

TEST DATA OF SUTW100512

Regulated DC Power Supply
February 19, 2009

Approved by : Kazunari Asano
Kazunari Asano Design Manager

Prepared by : Sho Saito
Sho Saito Design Engineer

COSEL CO.,LTD.

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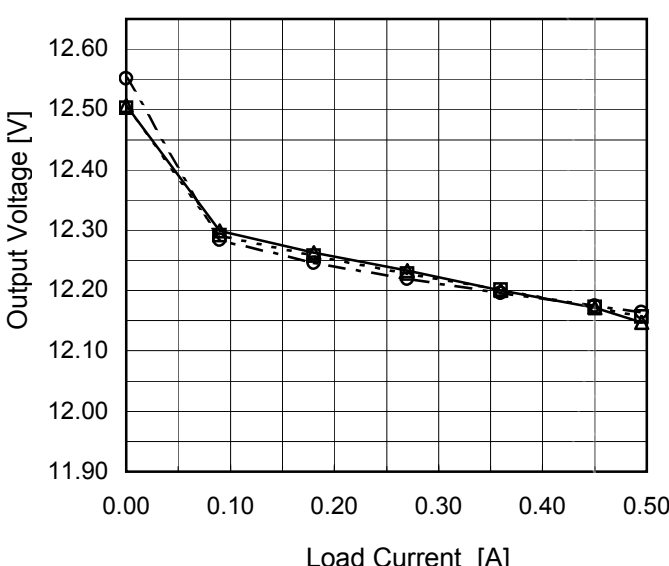
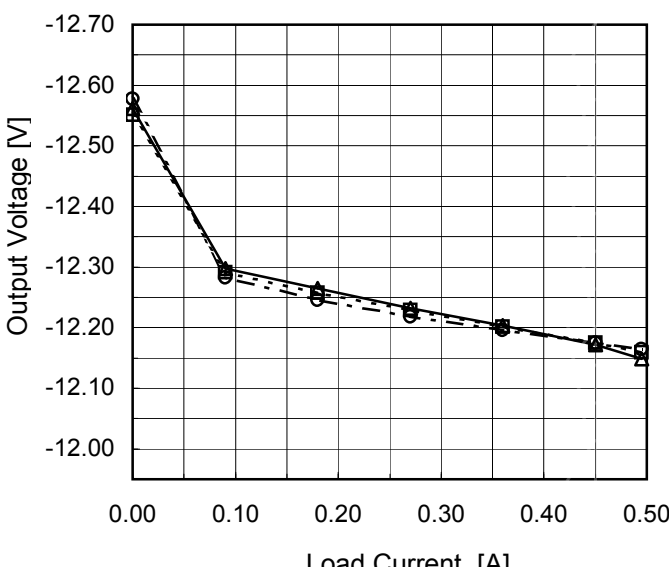
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Model	SUTW100512	Temperature 25°C Testing Circuitry Figure A																																	
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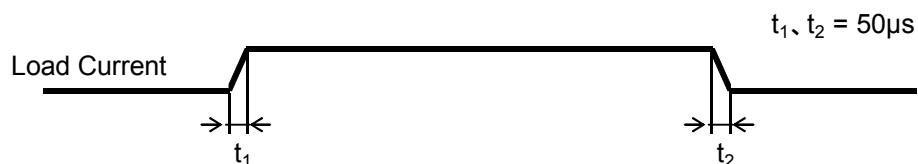
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BC-10290



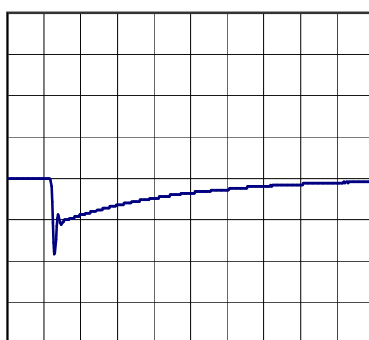
Model	SUTW100512	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	-12V0.45A	

Input Volt. 48 V
Cycle 100 mS

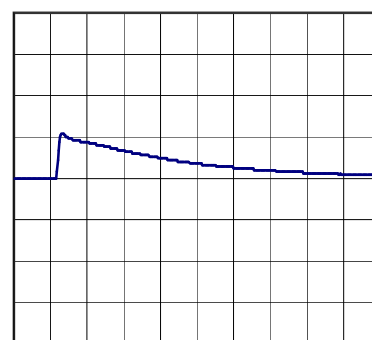


Min. Load (0A) \longleftrightarrow
Load 100% (0.45A)

200mV/div



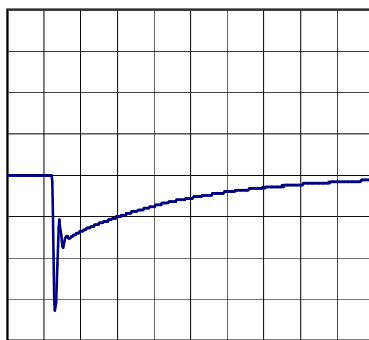
500µs/div



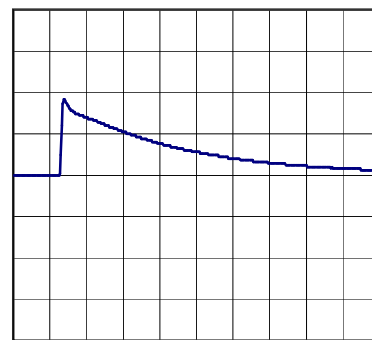
500µs/div

Min. Load (0A) \longleftrightarrow
Load 50% (0.225A)

200mV/div



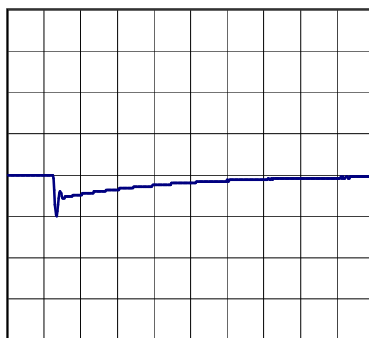
500µs/div



500µs/div

Load 50% (0.225A) \longleftrightarrow
Load 100% (0.45A)

200mV/div



500µs/div

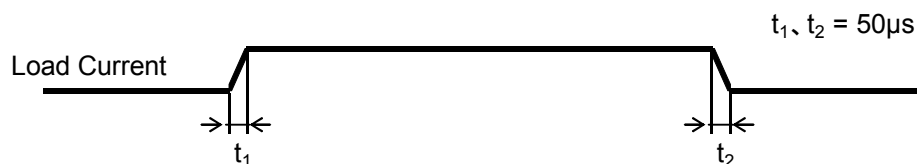


500µs/div



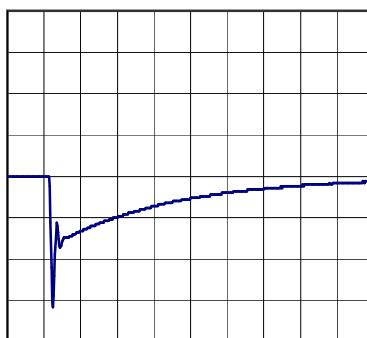
Model	SUTW100512	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response	
Object	+12V0.45A	

Input Volt. 48 V
Cycle 100 mS



Min. Load (0A) \longleftrightarrow
Load 100% (0.45A)

200mV/div



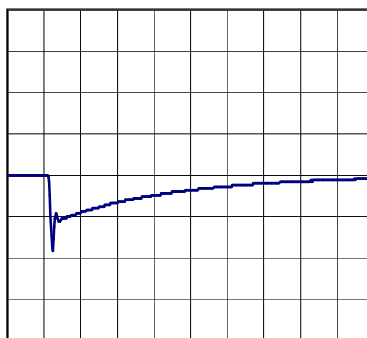
500µs/div



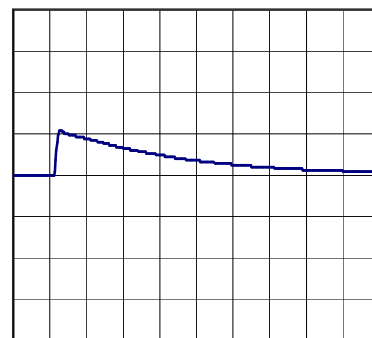
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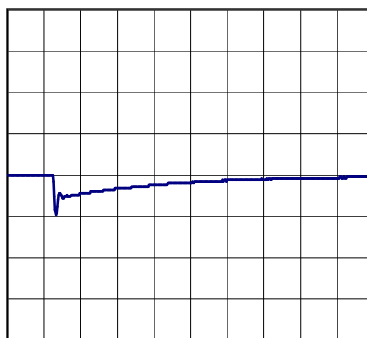
500µs/div



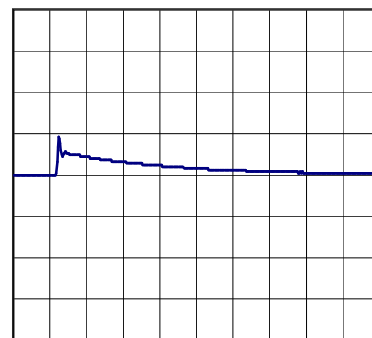
500µs/div

Load 50% (0.225A) \longleftrightarrow
Load 100% (0.45A)

200mV/div



500µs/div



500µs/div

Model	SUTW100512																																								
Item	Ripple Voltage (by Load Current)	Temperature	25°C																																						
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Model	SUTW100512																																								
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- 14 -

BC-10290

Model	SUTW100512			
Item	Ambient Temperature Drift			
Object	+12V0.45A			
1.Graph		2.Values		
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Model		SUTW100512	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 - 0.45A (AVR 2) : 0 - 0.45A

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

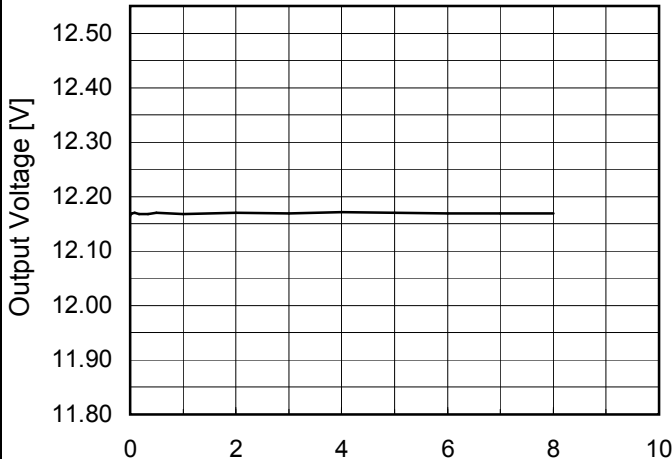
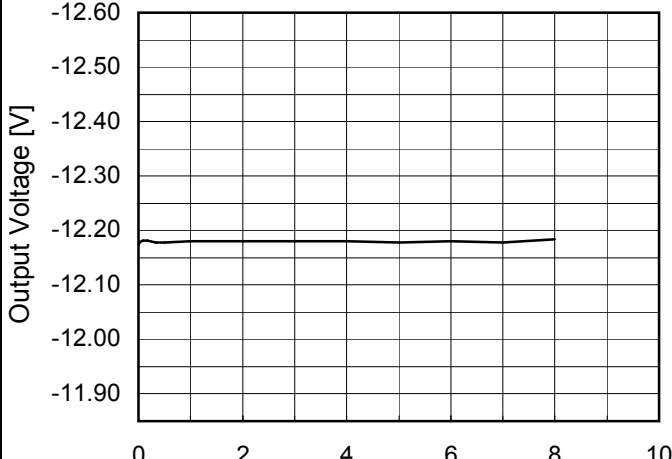
* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

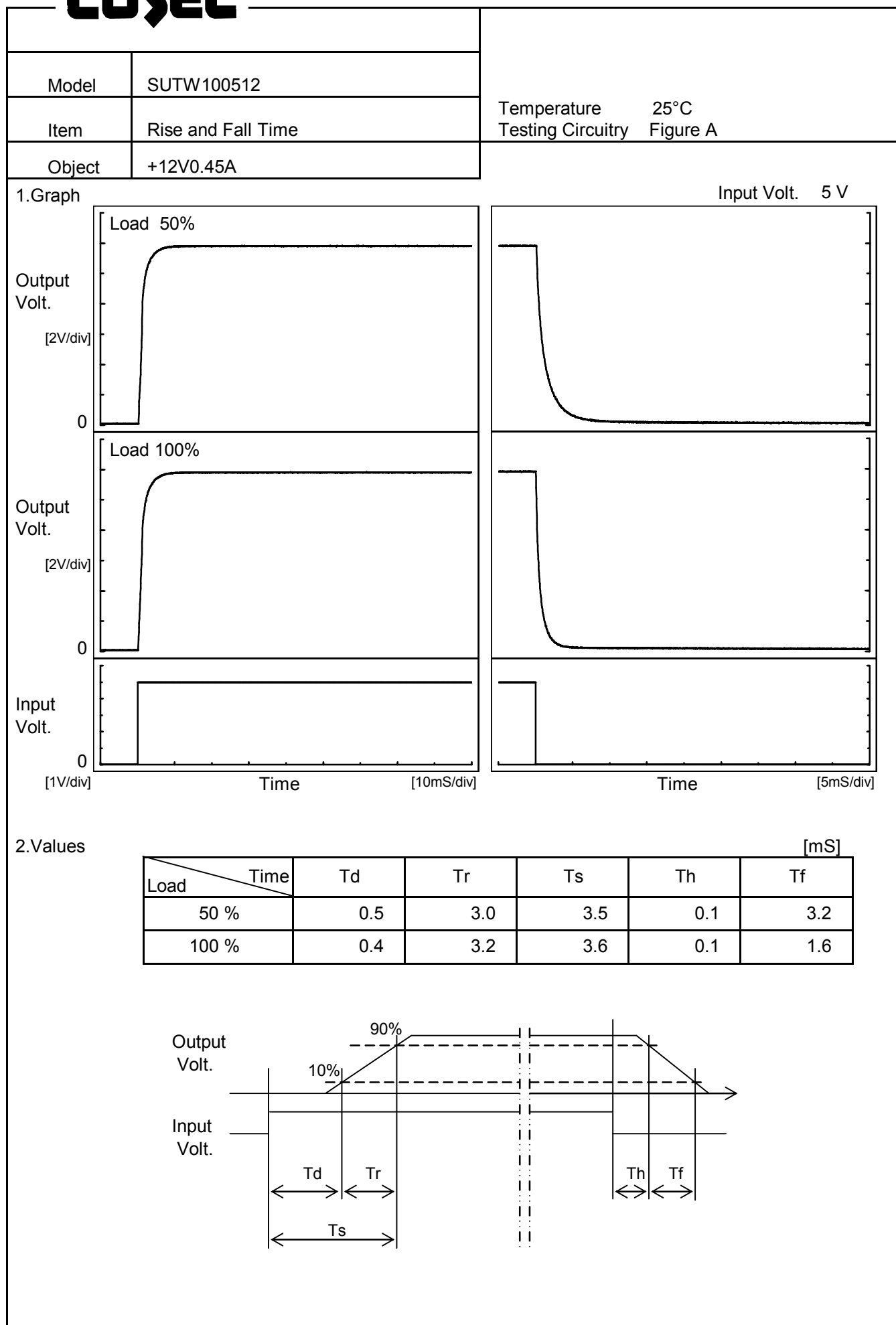
2. Values

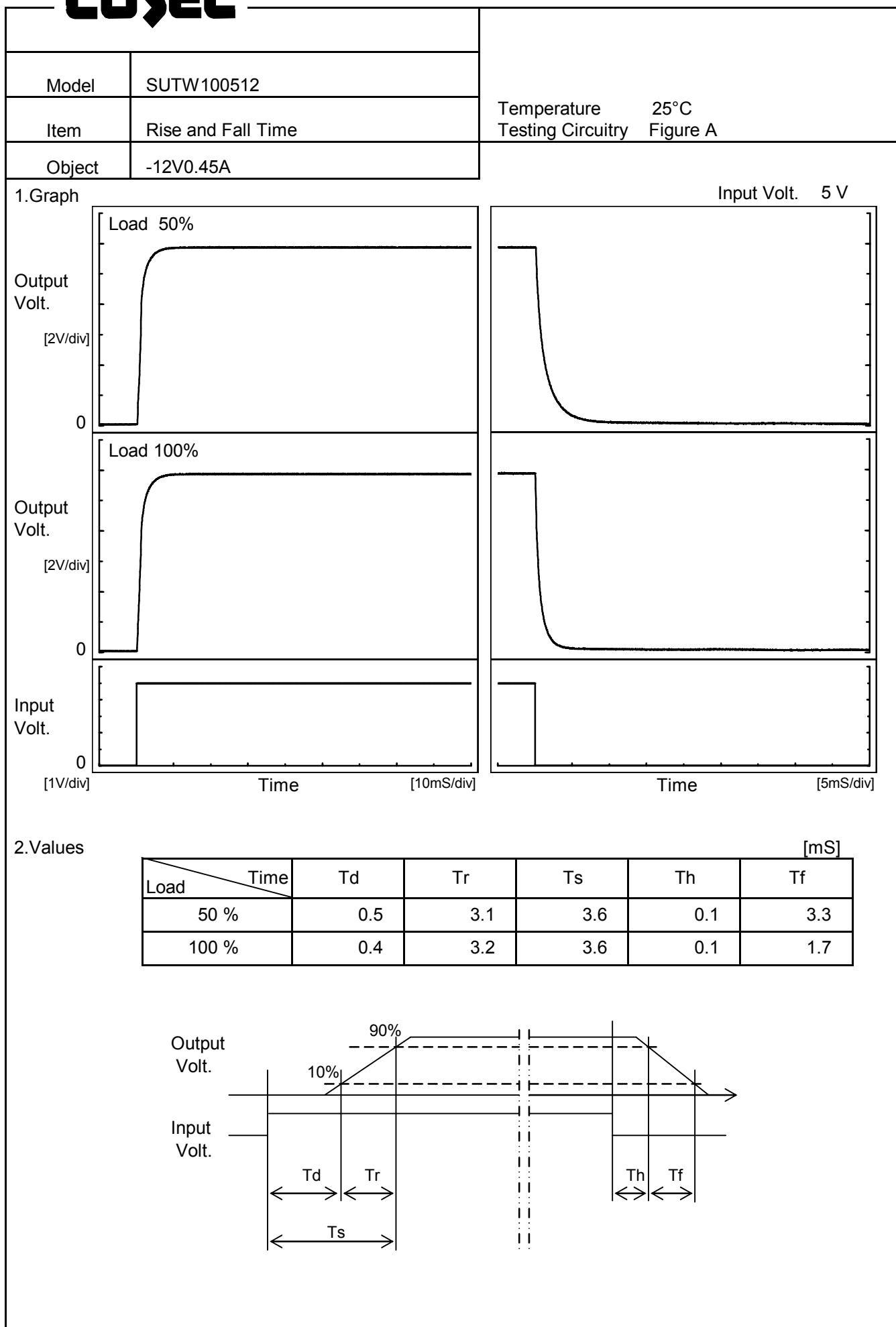
Object		+12V0.45A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	25	9	0	12.554	±208	±1.7
Minimum Voltage	-40	4.5	0.45	12.139		

Object		-12V0.45A				
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	25	9	0	-12.579	±219	±1.8
Minimum Voltage	-40	4.5	0.45	-12.142		

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Model	SUTW100512																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+12V0.45A																								
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>12.164</td></tr><tr><td>0.5</td><td>12.170</td></tr><tr><td>1.0</td><td>12.169</td></tr><tr><td>2.0</td><td>12.171</td></tr><tr><td>3.0</td><td>12.170</td></tr><tr><td>4.0</td><td>12.171</td></tr><tr><td>5.0</td><td>12.170</td></tr><tr><td>6.0</td><td>12.169</td></tr><tr><td>7.0</td><td>12.169</td></tr><tr><td>8.0</td><td>12.169</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	12.164	0.5	12.170	1.0	12.169	2.0	12.171	3.0	12.170	4.0	12.171	5.0	12.170	6.0	12.169	7.0	12.169	8.0	12.169
Time since start [H]	Output Voltage [V]																								
0.0	12.164																								
0.5	12.170																								
1.0	12.169																								
2.0	12.171																								
3.0	12.170																								
4.0	12.171																								
5.0	12.170																								
6.0	12.169																								
7.0	12.169																								
8.0	12.169																								
Object	-12V0.45A																								
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>-12.173</td></tr><tr><td>0.5</td><td>-12.179</td></tr><tr><td>1.0</td><td>-12.181</td></tr><tr><td>2.0</td><td>-12.180</td></tr><tr><td>3.0</td><td>-12.181</td></tr><tr><td>4.0</td><td>-12.180</td></tr><tr><td>5.0</td><td>-12.178</td></tr><tr><td>6.0</td><td>-12.180</td></tr><tr><td>7.0</td><td>-12.178</td></tr><tr><td>8.0</td><td>-12.183</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	-12.173	0.5	-12.179	1.0	-12.181	2.0	-12.180	3.0	-12.181	4.0	-12.180	5.0	-12.178	6.0	-12.180	7.0	-12.178	8.0	-12.183
Time since start [H]	Output Voltage [V]																								
0.0	-12.173																								
0.5	-12.179																								
1.0	-12.181																								
2.0	-12.180																								
3.0	-12.181																								
4.0	-12.180																								
5.0	-12.178																								
6.0	-12.180																								
7.0	-12.178																								
8.0	-12.183																								





		Testing Circuitry Figure A																																				
Model	SUTW100512																																					
Item	Minimum Input Voltage for Regulated Output Voltage																																					
Object	+12V0.45A																																					
1.Graph		2.Values																																				
<div><div><div></div><div></div></div><div><div></div><div></div></div></div> <table><thead><tr><th>Ambient Temperature [°C]</th><th>Load 50%</th><th>Load 100%</th></tr></thead><tbody><tr><td>-60</td><td>2.7</td><td>4.3</td></tr><tr><td>-40</td><td>2.5</td><td>3.5</td></tr><tr><td>-20</td><td>2.3</td><td>3.1</td></tr><tr><td>0</td><td>2.5</td><td>3.1</td></tr><tr><td>25</td><td>2.5</td><td>3.1</td></tr><tr><td>55</td><td>2.7</td><td>3.3</td></tr><tr><td>60</td><td>2.7</td><td>3.3</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table>			Ambient Temperature [°C]	Load 50%	Load 100%	-60	2.7	4.3	-40	2.5	3.5	-20	2.3	3.1	0	2.5	3.1	25	2.5	3.1	55	2.7	3.3	60	2.7	3.3	--	-	-	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	Load 50%		Load 100%																																			
-60	2.7	4.3																																				
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BC-10290

Model	SUTW100512																																																									
Item	Overcurrent Protection	Temperature	25°C																																																							
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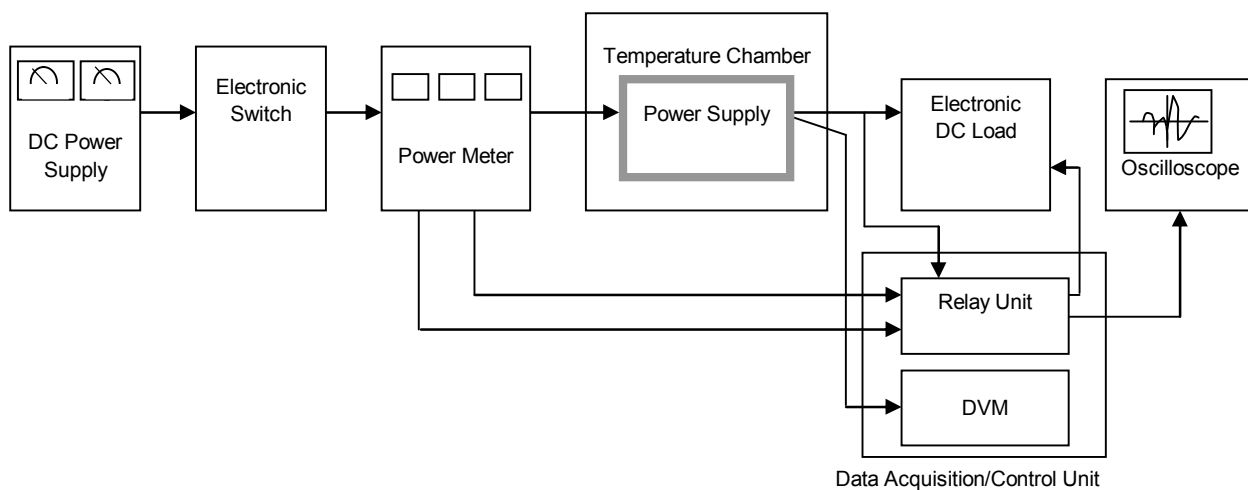


Figure A

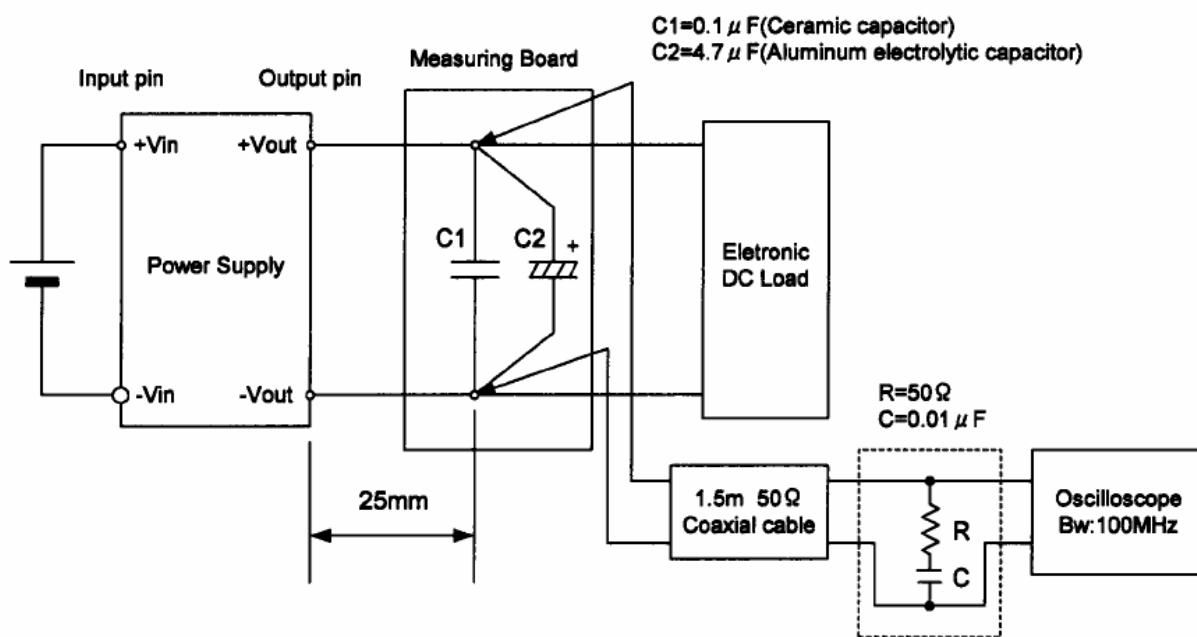


Figure B (Ripple and Ripple noise Characteristic)