

TEST DATA OF SUW62412 SUCW62412

Regulated DC Power Supply
Feb 24, 2005

Approved by : Tetsuo Sugimori
Tetsuo Sugimori Design Manager

Prepared by : Yoshikazu Mizuno
Yoshikazu Mizuno Design Engineer

COSEL CO.,LTD.



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Model		SUW62412/SUCW62412		Temperature	25°C																																																																							
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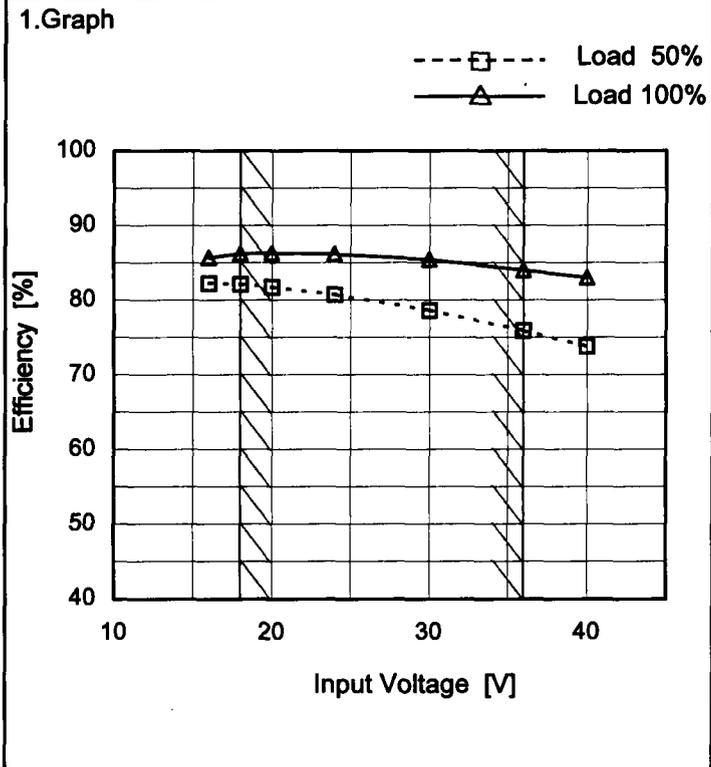


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Model	SUW62412/SUCW62412
Item	Efficiency (by Input Voltage)
Object	_____

Temperature 25°C
 Testing Circuitry Figure A



2. Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
16	82.2	85.7
18	82.1	86.2
20	81.7	86.3
24	80.8	86.2
30	78.6	85.4
36	75.9	84.0
40	73.8	83.0
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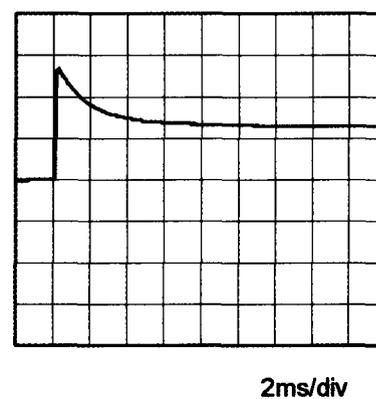
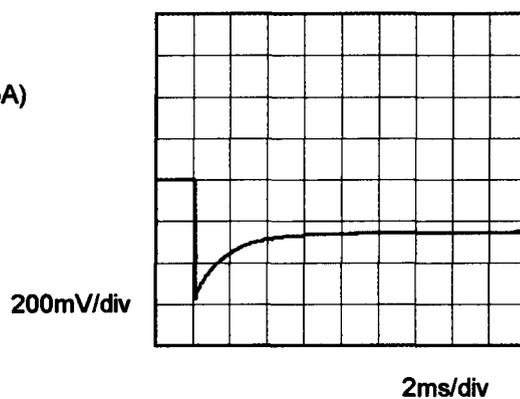


Model	SUW62412/SUCW62412	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+12V0.25A		

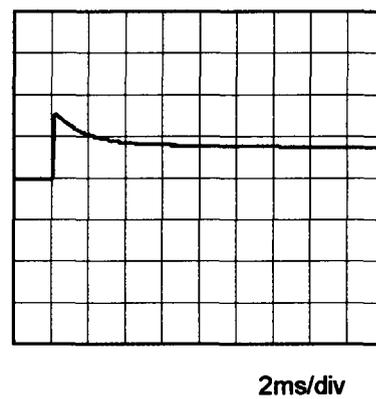
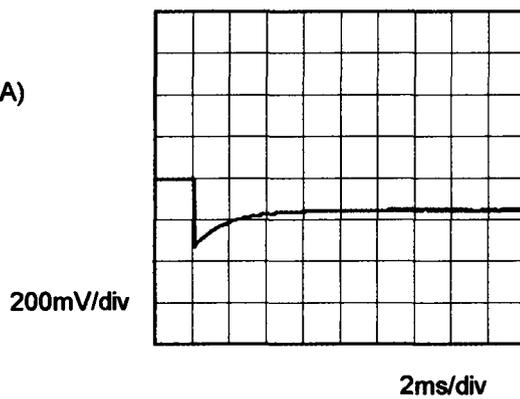
Input Volt. 24 V
 Cycle 100 mS



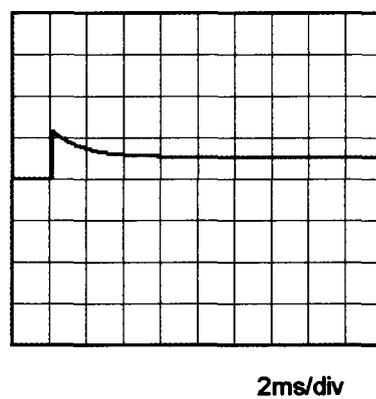
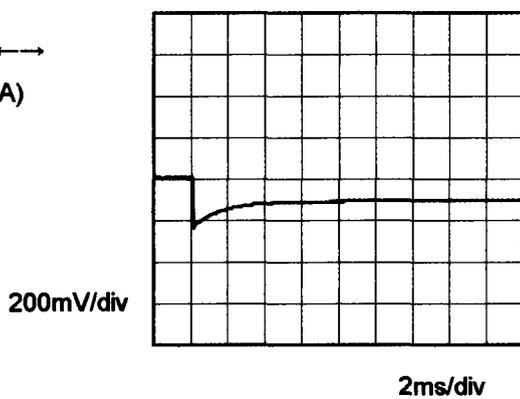
Min. Load (0A) \longleftrightarrow
 Load 100% (0.25A)



Min. Load (0A) \longleftrightarrow
 Load 50% (0.125A)



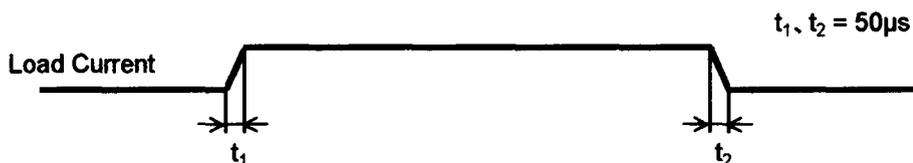
Load 50% (0.125A) \longleftrightarrow
 Load 100% (0.25A)





Model		SUW62412/SUCW62412	
Item		Temperature	25°C
Object		Testing Circuitry	Figure A
		-12V0.25A	

Input Volt. 24 V
Cycle 100 mS

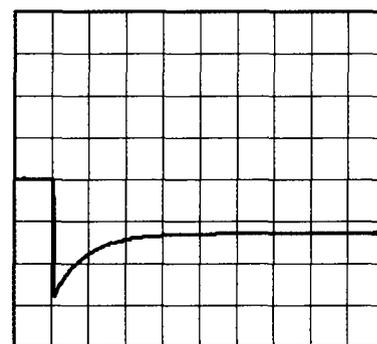


Min. Load (0A) ←→
Load 100% (0.25A)

200mV/div



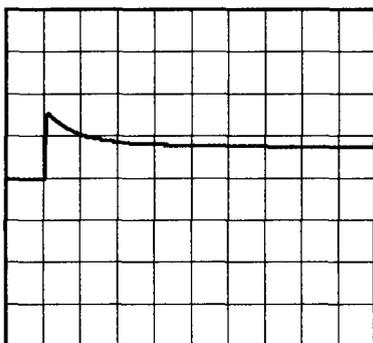
2ms/div



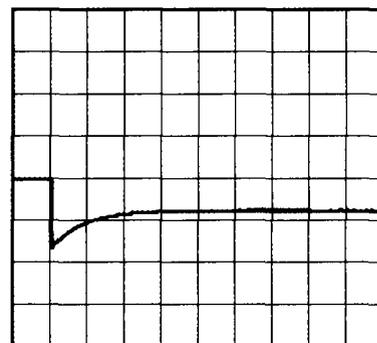
2ms/div

Min. Load (0A) ←→
Load 50% (0.125A)

200mV/div



2ms/div



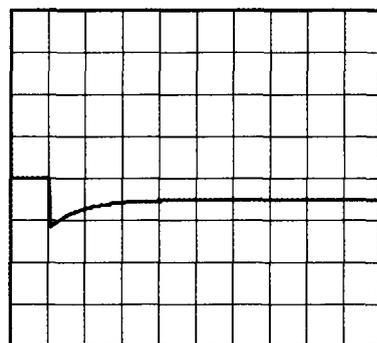
2ms/div

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

200mV/div



2ms/div



2ms/div



Model SUW62412/SUCW62412		Temperature 25°C Testing Circuitry Figure B																																						
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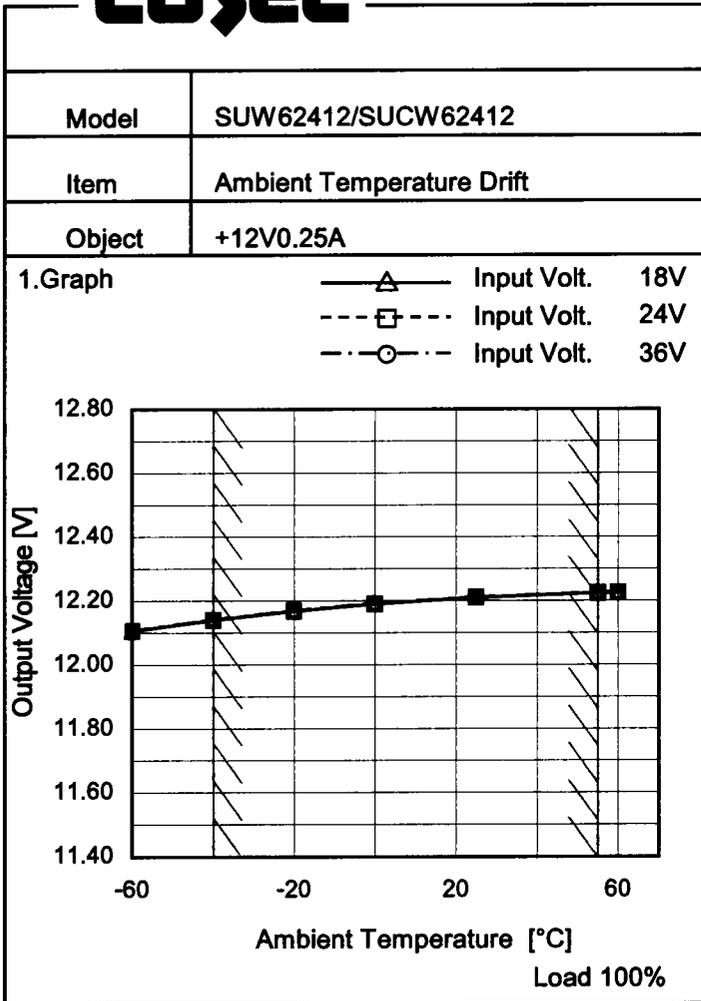
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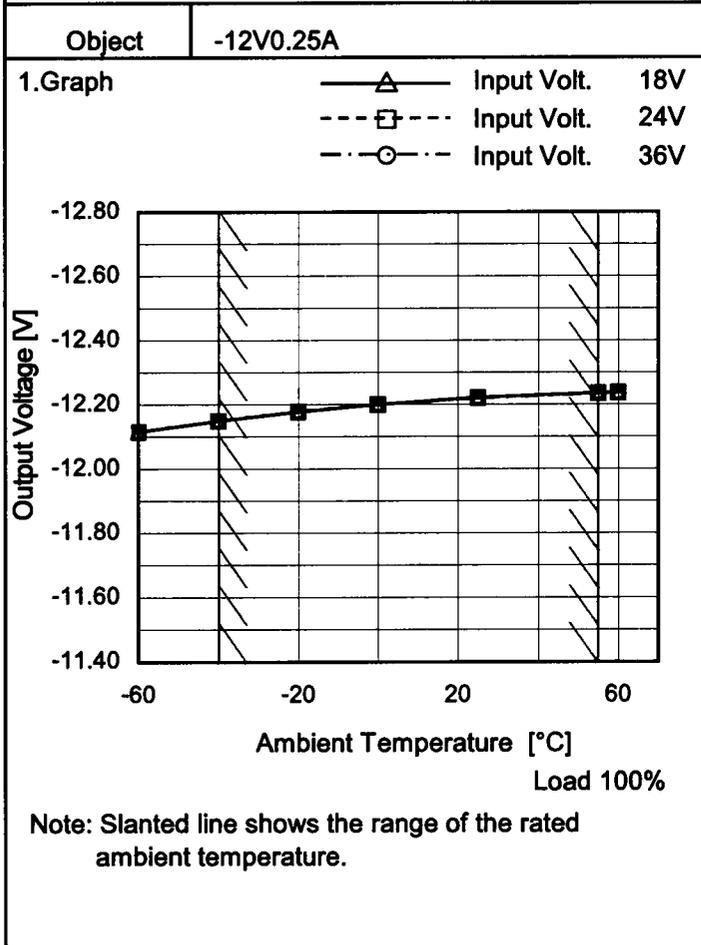
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Testing Circuitry Figure A

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
-60	12.106	12.107	12.107
-40	12.140	12.141	12.141
-20	12.168	12.169	12.169
0	12.190	12.191	12.192
25	12.210	12.211	12.211
55	12.224	12.225	12.225
60	12.225	12.226	12.226
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-



2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
-60	-12.115	-12.115	-12.114
-40	-12.149	-12.149	-12.149
-20	-12.177	-12.178	-12.178
0	-12.200	-12.200	-12.200
25	-12.222	-12.221	-12.220
55	-12.236	-12.235	-12.234
60	-12.238	-12.237	-12.236
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-



COSEL		Testing Circuitry Figure A
Model	SUW62412/SUCW62412	
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 : 18 - 36V

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 Voltage Accuracy		
Item	Temperature [°C]	Input Voltage[V]	Output		Value [mV]	Ration [%]
			Current[A]	Voltage[V]		
Maximum Voltage	55	18	0	12.502	±181	±1.5
Minimum Voltage	-40	18	0.25	12.140		

Object		-12V0.25A		Output Voltage Accuracy		
Item	Temperature [°C]	Input Voltage[V]	Output		Value [mV]	Ration [%]
			Current[A]	Voltage[V]		
Maximum Voltage	55	18	0	-12.528	±190	±1.6
Minimum Voltage	-40	18	0.25	-12.149		



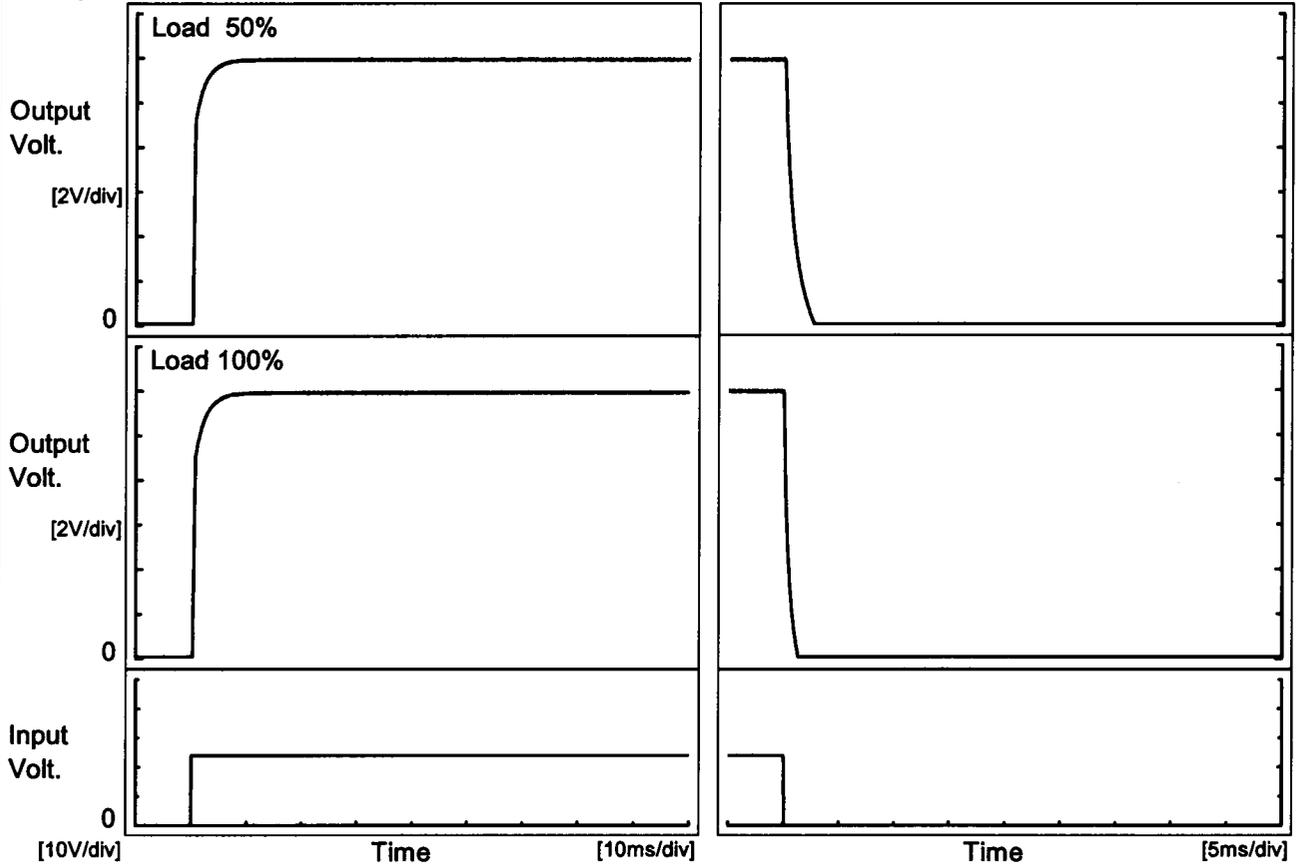
COSEL																									
Model	SUW62412/SUCW62412	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+12V0.25A																								
<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p style="text-align: center;">Input Volt. 24V Load 100%</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>12.213</td></tr> <tr><td>0.5</td><td>12.211</td></tr> <tr><td>1.0</td><td>12.211</td></tr> <tr><td>2.0</td><td>12.211</td></tr> <tr><td>3.0</td><td>12.211</td></tr> <tr><td>4.0</td><td>12.211</td></tr> <tr><td>5.0</td><td>12.211</td></tr> <tr><td>6.0</td><td>12.211</td></tr> <tr><td>7.0</td><td>12.211</td></tr> <tr><td>8.0</td><td>12.211</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	12.213	0.5	12.211	1.0	12.211	2.0	12.211	3.0	12.211	4.0	12.211	5.0	12.211	6.0	12.211	7.0	12.211	8.0	12.211
Time since start [H]	Output Voltage [V]																								
0.0	12.213																								
0.5	12.211																								
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<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p style="text-align: center;">Input Volt. 24V Load 100%</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>-12.223</td></tr> <tr><td>0.5</td><td>-12.222</td></tr> <tr><td>1.0</td><td>-12.221</td></tr> <tr><td>2.0</td><td>-12.221</td></tr> <tr><td>3.0</td><td>-12.221</td></tr> <tr><td>4.0</td><td>-12.221</td></tr> <tr><td>5.0</td><td>-12.221</td></tr> <tr><td>6.0</td><td>-12.221</td></tr> <tr><td>7.0</td><td>-12.221</td></tr> <tr><td>8.0</td><td>-12.221</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	-12.223	0.5	-12.222	1.0	-12.221	2.0	-12.221	3.0	-12.221	4.0	-12.221	5.0	-12.221	6.0	-12.221	7.0	-12.221	8.0	-12.221
Time since start [H]	Output Voltage [V]																								
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Model		SUW62412/SUCW62412	
Item		Rise and Fall Time	
Object		+12V0.25A	
		Temperature	25°C
		Testing Circuitry	Figure A

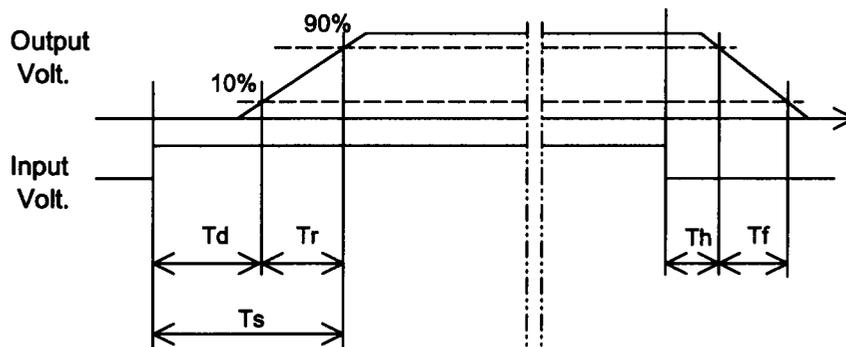
1. Graph

Input Volt. 24 V



2. Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
	50 %	0.3	2.1	2.4	0.1	1.8
	100 %	0.3	2.4	2.7	0.1	0.9

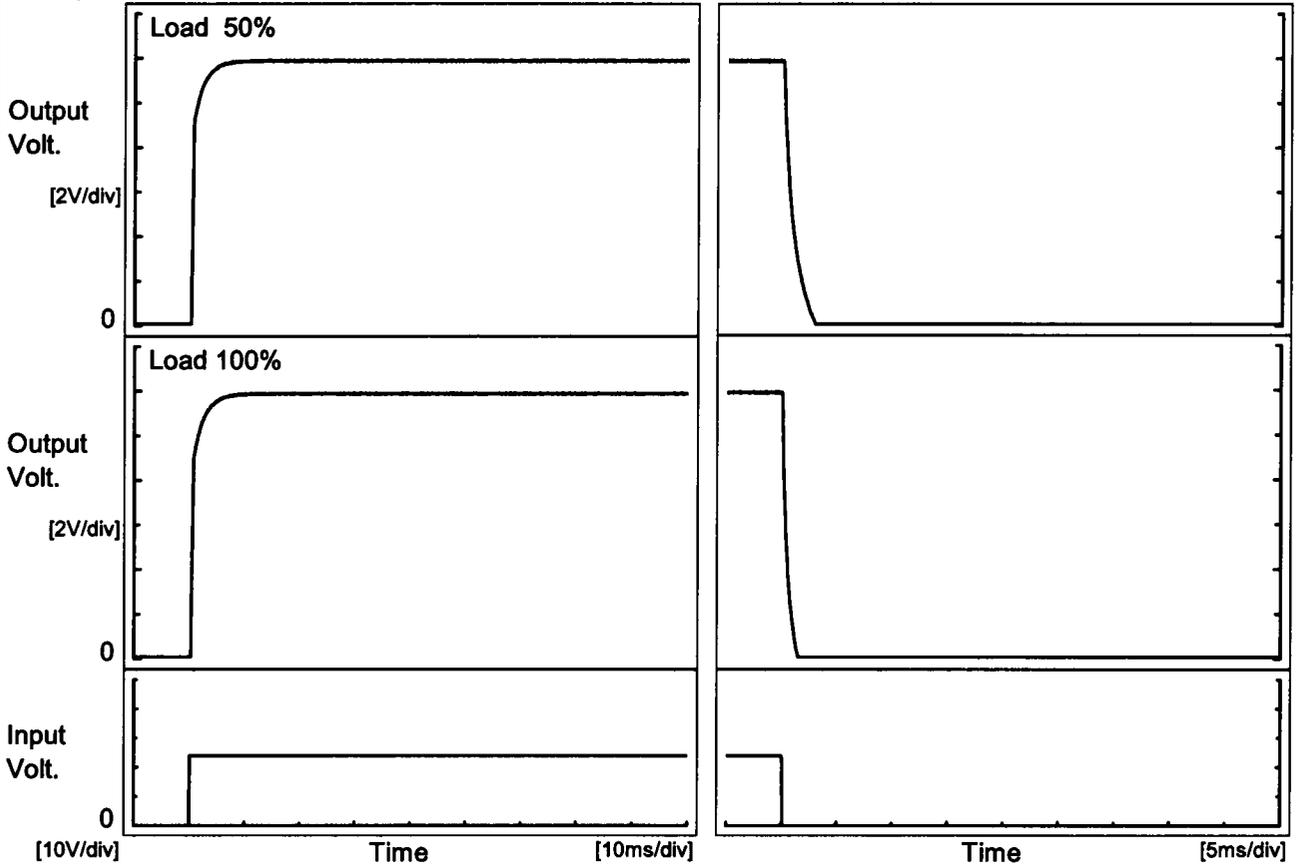




Model		SUW62412/SUCW62412	
Item		Rise and Fall Time	
Object		-12V0.25A	
		Temperature 25°C Testing Circuitry Figure A	

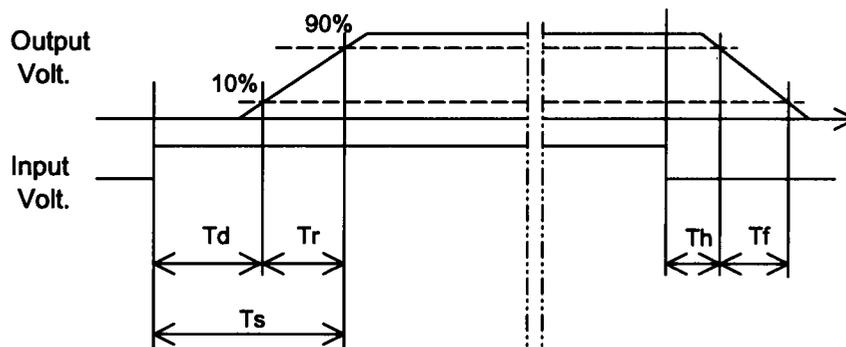
1. Graph

Input Volt. 24 V



2. Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.3	2.2	2.5	0.1	2.0
100 %		0.3	2.5	2.8	0.1	1.0

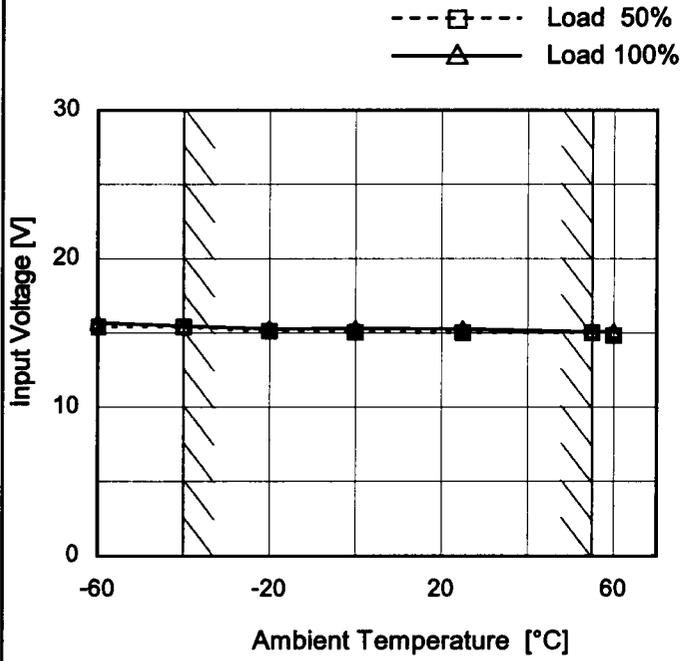




Model	SUW62412/SUCW62412
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V0.25A

Testing Circuitry Figure A

1.Graph

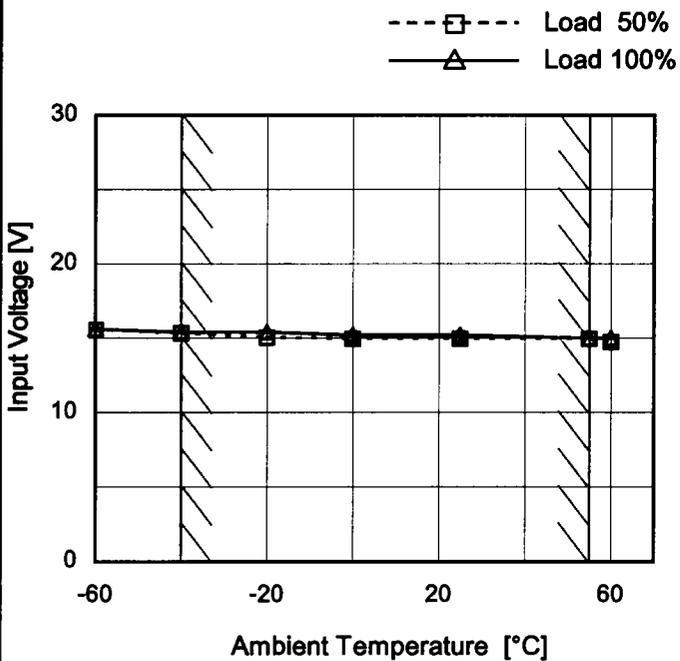


2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	15.5	15.7
-40	15.5	15.5
-20	15.2	15.3
0	15.1	15.3
25	15.1	15.3
55	15.1	15.1
60	14.9	15.1
--	-	-
--	-	-
--	-	-
--	-	-

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

1.Graph



2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	15.6	15.6
-40	15.4	15.4
-20	15.1	15.5
0	15.0	15.3
25	15.0	15.3
55	15.0	15.0
60	14.8	15.0
--	-	-
--	-	-
--	-	-
--	-	-

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



Model		SUW62412/SUCW62412		Temperature 25°C Testing Circuitry Figure A																																																								
Item		Overcurrent Protection																																																										
Object		+12V0.25A																																																										
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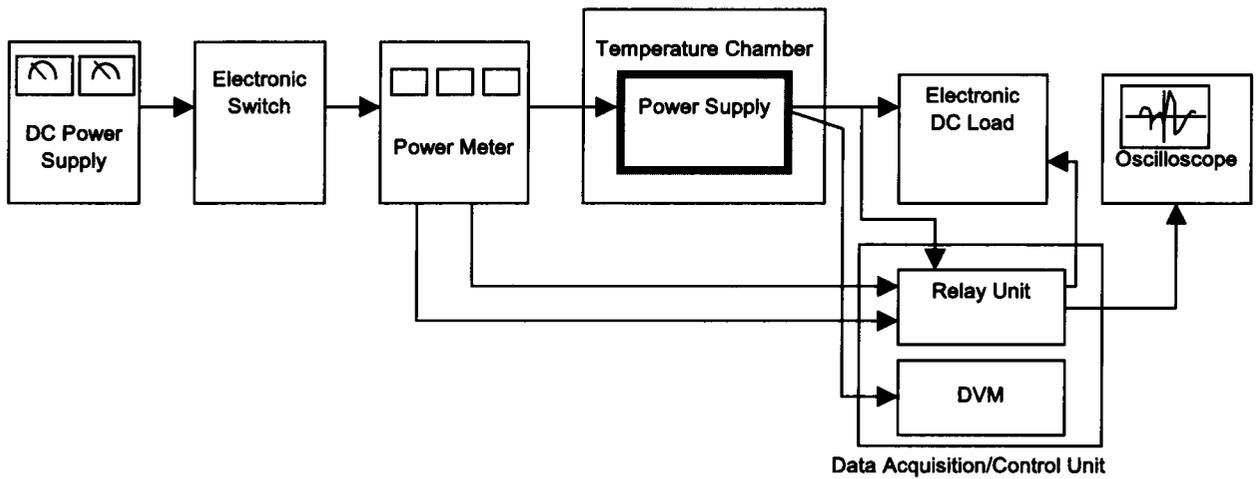


Figure A

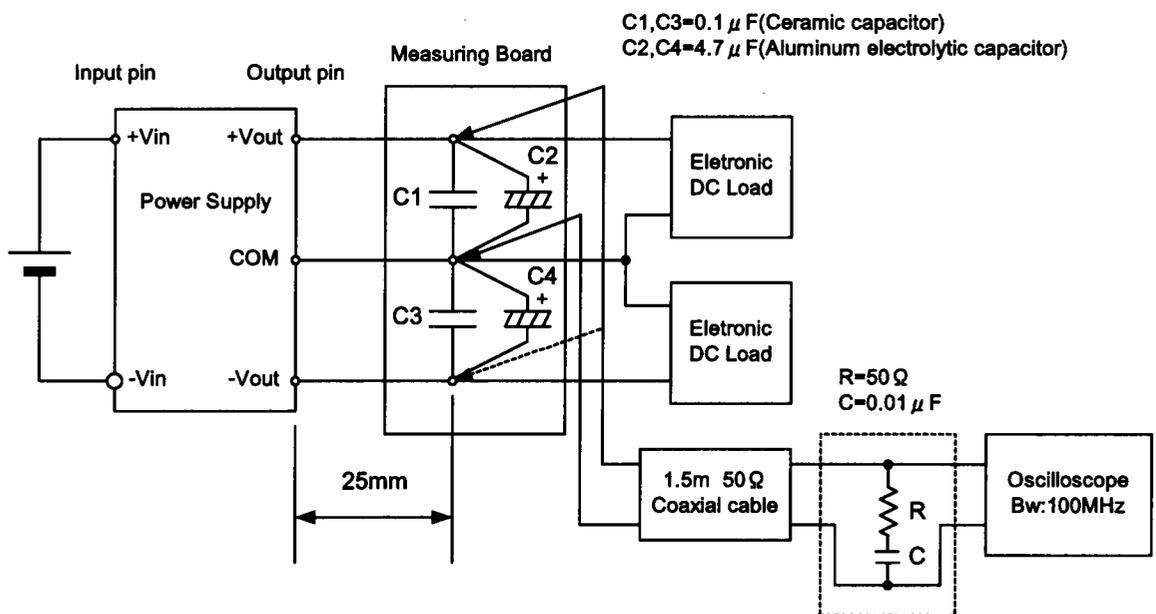


Figure B (Ripple and Ripple noise Characteristic)