

# TEST DATA OF SFS304810

Regulated DC Power Supply  
Apr.5. 2004

Approved by : Isao Yasuda Design Manager

Prepared by : Tatsuya Mano Design Engineer

**COSEL CO.,LTD.**

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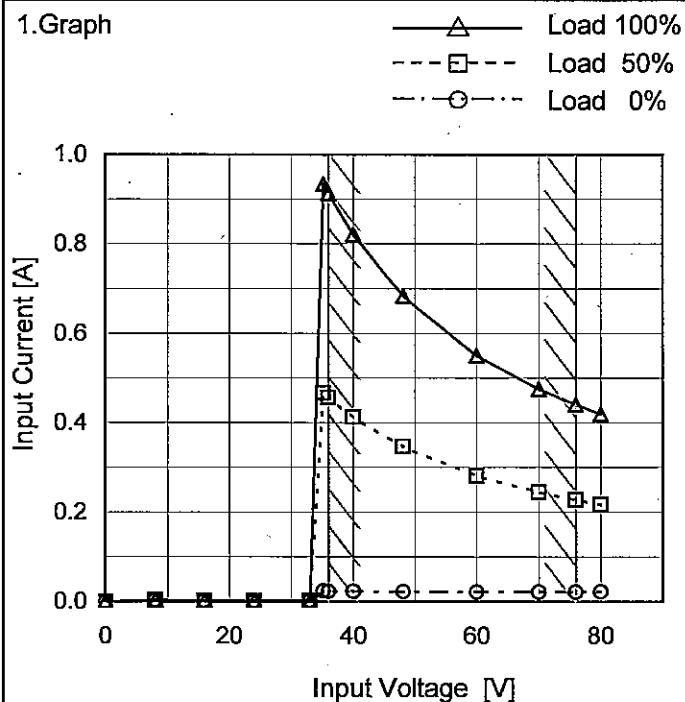
Model SFS304810

Item Input Current (by Input Voltage)

Object

Temperature 25°C  
Testing Circuitry Figure A

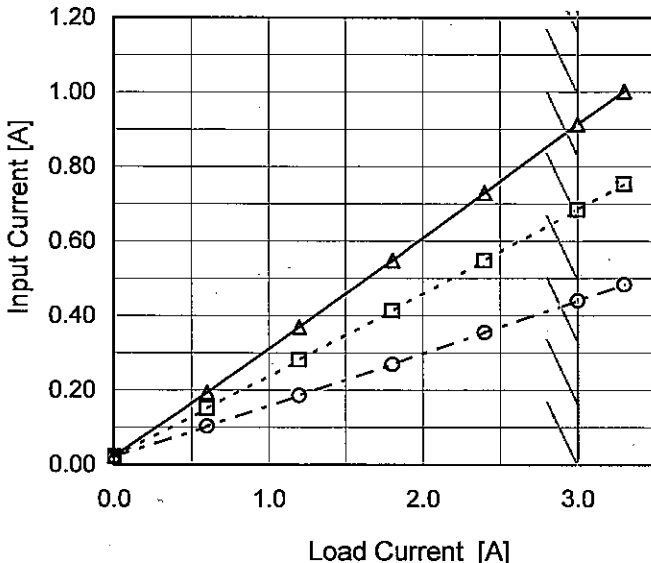
## 1. Graph

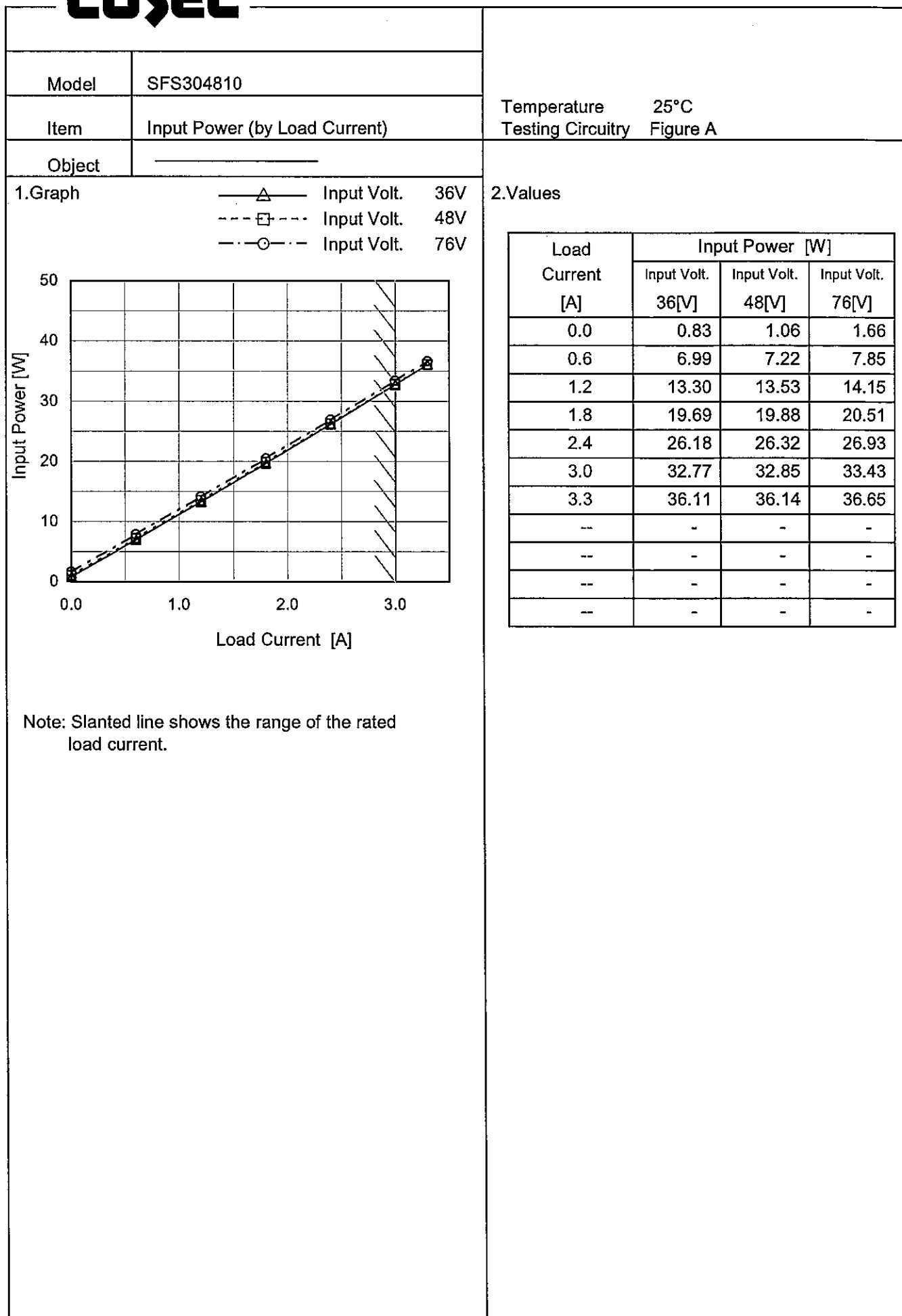


Note: Slanted line shows the range of the rated input voltage.

## 2. Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
8	0.003	0.003	0.003
16	0.002	0.002	0.002
24	0.002	0.002	0.002
33	0.002	0.002	0.002
35	0.023	0.467	0.934
36	0.023	0.457	0.914
40	0.023	0.413	0.821
48	0.022	0.347	0.684
60	0.022	0.282	0.551
70	0.022	0.245	0.476
76	0.022	0.228	0.441
80	0.022	0.217	0.419
—	—	—	—
—	—	—	—
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Model		SFS304810		Temperature		25°C																																																				
Item		Input Current (by Load Current)		Testing Circuitry		Figure A																																																				
Object		_____																																																								
1.Graph				2.Values																																																						
<div><div><div>—△—</div><div>Input Volt.</div><div>36V</div></div><div><div>---□---</div><div>Input Volt.</div><div>48V</div></div><div><div>---○---</div><div>Input Volt.</div><div>76V</div></div></div>  <p>Input Current [A]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Input Current [A]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>0.0</td><td>0.023</td><td>0.022</td><td>0.022</td></tr><tr><td>0.6</td><td>0.194</td><td>0.151</td><td>0.104</td></tr><tr><td>1.2</td><td>0.370</td><td>0.282</td><td>0.186</td></tr><tr><td>1.8</td><td>0.548</td><td>0.414</td><td>0.270</td></tr><tr><td>2.4</td><td>0.729</td><td>0.548</td><td>0.355</td></tr><tr><td>3.0</td><td>0.914</td><td>0.684</td><td>0.441</td></tr><tr><td>3.3</td><td>1.002</td><td>0.753</td><td>0.484</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 Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	0.023	0.022	0.022	0.6	0.194	0.151	0.104	1.2	0.370	0.282	0.186	1.8	0.548	0.414	0.270	2.4	0.729	0.548	0.355	3.0	0.914	0.684	0.441	3.3	1.002	0.753	0.484	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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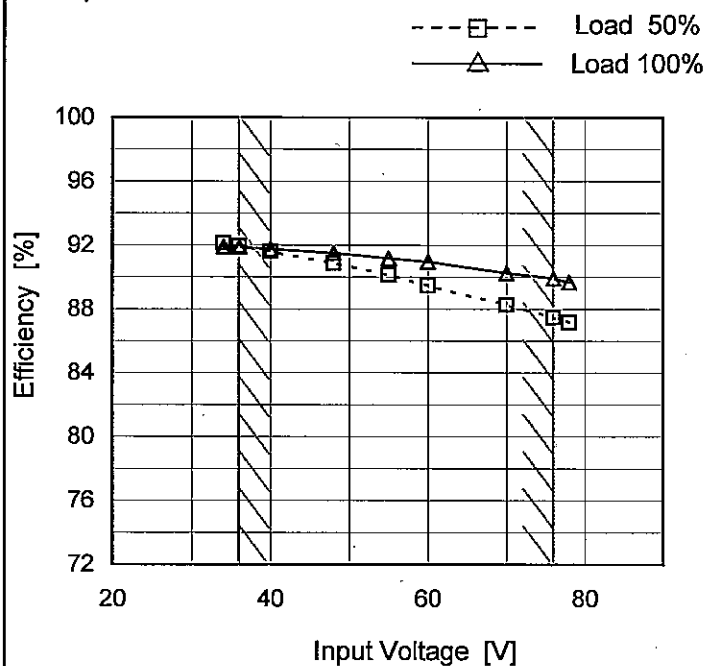
Model SFS304810

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%
34	92.1	91.9
36	91.9	91.9
40	91.6	91.7
48	90.9	91.5
55	90.1	91.2
60	89.5	91.0
70	88.3	90.3
76	87.5	89.9
78	87.2	89.7

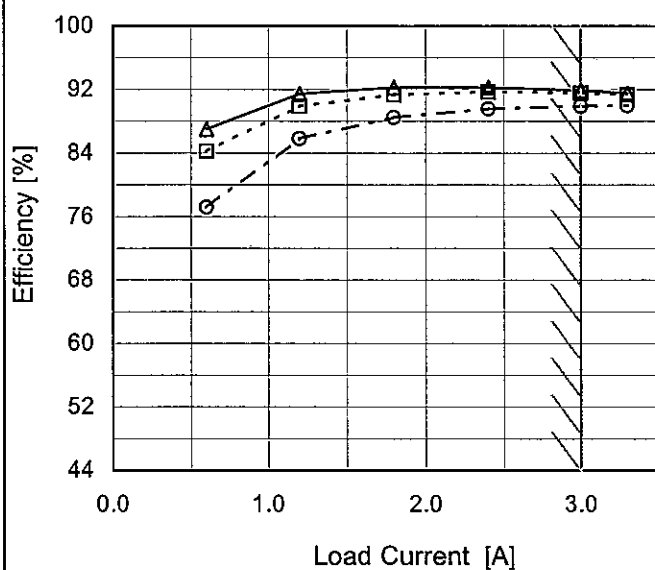
# COSEL

Model	SFS304810
Item	Efficiency (by Load Current)
Object	

Temperature 25°C  
Testing Circuitry Figure A

1. Graph

—△— Input Volt. 36V  
 ---□--- Input Volt. 48V  
 ---○--- Input Volt. 76V



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]
0.0	-	-	-
0.6	87.0	84.2	77.2
1.2	91.5	89.9	85.8
1.8	92.3	91.3	88.5
2.4	92.3	91.7	89.6
3.0	91.9	91.5	89.9
3.3	91.6	91.4	90.0
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

**COSEL**

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# COSEL

Model SFS304810

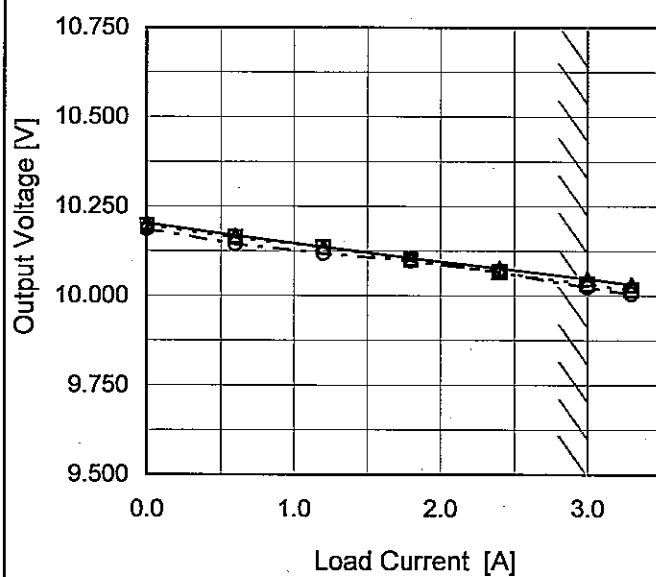
Item Load Regulation

Object +10V3A

Temperature 25°C  
Testing Circuitry Figure A

## 1. Graph

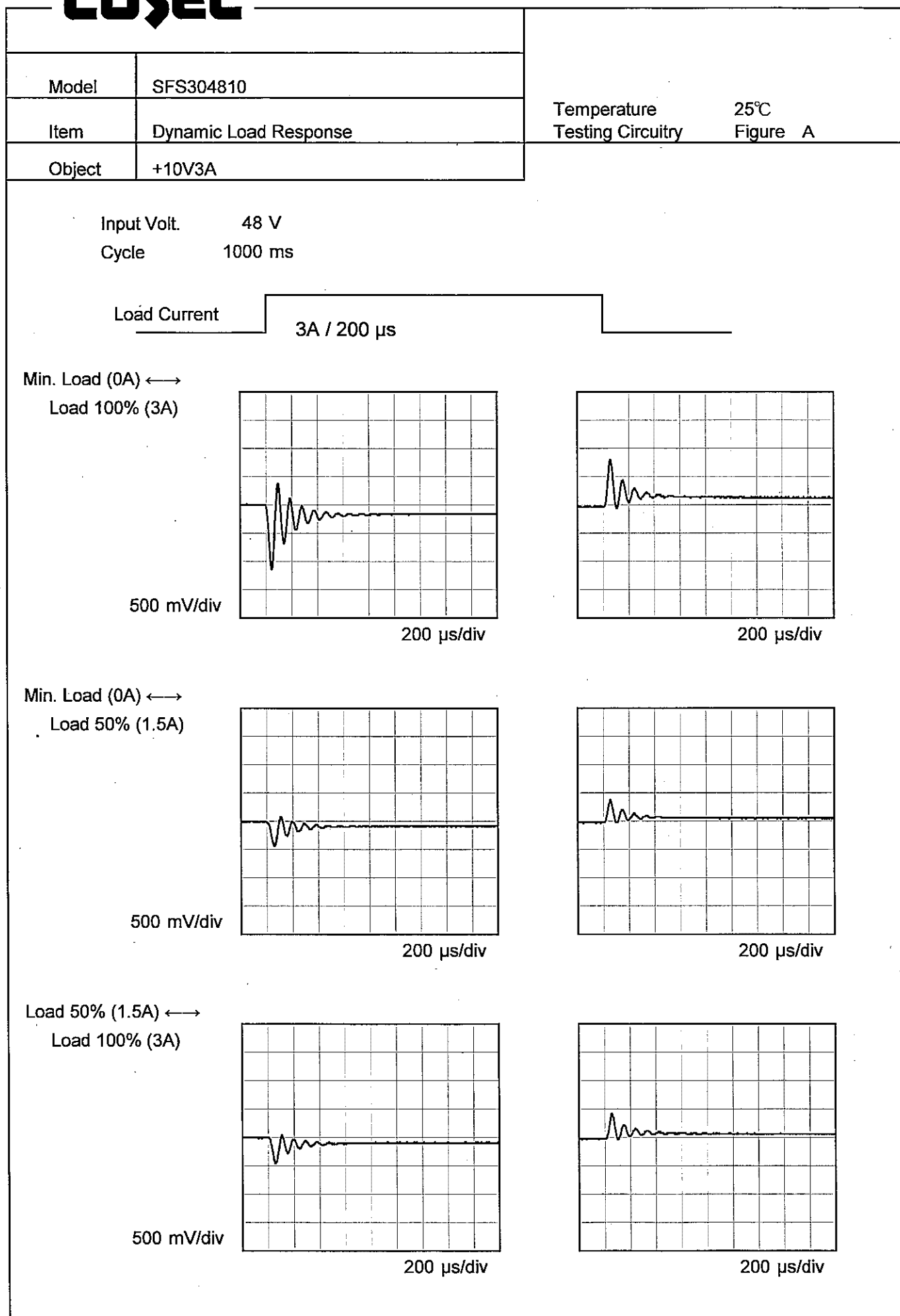
—△— Input Volt. 36V  
 ---□--- Input Volt. 48V  
 ---○--- Input Volt. 76V



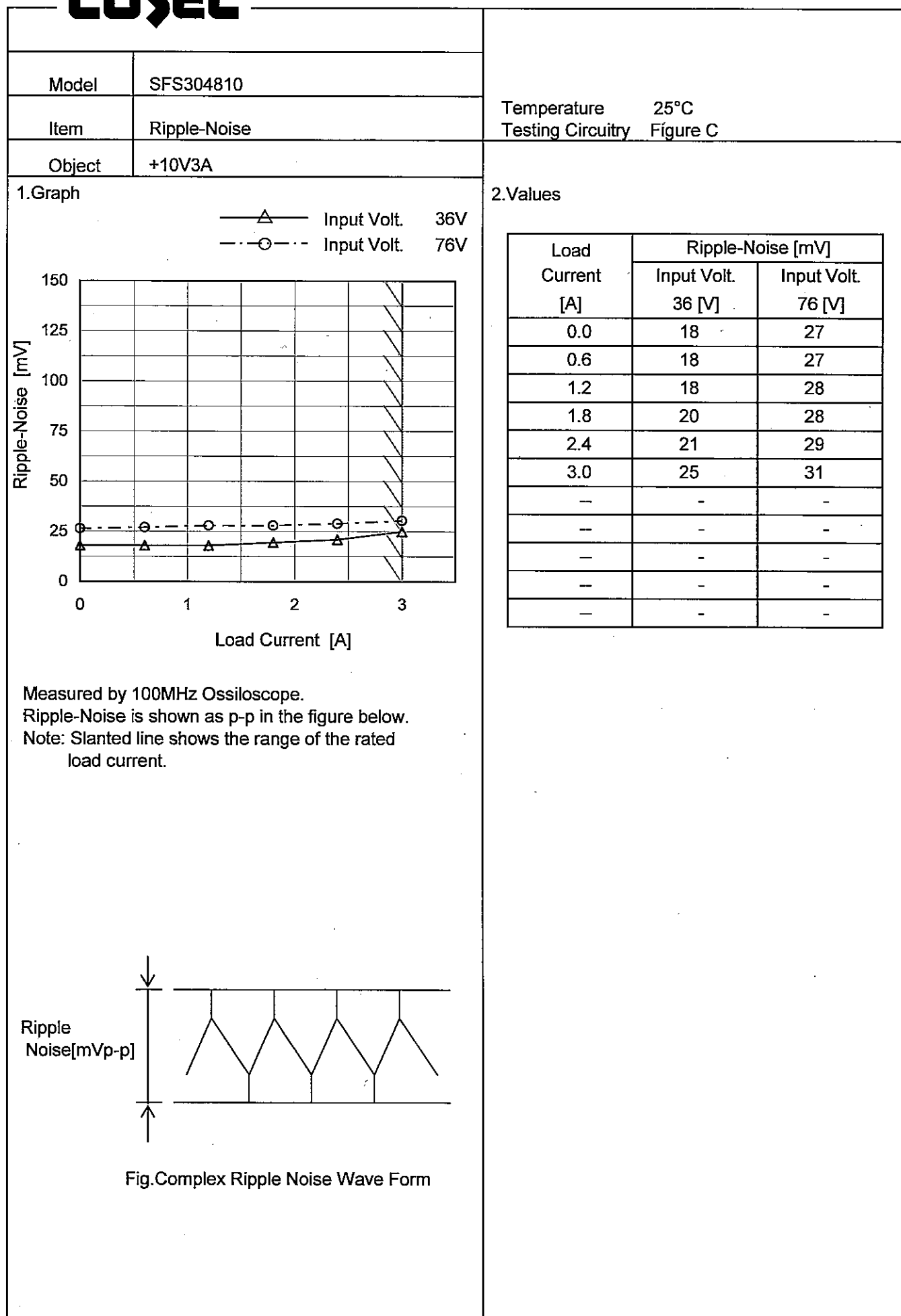
## 2. Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	10.203	10.197	10.187
0.6	10.168	10.164	10.144
1.2	10.137	10.136	10.119
1.8	10.105	10.101	10.098
2.4	10.076	10.067	10.067
3.0	10.048	10.033	10.024
3.3	10.032	10.017	10.006
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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Model		SFS304810	
Item		Ripple Voltage (by Load Current)	
Object		+10V3A	
1.Graph		2.Values	





Model		SFS304810		Testing Circuitry    Figure A																																																				
Item		Ambient Temperature Drift																																																						
Object		+10V3A																																																						
1.Graph		<div><div>—△—</div>Input Volt.    36V</div> <div><div>---□---</div>Input Volt.    48V</div> <div><div>---○---</div>Input Volt.    76V</div> <div>Output Voltage [V]</div> <div>Ambient Temperature [°C]</div> <div>Load 100%</div>		2.Values																																																				
		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>-50</td><td>10.018</td><td>10.018</td><td>10.018</td></tr><tr><td>-40</td><td>10.024</td><td>10.023</td><td>10.023</td></tr><tr><td>-20</td><td>10.035</td><td>10.031</td><td>10.031</td></tr><tr><td>0</td><td>10.039</td><td>10.030</td><td>10.028</td></tr><tr><td>25</td><td>10.040</td><td>10.026</td><td>10.022</td></tr><tr><td>40</td><td>10.040</td><td>10.022</td><td>10.012</td></tr><tr><td>55</td><td>10.035</td><td>10.015</td><td>10.000</td></tr><tr><td>70</td><td>10.028</td><td>10.006</td><td>9.983</td></tr><tr><td>85</td><td>10.025</td><td>10.001</td><td>9.969</td></tr><tr><td>90</td><td>10.024</td><td>9.997</td><td>9.962</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Ambient Temperature [°C]	Output Voltage [V]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	-50	10.018	10.018	10.018	-40	10.024	10.023	10.023	-20	10.035	10.031	10.031	0	10.039	10.030	10.028	25	10.040	10.026	10.022	40	10.040	10.022	10.012	55	10.035	10.015	10.000	70	10.028	10.006	9.983	85	10.025	10.001	9.969	90	10.024	9.997	9.962	--	-	-	-		
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		Note: Slanted line shows the range of the rated ambient temperature.																																																						

		Testing Circuitry Figure A
Model	SFS304810	
Item	Output Voltage Accuracy	
Object	+10V3A	

### 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 - 85°C

Input Voltage : 36 - 76V

Load Current : 0 - 3A

\* 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	85	36	0	10.247	±139	±1.4
Minimum Voltage	85	76	3	9.969		

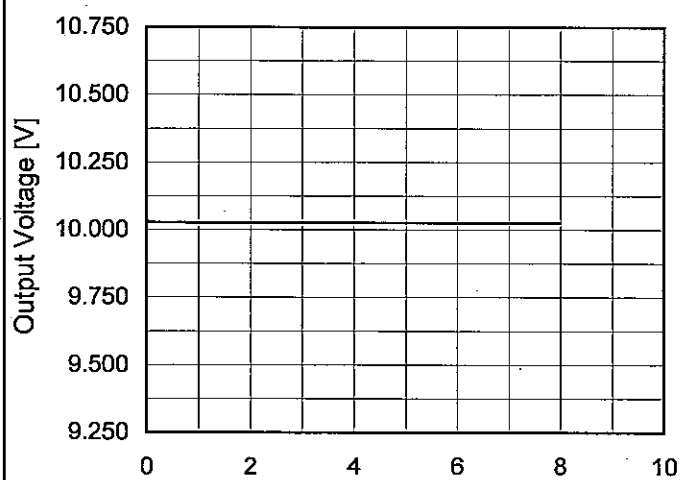
Model SFS304810

Item Time Lapse Drift

Object +10V3A

Temperature 25°C  
Testing Circuitry Figure A

## 1. Graph



Time [H]

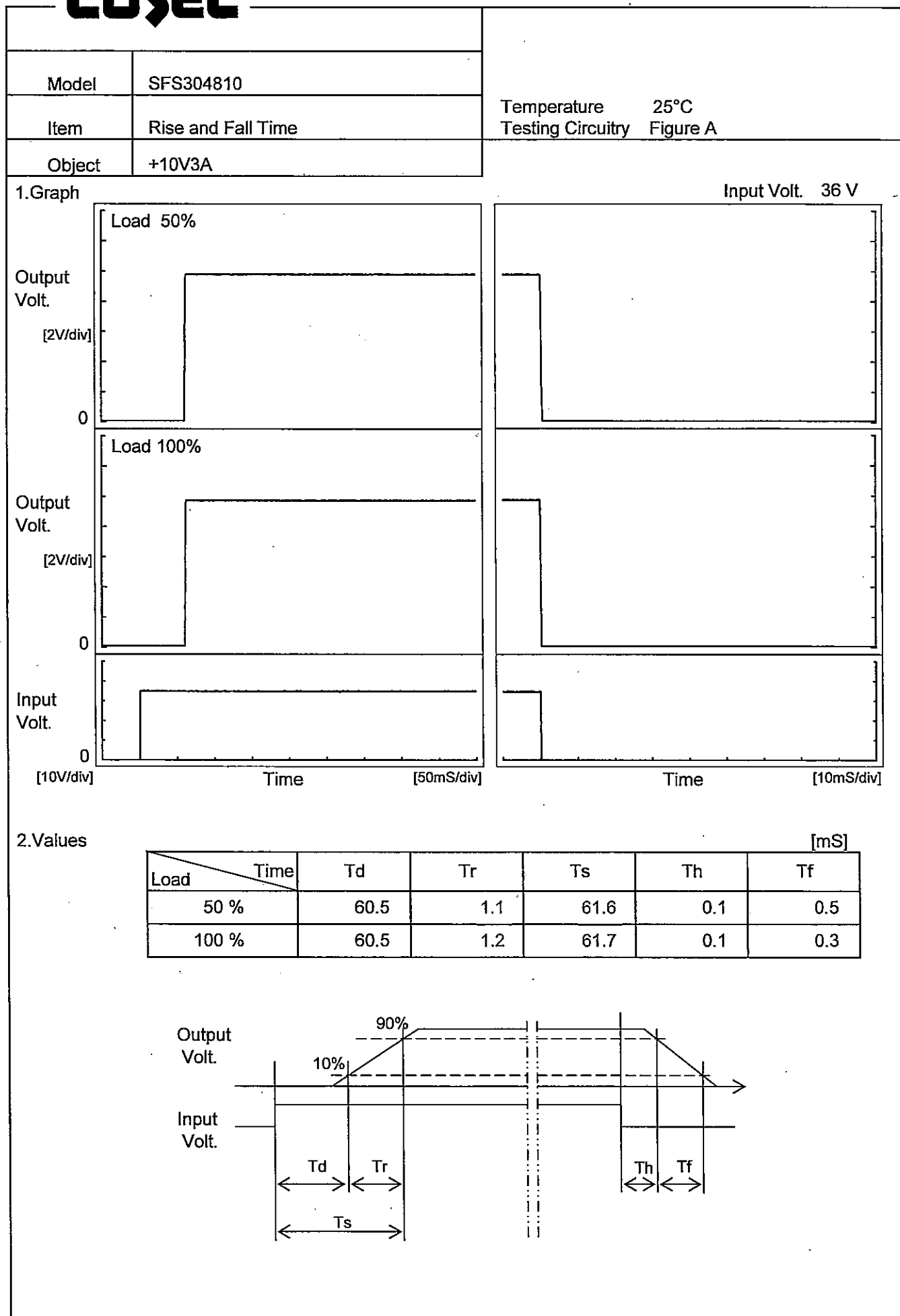
Input Volt. 48V

Load 100%

## 2. Values

Time since start [H]	Output Voltage [V]
0.0	10.041
0.5	10.027
1.0	10.027
2.0	10.027
3.0	10.027
4.0	10.027
5.0	10.027
6.0	10.027
7.0	10.027
8.0	10.027



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Model		SFS304810
Item		Minimum Input Voltage for Regulated Output Voltage
Object		+10V3A

1.Graph

Load 50%

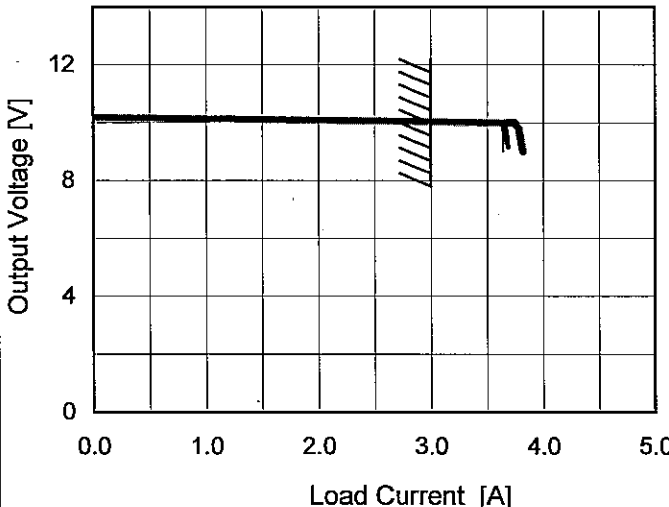
Load 100%

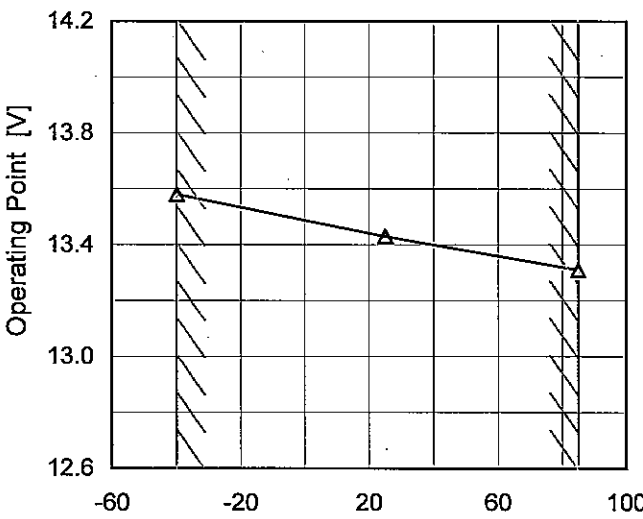
Ambient Temperature [°C]	Load 50% [V]	Load 100% [V]
-50	31.9	32.0
-40	31.9	32.0
-20	32.1	32.2
0	32.1	32.4
25	32.3	32.4
40	32.3	32.6
55	32.5	32.6
70	32.5	32.8
85	32.7	32.8
90	32.7	32.8
--	-	-

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

2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-50	31.9	32.0
-40	31.9	32.0
-20	32.1	32.2
0	32.1	32.4
25	32.3	32.4
40	32.3	32.6
55	32.5	32.6
70	32.5	32.8
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Model	SFS304810																																																																					
Item	Overcurrent Protection	Temperature	25°C																																																																			
Object	+10V3A	Testing Circuitry	Figure A																																																																			
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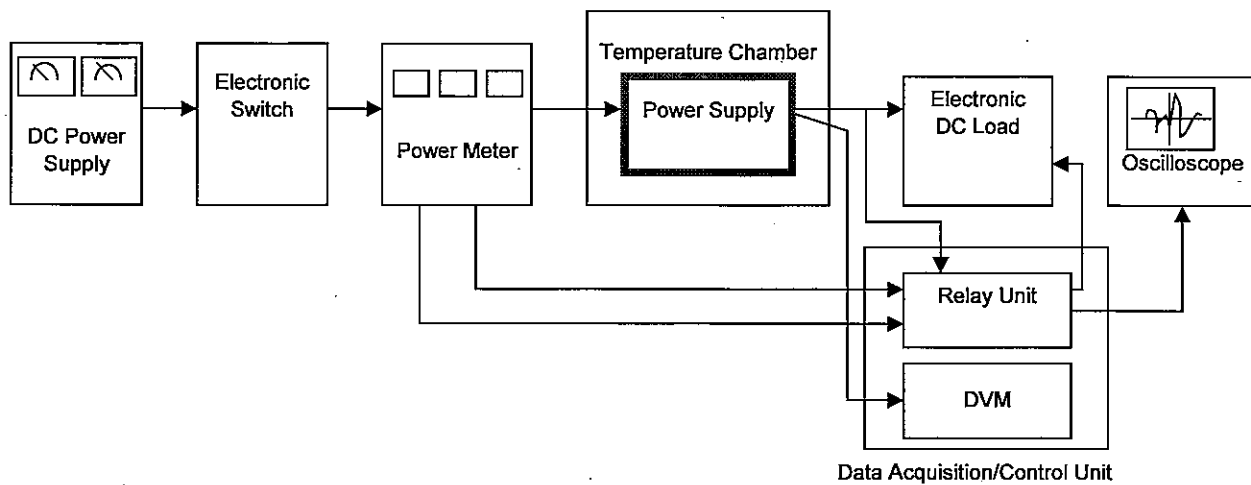


Figure A

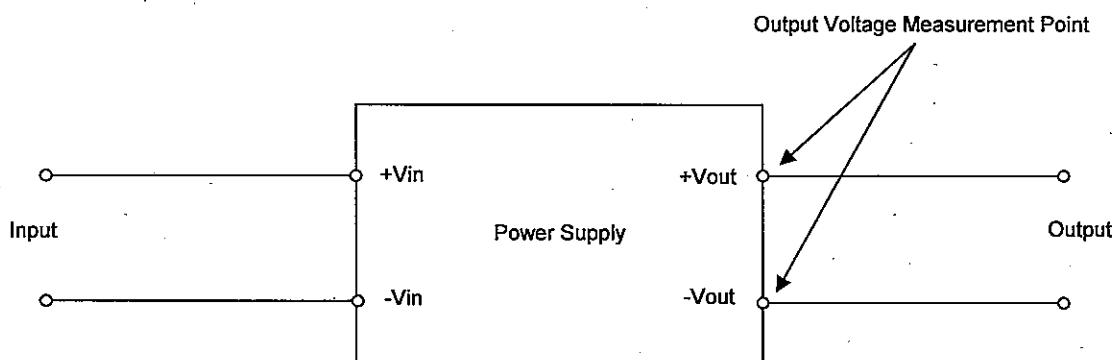


Figure B (General Electric Characteristic)

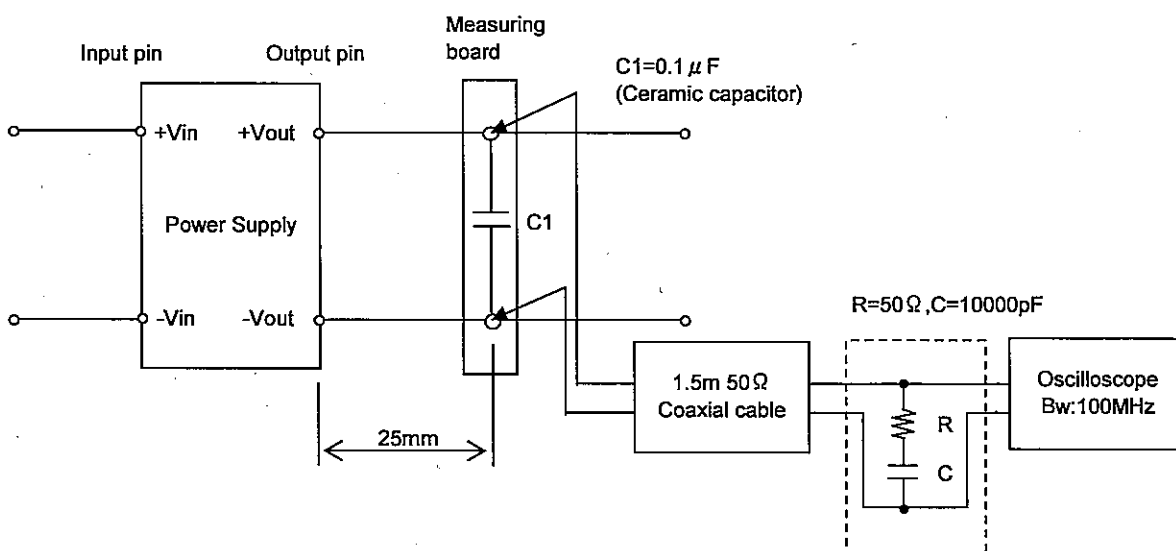


Figure C (Ripple and Ripple noise Characteristic)