

TEST DATA OF SFS10481R8

Regulated DC Power Supply
Nov.4. 2003

Approved by : Isao Yasuda Design Manager

Prepared by : 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)



Model		SFS10481R8	Temperature		25°C																																																																							
Item		Input Current (by Input Voltage)	Testing Circuitry		Figure A																																																																							
Object																																																																												
1.Graph			2.Values																																																																									
<p>Legend: —△— Load 100% - - -□- - Load 50% - - -○- - Load 0%</p>			<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="3">Input Current [A]</th> </tr> <tr> <th>Load 0%</th> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>8</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>16</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>24</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>33</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>34</td><td>0.012</td><td>0.095</td><td>0.183</td></tr> <tr><td>35</td><td>0.012</td><td>0.093</td><td>0.179</td></tr> <tr><td>36</td><td>0.012</td><td>0.091</td><td>0.175</td></tr> <tr><td>40</td><td>0.012</td><td>0.083</td><td>0.158</td></tr> <tr><td>48</td><td>0.011</td><td>0.070</td><td>0.132</td></tr> <tr><td>60</td><td>0.011</td><td>0.058</td><td>0.107</td></tr> <tr><td>70</td><td>0.011</td><td>0.051</td><td>0.093</td></tr> <tr><td>76</td><td>0.011</td><td>0.048</td><td>0.086</td></tr> <tr><td>80</td><td>0.011</td><td>0.046</td><td>0.082</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Input Voltage [V]	Input Current [A]			Load 0%	Load 50%	Load 100%	0	0.000	0.000	0.000	8	0.000	0.000	0.000	16	0.000	0.000	0.000	24	0.000	0.000	0.000	33	0.000	0.000	0.000	34	0.012	0.095	0.183	35	0.012	0.093	0.179	36	0.012	0.091	0.175	40	0.012	0.083	0.158	48	0.011	0.070	0.132	60	0.011	0.058	0.107	70	0.011	0.051	0.093	76	0.011	0.048	0.086	80	0.011	0.046	0.082	--	-	-	-	--	-	-	-
Input Voltage [V]	Input Current [A]																																																																											
	Load 0%	Load 50%	Load 100%																																																																									
0	0.000	0.000	0.000																																																																									
8	0.000	0.000	0.000																																																																									
16	0.000	0.000	0.000																																																																									
24	0.000	0.000	0.000																																																																									
33	0.000	0.000	0.000																																																																									
34	0.012	0.095	0.183																																																																									
35	0.012	0.093	0.179																																																																									
36	0.012	0.091	0.175																																																																									
40	0.012	0.083	0.158																																																																									
48	0.011	0.070	0.132																																																																									
60	0.011	0.058	0.107																																																																									
70	0.011	0.051	0.093																																																																									
76	0.011	0.048	0.086																																																																									
80	0.011	0.046	0.082																																																																									
--	-	-	-																																																																									
--	-	-	-																																																																									
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																																																												

Model		SFS10481R8		Temperature 25°C																																																				
Item		Input Current (by Load Current)		Testing Circuitry Figure A																																																				
Object		_____																																																						
1.Graph		<p>—△— Input Volt. 36V ---□--- Input Volt. 48V ---○--- Input Volt. 76V</p>		2.Values																																																				
				<table border="1"> <thead> <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> </thead> <tbody> <tr><td>0.0</td><td>0.012</td><td>0.011</td><td>0.011</td></tr> <tr><td>0.6</td><td>0.043</td><td>0.035</td><td>0.026</td></tr> <tr><td>1.2</td><td>0.075</td><td>0.058</td><td>0.041</td></tr> <tr><td>1.8</td><td>0.108</td><td>0.082</td><td>0.056</td></tr> <tr><td>2.4</td><td>0.141</td><td>0.107</td><td>0.071</td></tr> <tr><td>3.0</td><td>0.175</td><td>0.132</td><td>0.087</td></tr> <tr><td>3.3</td><td>0.193</td><td>0.144</td><td>0.094</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> </tbody> </table>		Load Current [A]	Input Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	0.012	0.011	0.011	0.6	0.043	0.035	0.026	1.2	0.075	0.058	0.041	1.8	0.108	0.082	0.056	2.4	0.141	0.107	0.071	3.0	0.175	0.132	0.087	3.3	0.193	0.144	0.094	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Input Current [A]																																																							
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																					
0.0	0.012	0.011	0.011																																																					
0.6	0.043	0.035	0.026																																																					
1.2	0.075	0.058	0.041																																																					
1.8	0.108	0.082	0.056																																																					
2.4	0.141	0.107	0.071																																																					
3.0	0.175	0.132	0.087																																																					
3.3	0.193	0.144	0.094																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
<p>Note: Slanted line shows the range of the rated load current.</p>																																																								

Model		SFS10481R8		Temperature 25°C																																																				
Item		Input Power (by Load Current)		Testing Circuitry Figure A																																																				
Object		_____																																																						
1.Graph		<p> —△— Input Volt. 36V - - □ - - Input Volt. 48V - - ○ - - Input Volt. 76V </p>		2.Values																																																				
		<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input Power [W]</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>0.0</td><td>0.44</td><td>0.55</td><td>0.87</td></tr> <tr><td>0.6</td><td>1.56</td><td>1.67</td><td>1.98</td></tr> <tr><td>1.2</td><td>2.71</td><td>2.80</td><td>3.10</td></tr> <tr><td>1.8</td><td>3.88</td><td>3.97</td><td>4.24</td></tr> <tr><td>2.4</td><td>5.08</td><td>5.15</td><td>5.40</td></tr> <tr><td>3.0</td><td>6.30</td><td>6.34</td><td>6.58</td></tr> <tr><td>3.3</td><td>6.93</td><td>6.95</td><td>7.17</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> </tbody> </table>		Load Current [A]	Input Power [W]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	0.44	0.55	0.87	0.6	1.56	1.67	1.98	1.2	2.71	2.80	3.10	1.8	3.88	3.97	4.24	2.4	5.08	5.15	5.40	3.0	6.30	6.34	6.58	3.3	6.93	6.95	7.17	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-		
Load Current [A]	Input Power [W]																																																							
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																					
0.0	0.44	0.55	0.87																																																					
0.6	1.56	1.67	1.98																																																					
1.2	2.71	2.80	3.10																																																					
1.8	3.88	3.97	4.24																																																					
2.4	5.08	5.15	5.40																																																					
3.0	6.30	6.34	6.58																																																					
3.3	6.93	6.95	7.17																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
<p>Note: Slanted line shows the range of the rated load current.</p>																																																								



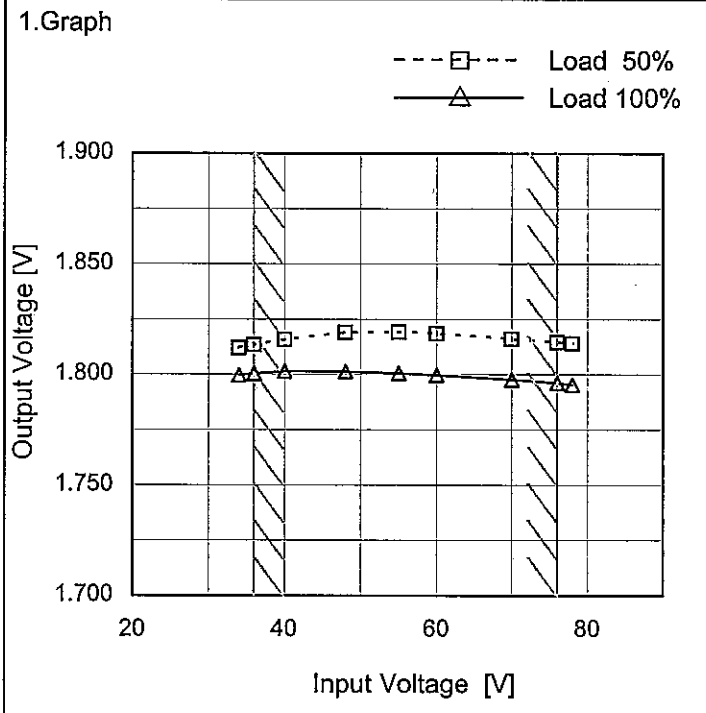
Model		SFS10481R8		Temperature 25°C																																	
Item		Efficiency (by Input Voltage)		Testing Circuitry Figure A																																	
Object																																					
1. Graph			2. Values																																		
<p>---□--- Load 50% —△— Load 100%</p>			<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Efficiency [%]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>34</td><td>82.5</td><td>85.3</td></tr> <tr><td>36</td><td>82.1</td><td>85.3</td></tr> <tr><td>40</td><td>81.5</td><td>85.2</td></tr> <tr><td>48</td><td>80.2</td><td>84.8</td></tr> <tr><td>55</td><td>78.7</td><td>84.3</td></tr> <tr><td>60</td><td>77.6</td><td>83.7</td></tr> <tr><td>70</td><td>75.4</td><td>82.4</td></tr> <tr><td>76</td><td>73.8</td><td>81.5</td></tr> <tr><td>78</td><td>73.1</td><td>81.2</td></tr> </tbody> </table>			Input Voltage [V]	Efficiency [%]		Load 50%	Load 100%	34	82.5	85.3	36	82.1	85.3	40	81.5	85.2	48	80.2	84.8	55	78.7	84.3	60	77.6	83.7	70	75.4	82.4	76	73.8	81.5	78	73.1	81.2
Input Voltage [V]	Efficiency [%]																																				
	Load 50%	Load 100%																																			
34	82.5	85.3																																			
36	82.1	85.3																																			
40	81.5	85.2																																			
48	80.2	84.8																																			
55	78.7	84.3																																			
60	77.6	83.7																																			
70	75.4	82.4																																			
76	73.8	81.5																																			
78	73.1	81.2																																			
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																					

Model	SFS10481R8	Temperature	25°C																																																			
Item	Efficiency (by Load Current)	Testing Circuitry	Figure A																																																			
Object	_____																																																					
1.Graph	<p>—△— Input Volt. 36V</p> <p>- - -□- - Input Volt. 48V</p> <p>- · -○- · - Input Volt. 76V</p>	2.Values																																																				
		<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Efficiency [%]</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>0.0</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>0.6</td><td>69.8</td><td>65.5</td><td>55.3</td></tr> <tr><td>1.2</td><td>80.3</td><td>77.7</td><td>70.2</td></tr> <tr><td>1.8</td><td>83.8</td><td>82.1</td><td>76.6</td></tr> <tr><td>2.4</td><td>85.1</td><td>84.1</td><td>80.0</td></tr> <tr><td>3.0</td><td>85.5</td><td>84.9</td><td>81.7</td></tr> <tr><td>3.3</td><td>85.3</td><td>85.1</td><td>82.2</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> </tbody> </table>	Load Current [A]	Efficiency [%]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	-	-	-	0.6	69.8	65.5	55.3	1.2	80.3	77.7	70.2	1.8	83.8	82.1	76.6	2.4	85.1	84.1	80.0	3.0	85.5	84.9	81.7	3.3	85.3	85.1	82.2	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	
Load Current [A]	Efficiency [%]																																																					
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																			
0.0	-	-	-																																																			
0.6	69.8	65.5	55.3																																																			
1.2	80.3	77.7	70.2																																																			
1.8	83.8	82.1	76.6																																																			
2.4	85.1	84.1	80.0																																																			
3.0	85.5	84.9	81.7																																																			
3.3	85.3	85.1	82.2																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
	Note: Slanted line shows the range of the rated load current.																																																					



Model	SFS10481R8
Item	Line Regulation
Object	+1.8V3A

Temperature 25°C
Testing Circuitry Figure A



2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	1.812	1.800
36	1.814	1.801
40	1.816	1.802
48	1.819	1.801
55	1.819	1.801
60	1.819	1.800
70	1.816	1.798
76	1.815	1.796
78	1.814	1.795


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



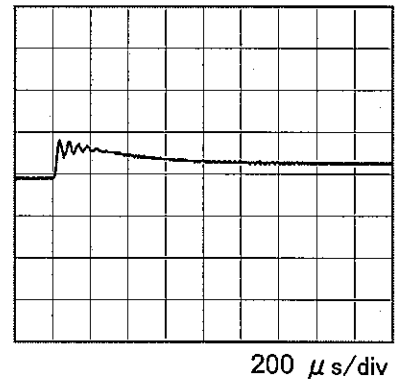
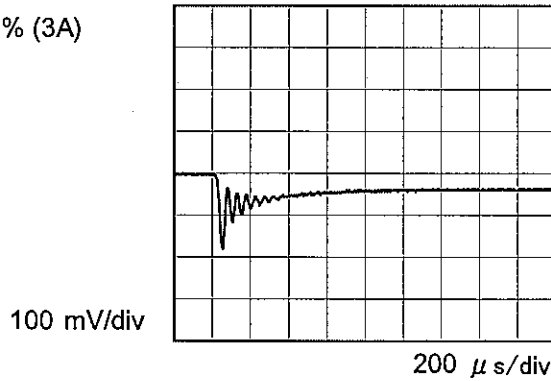
Model		SFS10481R8	Temperature		25°C																																																			
Item		Load Regulation	Testing Circuitry		Figure A																																																			
Object		+1.8V3A																																																						
1. Graph			2. Values																																																					
<p>Legend: —△— Input Volt. 36V - - □ - - Input Volt. 48V - · ○ · - - Input Volt. 76V</p>			<table border="1"> <thead> <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> </thead> <tbody> <tr><td>0.0</td><td>1.828</td><td>1.833</td><td>1.833</td></tr> <tr><td>0.6</td><td>1.822</td><td>1.827</td><td>1.826</td></tr> <tr><td>1.2</td><td>1.816</td><td>1.821</td><td>1.819</td></tr> <tr><td>1.8</td><td>1.811</td><td>1.816</td><td>1.811</td></tr> <tr><td>2.4</td><td>1.806</td><td>1.809</td><td>1.803</td></tr> <tr><td>3.0</td><td>1.801</td><td>1.802</td><td>1.797</td></tr> <tr><td>3.3</td><td>1.798</td><td>1.798</td><td>1.792</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> </tbody> </table>			Load Current [A]	Output Voltage [V]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	1.828	1.833	1.833	0.6	1.822	1.827	1.826	1.2	1.816	1.821	1.819	1.8	1.811	1.816	1.811	2.4	1.806	1.809	1.803	3.0	1.801	1.802	1.797	3.3	1.798	1.798	1.792	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Output Voltage [V]																																																							
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																					
0.0	1.828	1.833	1.833																																																					
0.6	1.822	1.827	1.826																																																					
1.2	1.816	1.821	1.819																																																					
1.8	1.811	1.816	1.811																																																					
2.4	1.806	1.809	1.803																																																					
3.0	1.801	1.802	1.797																																																					
3.3	1.798	1.798	1.792																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
--	-	-	-																																																					
<p>Note: Slanted line shows the range of the rated load current.</p>																																																								

Model	SFS10481R8	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+1.8V3A		

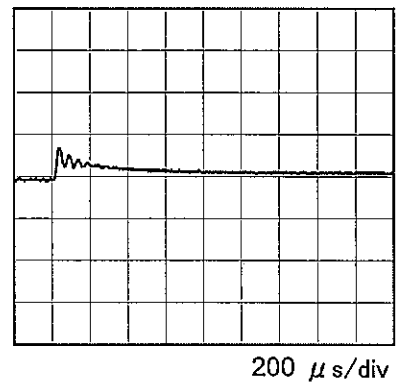
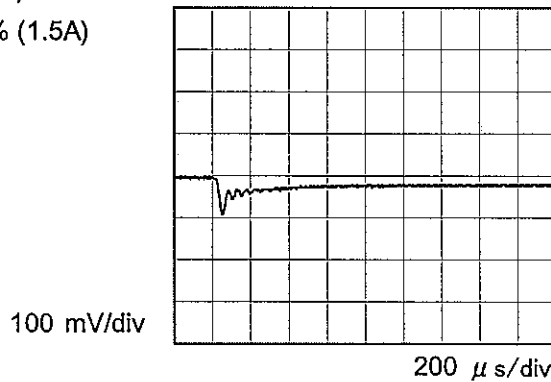
Input Volt. 48 V
Cycle 1000 ms

Load Current  3A/200 μ sec

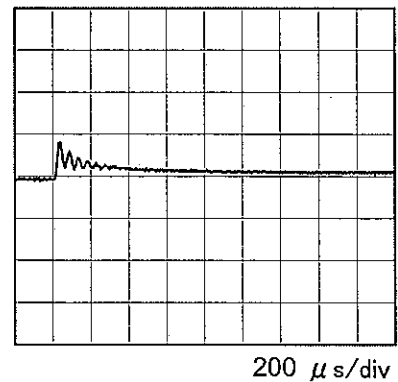
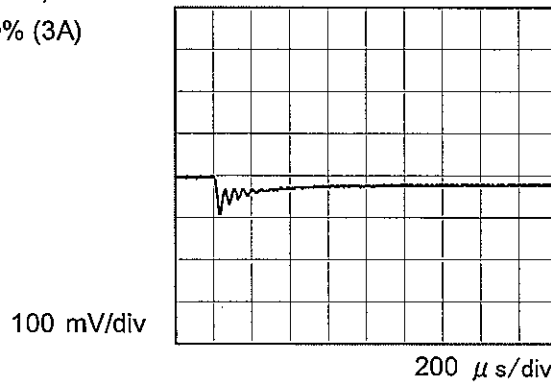
Min. Load (0A)
Load 100% (3A)



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



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



Model		SFS10481R8	Temperature		25°C																																						
Item		Ripple Voltage (by Load Current)	Testing Circuitry		Figure C																																						
Object		+1.8V3A																																									
1.Graph			2.Values																																								
			<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 36 [V]</th> <th>Input Volt. 76 [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>3</td><td>3</td></tr> <tr><td>0.6</td><td>3</td><td>3</td></tr> <tr><td>1.2</td><td>3</td><td>3</td></tr> <tr><td>1.8</td><td>3</td><td>3</td></tr> <tr><td>2.4</td><td>3</td><td>3</td></tr> <tr><td>3.0</td><td>3</td><td>3</td></tr> <tr><td>3.3</td><td>3</td><td>3</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Ripple Voltage [mV]		Input Volt. 36 [V]	Input Volt. 76 [V]	0.0	3	3	0.6	3	3	1.2	3	3	1.8	3	3	2.4	3	3	3.0	3	3	3.3	3	3	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																										
	Input Volt. 36 [V]	Input Volt. 76 [V]																																									
0.0	3	3																																									
0.6	3	3																																									
1.2	3	3																																									
1.8	3	3																																									
2.4	3	3																																									
3.0	3	3																																									
3.3	3	3																																									
--	-	-																																									
--	-	-																																									
--	-	-																																									
--	-	-																																									
<p>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.</p>																																											
<p>Fig.Complex Ripple Wave Form</p>																																											

<p>Model SFS10481R8</p>		<p>Temperature 25°C Testing Circuitry Figure C</p>																																						
<p>Item Ripple-Noise</p>																																								
<p>Object +1.8V3A</p>																																								
<p>1.Graph</p> <div style="text-align: right;"> <p>—△— Input Volt. 36V - - ○ - - Input Volt. 76V</p> </div> <p>Ripple-Noise [mV]</p> <p>Load Current [A]</p> <p>Measured by 100 MHz Oscilloscope. Ripple-Noise is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple-Noise [mV]</th> </tr> <tr> <th>Input Volt. 36 [V]</th> <th>Input Volt. 76 [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>13</td><td>12</td></tr> <tr><td>0.6</td><td>12</td><td>13</td></tr> <tr><td>1.2</td><td>11</td><td>13</td></tr> <tr><td>1.8</td><td>11</td><td>12</td></tr> <tr><td>2.4</td><td>11</td><td>12</td></tr> <tr><td>3.0</td><td>10</td><td>14</td></tr> <tr><td>3.3</td><td>10</td><td>14</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Ripple-Noise [mV]		Input Volt. 36 [V]	Input Volt. 76 [V]	0.0	13	12	0.6	12	13	1.2	11	13	1.8	11	12	2.4	11	12	3.0	10	14	3.3	10	14	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple-Noise [mV]																																							
	Input Volt. 36 [V]	Input Volt. 76 [V]																																						
0.0	13	12																																						
0.6	12	13																																						
1.2	11	13																																						
1.8	11	12																																						
2.4	11	12																																						
3.0	10	14																																						
3.3	10	14																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
<p>Ripple Noise[mVp-p]</p> <p>Fig.Complex Ripple Noise Wave Form</p>																																								



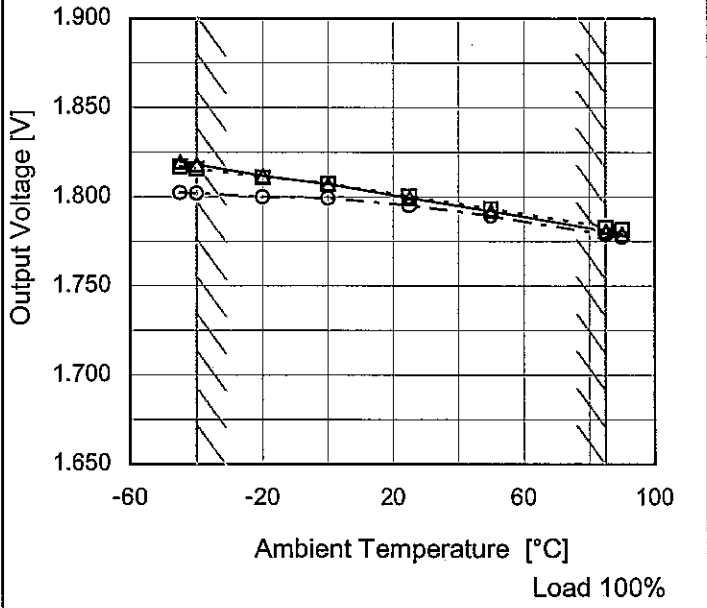
Model		SFS10481R8	Testing Circuitry Figure C																																						
Item		Ripple Voltage (by Ambient Temp.)																																							
Object		+1.8V3A																																							
1.Graph		<p style="text-align: center;">Input Volt. 48V</p>	2.Values																																						
		<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>-50</td><td>5</td><td>5</td></tr> <tr><td>-40</td><td>4</td><td>4</td></tr> <tr><td>-20</td><td>3</td><td>3</td></tr> <tr><td>0</td><td>3</td><td>3</td></tr> <tr><td>25</td><td>3</td><td>3</td></tr> <tr><td>85</td><td>3</td><td>3</td></tr> <tr><td>90</td><td>3</td><td>3</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-50	5	5	-40	4	4	-20	3	3	0	3	3	25	3	3	85	3	3	90	3	3	--	-	-	--	-	-	--	-	-	--	-	-	
Ambient Temperature [°C]	Ripple Voltage [mV]																																								
	Load 50%	Load 100%																																							
-50	5	5																																							
-40	4	4																																							
-20	3	3																																							
0	3	3																																							
25	3	3																																							
85	3	3																																							
90	3	3																																							
--	-	-																																							
--	-	-																																							
--	-	-																																							
--	-	-																																							
Measured by 100 MHz Oscilloscope.																																									
Note: Slanted line shows the range of the rated ambient temperature.																																									

Model	SFS10481R8
Item	Ambient Temperature Drift
Object	+1.8V3A

Testing Circuitry Figure A

1.Graph

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



2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-45	1.820	1.817	1.802
-40	1.818	1.816	1.802
-20	1.812	1.811	1.800
0	1.807	1.808	1.799
25	1.800	1.800	1.795
50	1.792	1.793	1.789
85	1.781	1.783	1.779
90	1.779	1.782	1.777
--	-	-	-
--	-	-	-
--	-	-	-

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



		Testing Circuitry Figure A
Model	SFS10481R8	
Item	Output Voltage Accuracy	
Object	+1.8V3A	

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	76	0	1.836	±29	±1.6
Minimum Voltage	85	76	3	1.778		



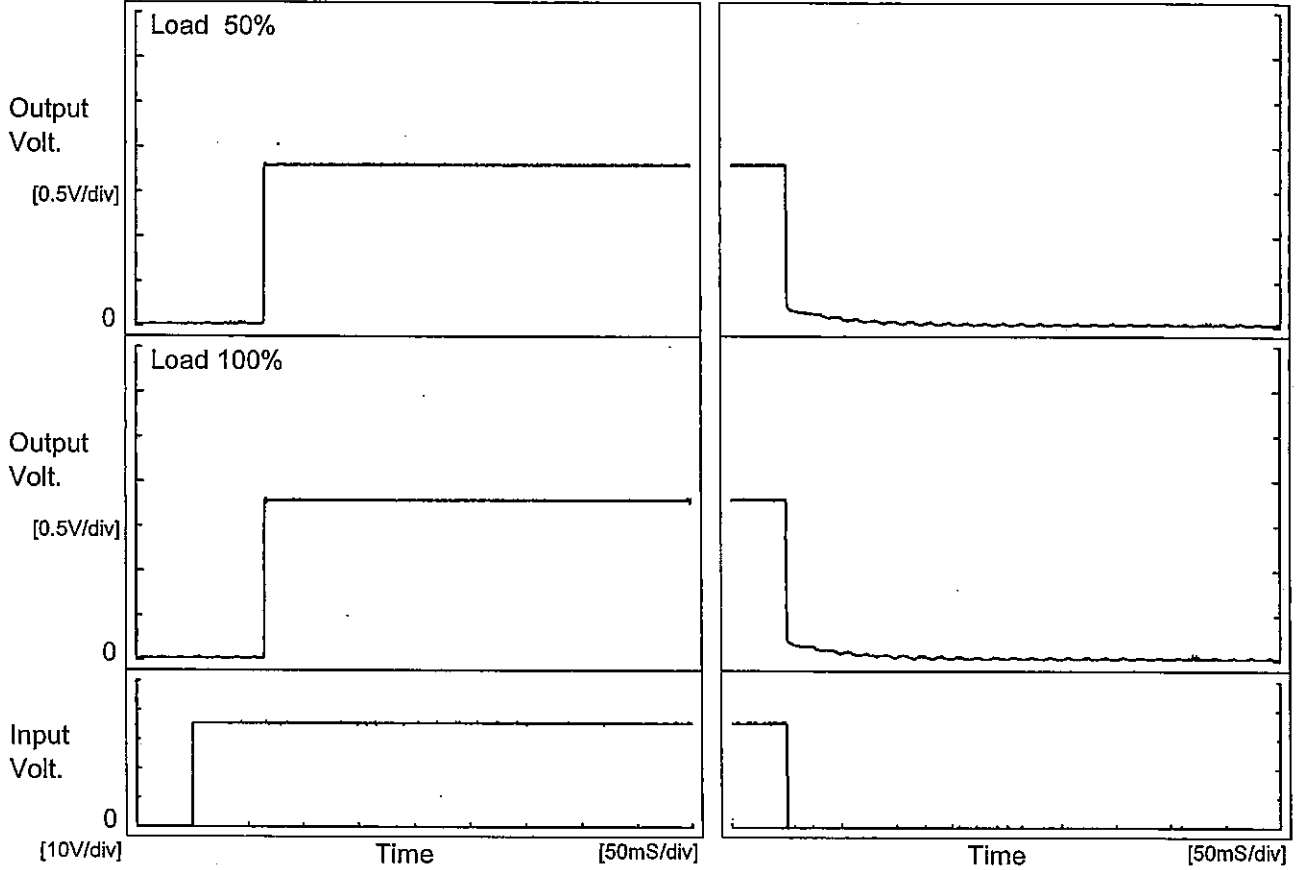
Model	SFS10481R8																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+1.8V3A																								
1.Graph		2.Values																							
<p style="text-align: center;">Time [H]</p> <p>Input Volt. 48V Load 100%</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>1.803</td></tr> <tr><td>0.5</td><td>1.801</td></tr> <tr><td>1.0</td><td>1.801</td></tr> <tr><td>2.0</td><td>1.801</td></tr> <tr><td>3.0</td><td>1.801</td></tr> <tr><td>4.0</td><td>1.801</td></tr> <tr><td>5.0</td><td>1.801</td></tr> <tr><td>6.0</td><td>1.801</td></tr> <tr><td>7.0</td><td>1.801</td></tr> <tr><td>8.0</td><td>1.801</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	1.803	0.5	1.801	1.0	1.801	2.0	1.801	3.0	1.801	4.0	1.801	5.0	1.801	6.0	1.801	7.0	1.801	8.0	1.801
Time since start [H]	Output Voltage [V]																								
0.0	1.803																								
0.5	1.801																								
1.0	1.801																								
2.0	1.801																								
3.0	1.801																								
4.0	1.801																								
5.0	1.801																								
6.0	1.801																								
7.0	1.801																								
8.0	1.801																								



Model	SFS10481R8	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+1.8V3A		

1. Graph

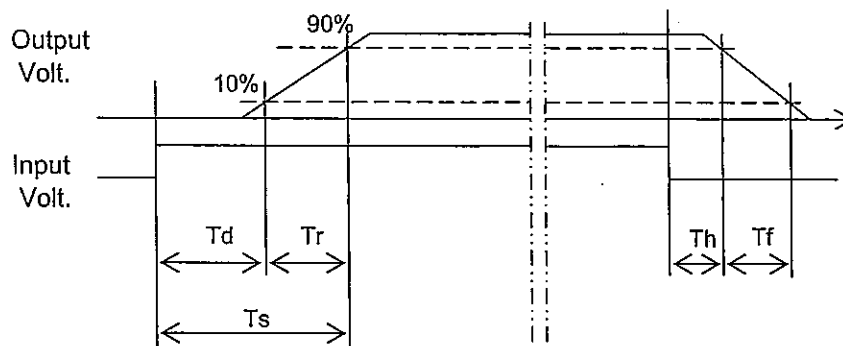
Input Volt.: 36 V



2. Values

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	64.8	0.7	65.5	0.3	2.5
100 %	64.5	0.8	65.3	0.3	3.3

[mS]





<p>Model SFS10481R8</p> <p>Item Minimum Input Voltage for Regulated Output Voltage</p> <p>Object +1.8V3A</p>		<p>Testing Circuitry Figure A</p>																																			
<p>1.Graph</p> <div style="text-align: right;"> <p>---□--- Load 50%</p> <p>—△— Load 100%</p> </div> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Input Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>-45</td><td>31.7</td><td>31.6</td></tr> <tr><td>-40</td><td>31.6</td><td>31.7</td></tr> <tr><td>-20</td><td>31.9</td><td>31.8</td></tr> <tr><td>0</td><td>31.8</td><td>31.8</td></tr> <tr><td>25</td><td>32.1</td><td>32.1</td></tr> <tr><td>50</td><td>32.1</td><td>32.0</td></tr> <tr><td>85</td><td>32.3</td><td>32.3</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Ambient Temperature [°C]	Input Voltage [V]		Load 50%	Load 100%	-45	31.7	31.6	-40	31.6	31.7	-20	31.9	31.8	0	31.8	31.8	25	32.1	32.1	50	32.1	32.0	85	32.3	32.3	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	Input Voltage [V]																																				
	Load 50%	Load 100%																																			
-45	31.7	31.6																																			
-40	31.6	31.7																																			
-20	31.9	31.8																																			
0	31.8	31.8																																			
25	32.1	32.1																																			
50	32.1	32.0																																			
85	32.3	32.3																																			
--	-	-																																			
--	-	-																																			
--	-	-																																			

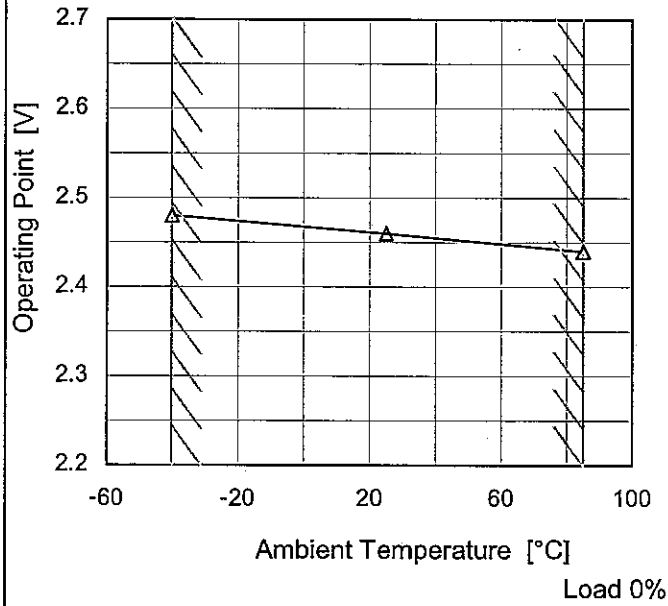
<p>Model SFS10481R8</p>		<p>Temperature 25°C</p>																																																												
<p>Item Overcurrent Protection</p>		<p>Testing Circuitry Figure A</p>																																																												
<p>Object +1.8V3A</p>																																																														
<p>1. Graph</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>————— Input Volt. 36V</p> <p>————— Input Volt. 48V</p> <p>----- Input Volt. 76V</p> </div> </div>		<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>1.80</td> <td>3.11</td> <td>3.11</td> <td>3.02</td> </tr> <tr> <td>1.71</td> <td>3.35</td> <td>3.41</td> <td>3.55</td> </tr> <tr> <td>1.62</td> <td>3.37</td> <td>3.43</td> <td>3.58</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> <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> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>		Output Voltage [V]	Load Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	1.80	3.11	3.11	3.02	1.71	3.35	3.41	3.55	1.62	3.37	3.43	3.58	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Output Voltage [V]	Load Current [A]																																																													
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																											
1.80	3.11	3.11	3.02																																																											
1.71	3.35	3.41	3.55																																																											
1.62	3.37	3.43	3.58																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
--	-	-	-																																																											
<p>Note: Slanted line shows the range of the rated load current.</p>																																																														
<p>When the output voltage fell to less than 1.62V, the unit shuts off the output by operating low voltage protection.</p>																																																														



Model	SFS10481R8
Item	Overvoltage Protection
Object	+1.8V3A

Testing Circuitry Figure A

1. Graph —△— Input Volt. 48V



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	2.48	-	-
25	2.46	-	-
85	2.44	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

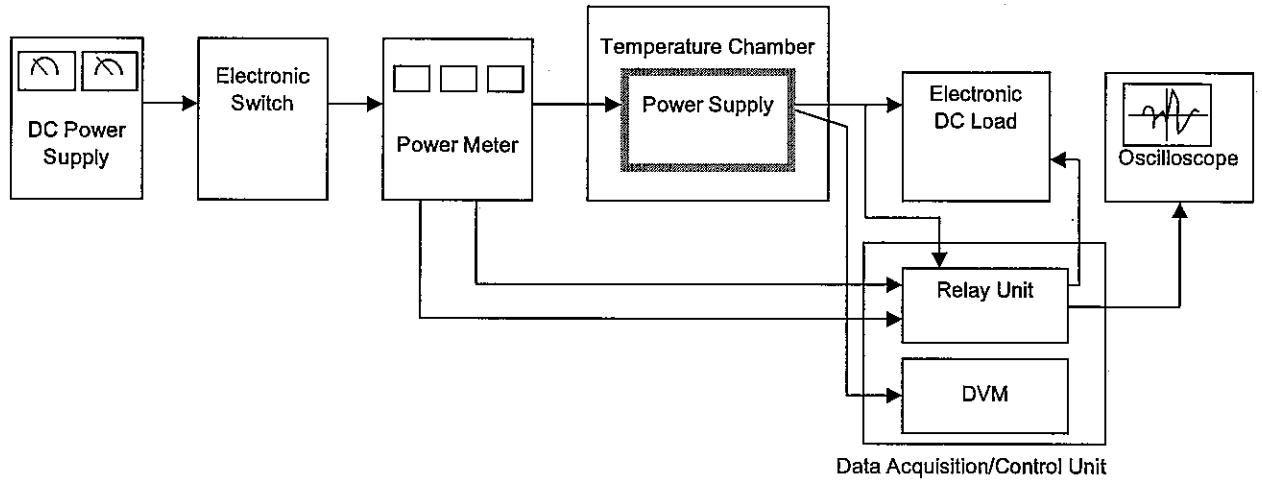


Figure A

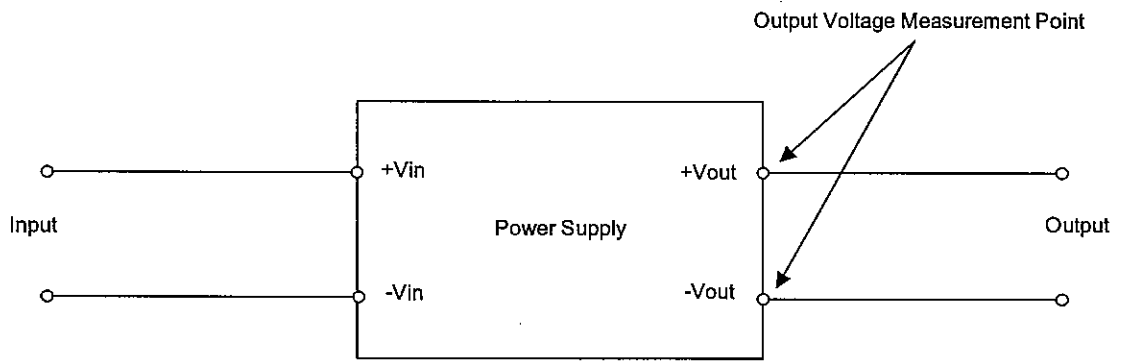


Figure B (General Electric Characteristic)

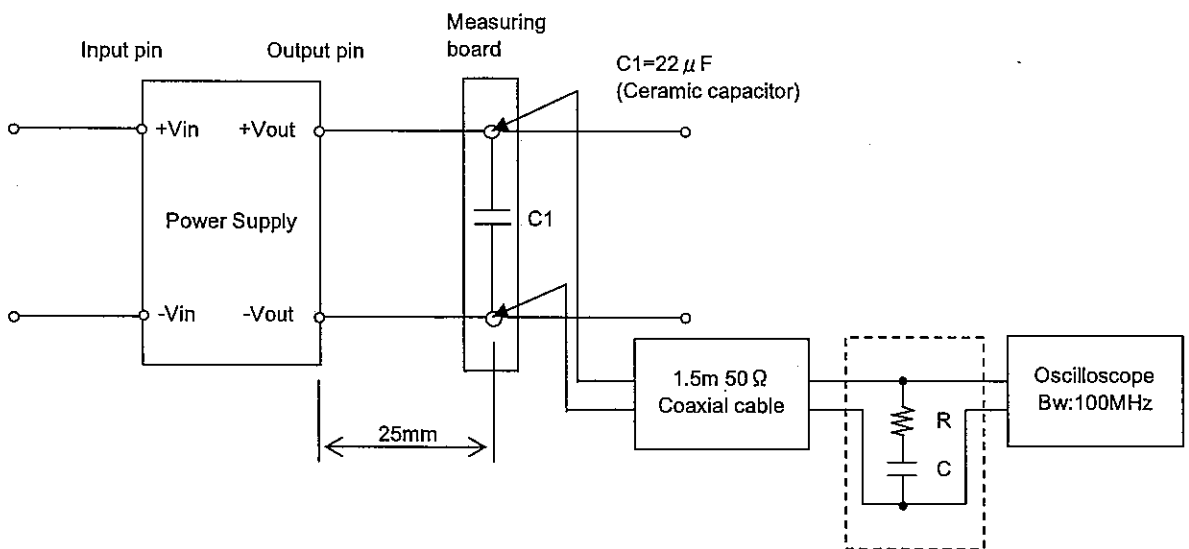


Figure C (Ripple and Ripple noise Characteristic)