



TEST DATA OF STMGFW304812

Regulated DC Power Supply
January 29, 2013

Approved by : Takahiro Yoneda
Takahiro Yoneda Design Manager

Prepared by : Satoshi Kinoshita
Satoshi Kinoshita 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. Ripple Voltage (by Load Current)	8
9. Ripple-Noise	10
10. Ripple Voltage (by Ambient Temperature)	12
11. Ambient Temperature Drift	13
12. Output Voltage Accuracy	14
13. Time Lapse Drift	15
14. Rise and Fall Time	16
15. Minimum Input Voltage for Regulated Output Voltage	18
16. Overcurrent Protection	19
17. Overvoltage Protection	20
18. Figure of Testing Circuitry	21

(Final Page 21)

COSEL

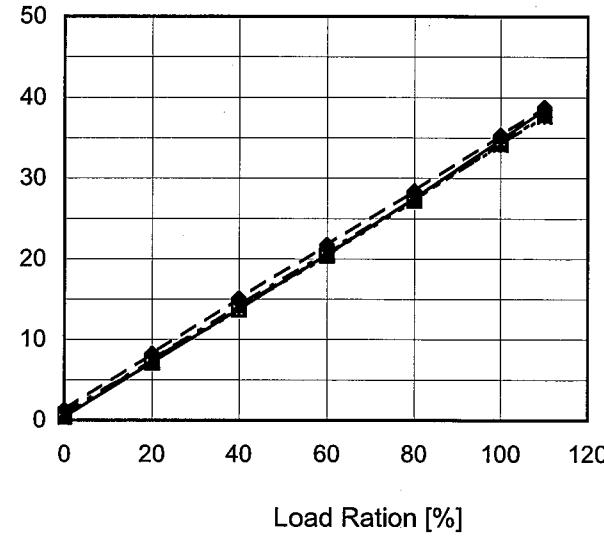
Model	STMGFW304812	Temperature Testing Circuitry	25°C Figure A																																																																																	
Item	Input Current (by Input Voltage)																																																																																			
Object																																																																																				
1.Graph		2.Values																																																																																		
			<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>0.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>5.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>10.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>15.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>16.0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>16.5</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>17.0</td><td>0.025</td><td>1.011</td><td>2.089</td></tr> <tr><td>17.5</td><td>0.025</td><td>0.976</td><td>2.018</td></tr> <tr><td>18.0</td><td>0.025</td><td>0.945</td><td>1.940</td></tr> <tr><td>24.0</td><td>0.023</td><td>0.706</td><td>1.433</td></tr> <tr><td>36.0</td><td>0.020</td><td>0.475</td><td>0.953</td></tr> <tr><td>48.0</td><td>0.018</td><td>0.362</td><td>0.717</td></tr> <tr><td>62.0</td><td>0.017</td><td>0.287</td><td>0.565</td></tr> <tr><td>69.0</td><td>0.017</td><td>0.262</td><td>0.512</td></tr> <tr><td>75.5</td><td>0.017</td><td>0.242</td><td>0.471</td></tr> <tr><td>76.0</td><td>0.017</td><td>0.241</td><td>0.464</td></tr> <tr><td>80.0</td><td>0.017</td><td>0.230</td><td>0.447</td></tr> <tr><td>82.5</td><td>0.017</td><td>0.225</td><td>0.435</td></tr> </tbody> </table>			Input Voltage [V]	Input Current [A]			Load 0%	Load 50%	Load 100%	0.0	0.000	0.000	0.000	5.0	0.000	0.000	0.000	10.0	0.000	0.000	0.000	15.0	0.000	0.000	0.000	16.0	0.000	0.000	0.000	16.5	0.000	0.000	0.000	17.0	0.025	1.011	2.089	17.5	0.025	0.976	2.018	18.0	0.025	0.945	1.940	24.0	0.023	0.706	1.433	36.0	0.020	0.475	0.953	48.0	0.018	0.362	0.717	62.0	0.017	0.287	0.565	69.0	0.017	0.262	0.512	75.5	0.017	0.242	0.471	76.0	0.017	0.241	0.464	80.0	0.017	0.230	0.447	82.5	0.017	0.225	0.435
Input Voltage [V]	Input Current [A]																																																																																			
	Load 0%	Load 50%	Load 100%																																																																																	
0.0	0.000	0.000	0.000																																																																																	
5.0	0.000	0.000	0.000																																																																																	
10.0	0.000	0.000	0.000																																																																																	
15.0	0.000	0.000	0.000																																																																																	
16.0	0.000	0.000	0.000																																																																																	
16.5	0.000	0.000	0.000																																																																																	
17.0	0.025	1.011	2.089																																																																																	
17.5	0.025	0.976	2.018																																																																																	
18.0	0.025	0.945	1.940																																																																																	
24.0	0.023	0.706	1.433																																																																																	
36.0	0.020	0.475	0.953																																																																																	
48.0	0.018	0.362	0.717																																																																																	
62.0	0.017	0.287	0.565																																																																																	
69.0	0.017	0.262	0.512																																																																																	
75.5	0.017	0.242	0.471																																																																																	
76.0	0.017	0.241	0.464																																																																																	
80.0	0.017	0.230	0.447																																																																																	
82.5	0.017	0.225	0.435																																																																																	

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

COSEL

Model	STMGFW304812																																																																																	
Item	Input Current (by Load Current)	Temperature 25°C Testing Circuitry Figure A																																																																																
Object	_____																																																																																	
1.Graph	<p>—△— Input Volt. 18V - -□--- Input Volt. 24V - -*--- Input Volt. 36V - -○--- Input Volt. 48V - -◇--- Input Volt. 76V</p>																																																																																	
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Ration [%]</th> <th colspan="5">Input Current [A]</th> </tr> <tr> <th>18[V]</th> <th>24[V]</th> <th>36[V]</th> <th>48[V]</th> <th>76[V]</th> </tr> </thead> <tbody> <tr> <td>0</td><td>0.025</td><td>0.023</td><td>0.020</td><td>0.018</td><td>0.017</td></tr> <tr> <td>20</td><td>0.400</td><td>0.299</td><td>0.204</td><td>0.156</td><td>0.108</td></tr> <tr> <td>40</td><td>0.769</td><td>0.572</td><td>0.387</td><td>0.296</td><td>0.198</td></tr> <tr> <td>60</td><td>1.144</td><td>0.853</td><td>0.571</td><td>0.434</td><td>0.286</td></tr> <tr> <td>80</td><td>1.538</td><td>1.137</td><td>0.760</td><td>0.574</td><td>0.374</td></tr> <tr> <td>100</td><td>1.940</td><td>1.433</td><td>0.953</td><td>0.717</td><td>0.464</td></tr> <tr> <td>110</td><td>2.152</td><td>1.584</td><td>1.051</td><td>0.790</td><td>0.510</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>					Load Ration [%]	Input Current [A]					18[V]	24[V]	36[V]	48[V]	76[V]	0	0.025	0.023	0.020	0.018	0.017	20	0.400	0.299	0.204	0.156	0.108	40	0.769	0.572	0.387	0.296	0.198	60	1.144	0.853	0.571	0.434	0.286	80	1.538	1.137	0.760	0.574	0.374	100	1.940	1.433	0.953	0.717	0.464	110	2.152	1.584	1.051	0.790	0.510	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-
Load Ration [%]	Input Current [A]																																																																																	
	18[V]	24[V]	36[V]	48[V]	76[V]																																																																													
0	0.025	0.023	0.020	0.018	0.017																																																																													
20	0.400	0.299	0.204	0.156	0.108																																																																													
40	0.769	0.572	0.387	0.296	0.198																																																																													
60	1.144	0.853	0.571	0.434	0.286																																																																													
80	1.538	1.137	0.760	0.574	0.374																																																																													
100	1.940	1.433	0.953	0.717	0.464																																																																													
110	2.152	1.584	1.051	0.790	0.510																																																																													
--	-	-	-	-	-																																																																													
--	-	-	-	-	-																																																																													
--	-	-	-	-	-																																																																													
--	-	-	-	-	-																																																																													

COSEL

Model	STMGFW304812	Temperature 25°C Testing Circuitry Figure A				
Item	Input Power (by Load Current)					
Object	_____					
1.Graph	_____					
	—△— Input Volt. 18V					
	- - □ - - Input Volt. 24V					
	- - * - - Input Volt. 36V					
	- - ○ - - Input Volt. 48V					
	- - ◇ - - Input Volt. 76V					
Input Power [W]	50 40 30 20 10 0					
						
	Load Ration [%]					
2.Values						
Load Ration [%]	Input Power [W]					
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	
0	0.45	0.56	0.72	0.89	1.32	
20	7.18	7.16	7.36	7.50	8.22	
40	13.78	13.69	13.92	14.21	15.09	
60	20.54	20.38	20.57	20.81	21.73	
80	27.53	27.23	27.31	27.53	28.44	
100	34.80	34.27	34.20	34.39	35.30	
110	38.50	37.85	37.70	37.85	38.80	
--	-	-	-	-	-	
--	-	-	-	-	-	
--	-	-	-	-	-	
--	-	-	-	-	-	

COSEL

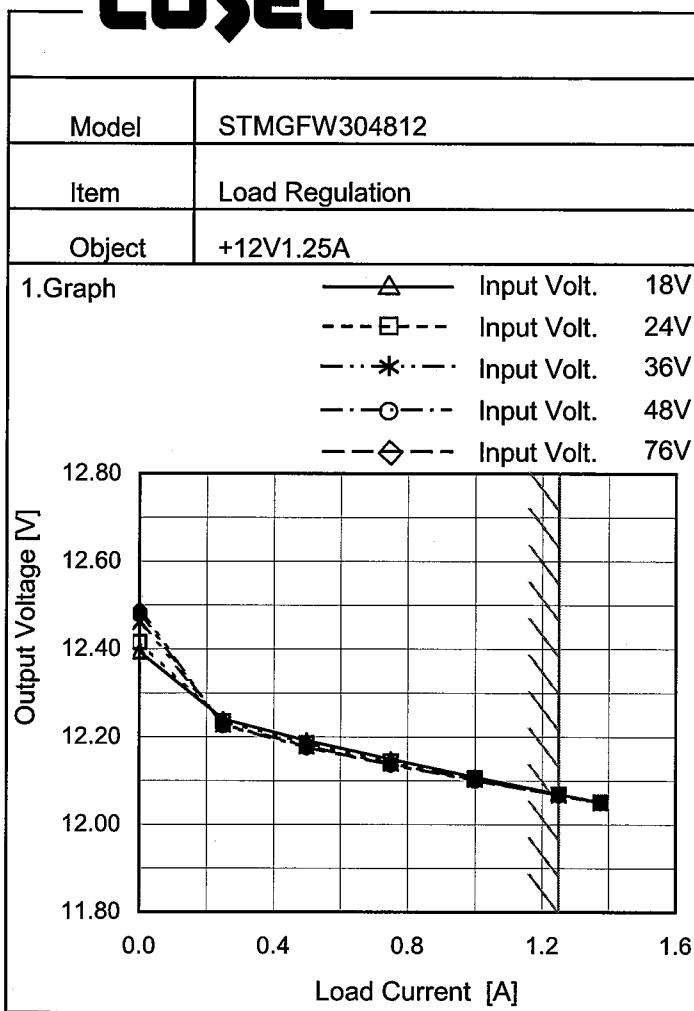
Model	STMGFW304812	Temperature	25°C																																
Item	Efficiency (by Input Voltage)	Testing Circuitry	Figure A																																
Object	—																																		
1. Graph																																			
<p>The graph plots Efficiency [%] on the y-axis (50 to 100) against Input Voltage [V] on the x-axis (10 to 90). Two data series are shown: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both series show a slight decrease in efficiency as input voltage increases. Two vertical slanted lines indicate the rated input voltage range.</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Efficiency Load 50% [%]</th> <th>Efficiency Load 100% [%]</th> </tr> </thead> <tbody> <tr><td>17</td><td>87.4</td><td>86.0</td></tr> <tr><td>18</td><td>88.3</td><td>86.7</td></tr> <tr><td>24</td><td>88.8</td><td>88.2</td></tr> <tr><td>30</td><td>88.4</td><td>88.5</td></tr> <tr><td>36</td><td>87.6</td><td>88.2</td></tr> <tr><td>48</td><td>86.3</td><td>88.0</td></tr> <tr><td>60</td><td>84.7</td><td>87.2</td></tr> <tr><td>76</td><td>82.1</td><td>85.7</td></tr> <tr><td>80</td><td>81.5</td><td>85.4</td></tr> </tbody> </table>				Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	17	87.4	86.0	18	88.3	86.7	24	88.8	88.2	30	88.4	88.5	36	87.6	88.2	48	86.3	88.0	60	84.7	87.2	76	82.1	85.7	80	81.5	85.4		
Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]																																	
17	87.4	86.0																																	
18	88.3	86.7																																	
24	88.8	88.2																																	
30	88.4	88.5																																	
36	87.6	88.2																																	
48	86.3	88.0																																	
60	84.7	87.2																																	
76	82.1	85.7																																	
80	81.5	85.4																																	
2. Values																																			
<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>17</td><td>87.4</td><td>86.0</td></tr> <tr><td>18</td><td>88.3</td><td>86.7</td></tr> <tr><td>24</td><td>88.8</td><td>88.2</td></tr> <tr><td>30</td><td>88.4</td><td>88.5</td></tr> <tr><td>36</td><td>87.6</td><td>88.2</td></tr> <tr><td>48</td><td>86.3</td><td>88.0</td></tr> <tr><td>60</td><td>84.7</td><td>87.2</td></tr> <tr><td>76</td><td>82.1</td><td>85.7</td></tr> <tr><td>80</td><td>81.5</td><td>85.4</td></tr> </tbody> </table>				Input Voltage [V]	Efficiency [%]		Load 50%	Load 100%	17	87.4	86.0	18	88.3	86.7	24	88.8	88.2	30	88.4	88.5	36	87.6	88.2	48	86.3	88.0	60	84.7	87.2	76	82.1	85.7	80	81.5	85.4
Input Voltage [V]	Efficiency [%]																																		
	Load 50%	Load 100%																																	
17	87.4	86.0																																	
18	88.3	86.7																																	
24	88.8	88.2																																	
30	88.4	88.5																																	
36	87.6	88.2																																	
48	86.3	88.0																																	
60	84.7	87.2																																	
76	82.1	85.7																																	
80	81.5	85.4																																	
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																			

COSEL

Model	STMGFW304812	Temperature 25°C Testing Circuitry Figure A																																																																																
Item	Efficiency (by Load Current)																																																																																	
Object	_____																																																																																	
1.Graph	<p>—△— Input Volt. 18V - -□-- Input Volt. 24V - -＊-- Input Volt. 36V - -○-- Input Volt. 48V - -◇-- Input Volt. 76V</p> <table border="1"> <caption>Data points estimated from Figure A</caption> <thead> <tr> <th>Load Ration [%]</th> <th>18V [Efficiency %]</th> <th>24V [Efficiency %]</th> <th>36V [Efficiency %]</th> <th>48V [Efficiency %]</th> <th>76V [Efficiency %]</th> </tr> </thead> <tbody> <tr><td>20</td><td>82</td><td>74</td><td>81</td><td>80</td><td>82</td></tr> <tr><td>40</td><td>85</td><td>80</td><td>84</td><td>83</td><td>85</td></tr> <tr><td>60</td><td>87</td><td>85</td><td>86</td><td>85</td><td>86</td></tr> <tr><td>80</td><td>88</td><td>86</td><td>87</td><td>86</td><td>86</td></tr> <tr><td>100</td><td>87</td><td>85</td><td>86</td><td>85</td><td>85</td></tr> <tr><td>120</td><td>86</td><td>84</td><td>85</td><td>84</td><td>85</td></tr> </tbody> </table>					Load Ration [%]	18V [Efficiency %]	24V [Efficiency %]	36V [Efficiency %]	48V [Efficiency %]	76V [Efficiency %]	20	82	74	81	80	82	40	85	80	84	83	85	60	87	85	86	85	86	80	88	86	87	86	86	100	87	85	86	85	85	120	86	84	85	84	85																																			
Load Ration [%]	18V [Efficiency %]	24V [Efficiency %]	36V [Efficiency %]	48V [Efficiency %]	76V [Efficiency %]																																																																													
20	82	74	81	80	82																																																																													
40	85	80	84	83	85																																																																													
60	87	85	86	85	86																																																																													
80	88	86	87	86	86																																																																													
100	87	85	86	85	85																																																																													
120	86	84	85	84	85																																																																													
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Ration [%]</th> <th colspan="5">Efficiency [%]</th> </tr> <tr> <th>Input Volt. 18[V]</th> <th>Input Volt. 24[V]</th> <th>Input Volt. 36[V]</th> <th>Input Volt. 48[V]</th> <th>Input Volt. 76[V]</th> </tr> </thead> <tbody> <tr><td>0</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>20</td><td>84.3</td><td>84.5</td><td>82.2</td><td>80.7</td><td>73.6</td></tr> <tr><td>40</td><td>87.8</td><td>88.4</td><td>86.9</td><td>85.2</td><td>80.2</td></tr> <tr><td>60</td><td>88.4</td><td>89.1</td><td>88.3</td><td>87.2</td><td>83.5</td></tr> <tr><td>80</td><td>87.9</td><td>88.9</td><td>88.6</td><td>87.9</td><td>85.1</td></tr> <tr><td>100</td><td>87.0</td><td>88.3</td><td>88.5</td><td>88.0</td><td>85.7</td></tr> <tr><td>110</td><td>86.5</td><td>87.9</td><td>88.3</td><td>88.0</td><td>85.8</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>					Load Ration [%]	Efficiency [%]					Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0	-	-	-	-	-	20	84.3	84.5	82.2	80.7	73.6	40	87.8	88.4	86.9	85.2	80.2	60	88.4	89.1	88.3	87.2	83.5	80	87.9	88.9	88.6	87.9	85.1	100	87.0	88.3	88.5	88.0	85.7	110	86.5	87.9	88.3	88.0	85.8	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-
Load Ration [%]	Efficiency [%]																																																																																	
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]																																																																													
0	-	-	-	-	-																																																																													
20	84.3	84.5	82.2	80.7	73.6																																																																													
40	87.8	88.4	86.9	85.2	80.2																																																																													
60	88.4	89.1	88.3	87.2	83.5																																																																													
80	87.9	88.9	88.6	87.9	85.1																																																																													
100	87.0	88.3	88.5	88.0	85.7																																																																													
110	86.5	87.9	88.3	88.0	85.8																																																																													
--	-	-	-	-	-																																																																													
--	-	-	-	-	-																																																																													
--	-	-	-	-	-																																																																													
--	-	-	-	-	-																																																																													

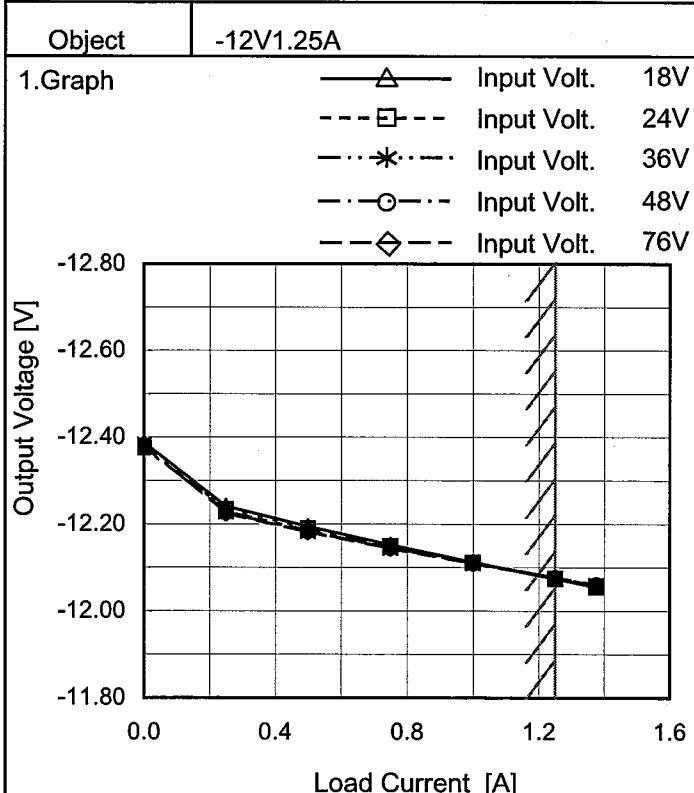
COSEL

Model	STMGFW304812	Temperature Testing Circuitry	25°C Figure A																																
Item	Line Regulation																																		
Object	+12V1.25A																																		
1.Graph			2.Values																																
			<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>17</td><td>12.156</td><td>12.067</td></tr> <tr><td>18</td><td>12.156</td><td>12.067</td></tr> <tr><td>24</td><td>12.151</td><td>12.066</td></tr> <tr><td>30</td><td>12.148</td><td>12.066</td></tr> <tr><td>36</td><td>12.147</td><td>12.065</td></tr> <tr><td>48</td><td>12.145</td><td>12.065</td></tr> <tr><td>60</td><td>12.145</td><td>12.065</td></tr> <tr><td>76</td><td>12.145</td><td>12.065</td></tr> <tr><td>80</td><td>12.146</td><td>12.065</td></tr> </tbody> </table>	Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	17	12.156	12.067	18	12.156	12.067	24	12.151	12.066	30	12.148	12.066	36	12.147	12.065	48	12.145	12.065	60	12.145	12.065	76	12.145	12.065	80	12.146	12.065
Input Voltage [V]	Output Voltage [V]																																		
	Load 50%	Load 100%																																	
17	12.156	12.067																																	
18	12.156	12.067																																	
24	12.151	12.066																																	
30	12.148	12.066																																	
36	12.147	12.065																																	
48	12.145	12.065																																	
60	12.145	12.065																																	
76	12.145	12.065																																	
80	12.146	12.065																																	
Object			2.Values																																
1.Graph																																			
			<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>17</td><td>-12.168</td><td>-12.073</td></tr> <tr><td>18</td><td>-12.168</td><td>-12.073</td></tr> <tr><td>24</td><td>-12.164</td><td>-12.074</td></tr> <tr><td>30</td><td>-12.162</td><td>-12.075</td></tr> <tr><td>36</td><td>-12.161</td><td>-12.076</td></tr> <tr><td>48</td><td>-12.160</td><td>-12.076</td></tr> <tr><td>60</td><td>-12.159</td><td>-12.076</td></tr> <tr><td>76</td><td>-12.158</td><td>-12.076</td></tr> <tr><td>80</td><td>-12.158</td><td>-12.075</td></tr> </tbody> </table>	Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	17	-12.168	-12.073	18	-12.168	-12.073	24	-12.164	-12.074	30	-12.162	-12.075	36	-12.161	-12.076	48	-12.160	-12.076	60	-12.159	-12.076	76	-12.158	-12.076	80	-12.158	-12.075
Input Voltage [V]	Output Voltage [V]																																		
	Load 50%	Load 100%																																	
17	-12.168	-12.073																																	
18	-12.168	-12.073																																	
24	-12.164	-12.074																																	
30	-12.162	-12.075																																	
36	-12.161	-12.076																																	
48	-12.160	-12.076																																	
60	-12.159	-12.076																																	
76	-12.158	-12.076																																	
80	-12.158	-12.075																																	
Note: Slanted line shows the range of the rated input voltage.																																			

COSEL

 Temperature 25°C
 Testing Circuitry Figure A

2.Values

Load Current [A]	Output Voltage [V]				
	18[V]	24[V]	36[V]	48[V]	76[V]
0.000	12.395	12.416	12.461	12.479	12.489
0.250	12.241	12.235	12.228	12.226	12.227
0.500	12.192	12.185	12.179	12.177	12.175
0.750	12.149	12.145	12.139	12.137	12.137
1.000	12.109	12.106	12.103	12.101	12.101
1.250	12.070	12.069	12.067	12.067	12.067
1.375	12.051	12.051	12.051	12.050	12.051
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-



2.Values

Load Current [A]	Output Voltage [V]				
	18[V]	24[V]	36[V]	48[V]	76[V]
0.000	-12.388	-12.376	-12.384	-12.381	-12.382
0.250	-12.241	-12.234	-12.228	-12.226	-12.224
0.500	-12.194	-12.189	-12.185	-12.183	-12.181
0.750	-12.152	-12.149	-12.146	-12.145	-12.144
1.000	-12.113	-12.111	-12.110	-12.110	-12.109
1.250	-12.074	-12.075	-12.076	-12.077	-12.076
1.375	-12.056	-12.057	-12.059	-12.061	-12.060
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

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

COSEL

Model	STMGFW304812	Temperature Testing Circuitry	25°C Figure B																																						
Item	Ripple Voltage (by Load Current)																																								
Object	+12V1.25A																																								
1.Graph	<p>—△— Input Volt. 18V - -○- - Input Volt. 76V</p> <table border="1"> <caption>Data points estimated from Graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>Ripple Voltage [mV] (18V)</th> <th>Ripple Voltage [mV] (76V)</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>10</td><td>15</td></tr> <tr><td>0.250</td><td>15</td><td>25</td></tr> <tr><td>0.500</td><td>15</td><td>25</td></tr> <tr><td>0.750</td><td>15</td><td>25</td></tr> <tr><td>1.000</td><td>15</td><td>25</td></tr> <tr><td>1.250</td><td>15</td><td>25</td></tr> <tr><td>1.375</td><td>15</td><td>25</td></tr> </tbody> </table>			Load Current [A]	Ripple Voltage [mV] (18V)	Ripple Voltage [mV] (76V)	0.000	10	15	0.250	15	25	0.500	15	25	0.750	15	25	1.000	15	25	1.250	15	25	1.375	15	25														
Load Current [A]	Ripple Voltage [mV] (18V)	Ripple Voltage [mV] (76V)																																							
0.000	10	15																																							
0.250	15	25																																							
0.500	15	25																																							
0.750	15	25																																							
1.000	15	25																																							
1.250	15	25																																							
1.375	15	25																																							
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. 18 [V]</th> <th>Input Volt. 76 [V]</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>10</td><td>15</td></tr> <tr><td>0.250</td><td>15</td><td>25</td></tr> <tr><td>0.500</td><td>15</td><td>25</td></tr> <tr><td>0.750</td><td>15</td><td>25</td></tr> <tr><td>1.000</td><td>15</td><td>25</td></tr> <tr><td>1.250</td><td>15</td><td>25</td></tr> <tr><td>1.375</td><td>15</td><td>25</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> <p>-12V: Rated output current</p>			Load Current [A]	Ripple Voltage [mV]		Input Volt. 18 [V]	Input Volt. 76 [V]	0.000	10	15	0.250	15	25	0.500	15	25	0.750	15	25	1.000	15	25	1.250	15	25	1.375	15	25	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																								
	Input Volt. 18 [V]	Input Volt. 76 [V]																																							
0.000	10	15																																							
0.250	15	25																																							
0.500	15	25																																							
0.750	15	25																																							
1.000	15	25																																							
1.250	15	25																																							
1.375	15	25																																							
--	-	-																																							
--	-	-																																							
--	-	-																																							
--	-	-																																							
<p>Ripple Voltage is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>																																									
<p>Ripple [mVp-p]</p>																																									
<p>Fig.Complex Ripple Wave Form</p>																																									

COSEL

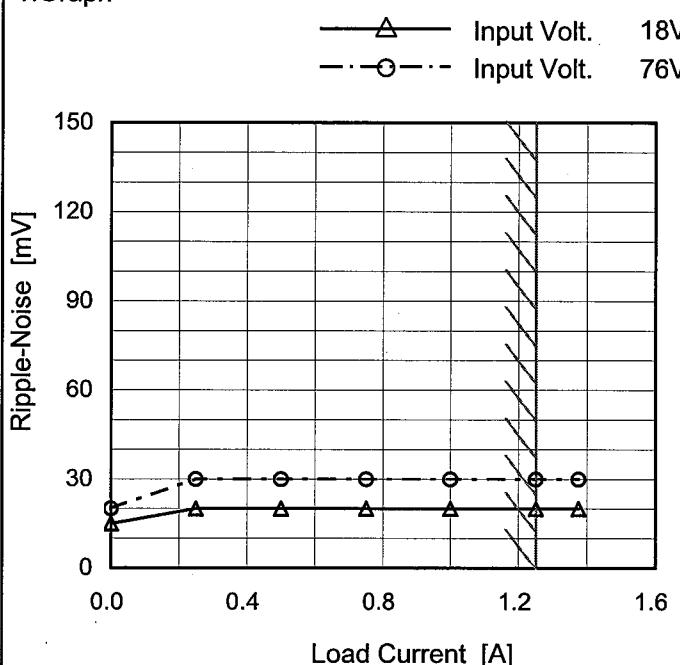
Model	STMGFW304812	Temperature Testing Circuitry	25°C Figure B																																			
Item	Ripple Voltage (by Load Current)																																					
Object	-12V1.25A																																					
1.Graph			2.Values																																			
<p>Graph showing Ripple Voltage [mV] vs Load Current [A]. The graph displays two sets of data points: Input Volt. 18V (solid line with triangle markers) and Input Volt. 76V (dashed line with circle markers). The x-axis represents Load Current [A] from 0.0 to 1.6. The y-axis represents Ripple Voltage [mV] from 0 to 120. A slanted line indicates the range of the rated load current.</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>Ripple Voltage [mV] (Input Volt. 18V)</th> <th>Ripple Voltage [mV] (Input Volt. 76V)</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>10</td><td>20</td></tr> <tr><td>0.250</td><td>15</td><td>25</td></tr> <tr><td>0.500</td><td>15</td><td>25</td></tr> <tr><td>0.750</td><td>15</td><td>25</td></tr> <tr><td>1.000</td><td>15</td><td>25</td></tr> <tr><td>1.250</td><td>15</td><td>25</td></tr> <tr><td>1.375</td><td>15</td><td>25</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. 18V)	Ripple Voltage [mV] (Input Volt. 76V)	0.000	10	20	0.250	15	25	0.500	15	25	0.750	15	25	1.000	15	25	1.250	15	25	1.375	15	25	--	-	-	--	-	-	--	-	-	--	-	-		
Load Current [A]	Ripple Voltage [mV] (Input Volt. 18V)	Ripple Voltage [mV] (Input Volt. 76V)																																				
0.000	10	20																																				
0.250	15	25																																				
0.500	15	25																																				
0.750	15	25																																				
1.000	15	25																																				
1.250	15	25																																				
1.375	15	25																																				
--	-	-																																				
--	-	-																																				
--	-	-																																				
--	-	-																																				
			+12V: Rated output current																																			
<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>Ripple [mVp-p]</p> <p>Fig.Complex Ripple Wave Form</p>																																						

COSEL

Model	STMGFW304812
Item	Ripple-Noise
Object	+12V1.25A

Temperature 25°C
Testing Circuitry Figure B

1.Graph



2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.000	15	20
0.250	20	30
0.500	20	30
0.750	20	30
1.000	20	30
1.250	20	30
1.375	20	30
--	-	-
--	-	-
--	-	-
--	-	-

-12V: Rated output current

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

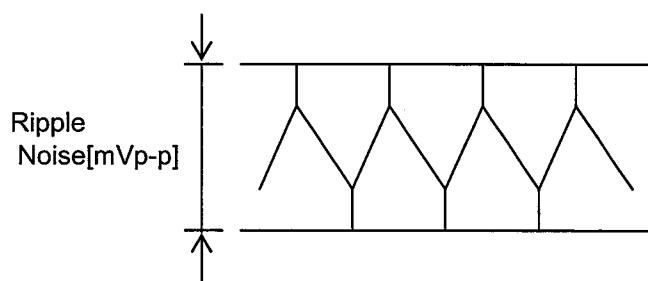


Fig.Complex Ripple Noise Wave Form

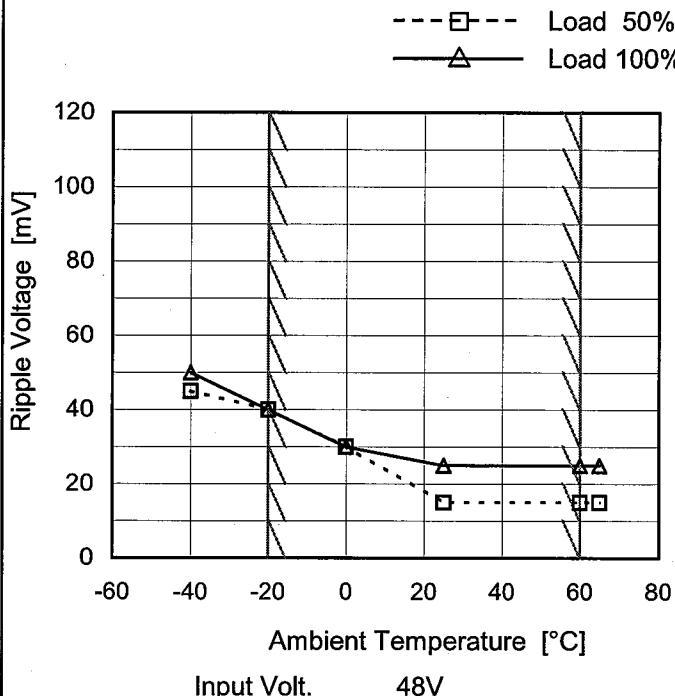
COSEL

Model	STMGFW304812	Temperature Testing Circuitry	25°C Figure B																																			
Item	Ripple-Noise																																					
Object	-12V1.25A																																					
1.Graph			2.Values																																			
<p>Graph showing Ripple-Noise [mV] vs Load Current [A]. The graph shows two sets of data points: Input Volt. 18V (solid line with triangles) and Input Volt. 76V (dashed line with circles). The x-axis represents Load Current [A] from 0.0 to 1.6. The y-axis represents Ripple-Noise [mV] from 0 to 150. A slanted line indicates the range of the rated load current.</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>Ripple-Noise [mV] (18V)</th> <th>Ripple-Noise [mV] (76V)</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>20</td><td>25</td></tr> <tr><td>0.250</td><td>20</td><td>30</td></tr> <tr><td>0.500</td><td>20</td><td>30</td></tr> <tr><td>0.750</td><td>20</td><td>30</td></tr> <tr><td>1.000</td><td>20</td><td>30</td></tr> <tr><td>1.250</td><td>20</td><td>30</td></tr> <tr><td>1.375</td><td>20</td><td>30</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] (18V)	Ripple-Noise [mV] (76V)	0.000	20	25	0.250	20	30	0.500	20	30	0.750	20	30	1.000	20	30	1.250	20	30	1.375	20	30	--	-	-	--	-	-	--	-	-	--	-	-	<p>+12V: Rated output current</p>	
Load Current [A]	Ripple-Noise [mV] (18V)	Ripple-Noise [mV] (76V)																																				
0.000	20	25																																				
0.250	20	30																																				
0.500	20	30																																				
0.750	20	30																																				
1.000	20	30																																				
1.250	20	30																																				
1.375	20	30																																				
--	-	-																																				
--	-	-																																				
--	-	-																																				
--	-	-																																				
<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>Fig.Complex Ripple Noise Wave Form</p>																																						

COSEL

Model	STMGFW304812
Item	Ripple Voltage (by Ambient Temp.)
Object	+12V1.25A

1.Graph



Testing Circuitry Figure B

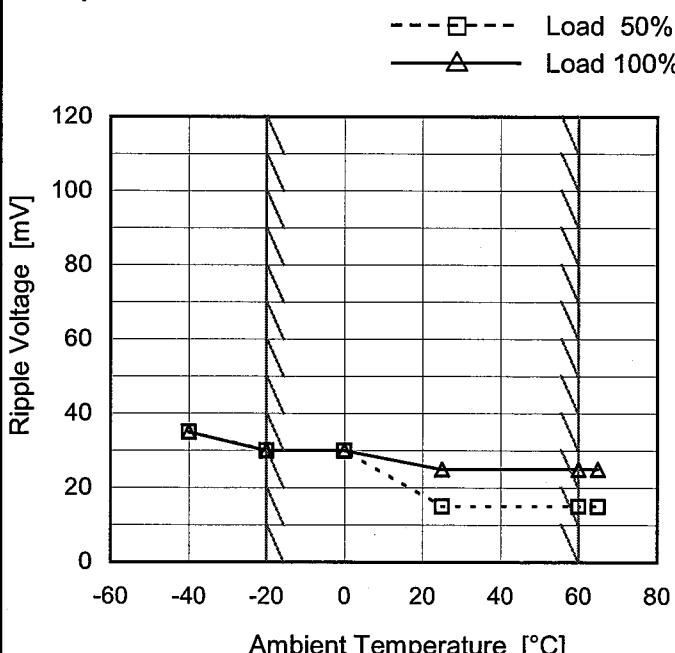
2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	45	50
-20	40	40
0	30	30
25	15	25
60	15	25
65	15	25
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

-12V: Rated output current

Object	-12V1.25A
--------	-----------

1.Graph



2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-40	35	35
-20	30	30
0	30	30
25	15	25
60	15	25
65	15	25
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

+12V: Rated output current

Measured by 100 MHz Oscilloscope.

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

Model	STMGFW304812	Testing Circuitry Figure A																																																																																		
Item	Ambient Temperature Drift																																																																																			
Object	+12V1.25A																																																																																			
1.Graph	<p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p> <ul style="list-style-type: none"> —△— Input Volt. 18V ---□--- Input Volt. 24V ---*--- Input Volt. 36V ---○--- Input Volt. 48V ---◇--- Input Volt. 76V 																																																																																			
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="5">Output Voltage [V]</th> </tr> <tr> <th>18[V]</th> <th>24[V]</th> <th>36[V]</th> <th>48[V]</th> <th>76[V]</th> </tr> </thead> <tbody> <tr><td>-40</td><td>12.022</td><td>12.021</td><td>12.021</td><td>12.020</td><td>12.021</td></tr> <tr><td>-20</td><td>12.040</td><td>12.040</td><td>12.039</td><td>12.038</td><td>12.039</td></tr> <tr><td>0</td><td>12.054</td><td>12.053</td><td>12.052</td><td>12.051</td><td>12.052</td></tr> <tr><td>10</td><td>12.059</td><td>12.058</td><td>12.057</td><td>12.057</td><td>12.057</td></tr> <tr><td>25</td><td>12.065</td><td>12.064</td><td>12.063</td><td>12.062</td><td>12.062</td></tr> <tr><td>30</td><td>12.066</td><td>12.065</td><td>12.064</td><td>12.064</td><td>12.064</td></tr> <tr><td>40</td><td>12.069</td><td>12.068</td><td>12.067</td><td>12.066</td><td>12.066</td></tr> <tr><td>50</td><td>12.071</td><td>12.070</td><td>12.068</td><td>12.068</td><td>12.068</td></tr> <tr><td>60</td><td>12.072</td><td>12.071</td><td>12.070</td><td>12.070</td><td>12.070</td></tr> <tr><td>65</td><td>12.073</td><td>12.072</td><td>12.071</td><td>12.070</td><td>12.070</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>						Ambient Temperature [°C]	Output Voltage [V]					18[V]	24[V]	36[V]	48[V]	76[V]	-40	12.022	12.021	12.021	12.020	12.021	-20	12.040	12.040	12.039	12.038	12.039	0	12.054	12.053	12.052	12.051	12.052	10	12.059	12.058	12.057	12.057	12.057	25	12.065	12.064	12.063	12.062	12.062	30	12.066	12.065	12.064	12.064	12.064	40	12.069	12.068	12.067	12.066	12.066	50	12.071	12.070	12.068	12.068	12.068	60	12.072	12.071	12.070	12.070	12.070	65	12.073	12.072	12.071	12.070	12.070	--	-	-	-	-	-	
Ambient Temperature [°C]	Output Voltage [V]																																																																																			
	18[V]	24[V]	36[V]	48[V]	76[V]																																																																															
-40	12.022	12.021	12.021	12.020	12.021																																																																															
-20	12.040	12.040	12.039	12.038	12.039																																																																															
0	12.054	12.053	12.052	12.051	12.052																																																																															
10	12.059	12.058	12.057	12.057	12.057																																																																															
25	12.065	12.064	12.063	12.062	12.062																																																																															
30	12.066	12.065	12.064	12.064	12.064																																																																															
40	12.069	12.068	12.067	12.066	12.066																																																																															
50	12.071	12.070	12.068	12.068	12.068																																																																															
60	12.072	12.071	12.070	12.070	12.070																																																																															
65	12.073	12.072	12.071	12.070	12.070																																																																															
--	-	-	-	-	-																																																																															
Object	-12V1.25A	<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="5">Output Voltage [V]</th> </tr> <tr> <th>18[V]</th> <th>24[V]</th> <th>36[V]</th> <th>48[V]</th> <th>76[V]</th> </tr> </thead> <tbody> <tr><td>-40</td><td>-12.025</td><td>-12.027</td><td>-12.029</td><td>-12.030</td><td>-12.030</td></tr> <tr><td>-20</td><td>-12.044</td><td>-12.045</td><td>-12.047</td><td>-12.048</td><td>-12.048</td></tr> <tr><td>0</td><td>-12.057</td><td>-12.059</td><td>-12.060</td><td>-12.061</td><td>-12.061</td></tr> <tr><td>10</td><td>-12.063</td><td>-12.064</td><td>-12.066</td><td>-12.066</td><td>-12.066</td></tr> <tr><td>25</td><td>-12.069</td><td>-12.070</td><td>-12.071</td><td>-12.072</td><td>-12.072</td></tr> <tr><td>30</td><td>-12.070</td><td>-12.071</td><td>-12.073</td><td>-12.073</td><td>-12.073</td></tr> <tr><td>40</td><td>-12.073</td><td>-12.074</td><td>-12.075</td><td>-12.076</td><td>-12.076</td></tr> <tr><td>50</td><td>-12.075</td><td>-12.076</td><td>-12.078</td><td>-12.078</td><td>-12.077</td></tr> <tr><td>60</td><td>-12.077</td><td>-12.078</td><td>-12.079</td><td>-12.080</td><td>-12.079</td></tr> <tr><td>65</td><td>-12.077</td><td>-12.078</td><td>-12.080</td><td>-12.080</td><td>-12.080</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>						Ambient Temperature [°C]	Output Voltage [V]					18[V]	24[V]	36[V]	48[V]	76[V]	-40	-12.025	-12.027	-12.029	-12.030	-12.030	-20	-12.044	-12.045	-12.047	-12.048	-12.048	0	-12.057	-12.059	-12.060	-12.061	-12.061	10	-12.063	-12.064	-12.066	-12.066	-12.066	25	-12.069	-12.070	-12.071	-12.072	-12.072	30	-12.070	-12.071	-12.073	-12.073	-12.073	40	-12.073	-12.074	-12.075	-12.076	-12.076	50	-12.075	-12.076	-12.078	-12.078	-12.077	60	-12.077	-12.078	-12.079	-12.080	-12.079	65	-12.077	-12.078	-12.080	-12.080	-12.080	--	-	-	-	-	-
Ambient Temperature [°C]	Output Voltage [V]																																																																																			
	18[V]	24[V]	36[V]	48[V]	76[V]																																																																															
-40	-12.025	-12.027	-12.029	-12.030	-12.030																																																																															
-20	-12.044	-12.045	-12.047	-12.048	-12.048																																																																															
0	-12.057	-12.059	-12.060	-12.061	-12.061																																																																															
10	-12.063	-12.064	-12.066	-12.066	-12.066																																																																															
25	-12.069	-12.070	-12.071	-12.072	-12.072																																																																															
30	-12.070	-12.071	-12.073	-12.073	-12.073																																																																															
40	-12.073	-12.074	-12.075	-12.076	-12.076																																																																															
50	-12.075	-12.076	-12.078	-12.078	-12.077																																																																															
60	-12.077	-12.078	-12.079	-12.080	-12.079																																																																															
65	-12.077	-12.078	-12.080	-12.080	-12.080																																																																															
--	-	-	-	-	-																																																																															
<p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																																																																				



Model	STMGFW304812	Testing Circuitry Figure A
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 : -20 - 60°C

Input Voltage : 18 - 76V

Load Current (AVR 1) : 0 - 1.25A (AVR 2) : 0 - 1.25A

* 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

Object	+12V1.25A		Output		Output Voltage Accuracy	
Item	Temperature [°C]	Input Voltage[V]	Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	60	76	0	12.501	±232	±1.9
Minimum Voltage	-20	48	1.25	12.038		

Object	-12V1.25A		Output		Output Voltage Accuracy	
Item	Temperature [°C]	Input Voltage[V]	Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	60	18	0	-12.404	±180	±1.5
Minimum Voltage	-20	18	1.25	-12.044		

COSEL

Model	STMGFW304812
Item	Time Lapse Drift
Object	+12V1.25A

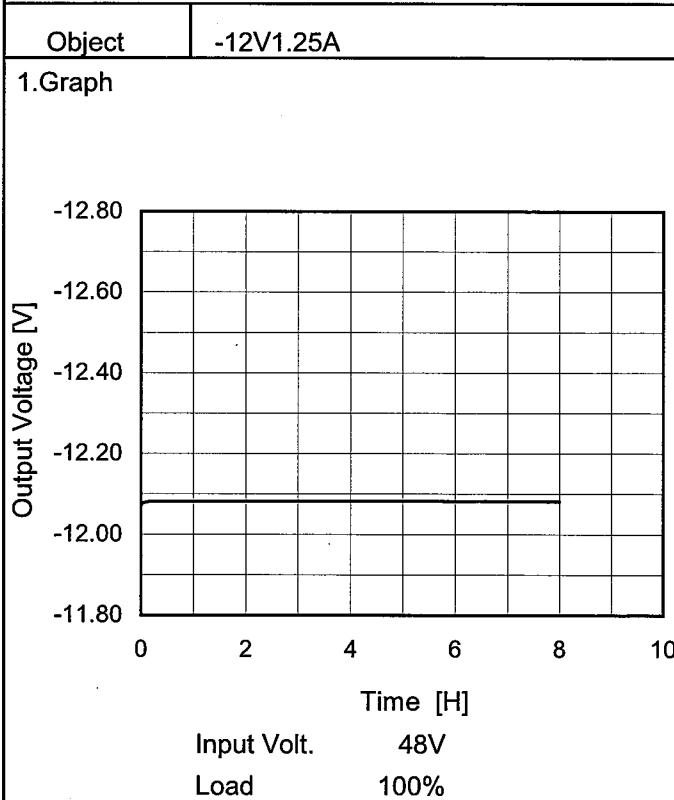
1.Graph

Output Voltage [V]	12.80
	12.60
	12.40
	12.20
	12.00
	11.80
Time [H]	0 2 4 6 8 10
Input Volt.	48V
Load	100%

Temperature 25°C
Testing Circuitry Figure A

2.Values

Time since start [H]	Output Voltage [V]
0.0	12.055
0.5	12.063
1.0	12.063
2.0	12.063
3.0	12.063
4.0	12.063
5.0	12.063
6.0	12.063
7.0	12.063
8.0	12.063



2.Values

Time since start [H]	Output Voltage [V]
0.0	-12.072
0.5	-12.082
1.0	-12.082
2.0	-12.082
3.0	-12.082
4.0	-12.082
5.0	-12.082
6.0	-12.082
7.0	-12.082
8.0	-12.082

COSEL

Model STMGFW304812

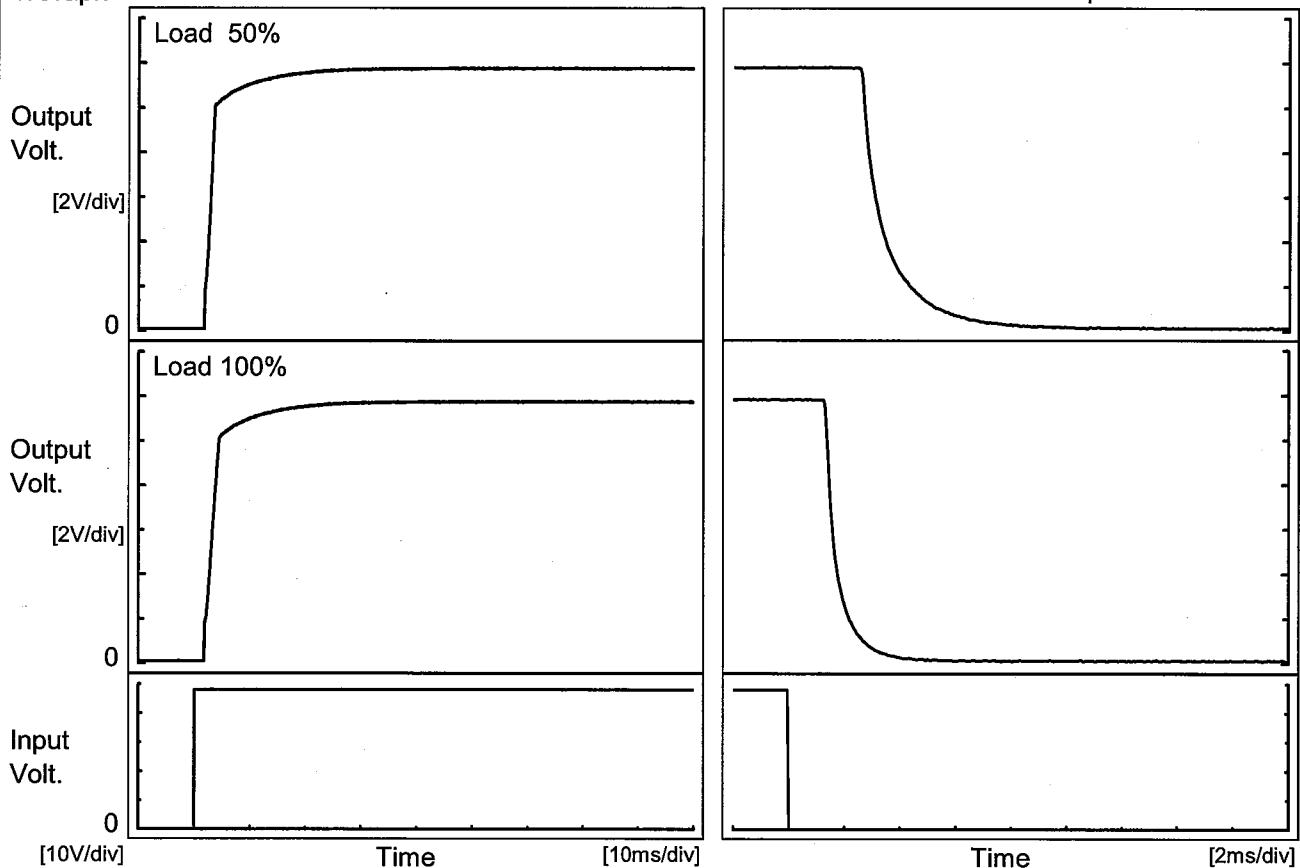
Temperature 25°C
Testing Circuitry Figure A

Item Rise and Fall Time

Object +12V1.25A

1. Graph

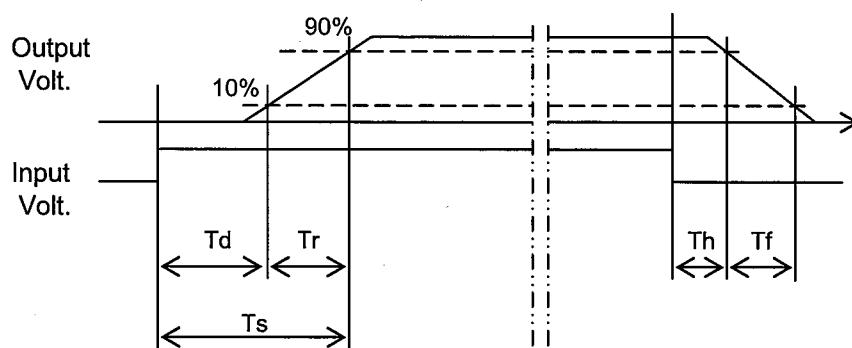
Input Volt. 48 V



2. Values

[ms]

Load	Time	Td	Tr	Ts	Th	Tf
50 %		1.9	6.4	8.3	2.7	2.4
100 %		1.9	6.9	8.8	1.3	1.2



COSEL

Model STMGFW304812

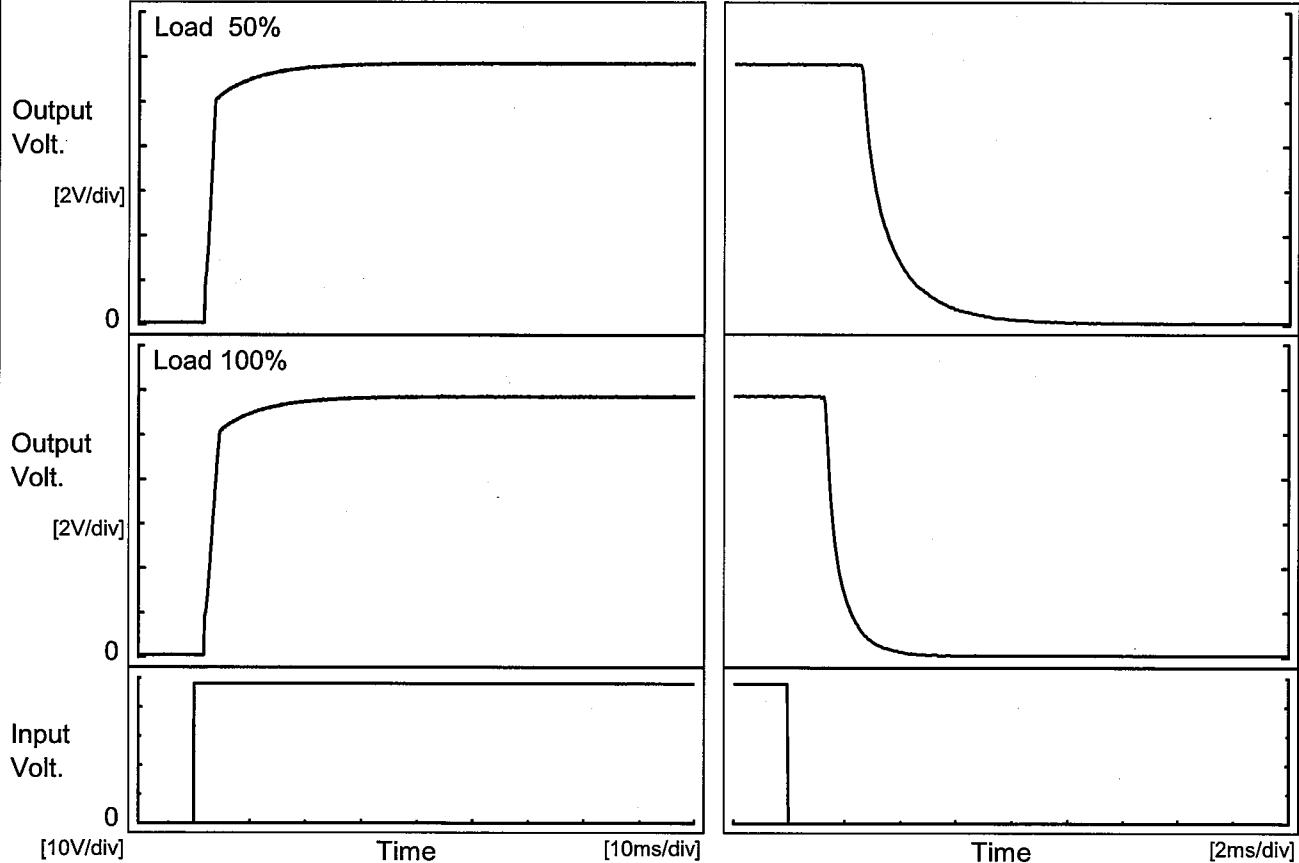
Item Rise and Fall Time

Object -12V1.25A

Temperature 25°C
Testing Circuitry Figure A

1. Graph

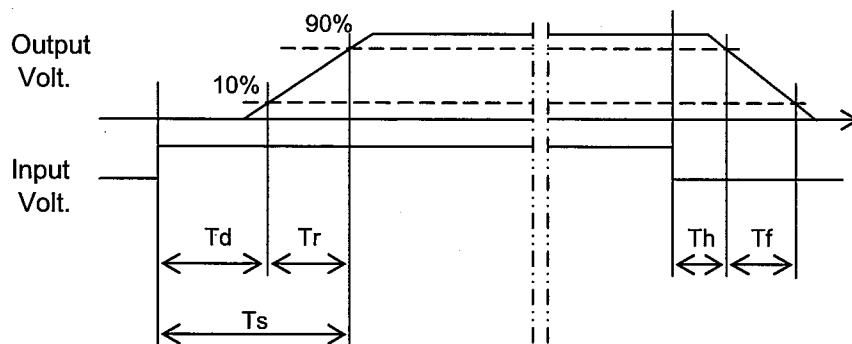
Input Volt. 48 V



2. Values

[ms]

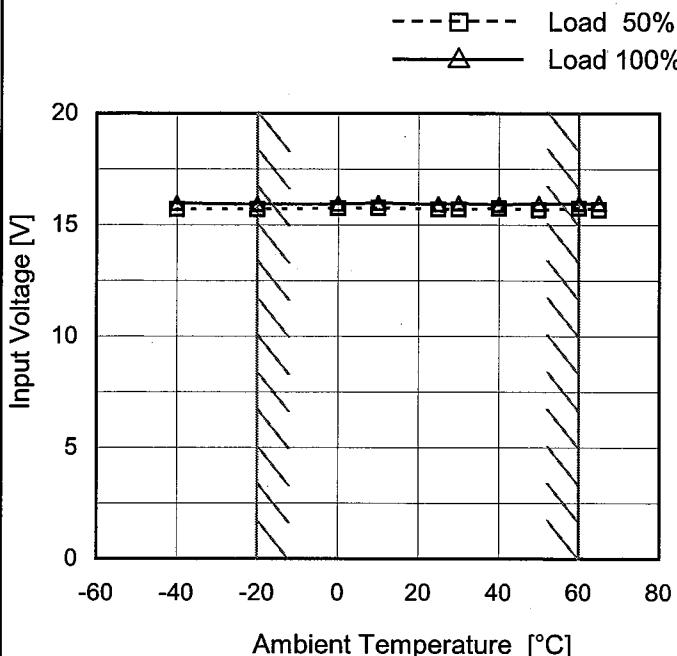
Load	Time	Td	Tr	Ts	Th	Tf
50 %		1.9	6.8	8.7	2.6	2.5
100 %		1.9	7.4	9.3	1.3	1.2



COSEL

Model	STMGFW304812
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+12V1.25A

1.Graph



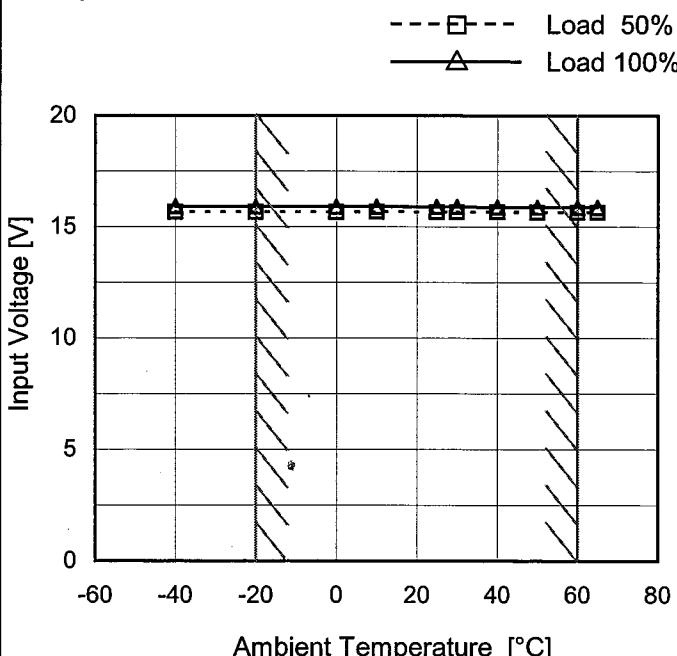
Testing Circuitry Figure A

2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	15.7	16.0
-20	15.7	16.0
0	15.8	16.0
10	15.8	16.0
25	15.8	16.0
30	15.7	16.0
40	15.8	16.0
50	15.7	16.0
60	15.8	16.0
65	15.7	16.0
--	-	-

Object	-12V1.25A
--------	-----------

1.Graph



2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	15.7	16.0
-20	15.7	16.0
0	15.7	16.0
10	15.7	16.0
25	15.7	15.9
30	15.7	15.9
40	15.7	15.9
50	15.7	15.9
60	15.7	15.9
65	15.7	15.9
--	-	-

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

COSEL

Model	STMGFW304812	Temperature Testing Circuitry	25°C																																																																																			
Item	Overcurrent Protection		Figure A																																																																																			
Object	+12V1.25A																																																																																					
1.Graph		<p>Output Voltage [V]</p> <p>Load Current [A]</p>																																																																																				
		<p>Input Volt. 18V</p> <p>Input Volt. 24V</p> <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">Output Voltage [V]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>18[V]</th> <th>24[V]</th> <th>36[V]</th> <th>48[V]</th> <th>76[V]</th> </tr> </thead> <tbody> <tr><td>12.0</td><td>1.882</td><td>2.157</td><td>2.344</td><td>2.330</td><td>1.994</td></tr> <tr><td>11.4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>10.8</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>9.6</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>8.4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>7.2</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>6.0</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>4.8</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>3.6</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2.4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>1.2</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>0.0</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>		Output Voltage [V]	Load Current [A]					18[V]	24[V]	36[V]	48[V]	76[V]	12.0	1.882	2.157	2.344	2.330	1.994	11.4	-	-	-	-	-	10.8	-	-	-	-	-	9.6	-	-	-	-	-	8.4	-	-	-	-	-	7.2	-	-	-	-	-	6.0	-	-	-	-	-	4.8	-	-	-	-	-	3.6	-	-	-	-	-	2.4	-	-	-	-	-	1.2	-	-	-	-	-	0.0	-	-	-	-	-
Output Voltage [V]	Load Current [A]																																																																																					
	18[V]	24[V]	36[V]	48[V]	76[V]																																																																																	
12.0	1.882	2.157	2.344	2.330	1.994																																																																																	
11.4	-	-	-	-	-																																																																																	
10.8	-	-	-	-	-																																																																																	
9.6	-	-	-	-	-																																																																																	
8.4	-	-	-	-	-																																																																																	
7.2	-	-	-	-	-																																																																																	
6.0	-	-	-	-	-																																																																																	
4.8	-	-	-	-	-																																																																																	
3.6	-	-	-	-	-																																																																																	
2.4	-	-	-	-	-																																																																																	
1.2	-	-	-	-	-																																																																																	
0.0	-	-	-	-	-																																																																																	
Object		2.Values																																																																																				
Object		<table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>18[V]</th> <th>24[V]</th> <th>36[V]</th> <th>48[V]</th> <th>76[V]</th> </tr> </thead> <tbody> <tr><td>-12.0</td><td>1.848</td><td>2.136</td><td>2.340</td><td>2.333</td><td>1.983</td></tr> <tr><td>-11.4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-10.8</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-9.6</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-8.4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-7.2</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-6.0</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-4.8</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-3.6</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-2.4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-1.2</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>0.0</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>		Output Voltage [V]	Load Current [A]					18[V]	24[V]	36[V]	48[V]	76[V]	-12.0	1.848	2.136	2.340	2.333	1.983	-11.4	-	-	-	-	-	-10.8	-	-	-	-	-	-9.6	-	-	-	-	-	-8.4	-	-	-	-	-	-7.2	-	-	-	-	-	-6.0	-	-	-	-	-	-4.8	-	-	-	-	-	-3.6	-	-	-	-	-	-2.4	-	-	-	-	-	-1.2	-	-	-	-	-	0.0	-	-	-	-	-
Output Voltage [V]	Load Current [A]																																																																																					
	18[V]	24[V]	36[V]	48[V]	76[V]																																																																																	
-12.0	1.848	2.136	2.340	2.333	1.983																																																																																	
-11.4	-	-	-	-	-																																																																																	
-10.8	-	-	-	-	-																																																																																	
-9.6	-	-	-	-	-																																																																																	
-8.4	-	-	-	-	-																																																																																	
-7.2	-	-	-	-	-																																																																																	
-6.0	-	-	-	-	-																																																																																	
-4.8	-	-	-	-	-																																																																																	
-3.6	-	-	-	-	-																																																																																	
-2.4	-	-	-	-	-																																																																																	
-1.2	-	-	-	-	-																																																																																	
0.0	-	-	-	-	-																																																																																	
Object																																																																																						
Note: Slanted line shows the range of the rated load current.																																																																																						
Intermittent operation occurs when overcurrent protection is activated.																																																																																						

COSEL

Model	STMGFW304812	Testing Circuitry Figure A																																						
Item	Overvoltage Protection																																							
Object	+24V1.25A																																							
1.Graph		2.Values																																						
<p>Operating Point [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 0%</p> <p>Legend: Input Volt. 48V (solid line with open triangle), Input Volt. 76V (dashed line with open square)</p>		<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Operating Point [V]</th> </tr> <tr> <th>Input Volt. 48[V]</th> <th>Input Volt. 76[V]</th> </tr> </thead> <tbody> <tr> <td>-40</td><td>30.68</td><td>30.72</td> </tr> <tr> <td>-20</td><td>30.68</td><td>30.72</td> </tr> <tr> <td>0</td><td>30.83</td><td>30.86</td> </tr> <tr> <td>25</td><td>31.44</td><td>31.48</td> </tr> <tr> <td>60</td><td>32.26</td><td>32.29</td> </tr> <tr> <td>65</td><td>32.40</td><td>32.43</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> </tbody> </table>	Ambient Temperature [°C]	Operating Point [V]		Input Volt. 48[V]	Input Volt. 76[V]	-40	30.68	30.72	-20	30.68	30.72	0	30.83	30.86	25	31.44	31.48	60	32.26	32.29	65	32.40	32.43	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	Operating Point [V]																																							
	Input Volt. 48[V]	Input Volt. 76[V]																																						
-40	30.68	30.72																																						
-20	30.68	30.72																																						
0	30.83	30.86																																						
25	31.44	31.48																																						
60	32.26	32.29																																						
65	32.40	32.43																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
Note: Slanted line shows the range of the rated ambient temperature.																																								

COSEL

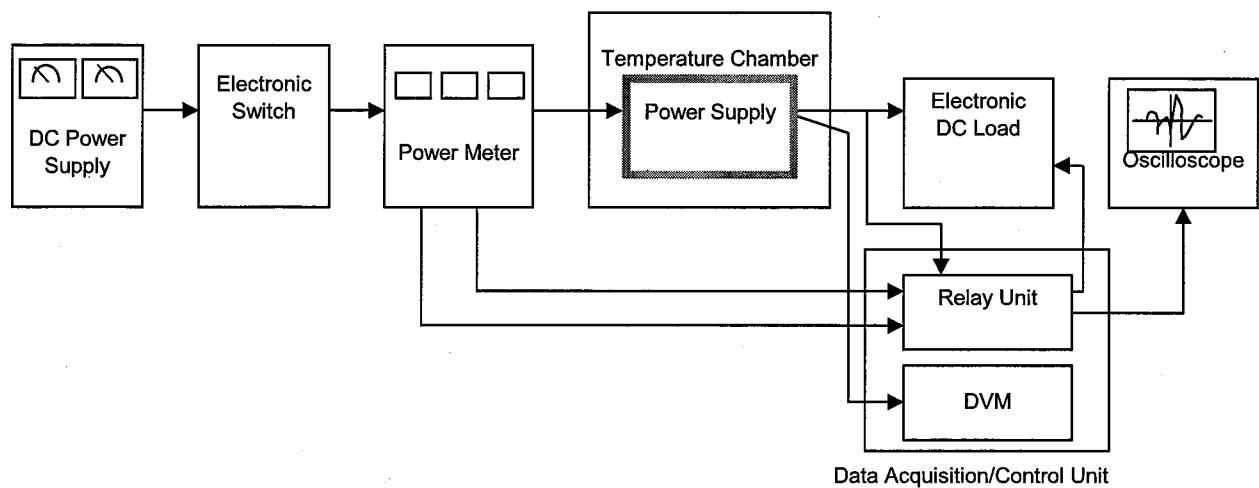


Figure A

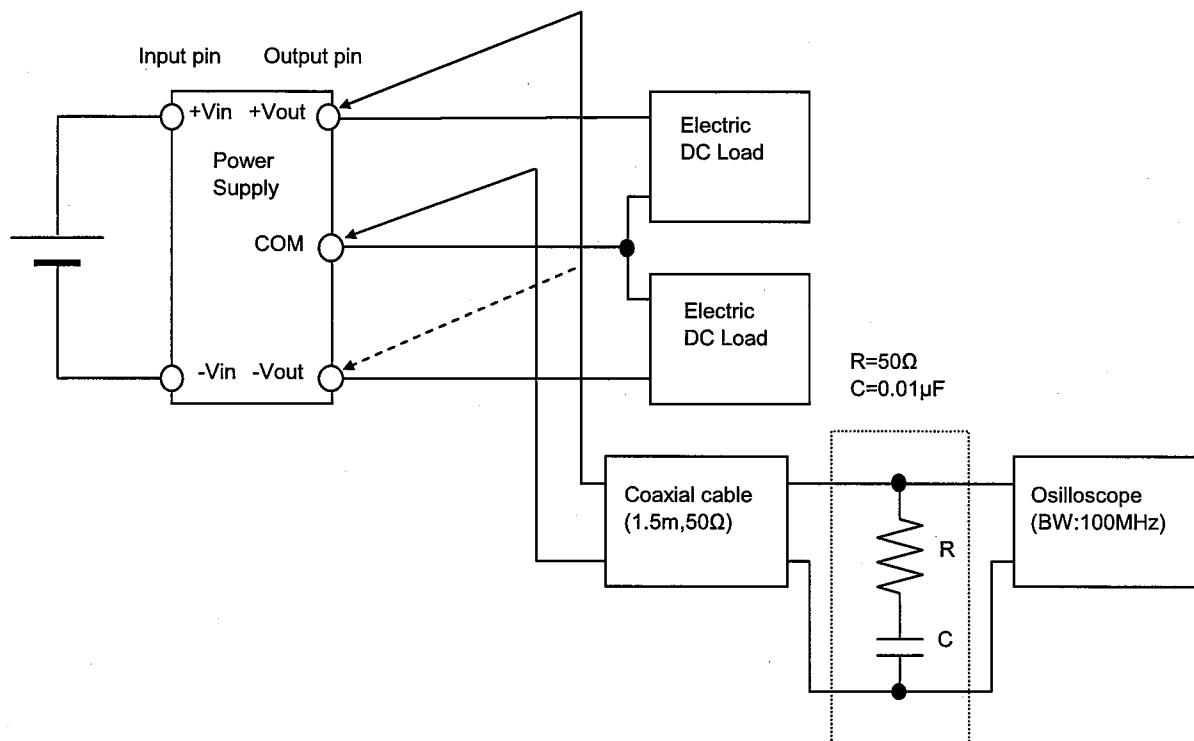


Figure B (Ripple and Ripple noise Characteristic)