

TEST DATA OF MGS30123R3

Regulated DC Power Supply
January 6, 2011

Approved by : Kazunari Asano
Kazunari Asano Design Manager

Prepared by : Sho Saito
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COSEL CO.,LTD.

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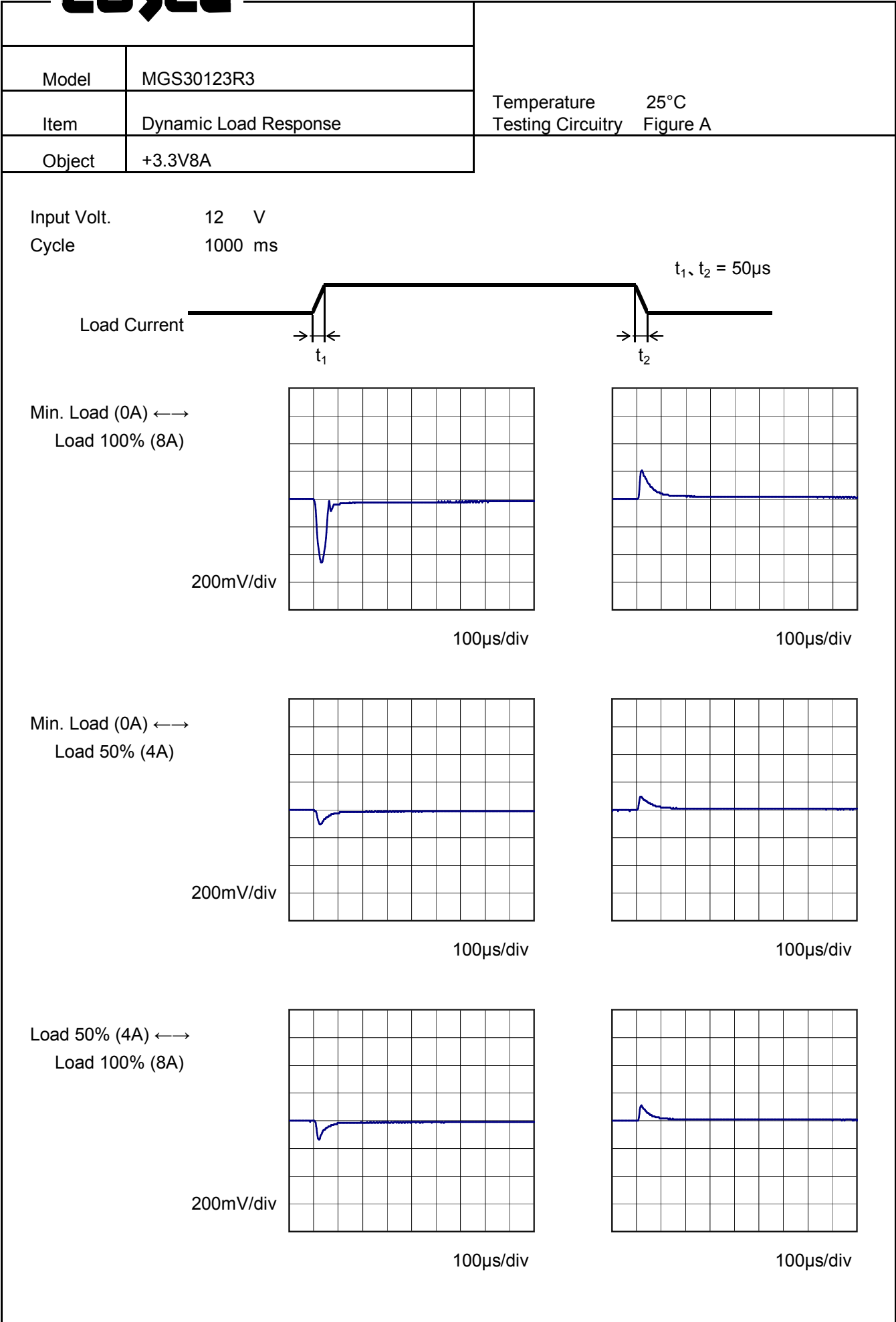
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<div><div>—△— Input Volt. 9V</div><div>---□--- Input Volt. 12V</div><div>-·-○-·- Input Volt. 18V</div></div> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 9[V]</th><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th></tr><tr><td>-60</td><td>3.347</td><td>3.347</td><td>3.347</td></tr><tr><td>-40</td><td>3.347</td><td>3.347</td><td>3.346</td></tr><tr><td>-20</td><td>3.346</td><td>3.345</td><td>3.345</td></tr><tr><td>0</td><td>3.345</td><td>3.345</td><td>3.345</td></tr><tr><td>25</td><td>3.345</td><td>3.345</td><td>3.345</td></tr><tr><td>60</td><td>3.344</td><td>3.343</td><td>3.343</td></tr><tr><td>65</td><td>3.341</td><td>3.341</td><td>3.341</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>			Ambient Temperature [°C]	Output Voltage [V]			Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	-60	3.347	3.347	3.347	-40	3.347	3.347	3.346	-20	3.346	3.345	3.345	0	3.345	3.345	3.345	25	3.345	3.345	3.345	60	3.344	3.343	3.343	65	3.341	3.341	3.341	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Ambient Temperature [°C]	Output Voltage [V]																																																						
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Note: Slanted line shows the range of the rated ambient temperature.																																																							



Model		MGS30123R3	Testing Circuitry Figure A
Item		Output Voltage Accuracy	
Object		+3.3V8A	

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 - 60°C

Input Voltage : 9 - 18V

Load Current : 0 - 8A

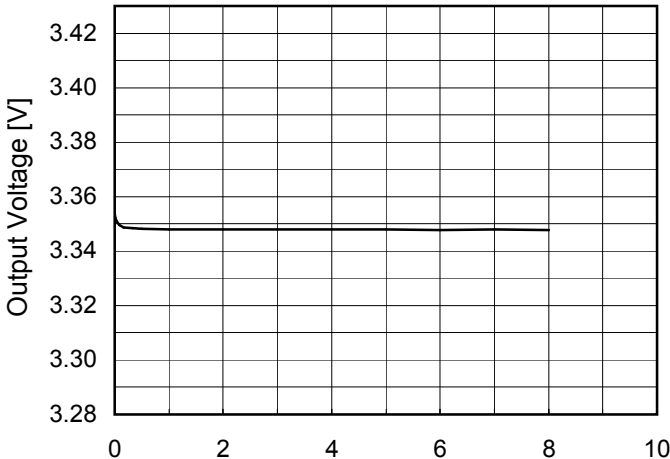
* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

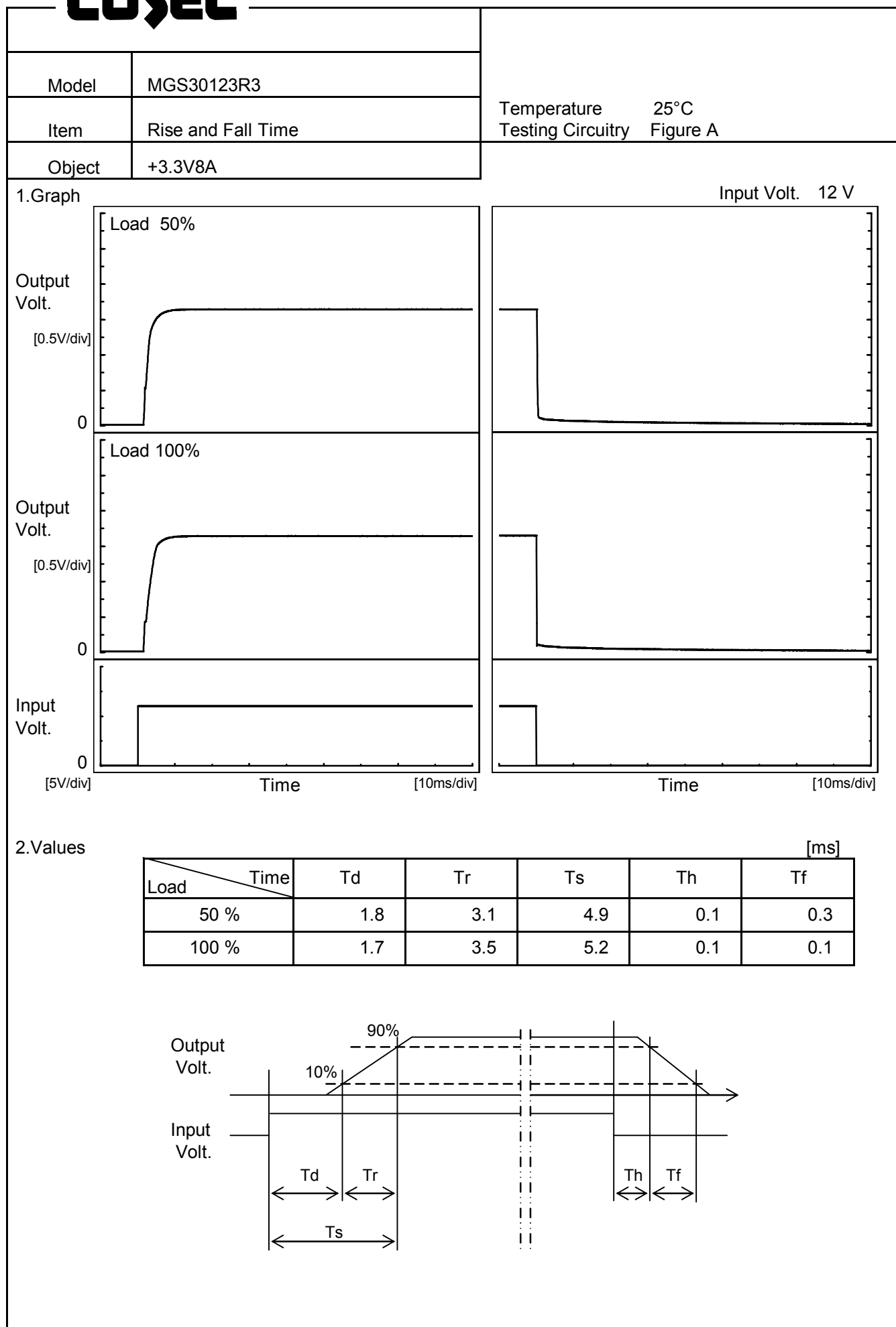
* Output Voltage Accuracy (Ratio) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	-40	12	0	3.350	±4	±0.1
Minimum Voltage	60	18	8	3.343		

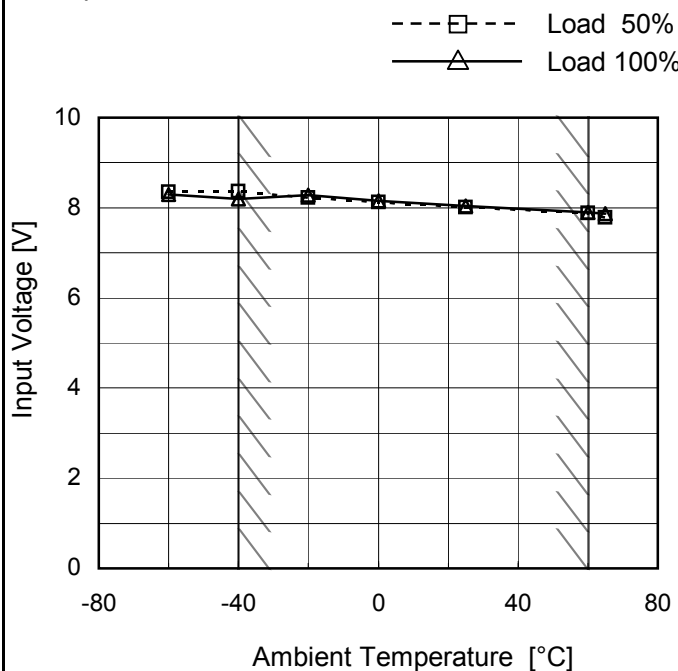


Model	MGS30123R3																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+3.3V8A																								
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 12V</p><p>Load 100%</p></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>3.354</td></tr><tr><td>0.5</td><td>3.348</td></tr><tr><td>1.0</td><td>3.348</td></tr><tr><td>2.0</td><td>3.348</td></tr><tr><td>3.0</td><td>3.348</td></tr><tr><td>4.0</td><td>3.348</td></tr><tr><td>5.0</td><td>3.348</td></tr><tr><td>6.0</td><td>3.348</td></tr><tr><td>7.0</td><td>3.348</td></tr><tr><td>8.0</td><td>3.348</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	3.354	0.5	3.348	1.0	3.348	2.0	3.348	3.0	3.348	4.0	3.348	5.0	3.348	6.0	3.348	7.0	3.348	8.0	3.348
Time since start [H]	Output Voltage [V]																								
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6.0	3.348																								
7.0	3.348																								
8.0	3.348																								



Model	MGS30123R3
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3.3V8A

1.Graph



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

Testing Circuitry Figure A

2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-60	8.4	8.3
-40	8.4	8.2
-20	8.3	8.3
0	8.2	8.2
25	8.1	8.1
60	7.9	7.9
65	7.8	7.9
--	-	-
--	-	-
--	-	-
--	-	-

Model	MGS30123R3																																																									
Item	Overcurrent Protection	Temperature	25°C																																																							
Object	+3.3V8A	Testing Circuitry	Figure A																																																							
1.Graph		2.Values																																																								
<div><div><div></div><div></div><div></div></div><div><div>Input Volt. 9V</div><div>Input Volt. 12V</div><div>Input Volt. 18V</div></div></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 overcurrent protection is activated.</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 9[V]</th><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th></tr><tr><td>3.30</td><td>10.16</td><td>10.25</td><td>10.02</td></tr><tr><td>3.14</td><td>-</td><td>-</td><td>-</td></tr><tr><td>2.97</td><td>-</td><td>-</td><td>-</td></tr><tr><td>2.64</td><td>-</td><td>-</td><td>-</td></tr><tr><td>2.31</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.98</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.65</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.32</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.99</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.66</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.33</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	3.30	10.16	10.25	10.02	3.14	-	-	-	2.97	-	-	-	2.64	-	-	-	2.31	-	-	-	1.98	-	-	-	1.65	-	-	-	1.32	-	-	-	0.99	-	-	-	0.66	-	-	-	0.33	-	-	-	0.00	-	-	-
Output Voltage [V]	Load Current [A]																																																									
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Model	MGS30123R3																																								
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<div><div><div>—△—</div><div>Input Volt. 12V</div></div><div><div>---□---</div><div>Input Volt. 18V</div></div></div> <p>Operating Point [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 0%</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="2">Operating Point [V]</th></tr><tr><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th></tr><tr><td>-60</td><td>4.79</td><td>4.77</td></tr><tr><td>-40</td><td>4.71</td><td>4.70</td></tr><tr><td>-20</td><td>4.64</td><td>4.63</td></tr><tr><td>0</td><td>4.57</td><td>4.57</td></tr><tr><td>25</td><td>4.50</td><td>4.49</td></tr><tr><td>60</td><td>4.40</td><td>4.40</td></tr><tr><td>65</td><td>4.39</td><td>4.39</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></table>		Ambient Temperature [°C]	Operating Point [V]		Input Volt. 12[V]	Input Volt. 18[V]	-60	4.79	4.77	-40	4.71	4.70	-20	4.64	4.63	0	4.57	4.57	25	4.50	4.49	60	4.40	4.40	65	4.39	4.39	--	-	-	--	-	-	--	-	-	--	-	-
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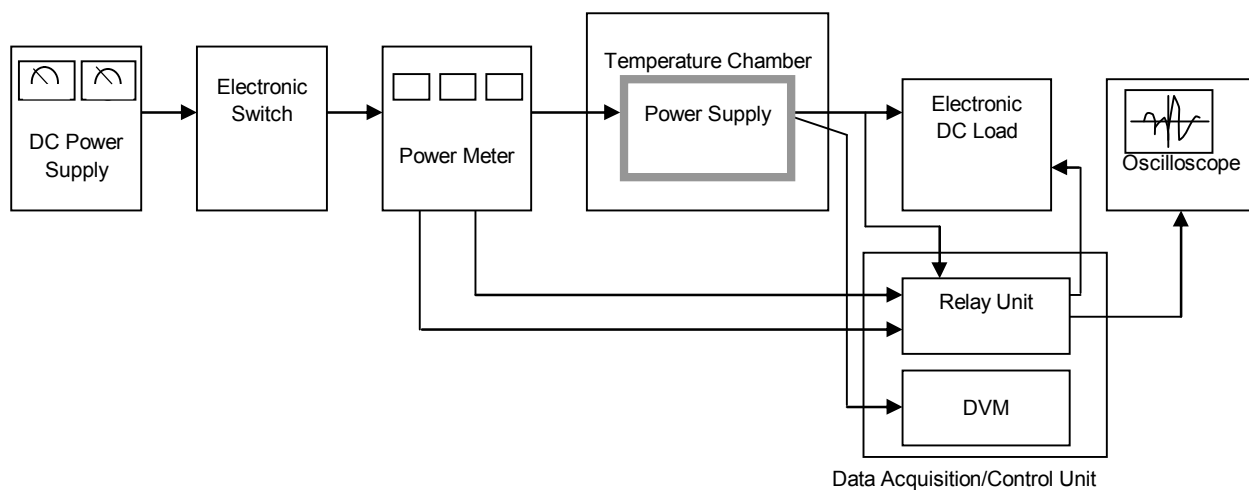


Figure A

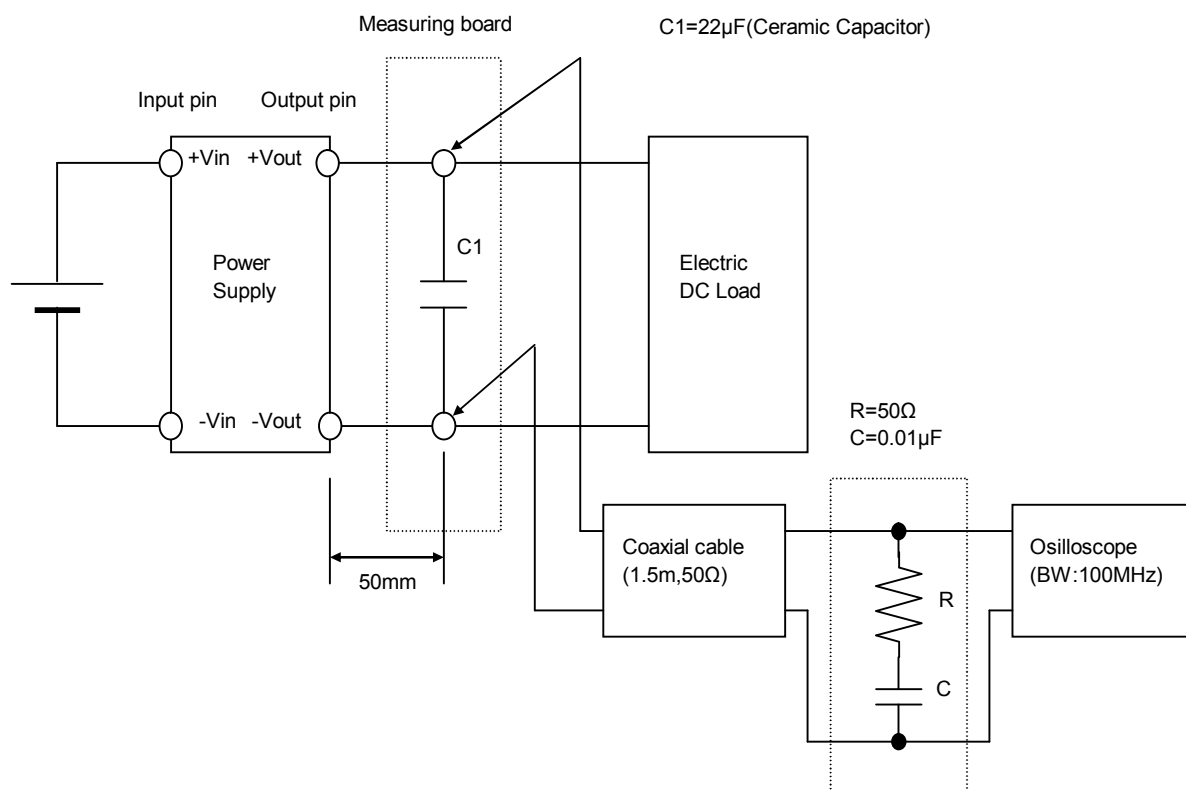


Figure B (Ripple and Ripple noise Characteristic)