

TEST DATA OF SNDHS100B12

Regulated DC Power Supply
June 30, 2011

Approved by : Takahiro Yoneda
Takahiro Yoneda Design Manager

Prepared by : Tadashi Arai
Tadashi Arai Design Engineer

COSEL CO.,LTD.

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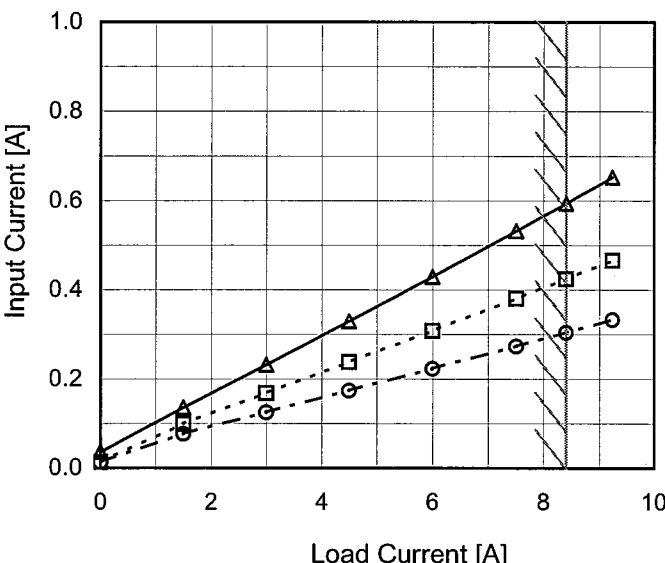
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Item		Input Current (by Input Voltage)																																																																																
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1.Graph		<div><div><div>—△—</div><div>Load 100%</div></div><div><div>---□---</div><div>Load 50%</div></div><div><div>-○-</div><div>Load 0%</div></div></div> <p>Note: Slanted line shows the range of the rated input voltage.</p>																																																																																
2.Values		<table><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><tr><td>0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>50</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>150</td><td>0.002</td><td>0.002</td><td>0.002</td></tr><tr><td>170</td><td>0.003</td><td>0.003</td><td>0.003</td></tr><tr><td>180</td><td>0.036</td><td>0.342</td><td>0.647</td></tr><tr><td>200</td><td>0.035</td><td>0.306</td><td>0.591</td></tr><tr><td>250</td><td>0.027</td><td>0.246</td><td>0.471</td></tr><tr><td>280</td><td>0.013</td><td>0.221</td><td>0.422</td></tr><tr><td>300</td><td>0.013</td><td>0.208</td><td>0.395</td></tr><tr><td>350</td><td>0.013</td><td>0.182</td><td>0.342</td></tr><tr><td>400</td><td>0.013</td><td>0.163</td><td>0.303</td></tr><tr><td>420</td><td>0.013</td><td>0.156</td><td>0.290</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></table>		Input Voltage [V]	Input Current [A]			Load 0%	Load 50%	Load 100%	0	0.000	0.000	0.000	50	0.000	0.000	0.000	100	0.000	0.000	0.000	150	0.002	0.002	0.002	170	0.003	0.003	0.003	180	0.036	0.342	0.647	200	0.035	0.306	0.591	250	0.027	0.246	0.471	280	0.013	0.221	0.422	300	0.013	0.208	0.395	350	0.013	0.182	0.342	400	0.013	0.163	0.303	420	0.013	0.156	0.290	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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Model		SNDHS100B12		Temperature		25°C																																																				
Item		Input Current (by Load Current)		Testing Circuitry		Figure A																																																				
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<div><div><div>—△—</div><div>Input Volt.</div><div>200V</div></div><div><div>---□---</div><div>Input Volt.</div><div>280V</div></div><div><div>-·-○-·-</div><div>Input Volt.</div><div>400V</div></div></div> <div><p>Input Current [A]</p><p>Load Current [A]</p></div> <div>Note: Slanted line shows the range of the rated load current.</div>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Input Current [A]</th></tr><tr><th>Input Volt. 200[V]</th><th>Input Volt. 280[V]</th><th>Input Volt. 400[V]</th></tr><tr><td>0.00</td><td>0.036</td><td>0.013</td><td>0.013</td></tr><tr><td>1.50</td><td>0.136</td><td>0.099</td><td>0.077</td></tr><tr><td>3.00</td><td>0.232</td><td>0.168</td><td>0.125</td></tr><tr><td>4.50</td><td>0.330</td><td>0.238</td><td>0.174</td></tr><tr><td>6.00</td><td>0.430</td><td>0.308</td><td>0.223</td></tr><tr><td>7.50</td><td>0.532</td><td>0.381</td><td>0.274</td></tr><tr><td>8.40</td><td>0.594</td><td>0.425</td><td>0.304</td></tr><tr><td>9.24</td><td>0.653</td><td>0.466</td><td>0.333</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>				Load Current [A]	Input Current [A]			Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]	0.00	0.036	0.013	0.013	1.50	0.136	0.099	0.077	3.00	0.232	0.168	0.125	4.50	0.330	0.238	0.174	6.00	0.430	0.308	0.223	7.50	0.532	0.381	0.274	8.40	0.594	0.425	0.304	9.24	0.653	0.466	0.333	--	-	-	-	--	-	-	-	--	-	-	-
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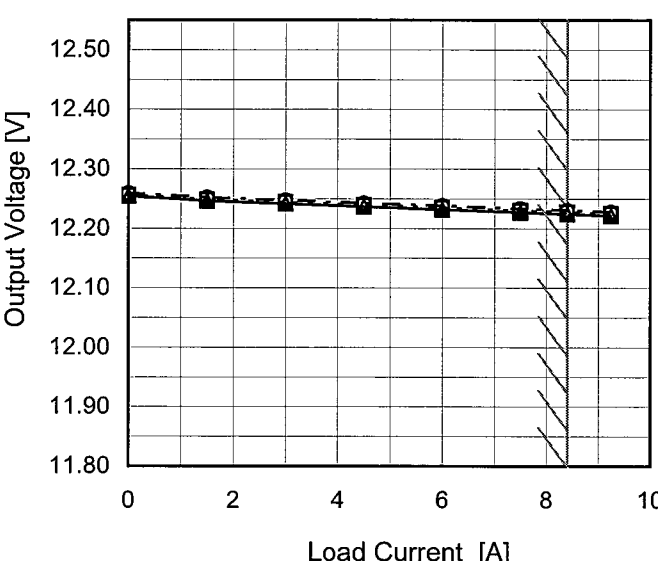
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Model	SNDHS100B12																																																					
Item	Load Regulation	Temperature	25°C																																																			
Object	+12V8.4A	Testing Circuitry	Figure A																																																			
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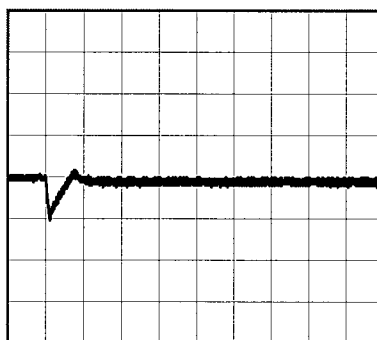
Model	SNDHS100B12	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	+12V8.4A	

Input Volt. 280 V
Cycle 1000 ms

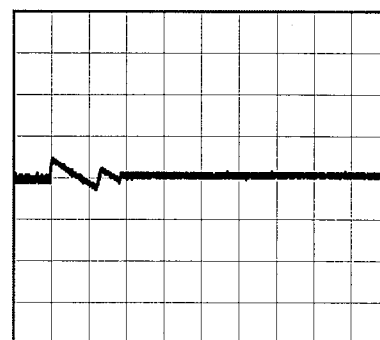
Load Current 8.4A/50 μ s

Min. Load (0A) \longleftrightarrow
Load 100% (8.4A)

0.5 V/div



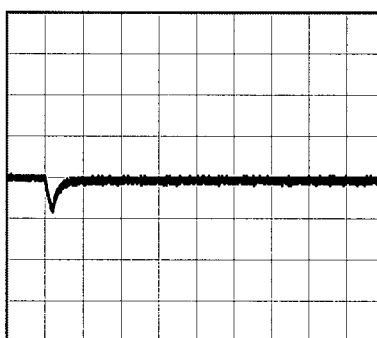
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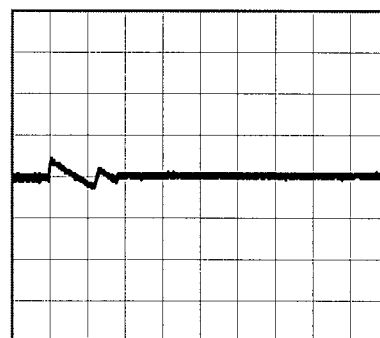
10ms/div

Min. Load (0A) \longleftrightarrow
Load 50% (4.2A)

0.5 V/div



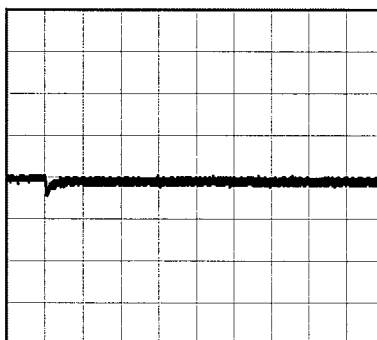
1ms/div



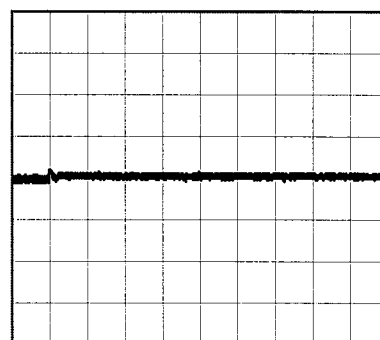
10ms/div

Load 10% (0.84A) \longleftrightarrow
Load 100% (8.4A)

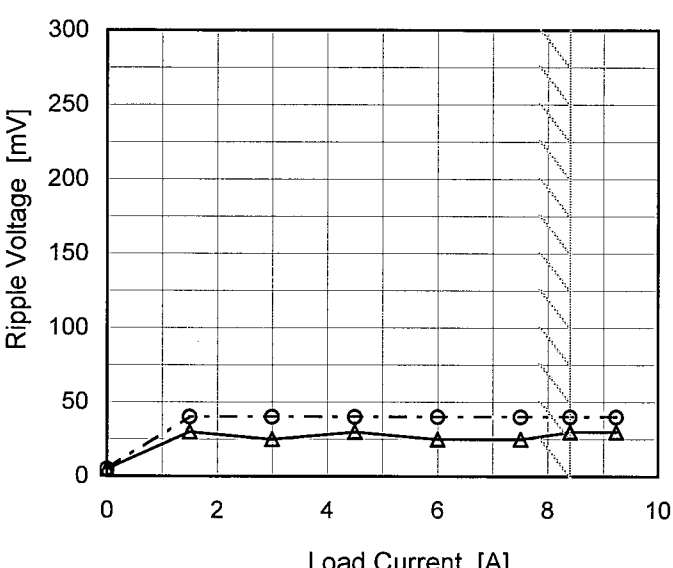
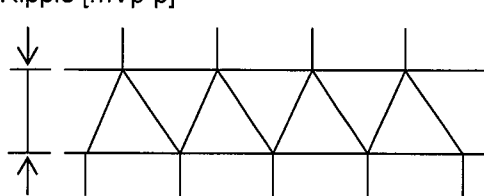
0.5 V/div



1ms/div



10ms/div

Model	SNDHS100B12																																								
Item	Ripple Voltage (by Load Current)	Temperature	25°C																																						
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<p>Measured by 100 MHz Oscilloscope.</p> <p>Ripple Voltage is shown as p-p in the figure below.</p> <p>Note: Slanted line shows the range of the rated load current.</p>																																									
<p>Ripple [mVp-p]</p>  <p>Fig.Complex Ripple Wave Form</p>																																									

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		Testing Circuitry Figure A
Model	SNDHS100B12	
Item	Output Voltage Accuracy	
Object	+12V8.4A	

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 - 95°C

Input Voltage : 200 - 400V

Load Current : 0 - 8.4A

* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

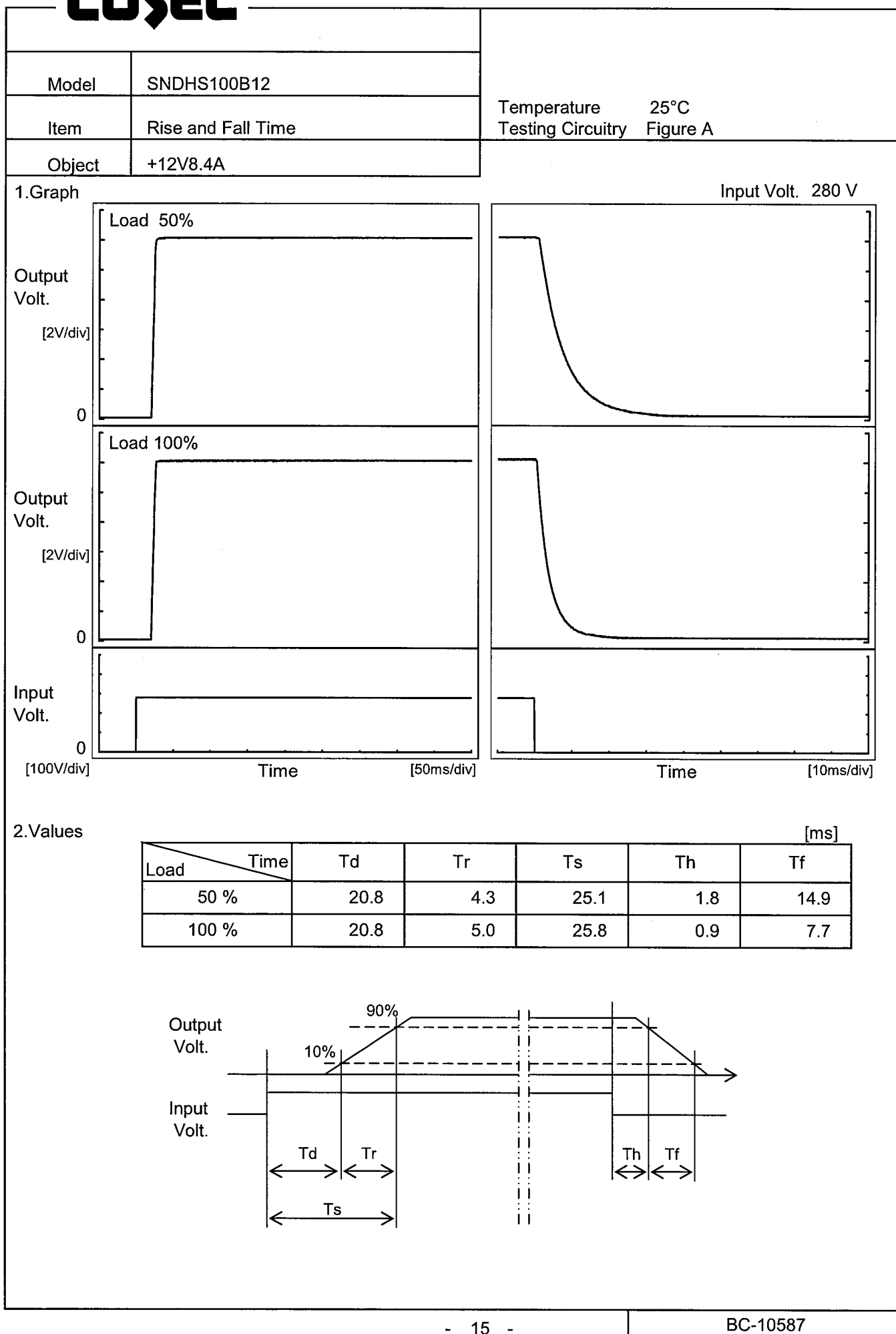
2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	70	200	0	12.285	±49	±0.4
Minimum Voltage	-20	200	8.4	12.188		

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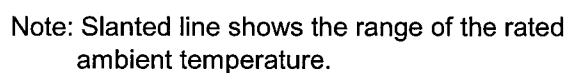
Model	SNDHS100B12		
Item	Time Lapse Drift	Temperature	25°C
Object	+12V8.4A	Testing Circuitry	Figure A
1.Graph		2.Values	
<div><div><div>Output Voltage [V]</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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COSEL



Testing Circuitry Figure A

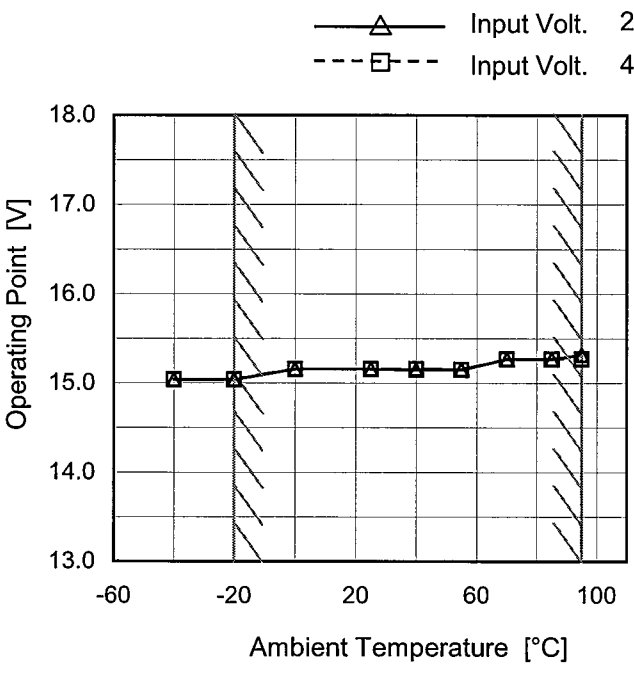
2.Values



Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	160	166
-20	161	167
0	163	169
25	165	173
40	166	172
55	166	173
70	165	172
85	164	172
95	162	170
--	-	-
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COSEL

Model	SNDHS100B12																																																													
Item	Overcurrent Protection	Temperature	25°C																																																											
Object	+12V8.4A	Testing Circuitry	Figure A																																																											
1.Graph		2.Values																																																												
<div><div></div>Input Volt. 200V</div> <div><div></div>Input Volt. 280V</div> <div><div></div>Input Volt. 400V</div> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p> <p>Intermittent operation occurs when the output voltage is from 6V to 0V.</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 200[V]</th><th>Input Volt. 280[V]</th><th>Input Volt. 400[V]</th></tr><tr><td>8.4</td><td>10.27</td><td>10.49</td><td>10.78</td></tr><tr><td>7.2</td><td>10.40</td><td>10.62</td><td>11.08</td></tr><tr><td>6.0</td><td>10.53</td><td>10.72</td><td>10.93</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></table>		Output Voltage [V]	Load Current [A]			Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]	8.4	10.27	10.49	10.78	7.2	10.40	10.62	11.08	6.0	10.53	10.72	10.93	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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Model	SNDHS100B12																																								
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1.Graph		2.Values																																							
<div><div><div><div><div></div><div>—△—</div><div>Input Volt. 200V</div></div><div><div>---□---</div><div>Input Volt. 400V</div></div></div><div></div><div>Operating Point [V]</div><div>Ambient Temperature [°C]</div><div>Load 0%</div></div><div>Note: Slanted line shows the range of the rated ambient temperature.</div></div>		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="2">Operating Point [V]</th></tr><tr><th>Input Volt. 200[V]</th><th>Input Volt. 400[V]</th></tr><tr><td>-40</td><td>15.04</td><td>15.04</td></tr><tr><td>-20</td><td>15.04</td><td>15.04</td></tr><tr><td>0</td><td>15.16</td><td>15.16</td></tr><tr><td>25</td><td>15.16</td><td>15.16</td></tr><tr><td>40</td><td>15.15</td><td>15.16</td></tr><tr><td>55</td><td>15.15</td><td>15.15</td></tr><tr><td>70</td><td>15.27</td><td>15.27</td></tr><tr><td>85</td><td>15.27</td><td>15.27</td></tr><tr><td>95</td><td>15.32</td><td>15.27</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Ambient Temperature [°C]	Operating Point [V]		Input Volt. 200[V]	Input Volt. 400[V]	-40	15.04	15.04	-20	15.04	15.04	0	15.16	15.16	25	15.16	15.16	40	15.15	15.16	55	15.15	15.15	70	15.27	15.27	85	15.27	15.27	95	15.32	15.27	--	-	-	--	-	-
Ambient Temperature [°C]	Operating Point [V]																																								
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- 18 -

BC-10587

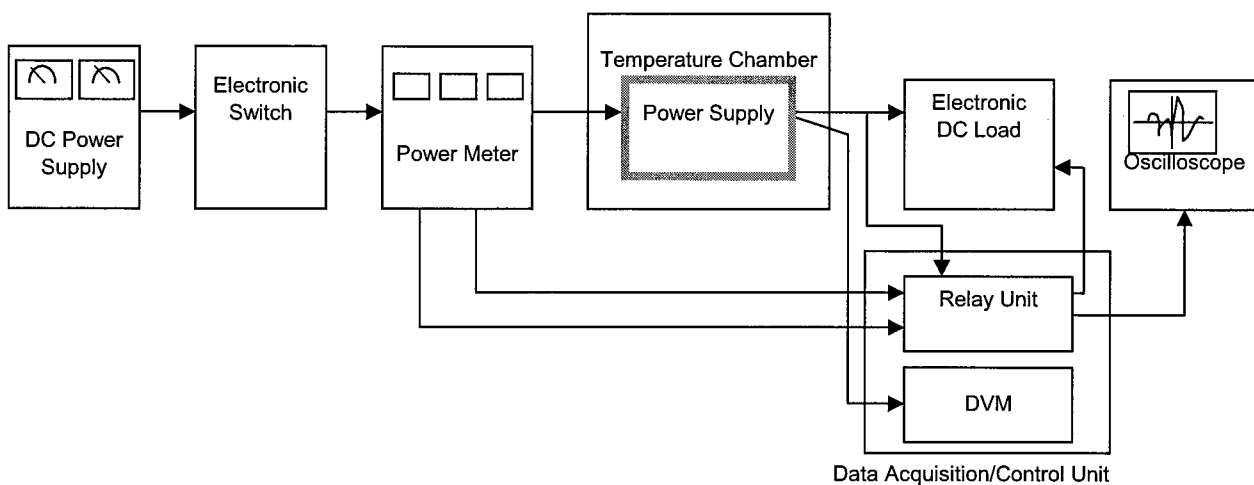


Figure A

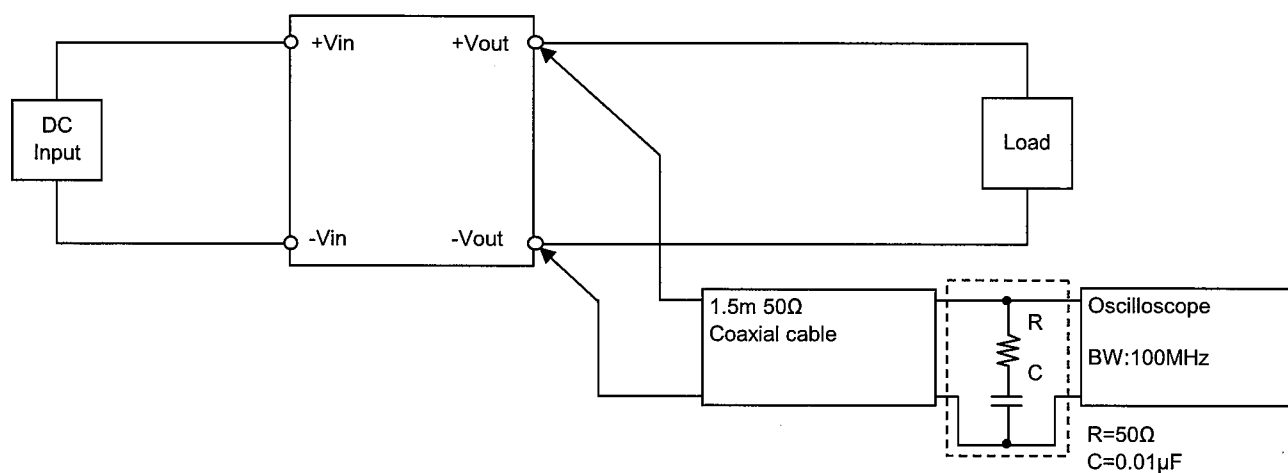


Figure B (Ripple and Ripple noise Characteristic)