

TEST DATA OF SUTW60512

Regulated DC Power Supply
March 16, 2009

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Kazunari Asano Design Manager

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COSEL CO.,LTD.

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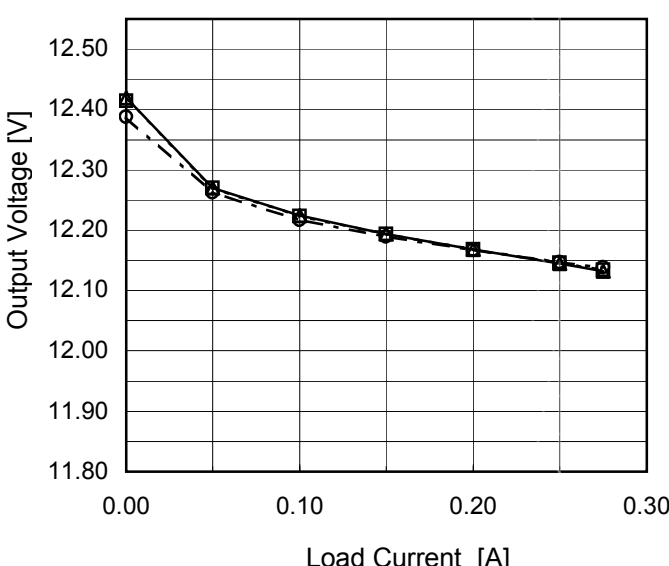
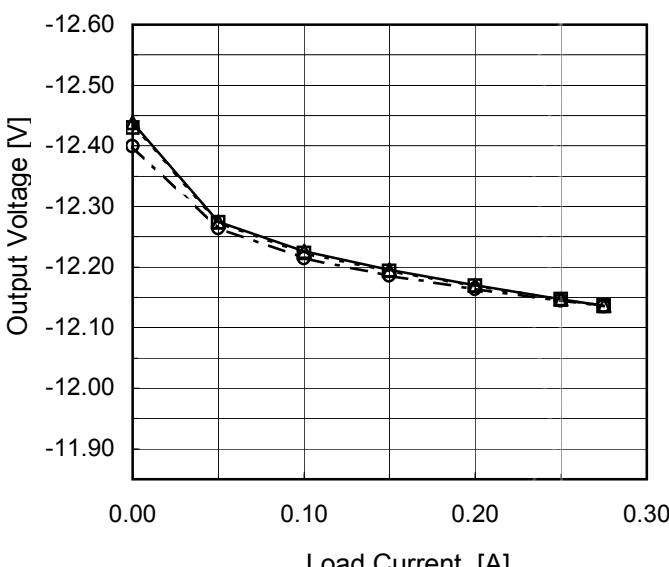
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Input Voltage [V]	Load 50%	Load 100%																															
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Model	SUTW60512																																																					
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<div><div>—△— Input Volt. 4.5V</div><div>---□--- Input Volt. 5V</div><div>-·-○-·- Input Volt. 9V</div></div> <p>Efficiency [%]</p> <p>Load Ration [%]</p>		<table><tr><th rowspan="2">Load Ration [%]</th><th colspan="3">Efficiency [%]</th></tr><tr><th>Input Volt. 4.5[V]</th><th>Input Volt. 5[V]</th><th>Input Volt. 9[V]</th></tr><tr><td>0</td><td>-</td><td>-</td><td>-</td></tr><tr><td>20</td><td>68.3</td><td>67.2</td><td>59.7</td></tr><tr><td>40</td><td>77.5</td><td>77.3</td><td>72.9</td></tr><tr><td>60</td><td>80.0</td><td>80.3</td><td>78.5</td></tr><tr><td>80</td><td>80.5</td><td>81.2</td><td>81.6</td></tr><tr><td>100</td><td>80.1</td><td>81.2</td><td>83.0</td></tr><tr><td>110</td><td>79.7</td><td>81.1</td><td>83.5</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>		Load Ration [%]	Efficiency [%]			Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	0	-	-	-	20	68.3	67.2	59.7	40	77.5	77.3	72.9	60	80.0	80.3	78.5	80	80.5	81.2	81.6	100	80.1	81.2	83.0	110	79.7	81.1	83.5	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Ration [%]	Efficiency [%]																																																					
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Model	SUTW60512	Temperature 25°C Testing Circuitry Figure A																															
Item	Line Regulation																																
Object	+12V0.25A																																
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BC-10266



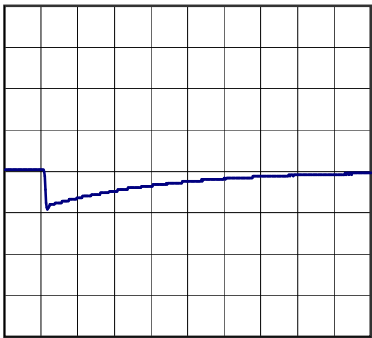
Model		SUTW60512	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+12V0.25A	

Input Volt. 48 V
Cycle 100 mS

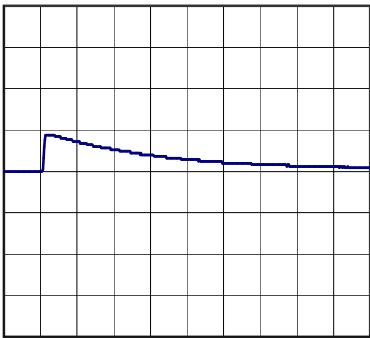


Min. Load (0A) \longleftrightarrow
Load 100% (0.25A)

500mV/div



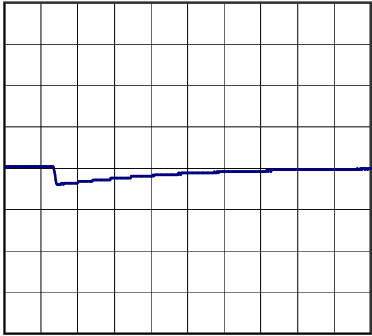
500µs/div



500µs/div

Min. Load (0A) \longleftrightarrow
Load 50% (0.125A)

500mV/div



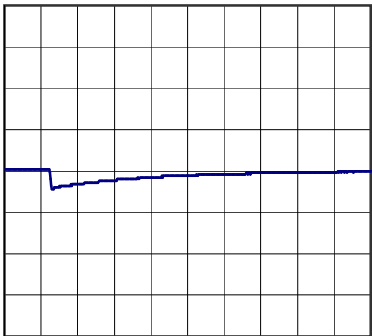
500µs/div



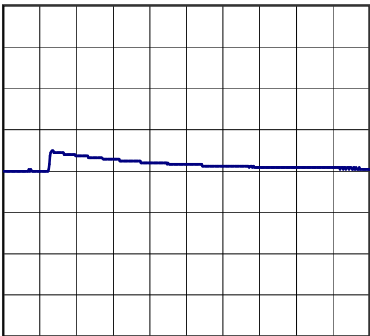
500µs/div

Load 50% (0.125A) \longleftrightarrow
Load 100% (0.25A)

500mV/div



500µs/div

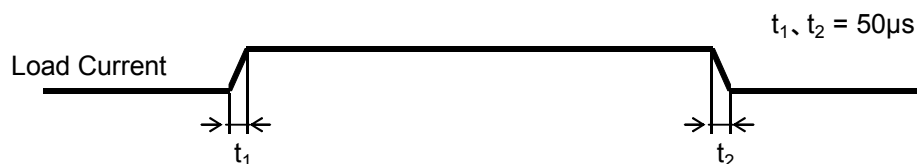


500µs/div



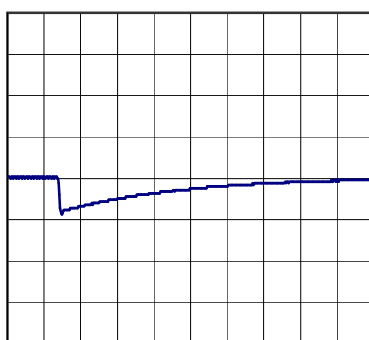
Model	SUTW60512	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	-12V0.25A	

Input Volt. 48 V
Cycle 100 mS

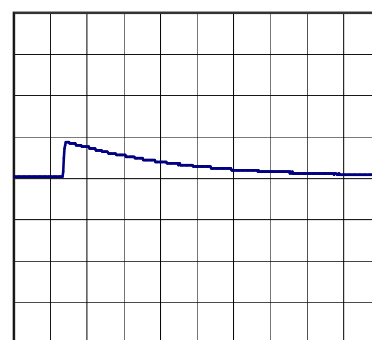


Min. Load (0A) \longleftrightarrow
Load 100% (0.25A)

500mV/div



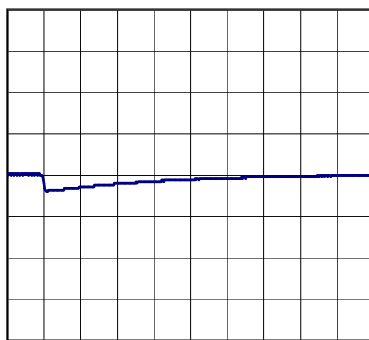
500µs/div



500µs/div

Min. Load (0A) \longleftrightarrow
Load 50% (0.125A)

500mV/div



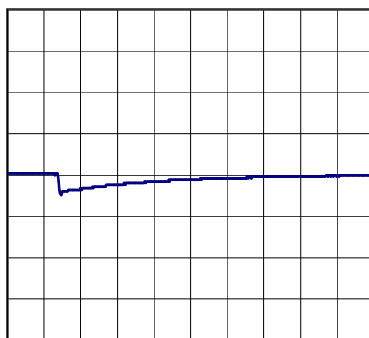
500µs/div



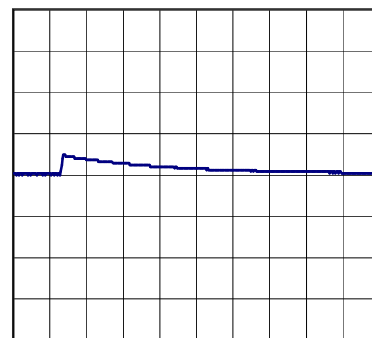
500µs/div

Load 50% (0.125A) \longleftrightarrow
Load 100% (0.25A)

500mV/div



500µs/div



500µs/div

Model	SUTW60512																																								
Item	Ripple Voltage (by Load Current)	Temperature	25°C																																						
		Testing Circuitry	Figure B																																						
Object	+12V0.25A																																								
1.Graph		2.Values																																							
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Model	SUTW60512																																								
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Model	SUTW60512																																								
Item	Ripple-Noise	Temperature	25°C																																						
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Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry Figure B																																							
Object	+12V0.25A																																								
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Ripple Voltage [mV]

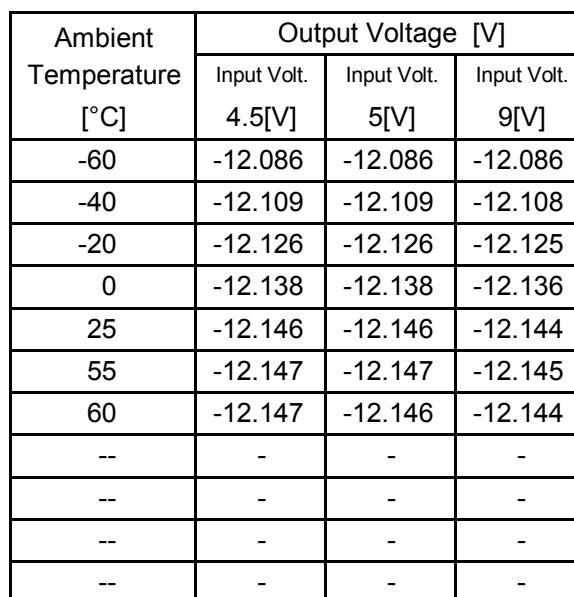
Ambient Temperature [°C]

Input Volt. 12V

Testing Circuitry Figure A

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]
-60	12.087	12.088	12.090
-40	12.109	12.110	12.112
-20	12.125	12.127	12.128
0	12.137	12.138	12.140
25	12.144	12.145	12.147
55	12.145	12.145	12.147
60	12.144	12.144	12.146
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

2.Values



- 15 -



Model		SUTW60512	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 : -40 - 55°C

Input Voltage : 4.5 - 9V

Load Current (AVR 1) : 0 - 0.25A (AVR 2) : 0 - 0.25A

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

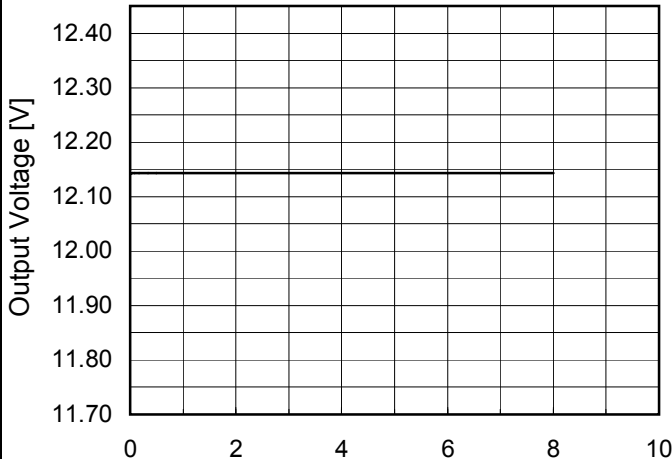
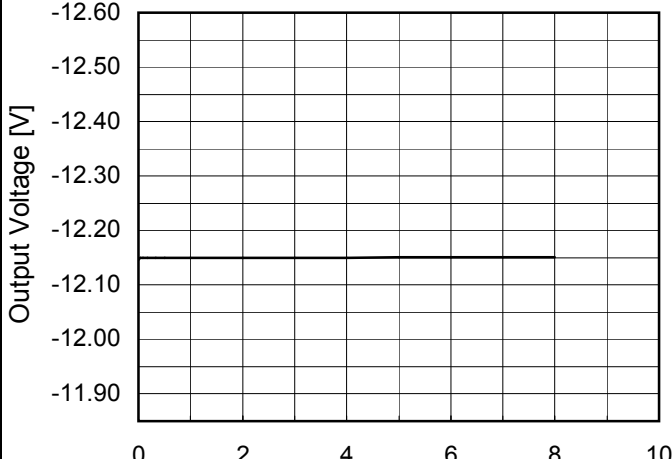
* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

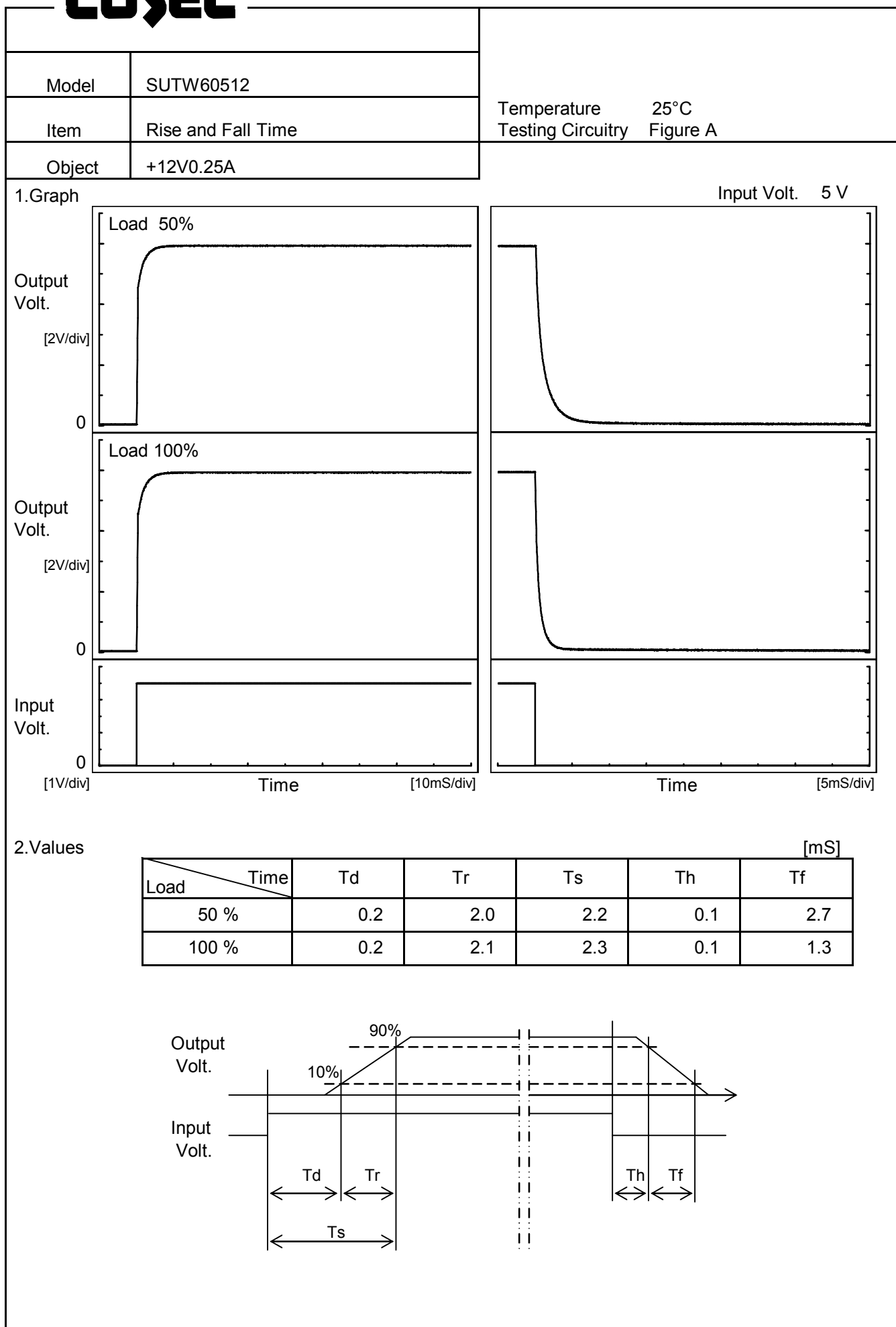
2. Values

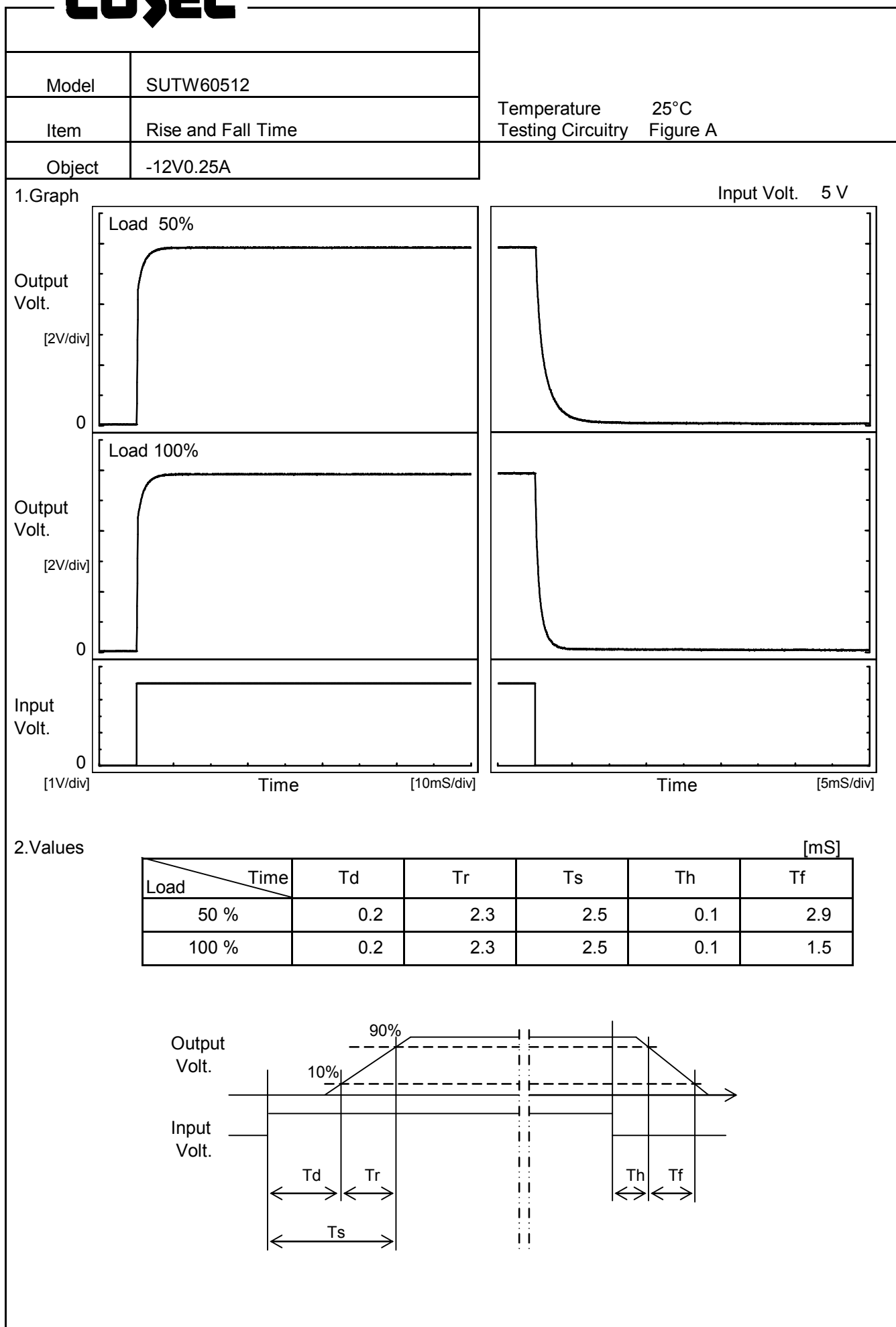
Object		+12V0.25A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	4.5	0	12.427	±287	±2.4
Minimum Voltage	55	4.5	0.25	11.854		

Object		-12V0.25A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	4.5	0	-12.445	±286	±2.4
Minimum Voltage	55	4.5	0.25	-11.873		

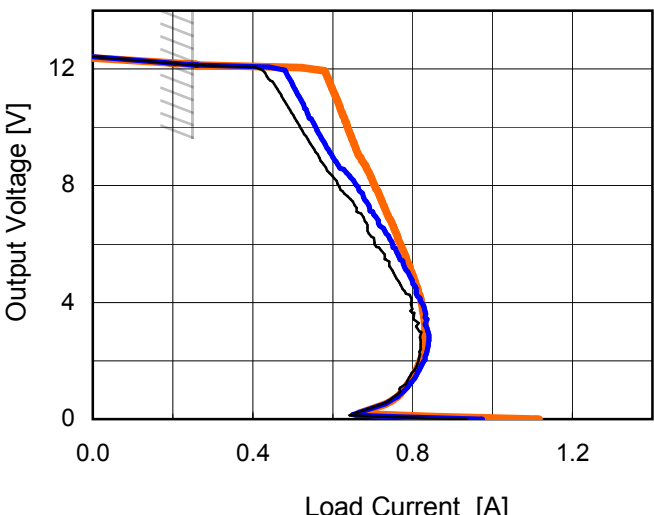
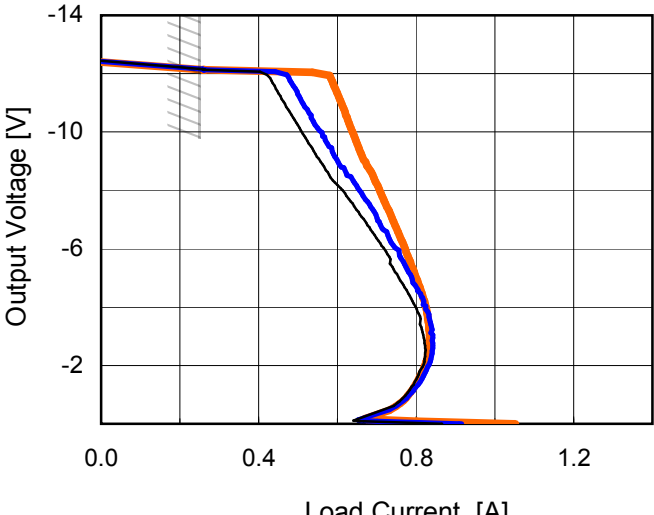
COSEL

Model	SUTW60512																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+12V0.25A																								
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 5V</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>12.140</td></tr><tr><td>0.5</td><td>12.143</td></tr><tr><td>1.0</td><td>12.143</td></tr><tr><td>2.0</td><td>12.143</td></tr><tr><td>3.0</td><td>12.143</td></tr><tr><td>4.0</td><td>12.143</td></tr><tr><td>5.0</td><td>12.143</td></tr><tr><td>6.0</td><td>12.143</td></tr><tr><td>7.0</td><td>12.143</td></tr><tr><td>8.0</td><td>12.143</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	12.140	0.5	12.143	1.0	12.143	2.0	12.143	3.0	12.143	4.0	12.143	5.0	12.143	6.0	12.143	7.0	12.143	8.0	12.143
Time since start [H]	Output Voltage [V]																								
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Model	SUTW60512																																						
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A																																					
Object	+12V0.25A																																						
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Model	SUTW60512																																																									
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Note: Slanted line shows the range of the rated load current.																																																										

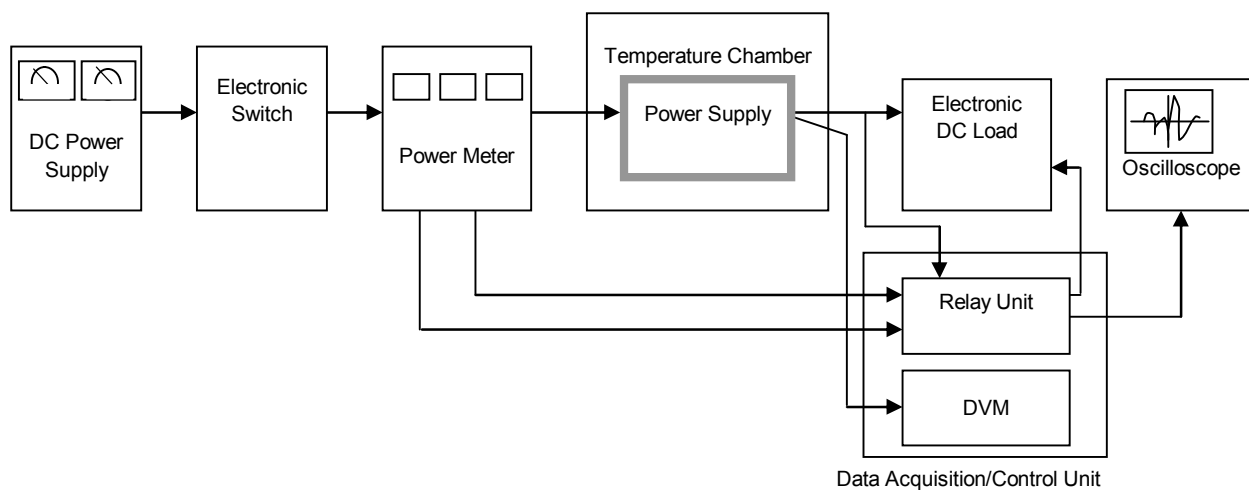


Figure A

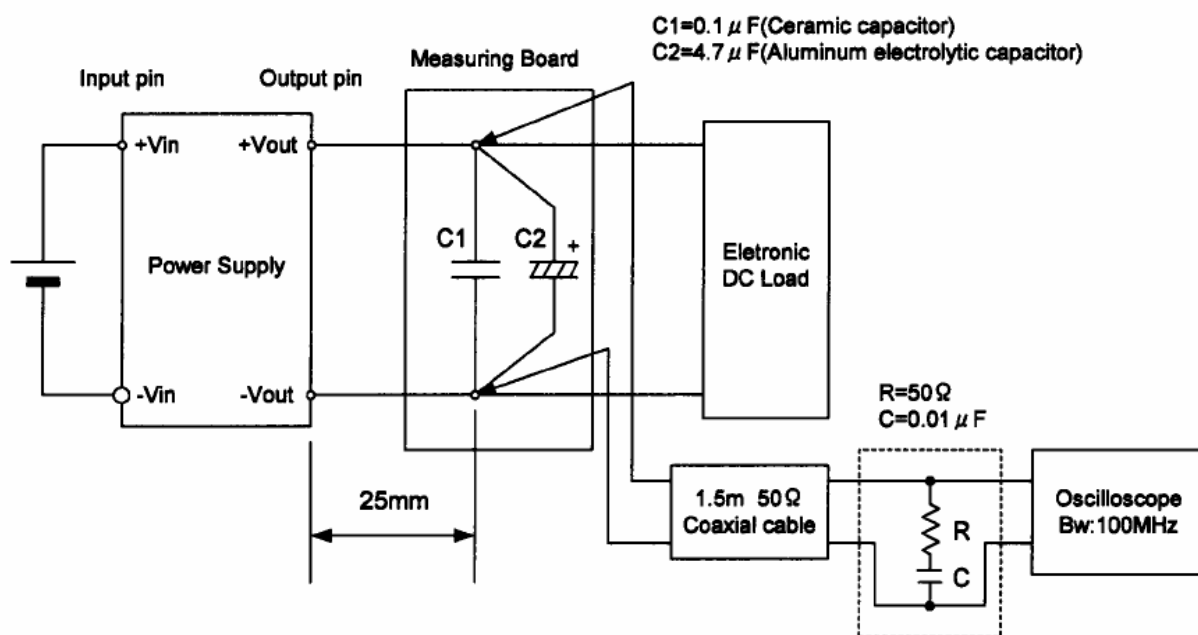


Figure B (Ripple and Ripple noise Characteristic)