参考資料

COSEL

TEST DATA OF SFS20483R3

Regulated DC Power Supply
Aug 24, 2004

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COSEL CO.,LTD.

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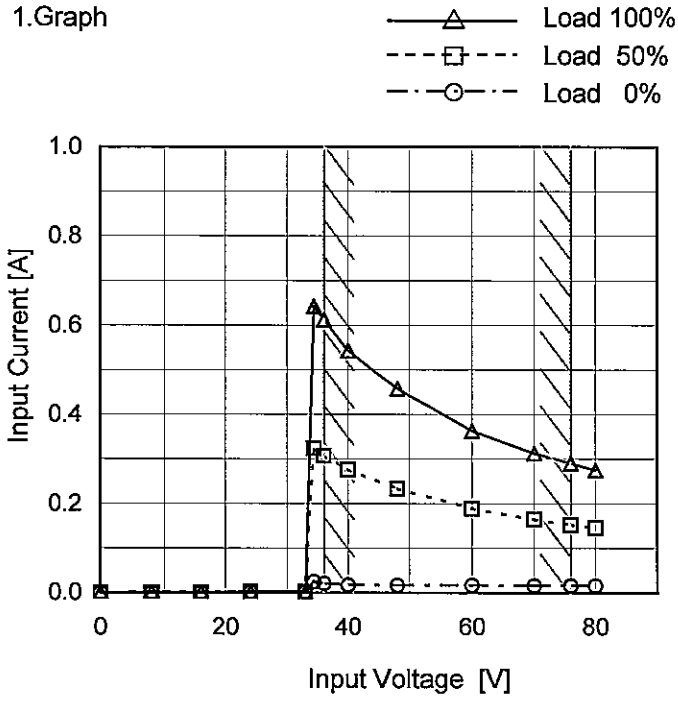
COSEL

Model	SFS20483R3
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

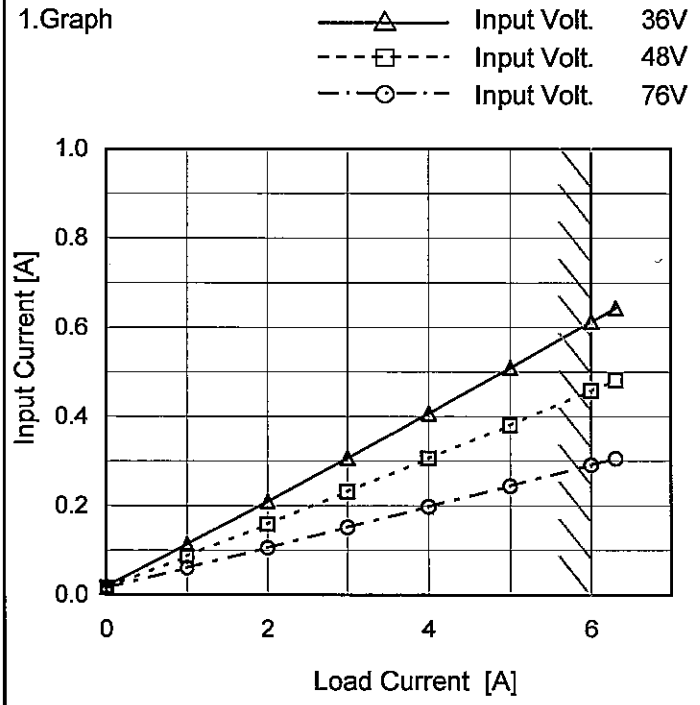
Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
8	0.001	0.001	0.001
16	0.001	0.001	0.001
24	0.002	0.002	0.002
33	0.002	0.002	0.002
34	0.024	0.324	0.643
36	0.021	0.307	0.613
40	0.017	0.277	0.543
48	0.016	0.233	0.458
60	0.016	0.189	0.363
70	0.016	0.164	0.313
76	0.016	0.152	0.291
80	0.016	0.146	0.275
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS20483R3
Item	Input Current (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

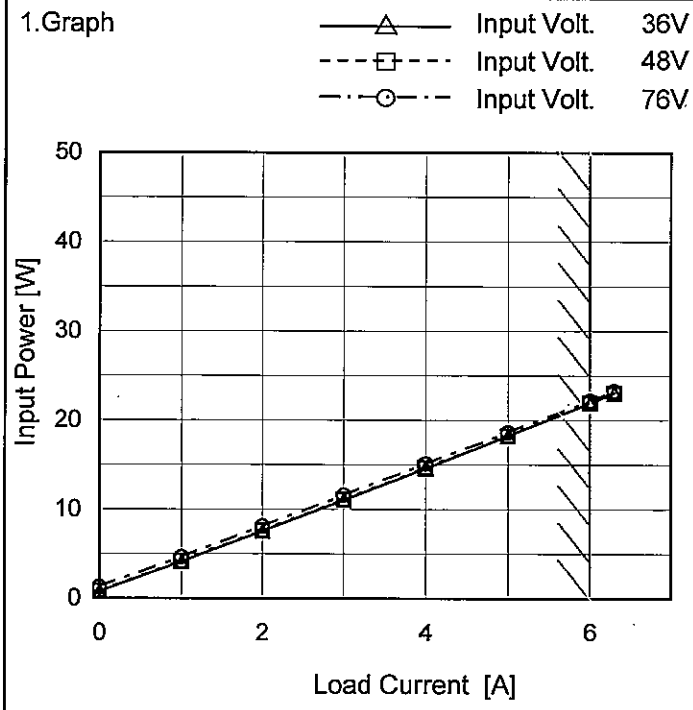
Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.021	0.016	0.016
1.0	0.114	0.087	0.060
2.0	0.210	0.159	0.106
3.0	0.308	0.232	0.152
4.0	0.407	0.306	0.198
5.0	0.509	0.381	0.244
6.0	0.613	0.458	0.291
6.3	0.644	0.481	0.306
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS20483R3
Item	Input Power (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	0.78	0.82	1.29
1.0	4.13	4.20	4.65
2.0	7.57	7.65	8.10
3.0	11.06	11.15	11.60
4.0	14.62	14.68	15.11
5.0	18.28	18.26	18.63
6.0	21.96	21.94	22.21
6.3	23.08	23.04	23.28
--	-	-	-
--	-	-	-
--	-	-	-

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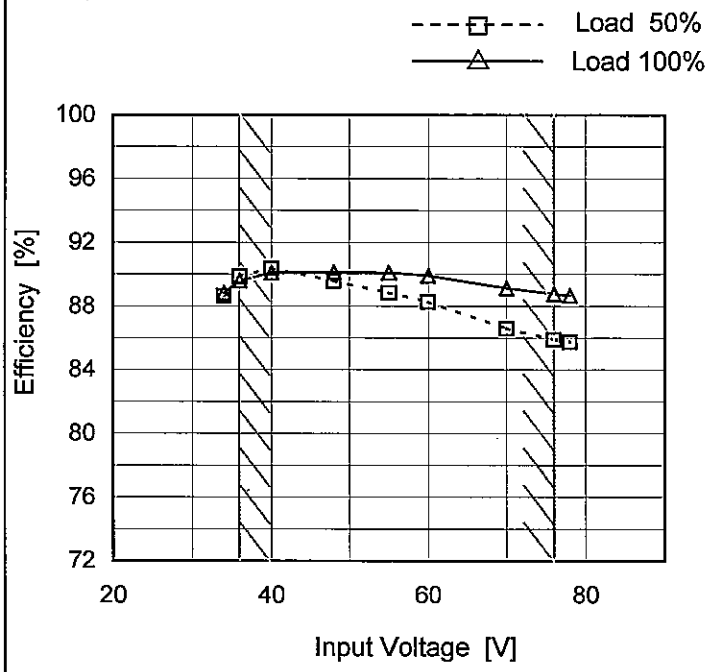
Model	SFS20483R3
Item	Efficiency (by Input Voltage)
Object	———————

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	88.6	88.8
36	89.9	89.6
40	90.4	90.1
48	89.6	90.1
55	88.8	90.1
60	88.3	89.9
70	86.6	89.1
76	85.9	88.8
78	85.8	88.7

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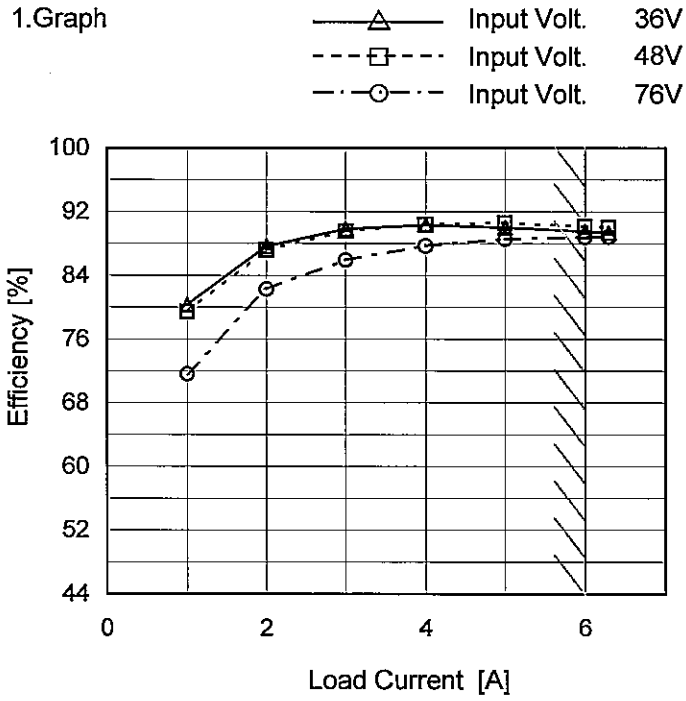
Model	SFS20483R3
Item	Efficiency (by Load Current)
Object	———

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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	-	-	-
1.0	80.4	79.4	71.6
2.0	87.7	87.2	82.3
3.0	89.9	89.6	85.9
4.0	90.4	90.4	87.7
5.0	90.0	90.6	88.6
6.0	89.6	90.1	88.8
6.3	89.4	90.0	88.9
--	-	-	-
--	-	-	-
--	-	-	-

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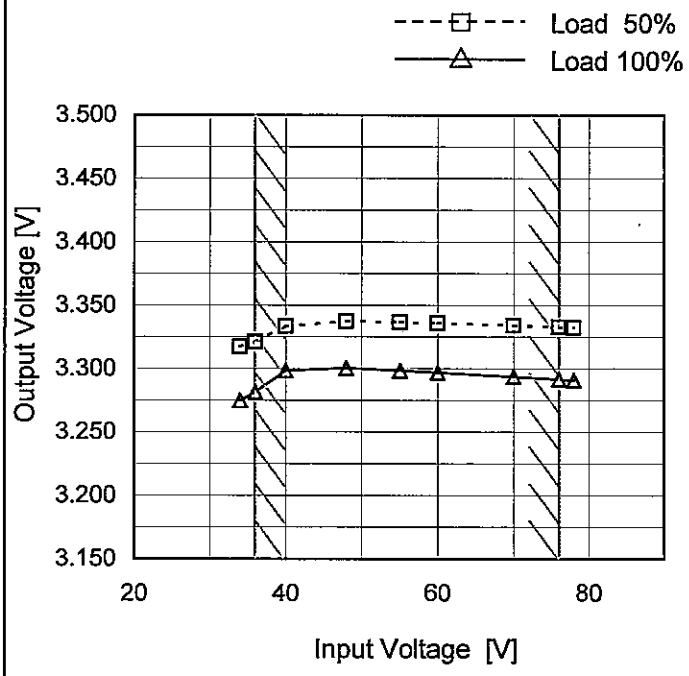
Model	SFS20483R3
Item	Line Regulation
Object	+3.3V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

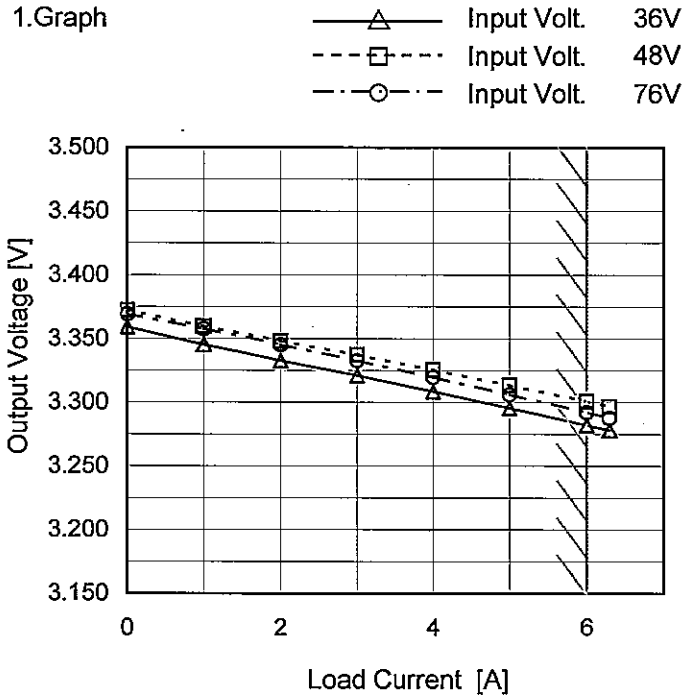
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	3.317	3.275
36	3.321	3.282
40	3.334	3.299
48	3.338	3.301
55	3.337	3.299
60	3.336	3.297
70	3.334	3.294
76	3.333	3.292
78	3.333	3.291

COSEL

Model	SFS20483R3
Item	Load Regulation
Object	+3.3V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.0	3.359	3.372	3.369
1.0	3.345	3.360	3.358
2.0	3.333	3.348	3.345
3.0	3.321	3.337	3.333
4.0	3.309	3.326	3.320
5.0	3.296	3.314	3.306
6.0	3.282	3.301	3.292
6.3	3.278	3.297	3.288
---	-	-	-
---	-	-	-
---	-	-	-

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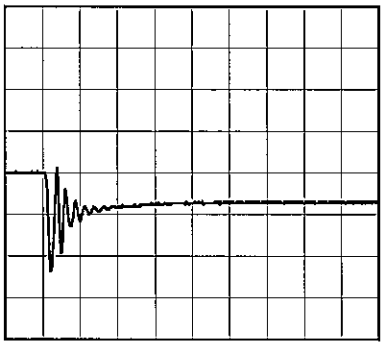
Model	SFS20483R3		
Item	Dynamic Load Response	Temperature Testing Circuitry	25°C Figure A
Object	+3.3V6A		

Input Volt. 48 V
Cycle 1000 mS

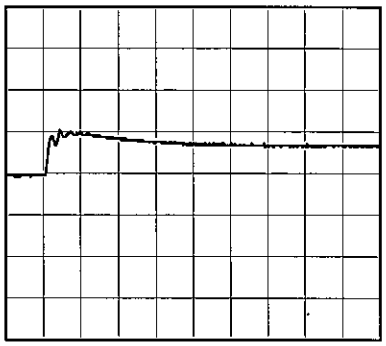
Load Current
6A / 200 µs

Min. Load (0A) ⟷ Load 100% (6A)



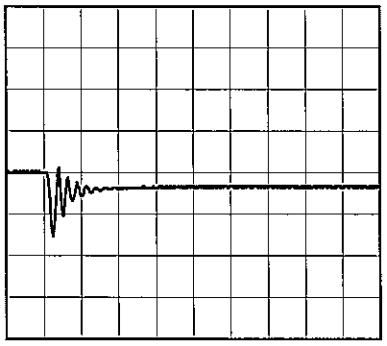
100mV/div

200 µs/div



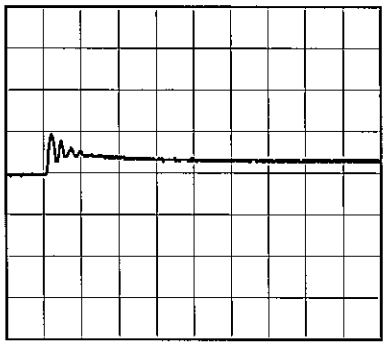
200 µs/div

Min. Load (0A) ⟷ Load 50% (3A)



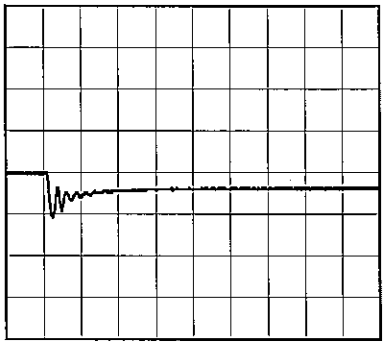
100mV/div

200 µs/div



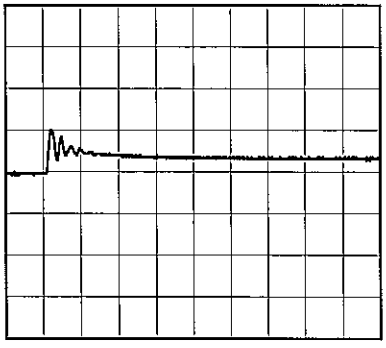
200 µs/div

Load 50% (3A) ⟷ Load 100% (6A)



100mV/div

200 µs/div



200 µs/div

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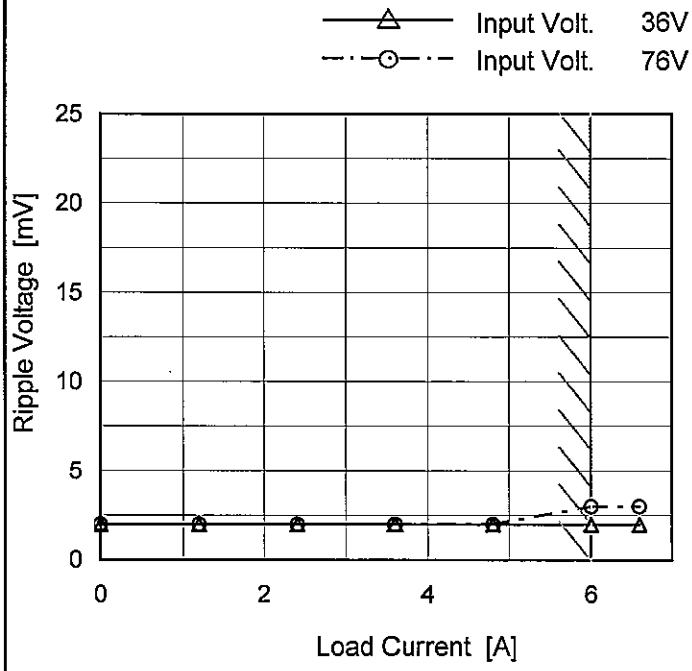
Model	SFS20483R3
Item	Ripple Voltage (by Load Current)
Object	+3.3V6A

Temperature 25°C
Testing Circuitry Figure C

1.Graph



Measured by 100MHz Ossiloscope.
Ripple Voltage is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	2	2
1.2	2	2
2.4	2	2
3.6	2	2
4.8	2	2
6.0	2	3
6.6	2	3
--	-	-
--	-	-
--	-	-
--	-	-

Ripple [mVp-p]

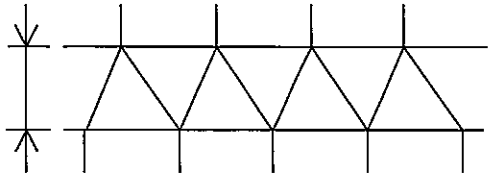


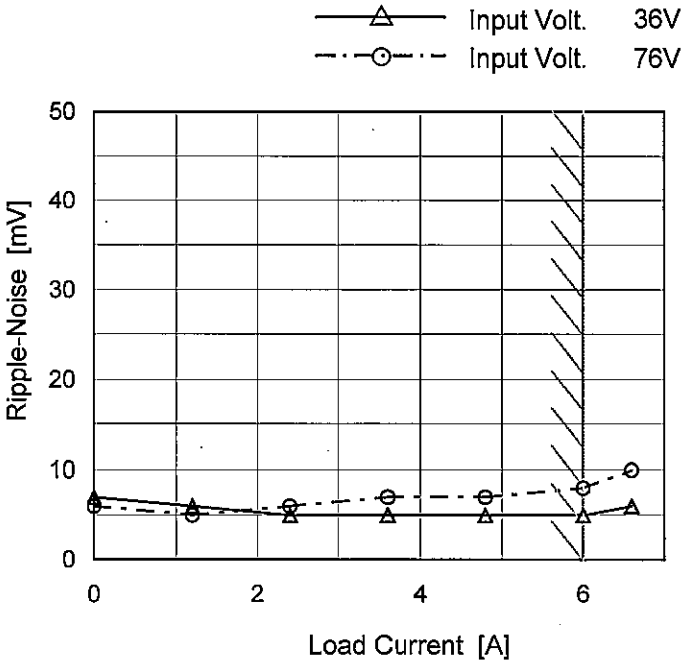
Fig.Complex Ripple Wave Form

COSEL

Model	SFS20483R3
Item	Ripple-Noise
Object	+3.3V6A

Temperature 25°C
Testing Circuitry Figure C

1.Graph



Measured by 100MHz Ossiloscope.
Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

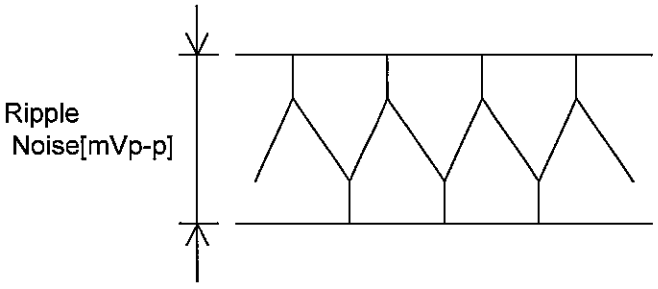


Fig.Complex Ripple Noise Wave Form

2.Values

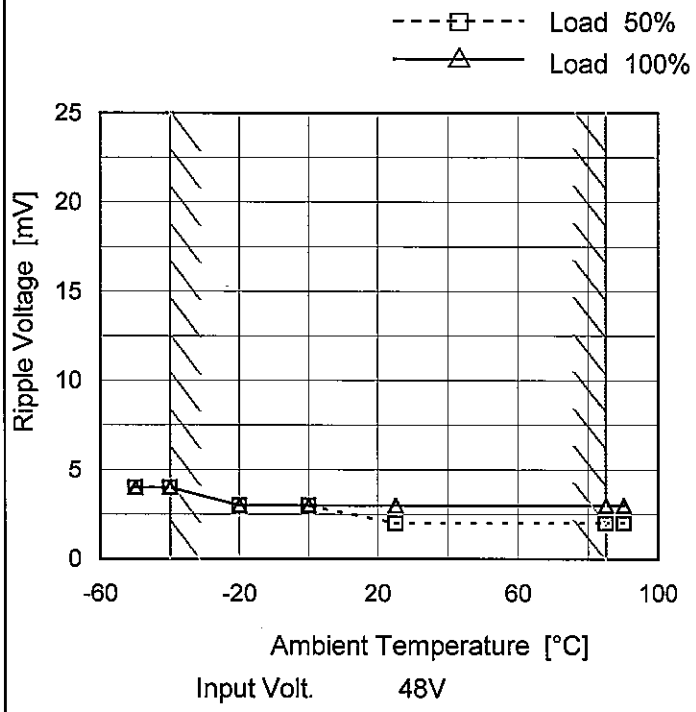
Load Current [A]	Ripple-Noise [mV] Input Volt. 36 [V]	Ripple-Noise [mV] Input Volt. 76 [V]
0.0	7	6
1.2	6	5
2.4	5	6
3.6	5	7
4.8	5	7
6.0	5	8
6.6	6	10
---	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS20483R3
Item	Ripple Voltage (by Ambient Temp.)
Object	+3.3V6A

Testing Circuitry Figure C

1.Graph



Input Volt. 48V

Measured by 100MHz Ossiloscope.
Note: Slanted line shows the range of the rated ambient temperature.

2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-50	4	4
-40	4	4
-20	3	3
0	3	3
25	2	3
85	2	3
90	2	3
--	-	-
--	-	-
--	-	-
--	-	-

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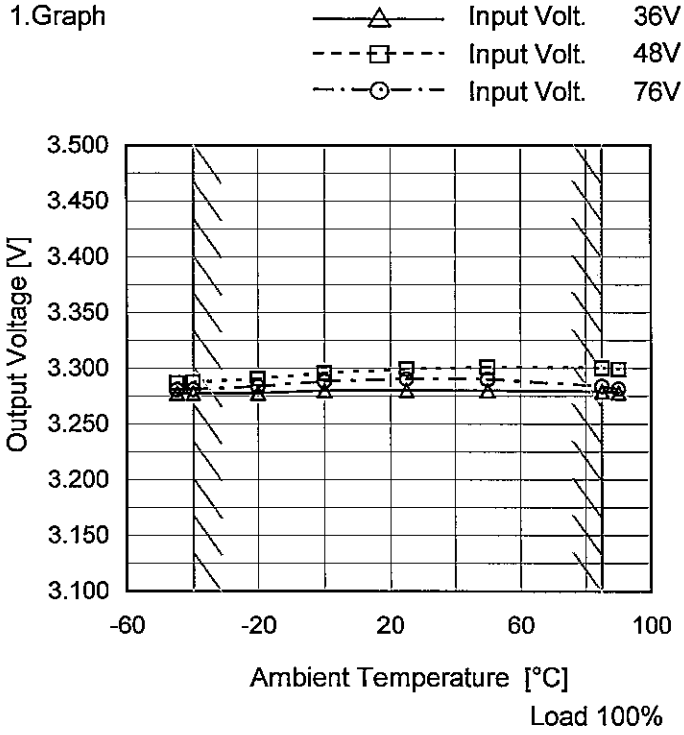
Model	SFS20483R3
Item	Ambient Temperature Drift
Object	+3.3V6A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-45	3.278	3.287	3.281
-40	3.278	3.288	3.281
-20	3.278	3.291	3.284
0	3.280	3.296	3.289
25	3.280	3.300	3.290
50	3.280	3.301	3.290
85	3.279	3.300	3.284
90	3.278	3.299	3.282
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS20483R3	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3.3V6A	

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 - 6A

* Output Voltage Accuracy = ±(Maximum of Output Voltage - Minimum of Output Voltage) / 2

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

2.Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	85	48	0	3.393	±57	±1.7
Minimum Voltage	85	36	6	3.279		

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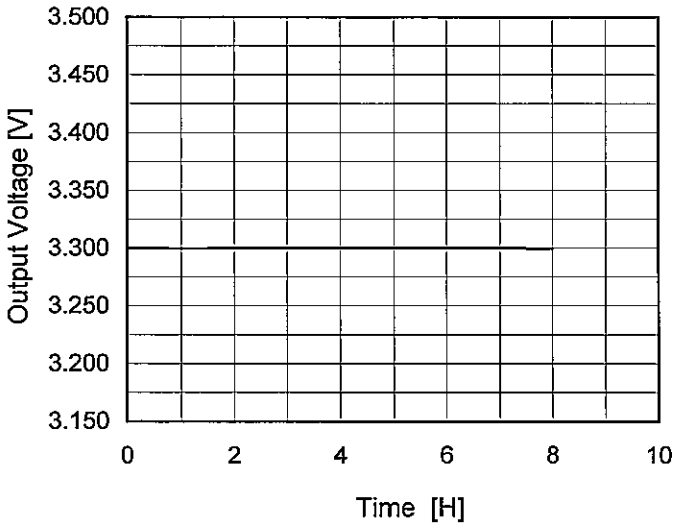
Model	SFS20483R3
Item	Time Lapse Drift
Object	+3.3V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 48V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	3.300
0.5	3.300
1.0	3.300
2.0	3.300
3.0	3.300
4.0	3.300
5.0	3.300
6.0	3.300
7.0	3.300
8.0	3.300

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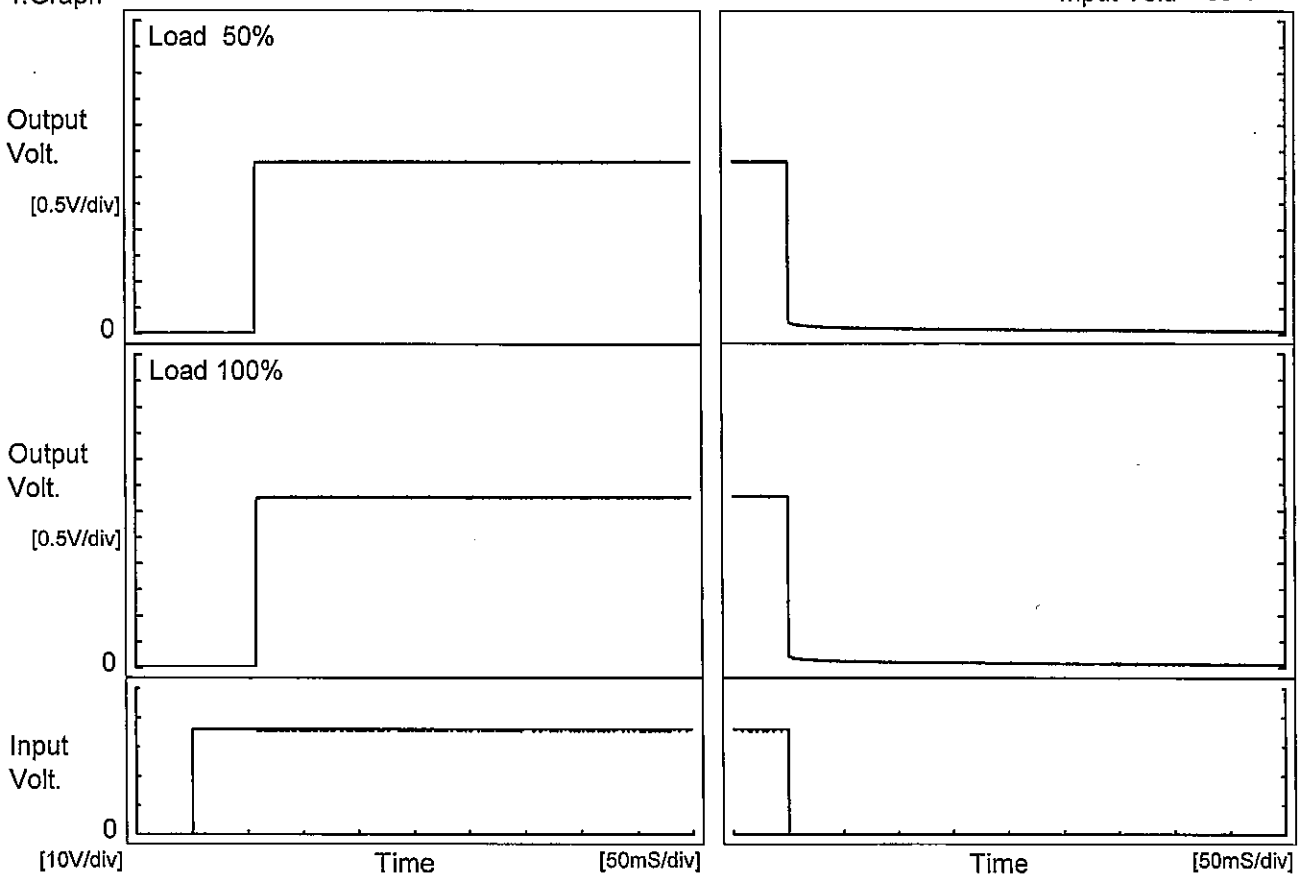
Model	SFS20483R3
Item	Rise and Fall Time
Object	+3.3V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

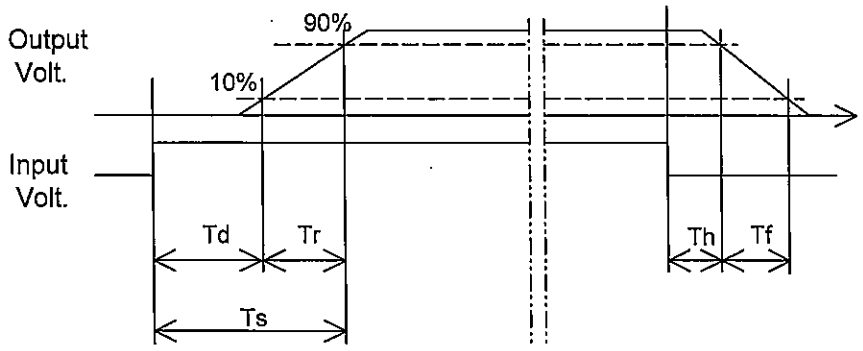
Input Volt. 36 V



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	57.3	0.4	57.7	0.3	0.8
100 %	57.3	0.4	57.7	0.3	0.5



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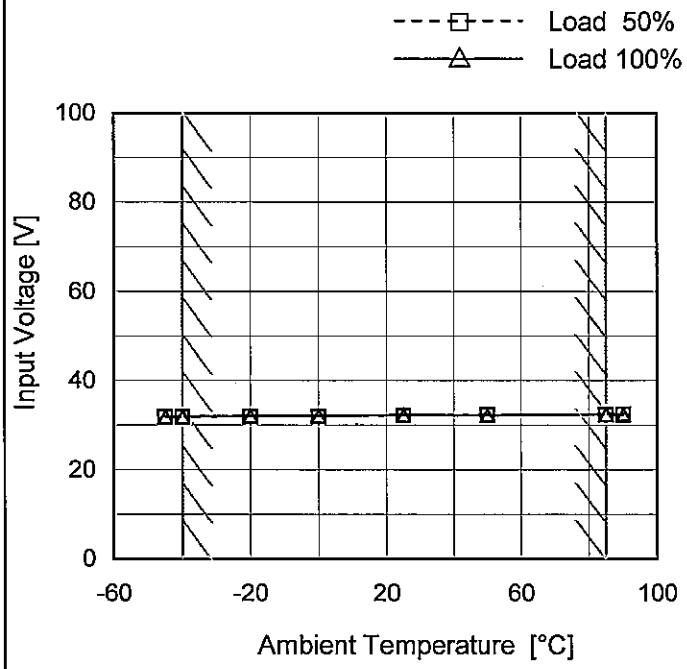
Model	SFS20483R3
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3.3V6A

Testing Circuitry Figure A

1.Graph



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

2.Values

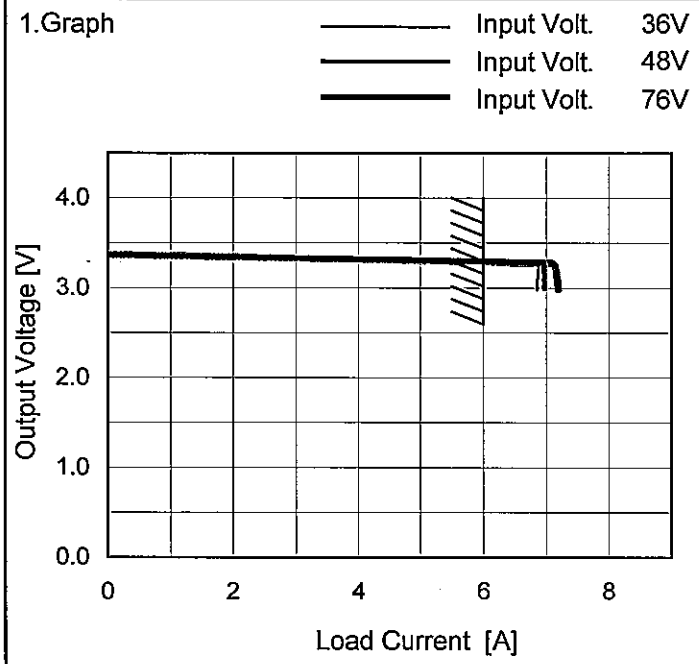
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-45	31.9	32.0
-40	32.0	32.0
-20	32.0	32.2
0	32.0	32.2
25	32.2	32.4
50	32.4	32.3
85	32.4	32.5
90	32.5	32.5
--	-	-
--	-	-
--	-	-

COSEL

Model	SFS20483R3
Item	Overcurrent Protection
Object	+3.3V6A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

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

2.Values

Output Voltage [V]	Load Current [A] Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
3.300	6.06	6.01	6.08
3.135	6.87	6.97	7.17
2.970	6.84	6.97	7.20
--	-	-	-
--	-	-	-
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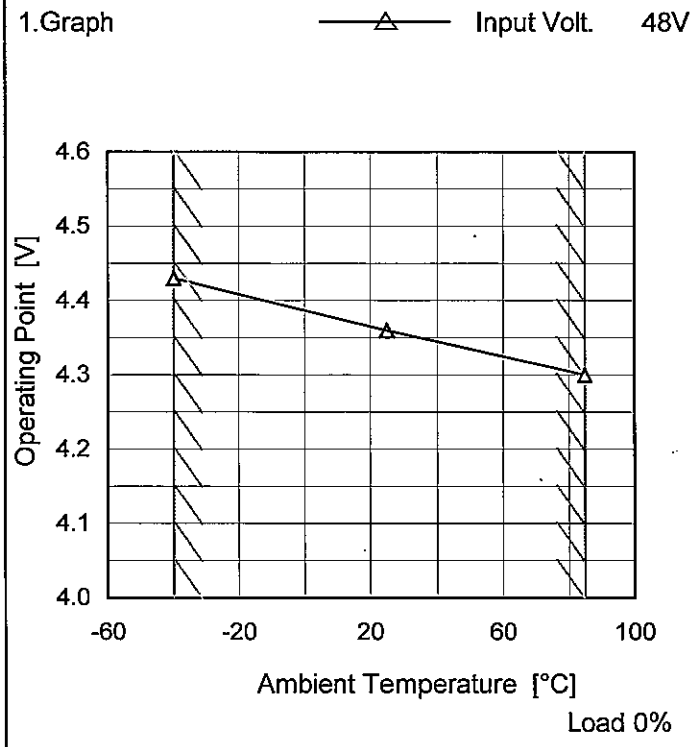
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SFS20483R3
Item	Overvoltage Protection
Object	+3.3V6A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Operating Point [V] Input Volt. 48[V]	Input Volt.	Input Volt.
-40	4.43	-	-
25	4.36	-	-
85	4.30	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

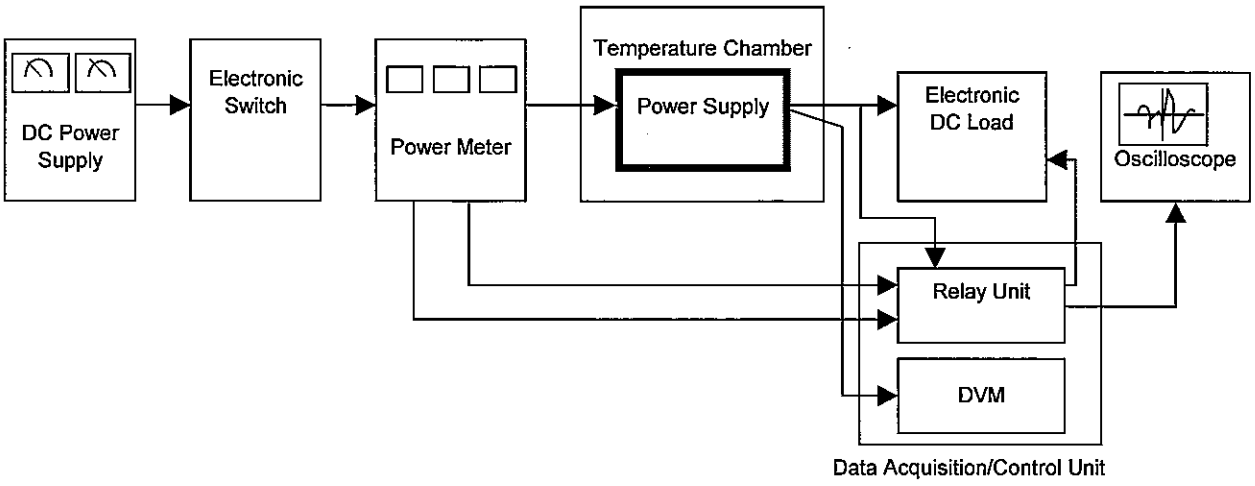


Figure A

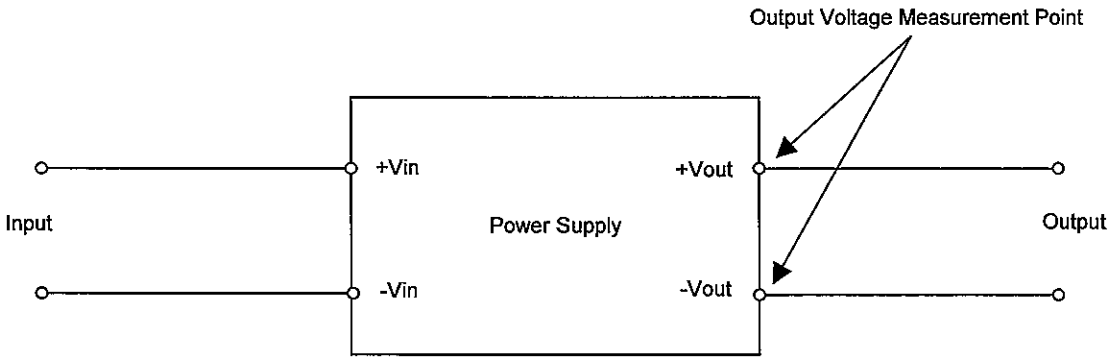


Figure B (General Electric Characteristic)

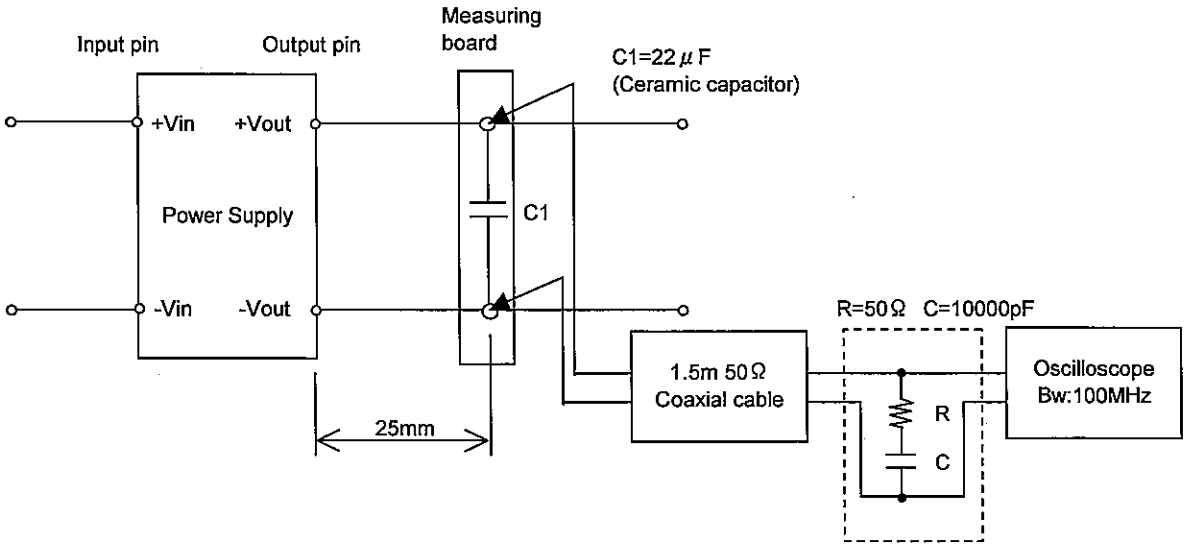


Figure C (Ripple and Ripple noise Characteristic)