

TEST DATA OF SUW64812 SUCW64812

Regulated DC Power Supply
Feb 22, 2005

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Tetsuo Sugimori Design Manager

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Yoshikazu Mizuno Design Engineer

COSEL CO.,LTD.

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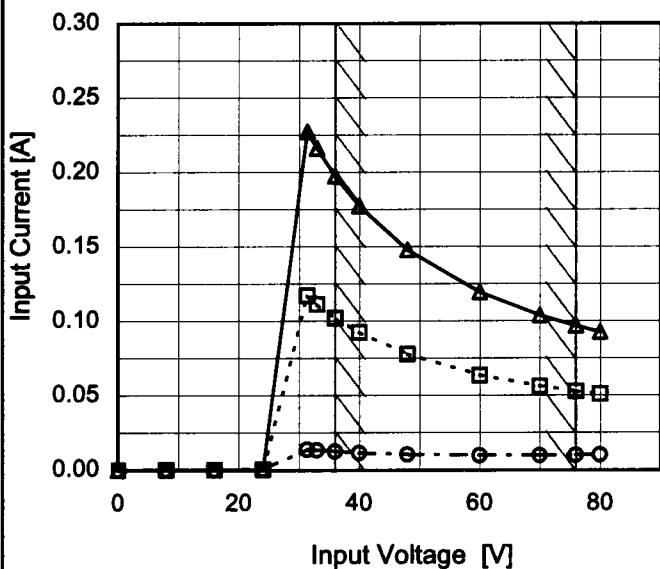
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Model	SUW64812/SUCW64812
Item	Input Current (by Input Voltage)
Object	_____

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	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
31.4	0.014	0.117	0.227
33.0	0.013	0.111	0.216
36.0	0.012	0.102	0.198
40.0	0.012	0.093	0.177
48.0	0.010	0.078	0.148
60.0	0.010	0.064	0.120
70.0	0.010	0.056	0.104
76.0	0.010	0.053	0.097
80.0	0.010	0.051	0.093
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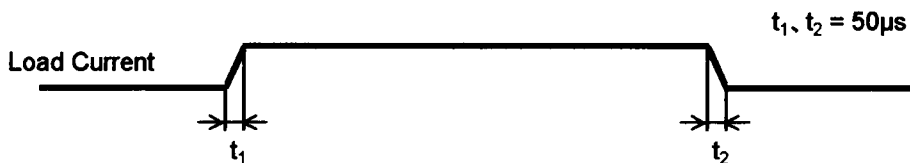


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0.000	-12.408	-12.386	-12.369																																																			
0.050	-12.240	-12.234	-12.228																																																			
0.100	-12.191	-12.185	-12.180																																																			
0.150	-12.160	-12.155	-12.150																																																			
0.200	-12.133	-12.129	-12.126																																																			
0.250	-12.108	-12.107	-12.105																																																			
0.275	-12.095	-12.096	-12.095																																																			
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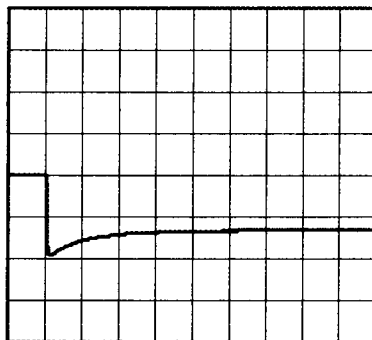
Model		SUW64812/SUCW64812	
Item		Dynamic Load Response	
Object		+12V0.25A	
		Temperature	25°C
		Testing Circuitry	Figure A

Input Volt. 48 V
 Cycle 100 mS

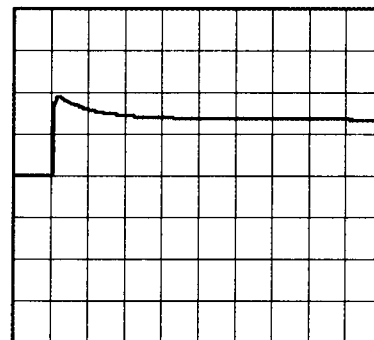


Min. Load (0A) ←→
 Load 100% (0.25A)

200mV/div



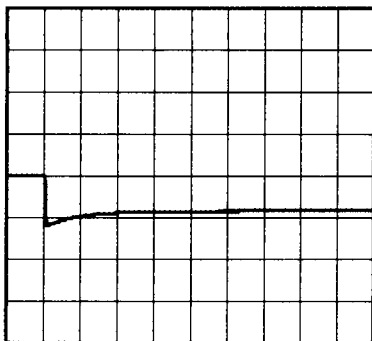
2ms/div



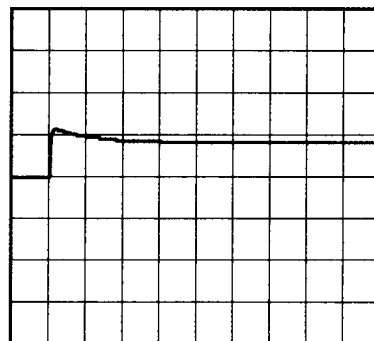
2ms/div

Min. Load (0A) ←→
 Load 50% (0.125A)

200mV/div



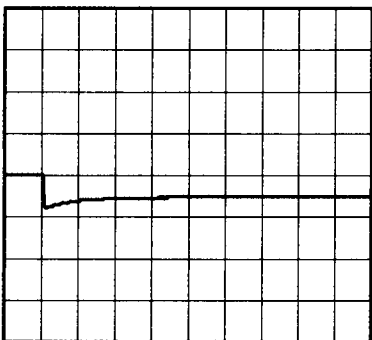
2ms/div



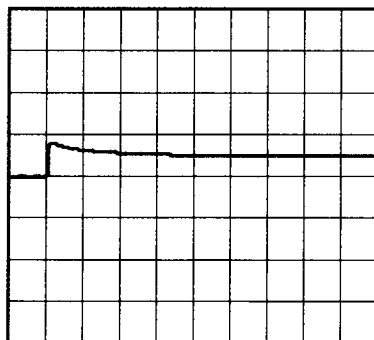
2ms/div

Load 50% (0.125A) ←→
 Load 100% (0.25A)

200mV/div



2ms/div

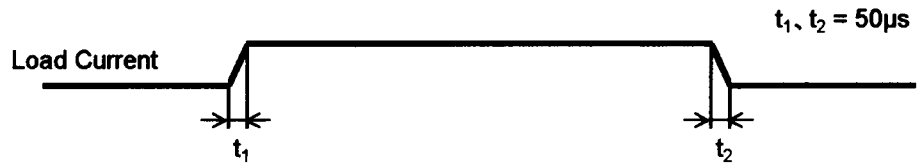


2ms/div



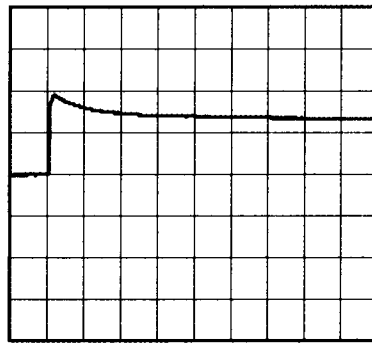
Model		SUW64812/SUCW64812	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		-12V0.25A	

Input Volt. 48 V
Cycle 100 mS

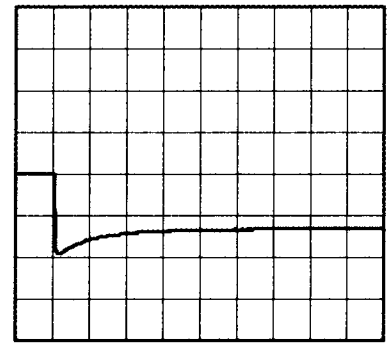


Min. Load (0A) ←→
Load 100% (0.25A)

200mV/div



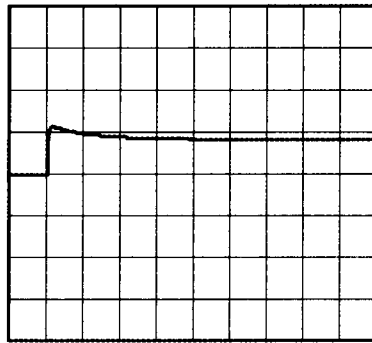
2ms/div



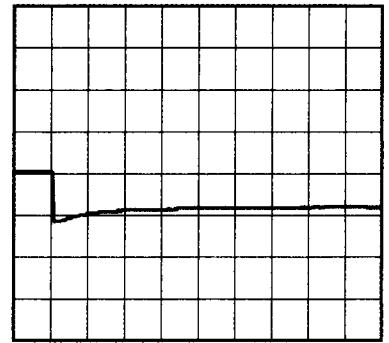
2ms/div

Min. Load (0A) ←→
Load 50% (0.125A)

200mV/div



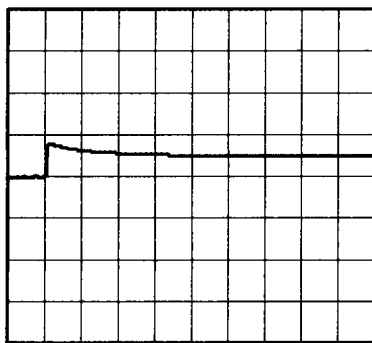
2ms/div



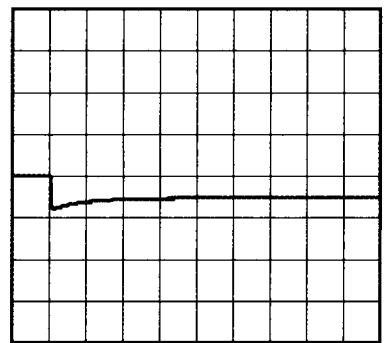
2ms/div

Load 50% (0.125A) ←→
Load 100% (0.25A)

200mV/div



2ms/div



2ms/div



Model		SUW64812/SUCW64812		Temperature 25°C																																							
Item		Ripple Voltage (by Load Current)		Testing Circuitry Figure B																																							
Object		+12V0.25A																																									
1.Graph			2.Values																																								
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<p>Model SUW64812/SUCW64812</p>		<p>Temperature 25°C Testing Circuitry Figure B</p>																																						
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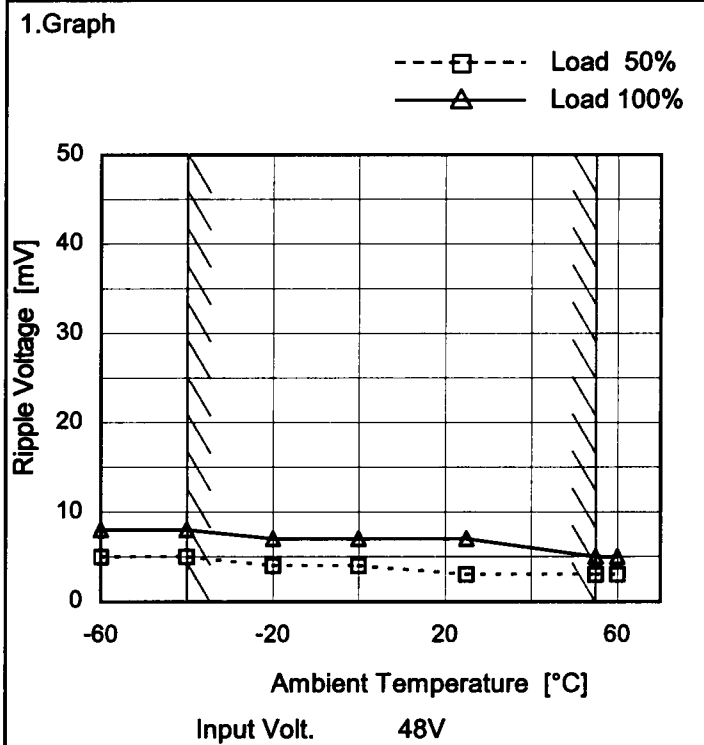


Model		SUW64812/SUCW64812		Temperature 25°C																																							
Item		Ripple-Noise		Testing Circuitry Figure B																																							
Object		-12V0.25A																																									
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Model	SUW64812/SUCW64812
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V0.25A

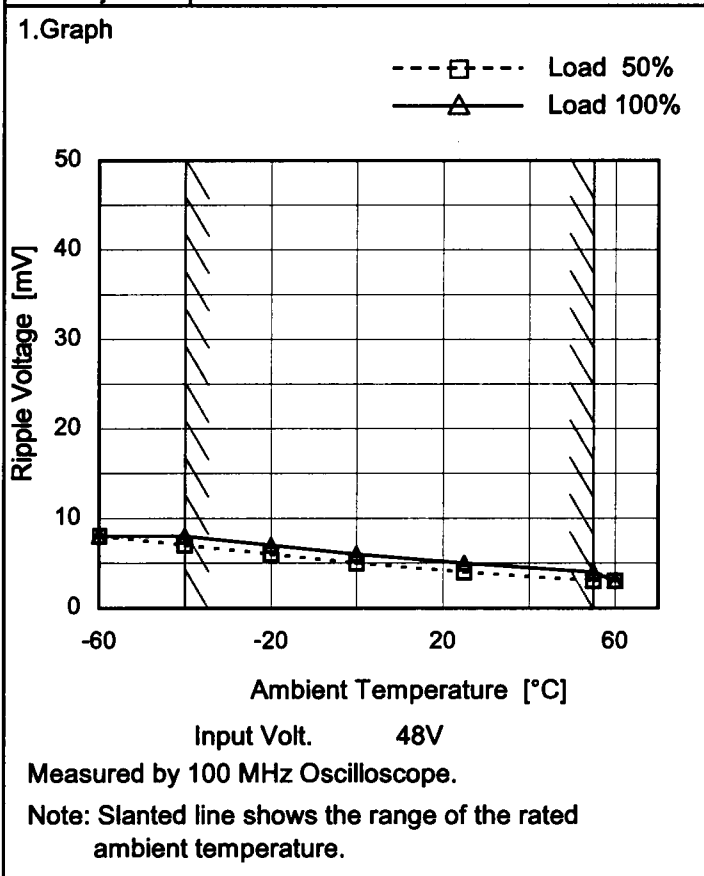
Testing Circuitry Figure B



2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	5	8
-40	5	8
-20	4	7
0	4	7
25	3	7
55	3	5
60	3	5
--	-	-
--	-	-
--	-	-
--	-	-

Object	-12V0.25A
--------	-----------



2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	8	8
-40	7	8
-20	6	7
0	5	6
25	4	5
55	3	4
60	3	3
--	-	-
--	-	-
--	-	-
--	-	-



Model		SUW64812/SUCW64812		Testing Circuitry Figure A																																																				
Item		Ambient Temperature Drift																																																						
Object		+12V0.25A																																																						
1.Graph		—△— Input Volt. 36V - - - □ - - - Input Volt. 48V - - - ○ - - - Input Volt. 76V	2.Values																																																					
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Ambient Temperature [°C]	Output Voltage [V]																																																							
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COSEL		Testing Circuitry Figure A
Model	SUW64812/SUCW64812	
Item	Output Voltage Accuracy	

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 (AVR 1) : 0 - 0.25A (AVR 2):0 - 0.25A

* Other Output : Rated Load

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

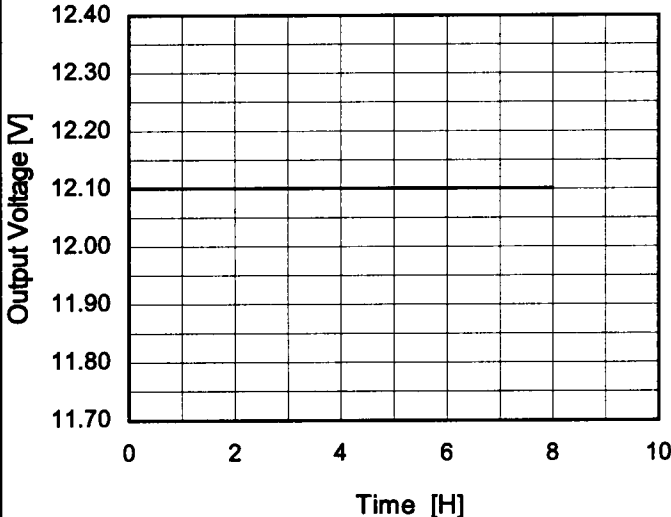
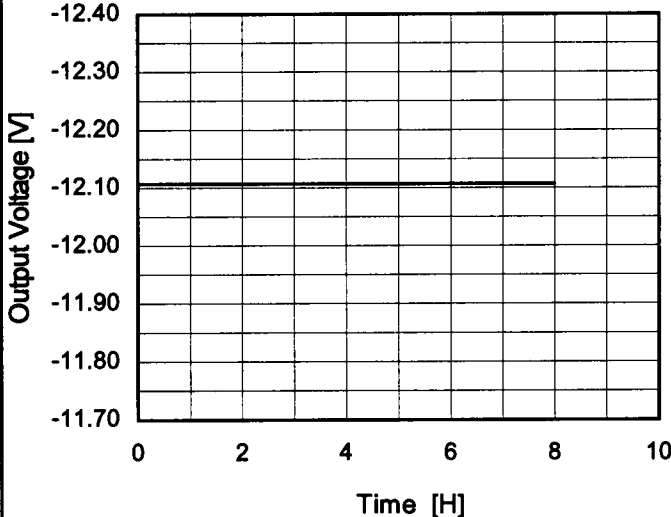
* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

2. Values

Object		+12V0.25A		Output		Output Voltage Accuracy	
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy		
			Current[A]	Voltage[V]	Value [mV]	Ration [%]	
Maximum Voltage	55	36	0	12.418	±186	±1.6	
Minimum Voltage	-40	36	0.25	12.046			

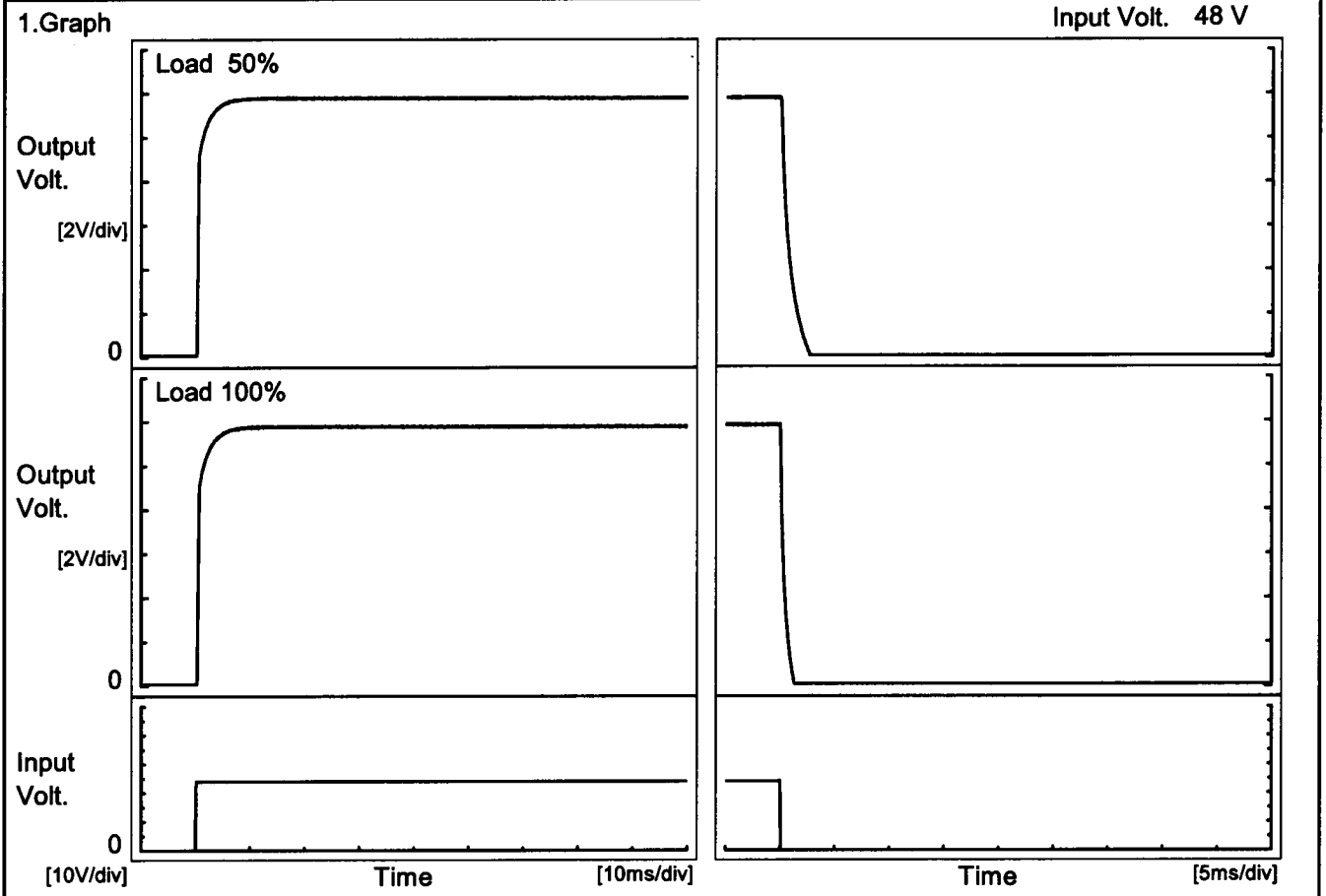
Object		-12V0.25A		Output		Output Voltage Accuracy	
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy		
			Current[A]	Voltage[V]	Value [mV]	Ration [%]	
Maximum Voltage	55	36	0	-12.427	±189	±1.6	
Minimum Voltage	-40	36	0.25	-12.050			



COSEL																									
Model	SUW64812/SUCW64812	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+12V0.25A																								
1.Graph  <p style="text-align: center;">Time [H]</p> <p style="text-align: center;">Input Volt. 48V Load 100%</p>		2.Values <table border="1" data-bbox="909 492 1276 1030"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>12.103</td></tr> <tr><td>0.5</td><td>12.101</td></tr> <tr><td>1.0</td><td>12.101</td></tr> <tr><td>2.0</td><td>12.101</td></tr> <tr><td>3.0</td><td>12.101</td></tr> <tr><td>4.0</td><td>12.101</td></tr> <tr><td>5.0</td><td>12.101</td></tr> <tr><td>6.0</td><td>12.101</td></tr> <tr><td>7.0</td><td>12.101</td></tr> <tr><td>8.0</td><td>12.101</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	12.103	0.5	12.101	1.0	12.101	2.0	12.101	3.0	12.101	4.0	12.101	5.0	12.101	6.0	12.101	7.0	12.101	8.0	12.101
Time since start [H]	Output Voltage [V]																								
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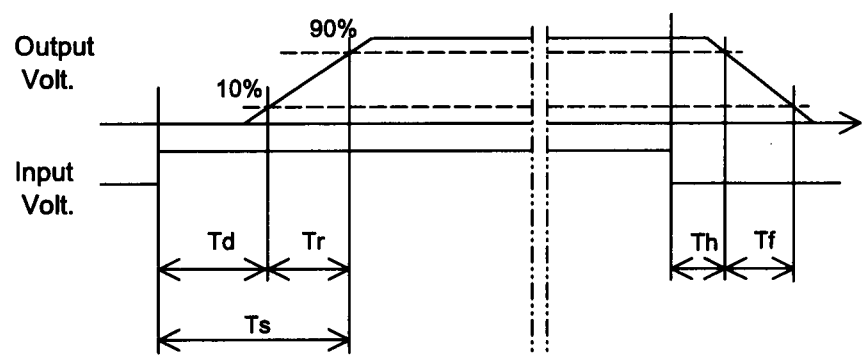
Model		SUW64812/SUCW64812	
Item		Rise and Fall Time	
Object		+12V0.25A	
		Temperature 25°C Testing Circuitry Figure A	



2.Values

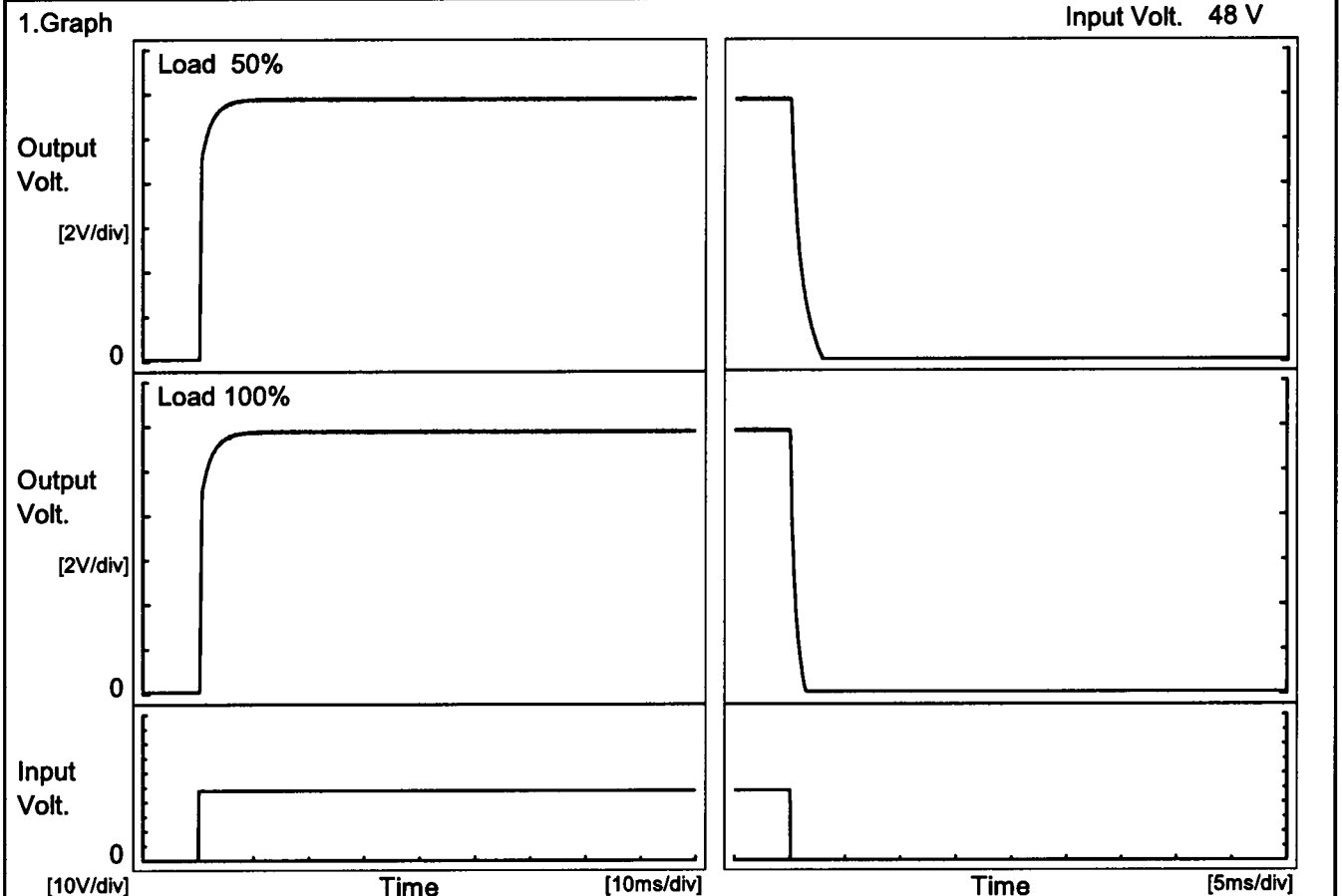
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.3	2.5	2.8	0.1	1.8
100 %		0.3	2.6	2.9	0.1	0.9

[ms]





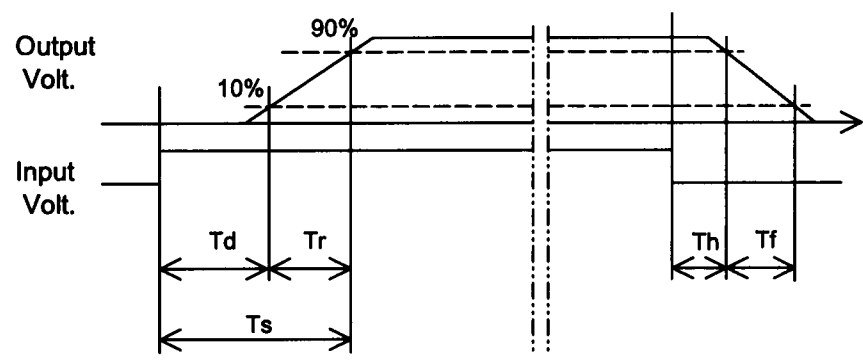
Model	SUW64812/SUCW64812	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	-12V0.25A		



2.Values

Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.3	2.5	2.8	0.1	2.0
100 %		0.3	2.5	2.8	0.1	1.0

[ms]

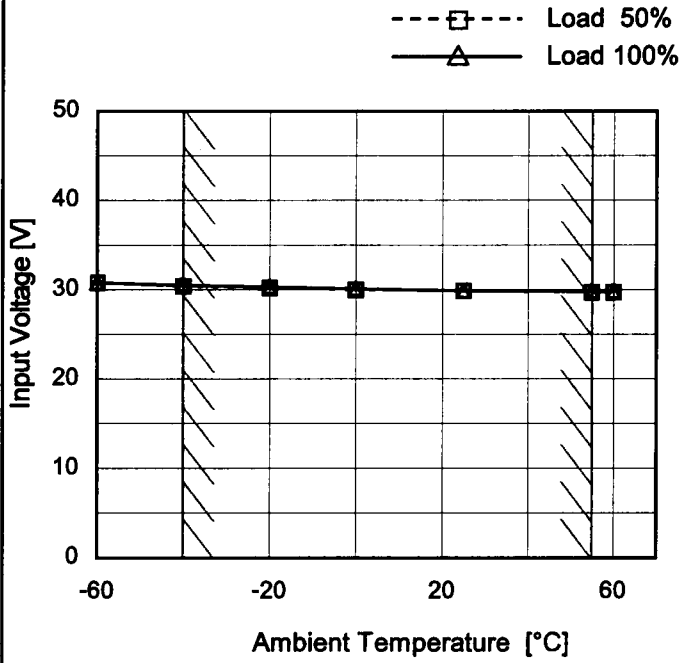




Model	SUW64812/SUCW64812
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V0.25A

Testing Circuitry Figure A

1.Graph

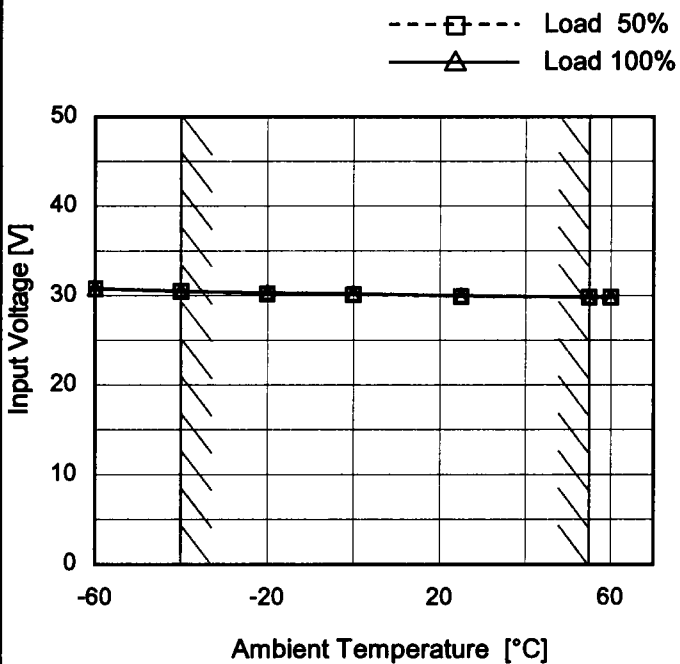


2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	30.8	30.8
-40	30.4	30.5
-20	30.2	30.3
0	30.0	30.1
25	29.9	29.9
55	29.7	29.8
60	29.7	29.8
--	-	-
--	-	-
--	-	-
--	-	-

Object	-12V0.25A
--------	-----------

1.Graph



2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	30.8	30.8
-40	30.5	30.5
-20	30.2	30.3
0	30.1	30.2
25	29.9	30.0
55	29.8	29.8
60	29.8	29.8
--	-	-
--	-	-
--	-	-
--	-	-

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



Model SUW64812/SUCW64812		Temperature 25°C Testing Circuitry Figure A																																																								
Item Overcurrent Protection																																																										
Object +12V0.25A																																																										
<p>1.Graph</p> <p style="text-align: right;"> Input Volt. 36V Input Volt. 48V Input Volt. 76V </p> <p style="text-align: center;">Load Current [A]</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="3">Load Current [A]</th> </tr> <tr> <th>Input Volt. 36[V]</th> <th>Input Volt. 48[V]</th> <th>Input Volt. 76[V]</th> </tr> </thead> <tbody> <tr><td>12.0</td><td>0.25</td><td>0.25</td><td>0.25</td></tr> <tr><td>11.4</td><td>0.46</td><td>0.49</td><td>0.46</td></tr> <tr><td>10.8</td><td>0.49</td><td>0.51</td><td>0.48</td></tr> <tr><td>9.6</td><td>0.58</td><td>0.61</td><td>0.53</td></tr> <tr><td>8.4</td><td>0.68</td><td>0.71</td><td>0.66</td></tr> <tr><td>7.2</td><td>0.75</td><td>0.77</td><td>0.72</td></tr> <tr><td>6.0</td><td>0.82</td><td>0.83</td><td>0.77</td></tr> <tr><td>4.8</td><td>0.88</td><td>0.87</td><td>0.82</td></tr> <tr><td>3.6</td><td>0.93</td><td>0.91</td><td>0.86</td></tr> <tr><td>2.4</td><td>0.95</td><td>0.91</td><td>0.87</td></tr> <tr><td>1.2</td><td>0.91</td><td>0.87</td><td>0.85</td></tr> <tr><td>0.0</td><td>1.27</td><td>1.25</td><td>1.26</td></tr> </tbody> </table>	Output Voltage [V]	Load Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	12.0	0.25	0.25	0.25	11.4	0.46	0.49	0.46	10.8	0.49	0.51	0.48	9.6	0.58	0.61	0.53	8.4	0.68	0.71	0.66	7.2	0.75	0.77	0.72	6.0	0.82	0.83	0.77	4.8	0.88	0.87	0.82	3.6	0.93	0.91	0.86	2.4	0.95	0.91	0.87	1.2	0.91	0.87	0.85	0.0	1.27	1.25	1.26	
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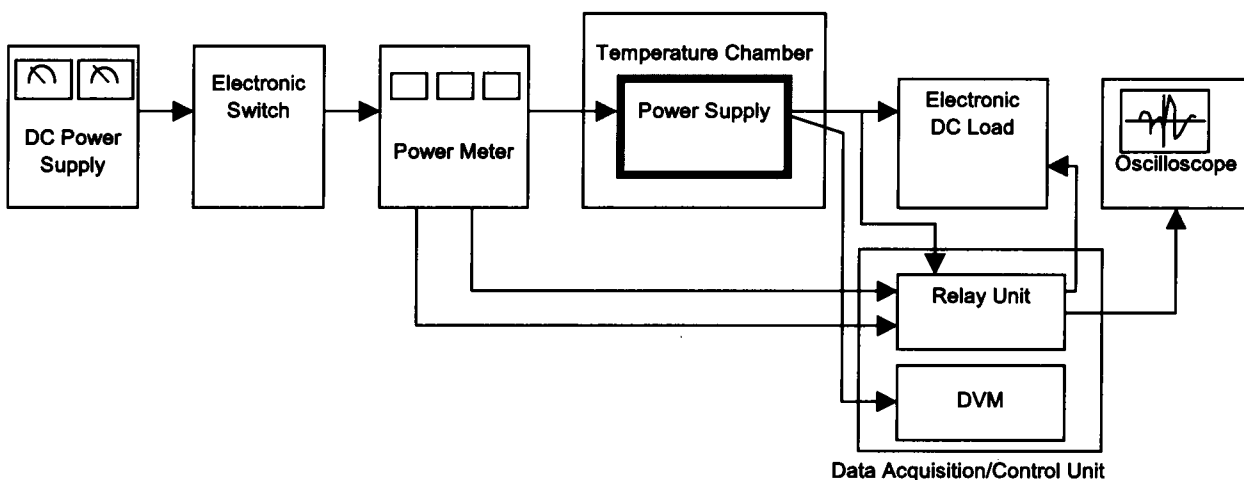


Figure A

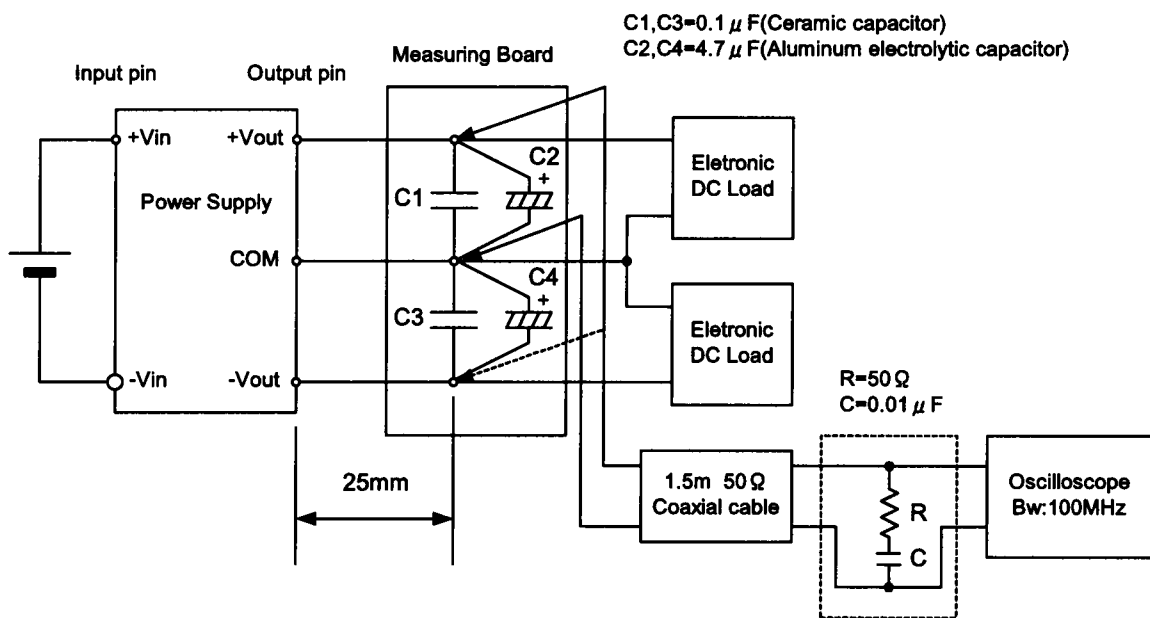


Figure B (Ripple and Ripple noise Characteristic)