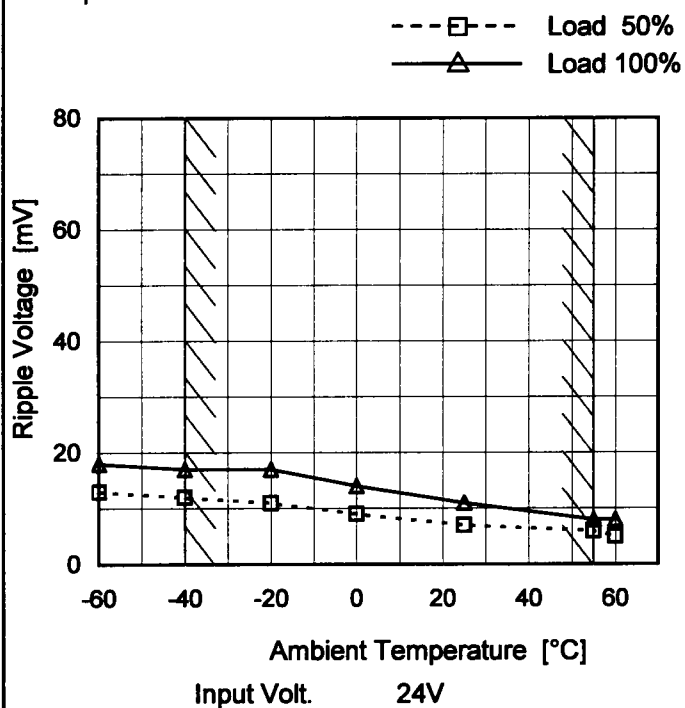
Model SUS102415/SUCS102415

Item Ripple Voltage (by Ambient Temp.)

Object +15V0.8A

Testing Circuitry Figure B

## 1.Graph



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	13	18
-40	12	17
-20	11	17
0	9	14
25	7	11
55	6	8
60	5	8
—	—	—
—	—	—
—	—	—
—	—	—

# COSEL

Model SUS102415/SUCS102415

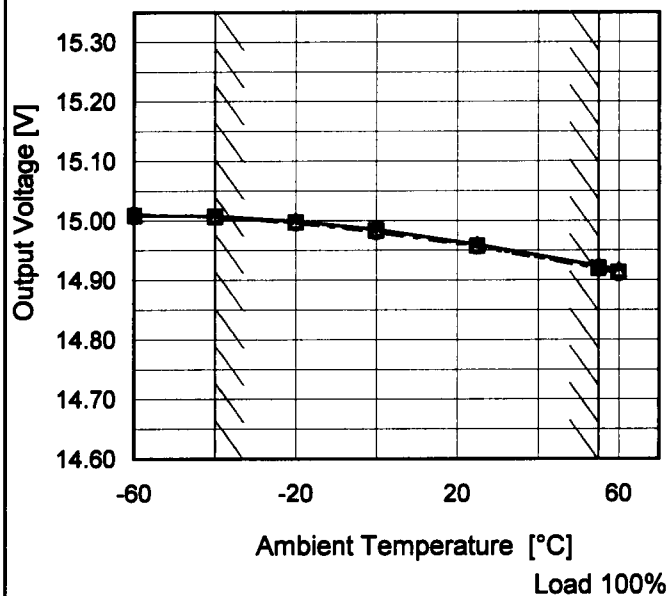
Item Ambient Temperature Drift

Object +15V0.8A

Testing Circuitry Figure A

## 1. Graph

—△— Input Volt. 18V  
 ---□--- Input Volt. 24V  
 ---○--- Input Volt. 36V



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

## 2. Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
-60	15.009	15.009	15.010
-40	15.008	15.007	15.007
-20	14.999	14.997	14.996
0	14.985	14.983	14.981
25	14.960	14.957	14.956
55	14.924	14.920	14.919
60	14.917	14.913	14.911
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—



		Testing Circuitry Figure A
Model	SUS102415/SUCS102415	
Item	Output Voltage Accuracy	
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 : 18 - 36V

Load Current : 0 - 0.8A

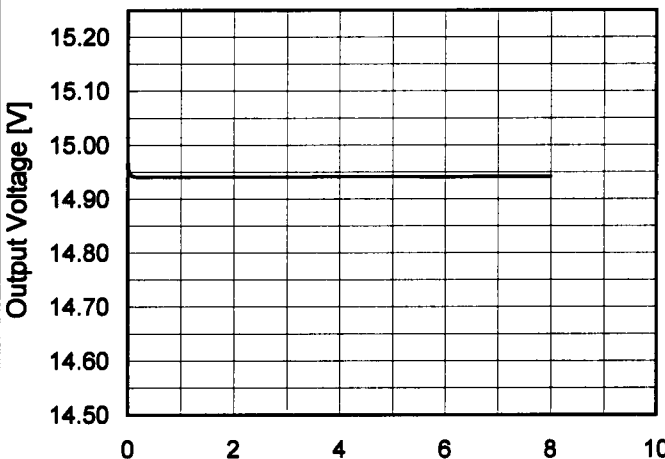
\* Output Voltage Accuracy =  $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

\* 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	15.018	±50	±0.3
Minimum Voltage	55	36	0.8	14.919		

**COSEL**

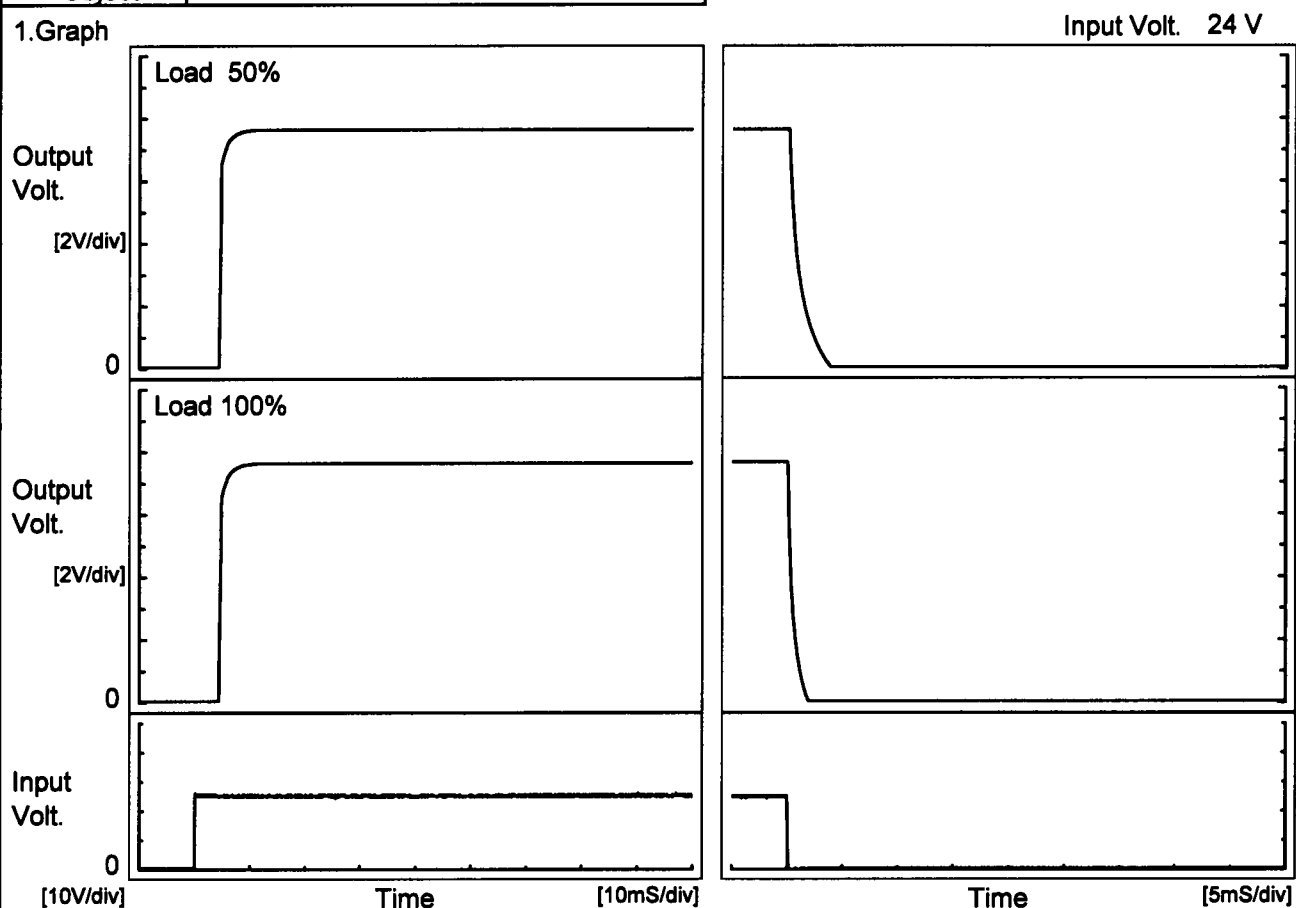
Model	SUS102415/SUCS102415	Temperature 25°C Testing Circuitry Figure A																							
Item	Time Lapse Drift																								
Object	+15V0.8A																								
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 24V Load 100%</p></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>14.973</td></tr><tr><td>0.5</td><td>14.941</td></tr><tr><td>1.0</td><td>14.941</td></tr><tr><td>2.0</td><td>14.941</td></tr><tr><td>3.0</td><td>14.941</td></tr><tr><td>4.0</td><td>14.941</td></tr><tr><td>5.0</td><td>14.942</td></tr><tr><td>6.0</td><td>14.941</td></tr><tr><td>7.0</td><td>14.942</td></tr><tr><td>8.0</td><td>14.941</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	14.973	0.5	14.941	1.0	14.941	2.0	14.941	3.0	14.941	4.0	14.941	5.0	14.942	6.0	14.941	7.0	14.942	8.0	14.941
Time since start [H]	Output Voltage [V]																								
0.0	14.973																								
0.5	14.941																								
1.0	14.941																								
2.0	14.941																								
3.0	14.941																								
4.0	14.941																								
5.0	14.942																								
6.0	14.941																								
7.0	14.942																								
8.0	14.941																								



# COSEL

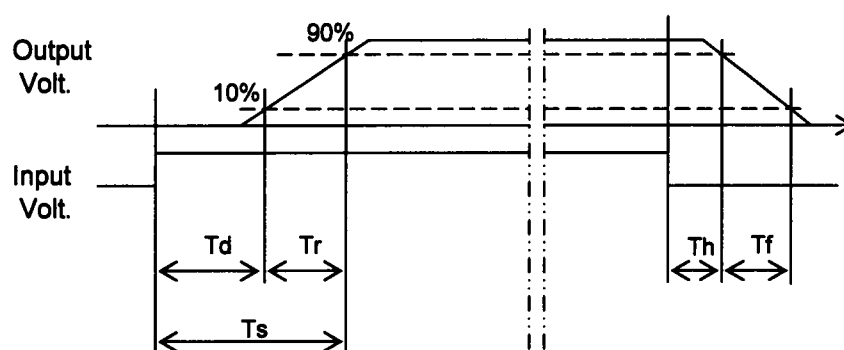
Model	SUS102415/SUCS102415	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V0.8A		

## 1. Graph



## 2. Values

		[mS]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		4.4	0.8	5.2	0.2	2.4
100 %		4.4	0.9	5.3	0.1	1.2



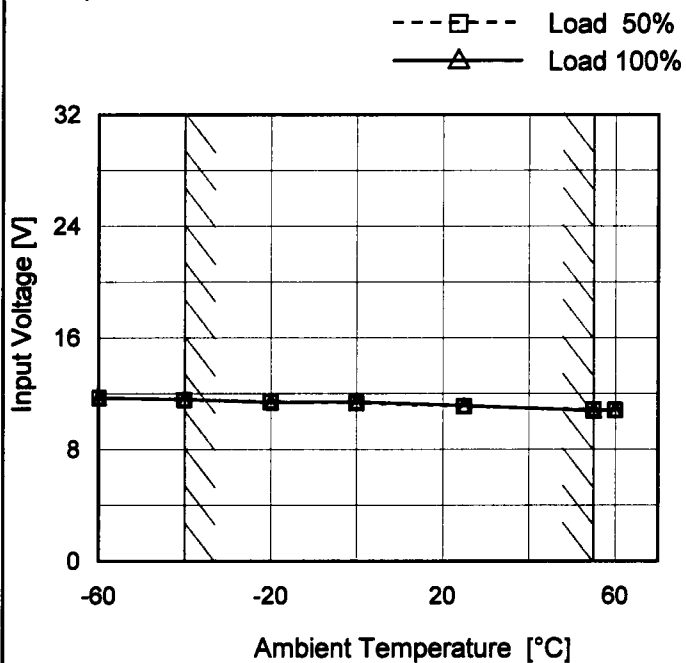
Model SUS102415/SUCS102415

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	11.7	11.8
-40	11.6	11.6
-20	11.5	11.4
0	11.3	11.4
25	11.1	11.2
55	10.9	10.8
60	10.9	10.9
--	-	-
--	-	-
--	-	-
--	-	-

# COSEL

Model		SUS102415/SUCS102415																																																								
Item		Overcurrent Protection																																																								
Object		+15V0.8A																																																								
1.Graph		2.Values																																																								
<div><div><div></div><div>Input Volt. 18V</div></div><div><div></div><div>Input Volt. 24V</div></div><div><div></div><div>Input Volt. 36V</div></div></div> <p>Note: Slanted line shows the range of the rated load current.</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>15.0</td><td>0.95</td><td>1.04</td><td>1.03</td></tr><tr><td>14.3</td><td>1.13</td><td>1.20</td><td>1.24</td></tr><tr><td>13.5</td><td>1.16</td><td>1.25</td><td>1.28</td></tr><tr><td>12.0</td><td>1.24</td><td>1.33</td><td>1.38</td></tr><tr><td>10.5</td><td>1.31</td><td>1.41</td><td>1.43</td></tr><tr><td>9.0</td><td>1.36</td><td>1.44</td><td>1.46</td></tr><tr><td>7.5</td><td>1.41</td><td>1.47</td><td>1.47</td></tr><tr><td>6.0</td><td>1.47</td><td>1.51</td><td>1.49</td></tr><tr><td>4.5</td><td>1.54</td><td>1.58</td><td>1.47</td></tr><tr><td>3.0</td><td>1.65</td><td>1.61</td><td>1.43</td></tr><tr><td>1.5</td><td>1.72</td><td>1.62</td><td>1.36</td></tr><tr><td>0.0</td><td>1.71</td><td>1.72</td><td>2.69</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	15.0	0.95	1.04	1.03	14.3	1.13	1.20	1.24	13.5	1.16	1.25	1.28	12.0	1.24	1.33	1.38	10.5	1.31	1.41	1.43	9.0	1.36	1.44	1.46	7.5	1.41	1.47	1.47	6.0	1.47	1.51	1.49	4.5	1.54	1.58	1.47	3.0	1.65	1.61	1.43	1.5	1.72	1.62	1.36	0.0	1.71	1.72	2.69
Output Voltage [V]	Load Current [A]																																																									
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]																																																							
15.0	0.95	1.04	1.03																																																							
14.3	1.13	1.20	1.24																																																							
13.5	1.16	1.25	1.28																																																							
12.0	1.24	1.33	1.38																																																							
10.5	1.31	1.41	1.43																																																							
9.0	1.36	1.44	1.46																																																							
7.5	1.41	1.47	1.47																																																							
6.0	1.47	1.51	1.49																																																							
4.5	1.54	1.58	1.47																																																							
3.0	1.65	1.61	1.43																																																							
1.5	1.72	1.62	1.36																																																							
0.0	1.71	1.72	2.69																																																							

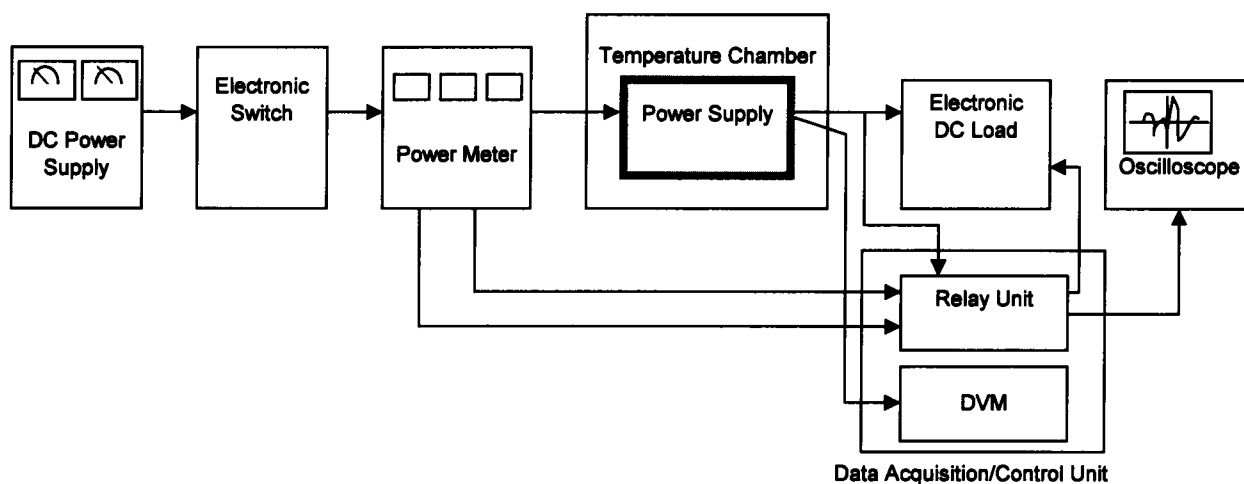


Figure A

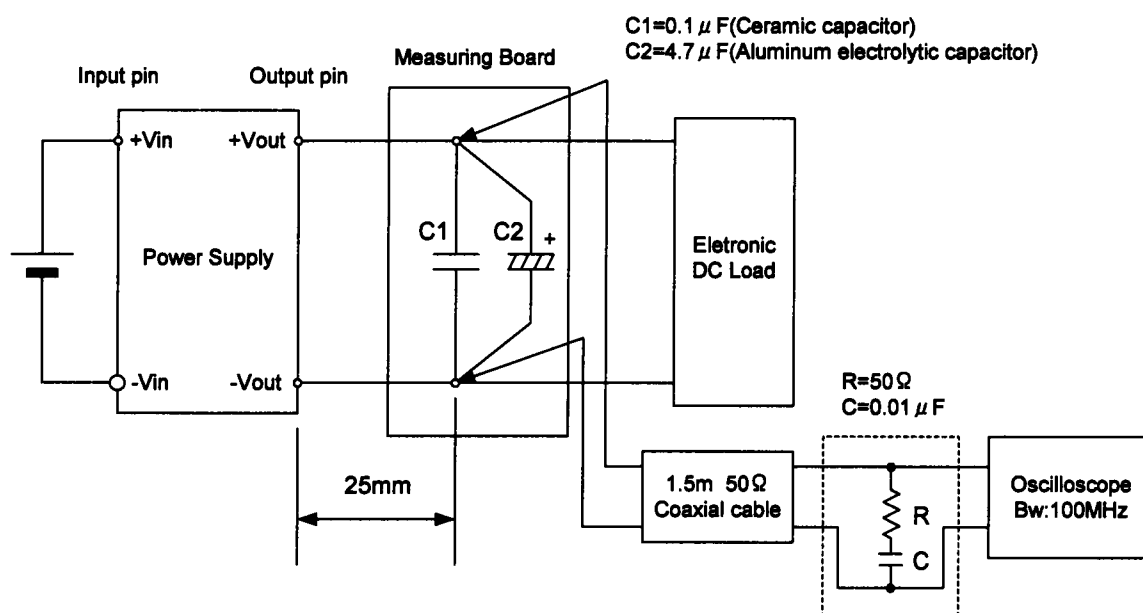


Figure B (Ripple and Ripple noise Characteristic)