



TEST DATA OF SFS10483R3

Regulated DC Power Supply
Sep.5. 2003

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Isao Yasuda Design Manager

Prepared by : Kenichi Tsukada
Kenichi Tsukada 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.Overvoltage Protection	18
19.Figure of Testing Circuitry	19

(Final Page 19)

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Model		SFS10483R3																																																																								
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Input Voltage [V]	Efficiency [%]																																		
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- 5 -

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Item	Line Regulation	Temperature	25°C																														
		Testing Circuitry	Figure A																														
Object	+3.3V3A																																
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<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>Output Voltage [V]</p> <p>Load Current [A]</p>		<table><tr><th rowspan="2">Load Current [A]</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>0.0</td><td>3.351</td><td>3.359</td><td>3.363</td></tr><tr><td>0.6</td><td>3.337</td><td>3.346</td><td>3.346</td></tr><tr><td>1.2</td><td>3.324</td><td>3.334</td><td>3.332</td></tr><tr><td>1.8</td><td>3.312</td><td>3.324</td><td>3.318</td></tr><tr><td>2.4</td><td>3.300</td><td>3.314</td><td>3.305</td></tr><tr><td>3.0</td><td>3.289</td><td>3.304</td><td>3.292</td></tr><tr><td>3.3</td><td>3.281</td><td>3.298</td><td>3.285</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]	Output Voltage [V]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	3.351	3.359	3.363	0.6	3.337	3.346	3.346	1.2	3.324	3.334	3.332	1.8	3.312	3.324	3.318	2.4	3.300	3.314	3.305	3.0	3.289	3.304	3.292	3.3	3.281	3.298	3.285	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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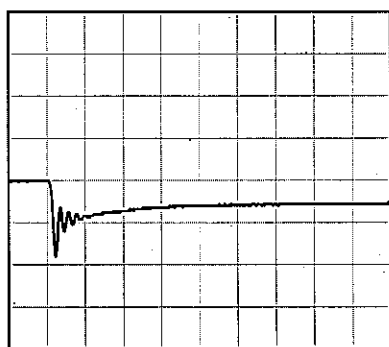
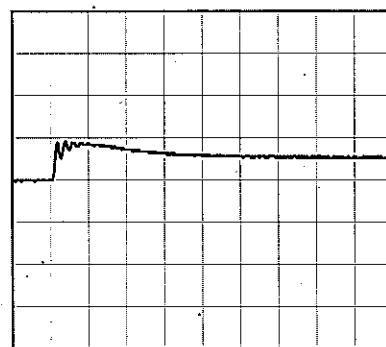
Model	SFS10483R3	Temperature Testing Circuitry	25°C Figure A
Item	Dynamic Load Response		
Object	+3.3V3A		

Input Volt. 48 V
Cycle 1000 ms

Load Current 3A/200 μ sec

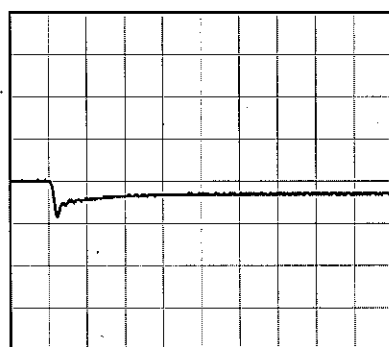
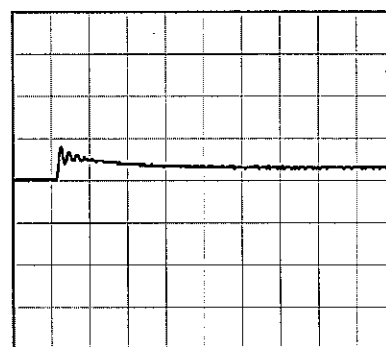
Min. Load (0A) \longleftrightarrow
Load 100% (3A)

100 mV/div

200 μ s/div200 μ s/div

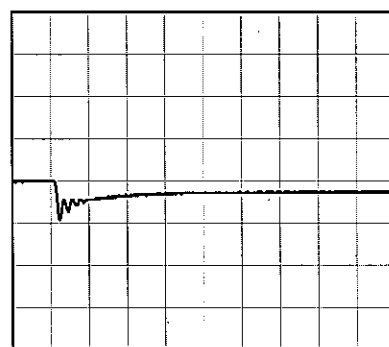
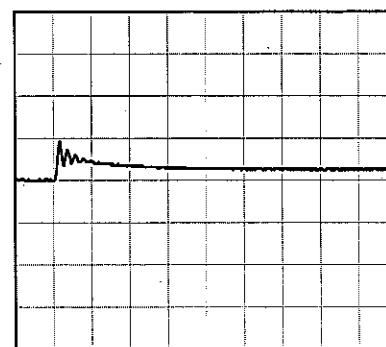
Min. Load (0A) \longleftrightarrow
Load 50% (1.5A)

100 mV/div

200 μ s/div200 μ s/div

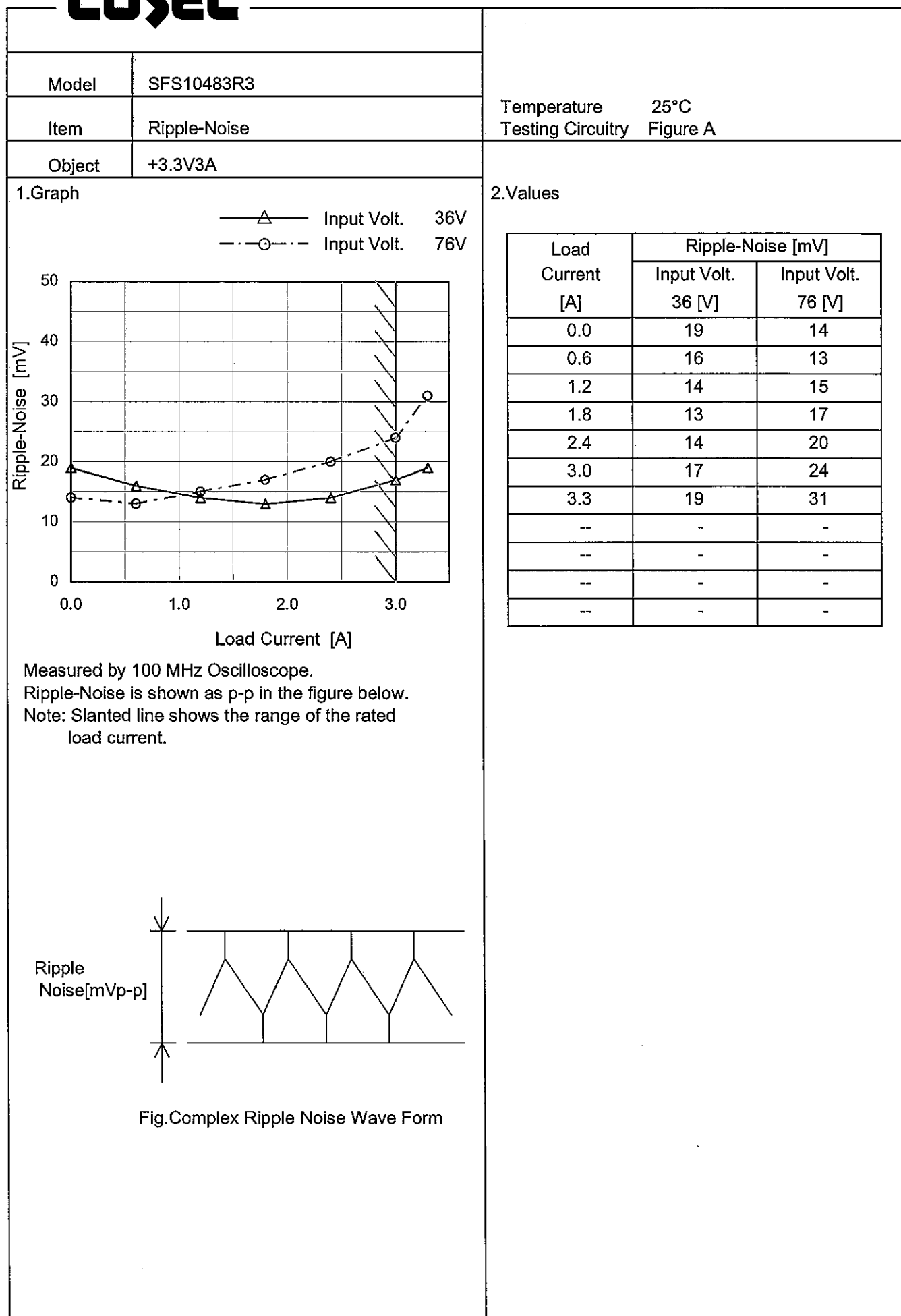
Load 50% (1.5A) \longleftrightarrow
Load 100% (3A)

100 mV/div

200 μ s/div200 μ s/div

Model	SFS10483R3																																								
Item	Ripple Voltage (by Load Current)	Temperature	25°C																																						
Object	+3.3V3A	Testing Circuitry	Figure A																																						
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<div>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.</div>																																									
<div><div><div><div></div><div>Ripple [mVp-p]</div></div><div><div><div></div><div></div><div></div><div></div><div></div><div></div></div></div></div></div>																																									
Fig.Complex Ripple Wave Form																																									

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Model		SFS10483R3	Testing Circuitry Figure A																																																			
Item		Ambient Temperature Drift																																																				
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1.Graph		<div><div>—△—</div>Input Volt. 36V</div> <div><div>---□---</div>Input Volt. 48V</div> <div><div>-·-○-·-</div>Input Volt. 76V</div> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>	2.Values																																																			
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Note: Slanted line shows the range of the rated ambient temperature.																																																						

		Testing Circuitry Figure A
Model	SFS10483R3	
Item	Output Voltage Accuracy	
Object	+3.3V3A	

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	3.372	±54	±1.6
Minimum Voltage	85	76	3	3.265		

COSEL

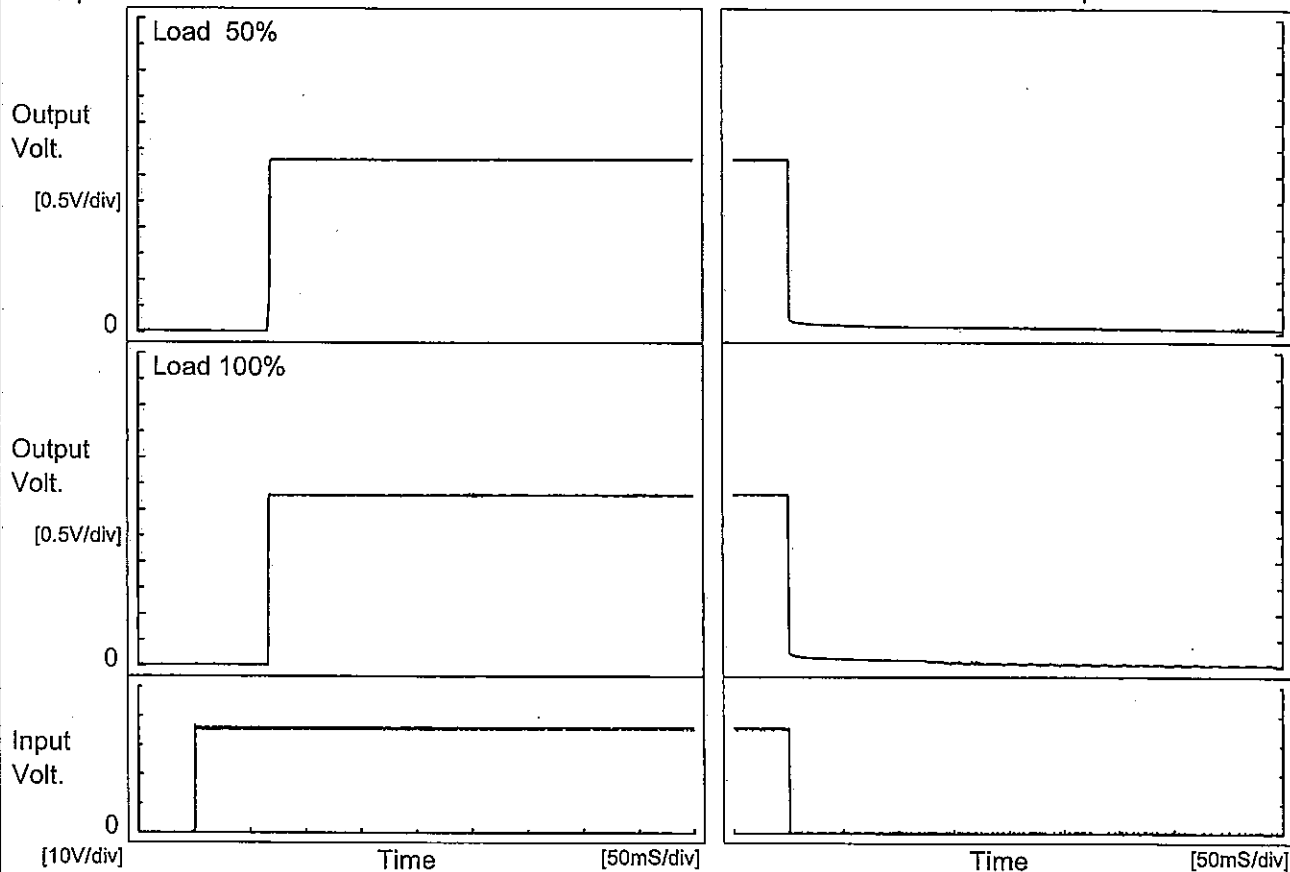
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		Testing Circuitry	Figure A																						
Object	+3.3V3A																								
1.Graph		2.Values																							
<div><div><div>3.500</div><div>3.450</div><div>3.400</div><div>3.350</div><div>3.300</div><div>3.250</div><div>3.200</div><div>3.150</div></div><div><div>0</div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div></div><div><div>Output Voltage [V]</div><div>Time [H]</div></div><div><div>Input Volt.</div><div>48V</div></div><div><div>Load</div><div>100%</div></div></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>3.305</td></tr><tr><td>0.5</td><td>3.301</td></tr><tr><td>1.0</td><td>3.301</td></tr><tr><td>2.0</td><td>3.301</td></tr><tr><td>3.0</td><td>3.301</td></tr><tr><td>4.0</td><td>3.300</td></tr><tr><td>5.0</td><td>3.299</td></tr><tr><td>6.0</td><td>3.299</td></tr><tr><td>7.0</td><td>3.301</td></tr><tr><td>8.0</td><td>3.300</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	3.305	0.5	3.301	1.0	3.301	2.0	3.301	3.0	3.301	4.0	3.300	5.0	3.299	6.0	3.299	7.0	3.301	8.0	3.300
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7.0	3.301																								
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COSEL

Model	SFS10483R3	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+3.3V3A		

1.Graph

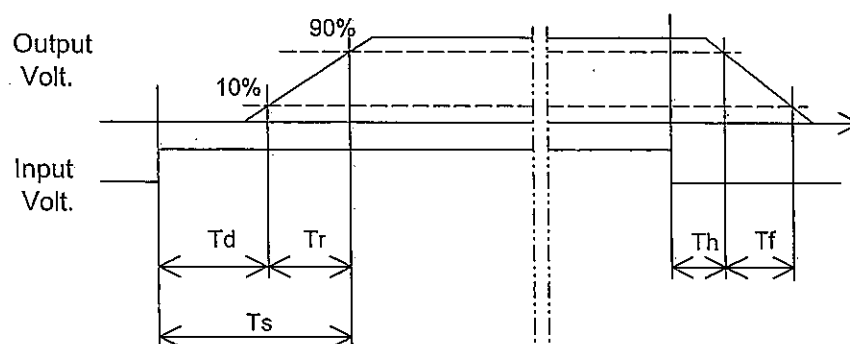
Input Volt. 36 V




2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	67.0	0.5	67.5	0.3	0.5
100 %	66.0	0.6	66.6	0.3	0.5

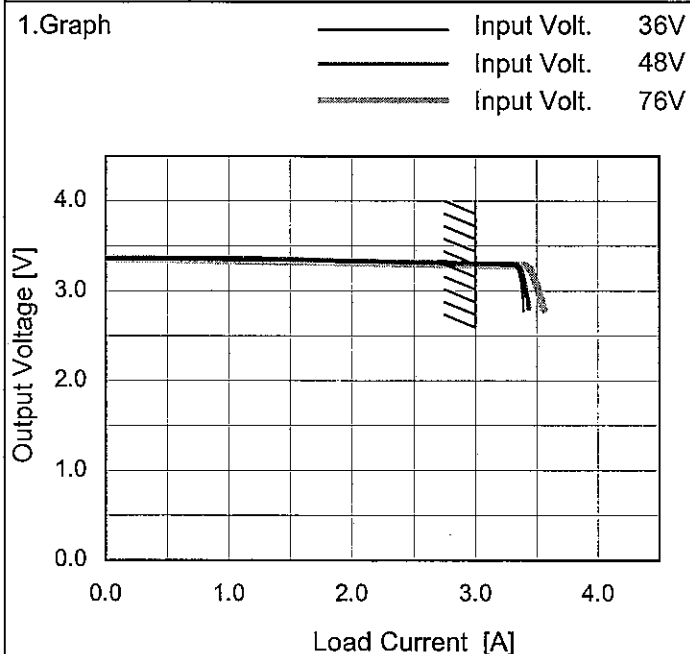


Model		SFS10483R3
Item		Minimum Input Voltage for Regulated Output Voltage
Object		+3.3V3A
1.Graph		
<div><div><div><div><div></div><div></div></div><div></div><div></div></div><div>Load 50%</div></div><div><div><div><div></div><div></div></div><div></div><div></div></div><div>Load 100%</div></div></div> <div><div><div><div><div></div><div></div></div><div></div><div></div></div><div></div><div></div></div><div></div><div></div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> 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Model	SFS10483R3
Item	Overcurrent Protection
Object	+3.3V3A

Temperature 25°C
Testing Circuitry Figure A

1. Graph



Note: Slanted line shows the range of the rated load current.

When output voltage fell to less than 2.97V , the unit shuts off the output by operating low voltage protection.

2.Values

[illegible]

Model		SFS10483R3																																																				
Item		Overvoltage Protection																																																				
Object		+3.3V3A																																																				
1.Graph		—△— Input Volt. 48V																																																				
<div>Operating Point [V]</div> <div><table><thead><tr><th>Ambient Temperature [°C]</th><th>Operating Point [V]</th></tr></thead><tbody><tr><td>-40</td><td>4.32</td></tr><tr><td>25</td><td>4.27</td></tr><tr><td>85</td><td>4.21</td></tr></tbody></table></div> <div>Ambient Temperature [°C]</div> <div>Load 0%</div>		Ambient Temperature [°C]	Operating Point [V]	-40	4.32	25	4.27	85	4.21	2.Values																																												
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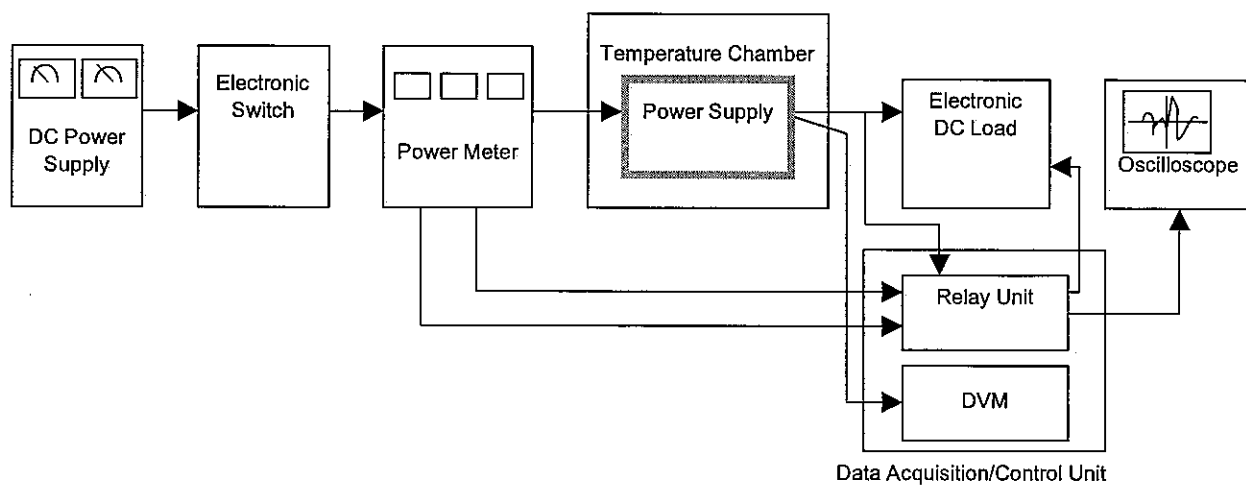


Figure A

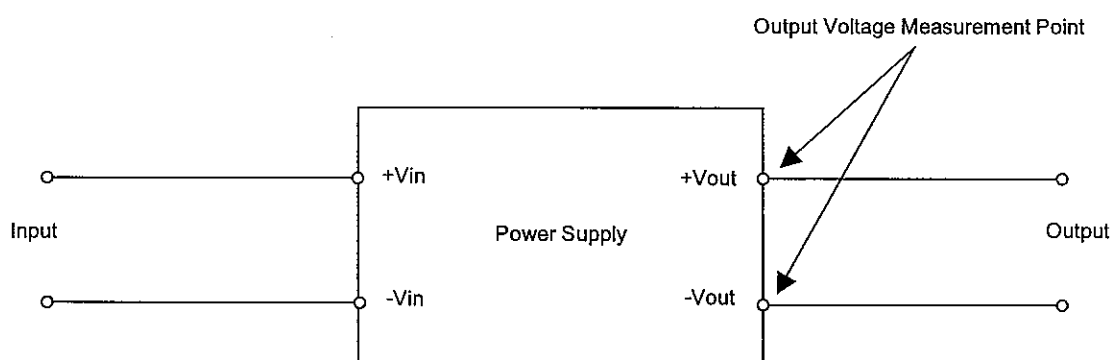


Figure B (General Electric Characteristic)

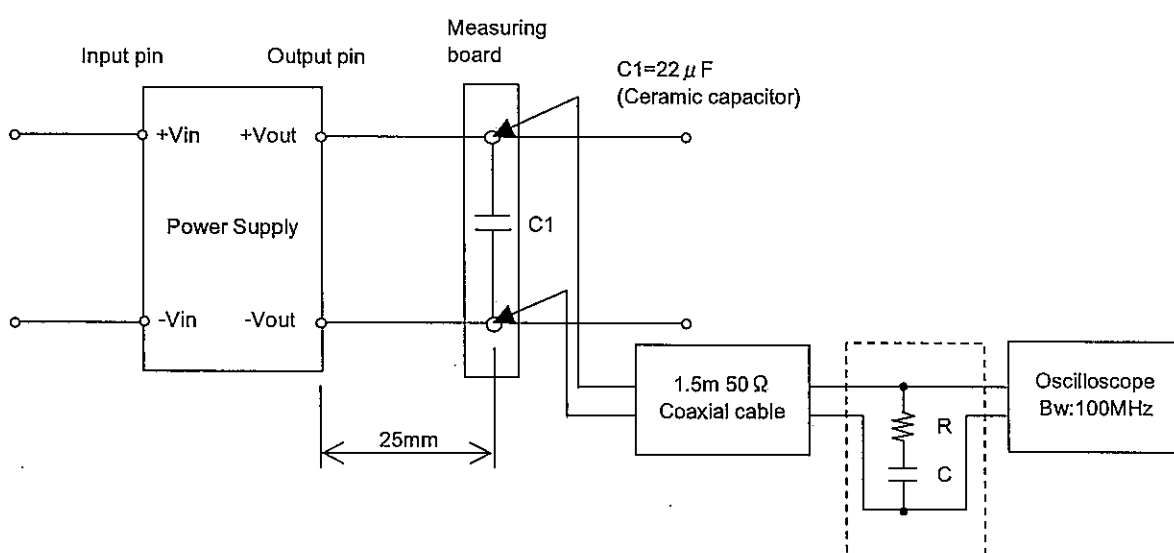


Figure C (Ripple and Ripple noise Characteristic)