



TEST DATA OF MMC50A-4  
(100V INPUT)

Regulated DC Power Supply

Date : July 7, 1999

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COSEL CO., LTD.



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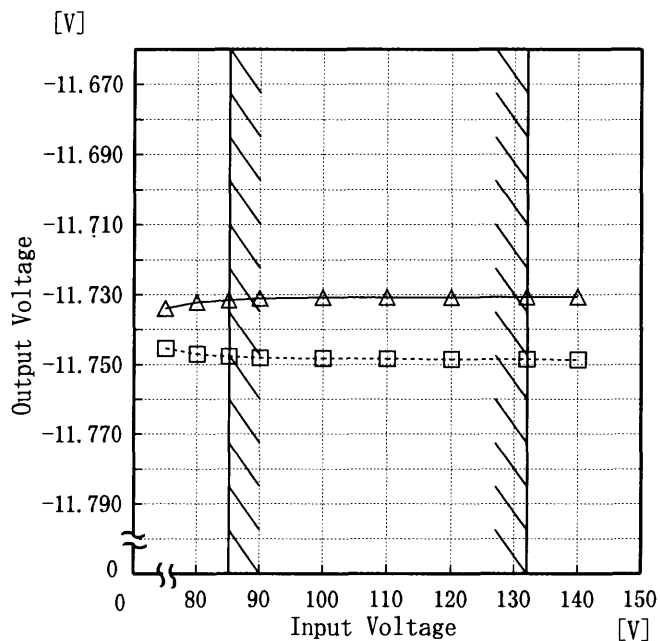
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Model	MMC50A-4
Item	Line Regulation 静的入力変動
Object	-12.0V 0.30A

Temperature 25°C  
Testing Circuitry Figure A

1. Graph  
 □----- Load 50%  
 △----- Load 100%



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

(注)斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Load 50%	Load 100%
	Output Volt. [V]	Output Volt. [V]
75	-11.745	-11.734
80	-11.747	-11.732
85	-11.748	-11.732
90	-11.748	-11.731
100	-11.748	-11.731
110	-11.748	-11.731
120	-11.749	-11.731
132	-11.749	-11.731
140	-11.749	-11.731



Model		MMC50A-4		Temperature	25°C																														
Item		Efficiency 効率		Testing Circuitry	Figure A																														
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Item		Power Factor (by Input Voltage) 力率 (入力電圧特性)		Testing Circuitry		Figure A																																	
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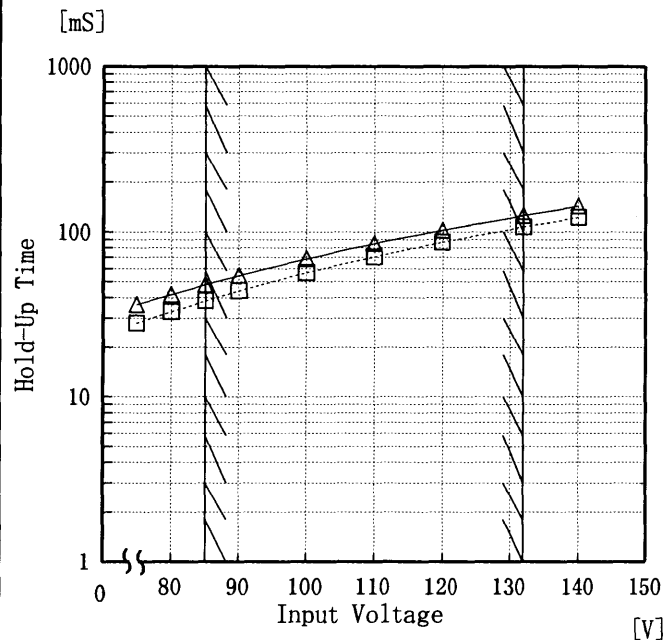
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Model	MMC50A-4
Item	Hold-Up Time 出力保持時間
Object	+12.0V1.00A

Temperature 25°C  
Testing Circuitry Figure A

1. Graph  
 —△— Load 50%  
 - - -□- - - Load 100%



This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.

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

出力保持時間とは、入力電圧断から出力電圧が、定電圧精度の規格範囲を保持しているところまでの時間。

(注) 斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Load 50%	Load 100%
	Hold-Up Time [mS]	Hold-Up Time [mS]
75	36	28
80	42	33
85	48	38
90	54	44
100	69	57
110	85	71
120	102	87
132	126	107
140	143	123





Model		MMC50A-4		Temperature		25°C																																	
Item		Hold-Up Time 出力保持時間		Testing Circuitry		Figure A																																	
Object		-12.0V0.30A																																					
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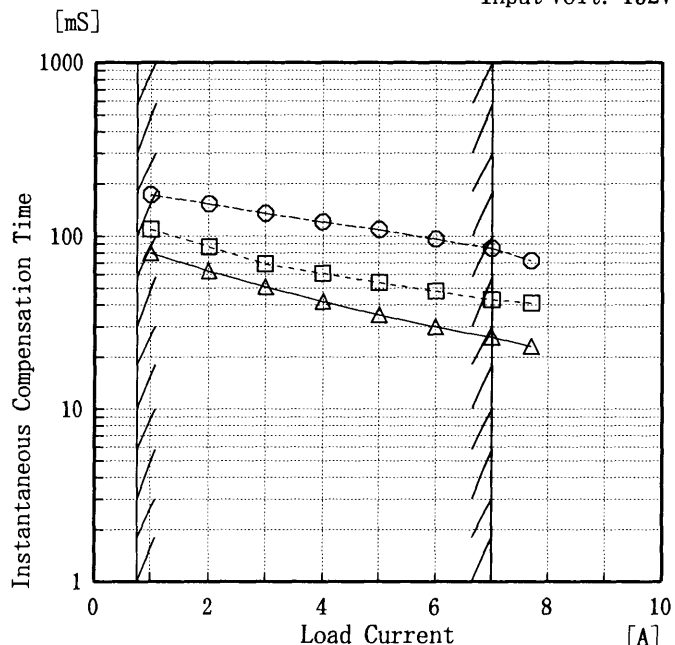


Model	MMC50A-4
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	+5.0V7.00A

Testing Circuitry Figure A

1. Graph

- △— Input Volt. 85V
- - -□- - - Input Volt. 100V
- - -○- - - Input Volt. 132V



This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.  
 Note: Slanted line shows the range of the rated load current.

瞬時停電保障時間とは、出力電圧が定電圧精度の規格範囲を保持している瞬時停電時間をいう。  
 (注)斜線は定格負荷電流範囲を示す。

2. Values

Load Current [A]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Time [mS]		
0.0	—	—	—
1.0	80	110	173
2.0	63	87	153
3.0	51	69	135
4.0	42	61	121
5.0	35	54	109
6.0	30	48	96
7.0	26	43	85
7.7	23	41	72
—	—	—	—
—	—	—	—



Model		MMC50A-4		Testing Circuitry Figure A																																																				
Item		Instantaneous Interruption Compensation 瞬時停電保障																																																						
Object		+12.0V1.00A																																																						
1. Graph		<p> <input type="checkbox"/> —△— Input Volt. 85V  <input type="checkbox"/> - - -□- - - Input Volt. 100V  <input type="checkbox"/> - - -○- - - Input Volt. 132V                 </p>		2. Values																																																				
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Load Current [A]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																																					
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# COSEL

Model		MMC50A-4		Temperature		25°C																																							
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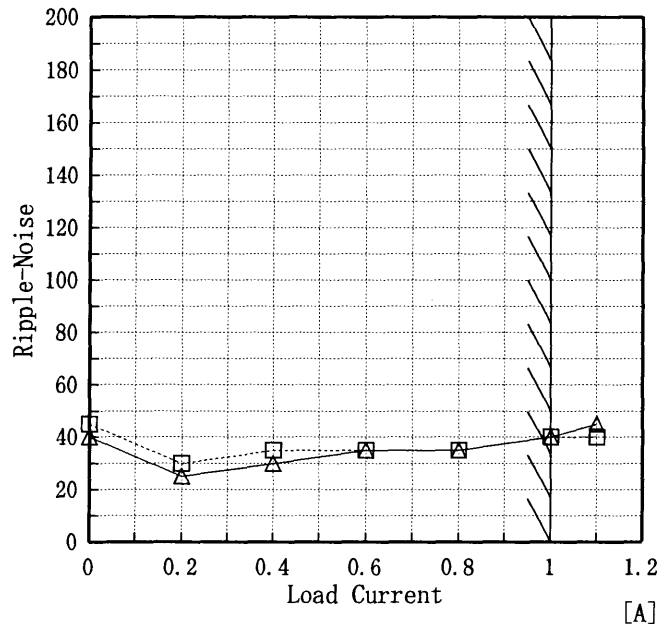
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Model	MMC50A-4
Item	Ripple-Noise リップルノイズ
Object	+12.0V1.00A

Temperature	25°C
Testing Circuitry	Figure A

1. Graph  
 [mV]  
 -----□----- Input Volt. 85V  
 -----△----- Input Volt. 132V



2. Values

Load current [A]	Input Volt. 85 [V]	Input Volt. 132 [V]
	Ripple-Noise [mV]	Ripple-Noise [mV]
0.0	45	40
0.2	30	25
0.4	35	30
0.6	35	35
0.8	40	40
1.0	40	45
1.1	40	45
—	—	—
—	—	—
—	—	—
—	—	—

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

リップルノイズは、下図 p-p 値で示される。  
 (注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line  
 入力商用周期  
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 スイッチング周期

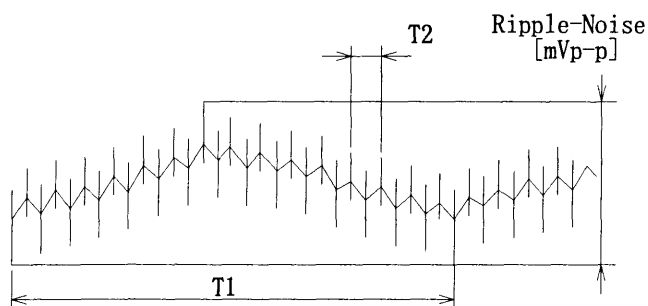


Fig. Complex Ripple Wave Form  
 図 リップル波形詳細図



Model		MMC50A-4		Temperature	25°C																																						
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<p>Model MMC50A-4</p> <p>Item Overcurrent Protection 過電流保護</p> <p>Object +5.0V7.00A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																							
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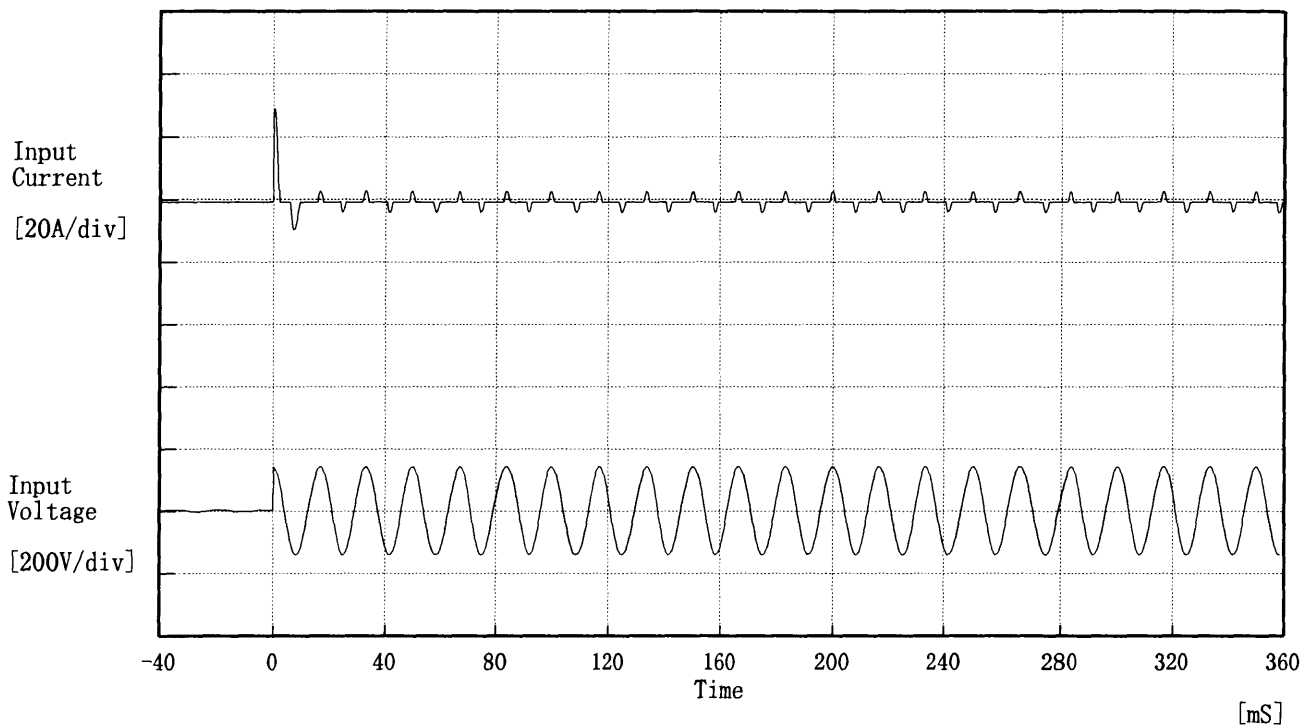
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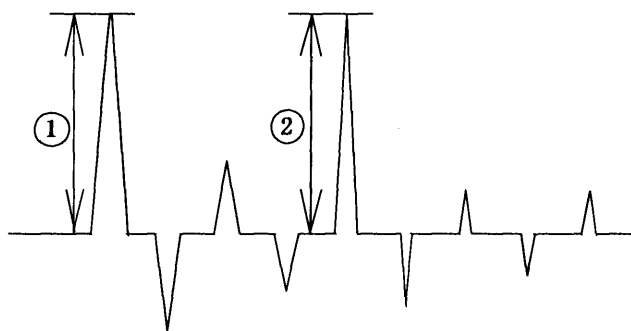
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p> <p>(注)斜線は定格周囲温度範囲を示す。</p>																																																								

# COSEL

Model	MMC50A-4	Temperature	25°C
Item	Inrush Current 突入電流	Testing Circuitry	Figure A
Object	_____		



Input Voltage 100 V  
 Frequency 60 Hz  
 Load 100 %  
 Inrush Current  
 ① 28.91 [A]  
 ② 4.20 [A]







Model	MMC50A-4	Temperature	25°C
Item	Dynamic Load Responce 動的負荷變動	Testing Circuitry	Figure A
Object	+5.0V7.00A		

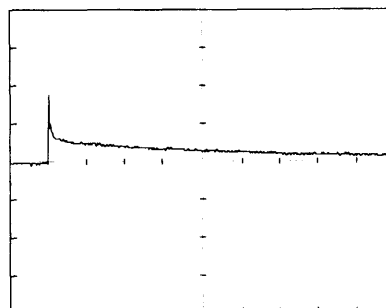
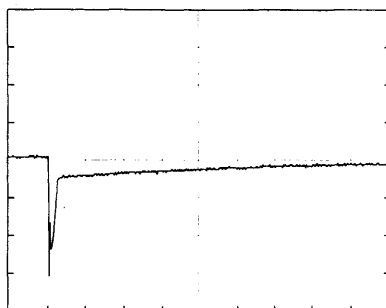
Input Volt. 100 V

Cycle 200 mS

Load Current

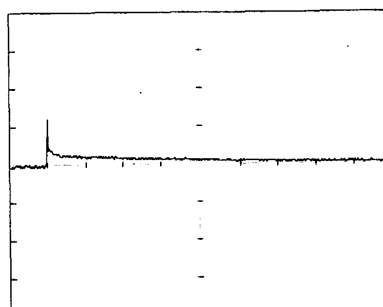
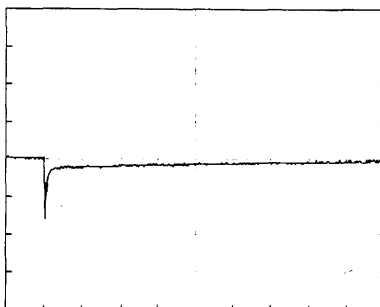
Load 0% ↔

Load 100 %



Load 0% ↔

Load 50 %



100 mV/div

10 mS/div

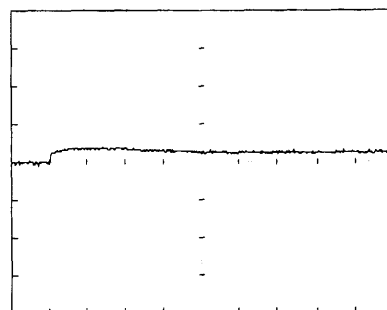
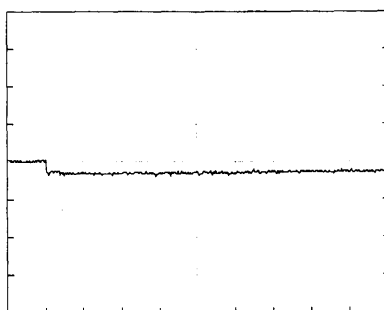
# COSEL

Model	MMC50A-4	Temperature	25°C
Item	Dynamic Load Responce 動的負荷変動	Testing Circuitry	Figure A
Object	+12.0V1.00A		

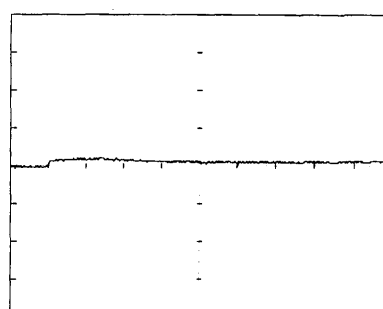
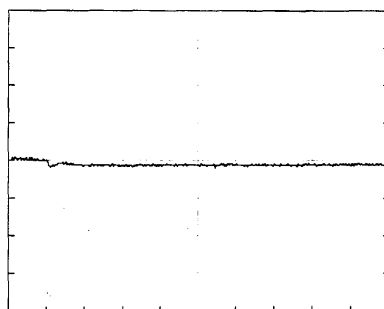
Input Volt. 100 V  
Cycle 200 mS

Load Current 

Load 0% ←→  
Load 100 %



Load 0% ←→  
Load 50 %



100 mV/div

10 mS/div

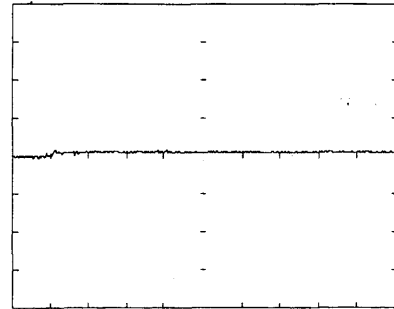
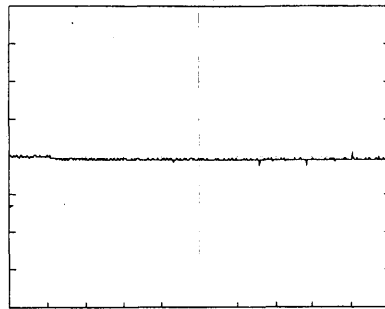


Model	MMC50A-4	Temperature	25°C
Item	Dynamic Load Responce 動的負荷変動	Testing Circuitry	Figure A
Object	-12.0V 0.30A		

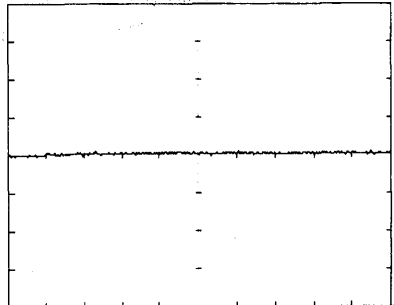
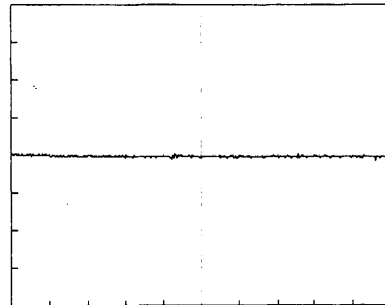
Input Volt. 100 V  
Cycle 200 mS

Load Current

Load 0% ↔  
Load 100 %



Load 0% ↔  
Load 50 %



100 mV/div

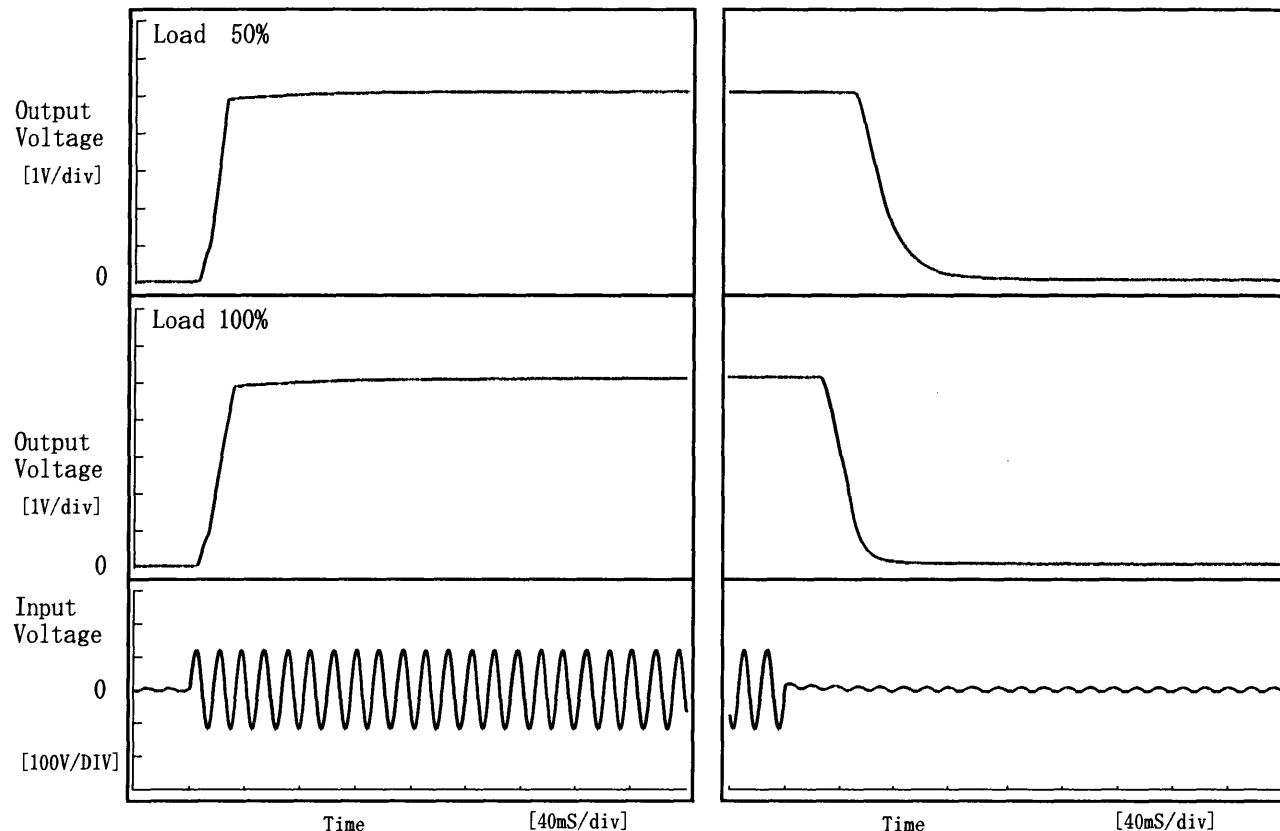
10 mS/div

# COSEL

Model	MMC50A-4	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+5.0V7.00A		

1. Graph

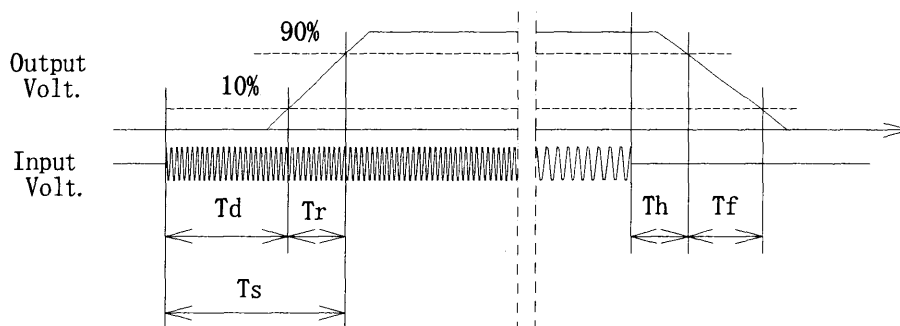
Input Volt. 85 V



2. Values

[mS]

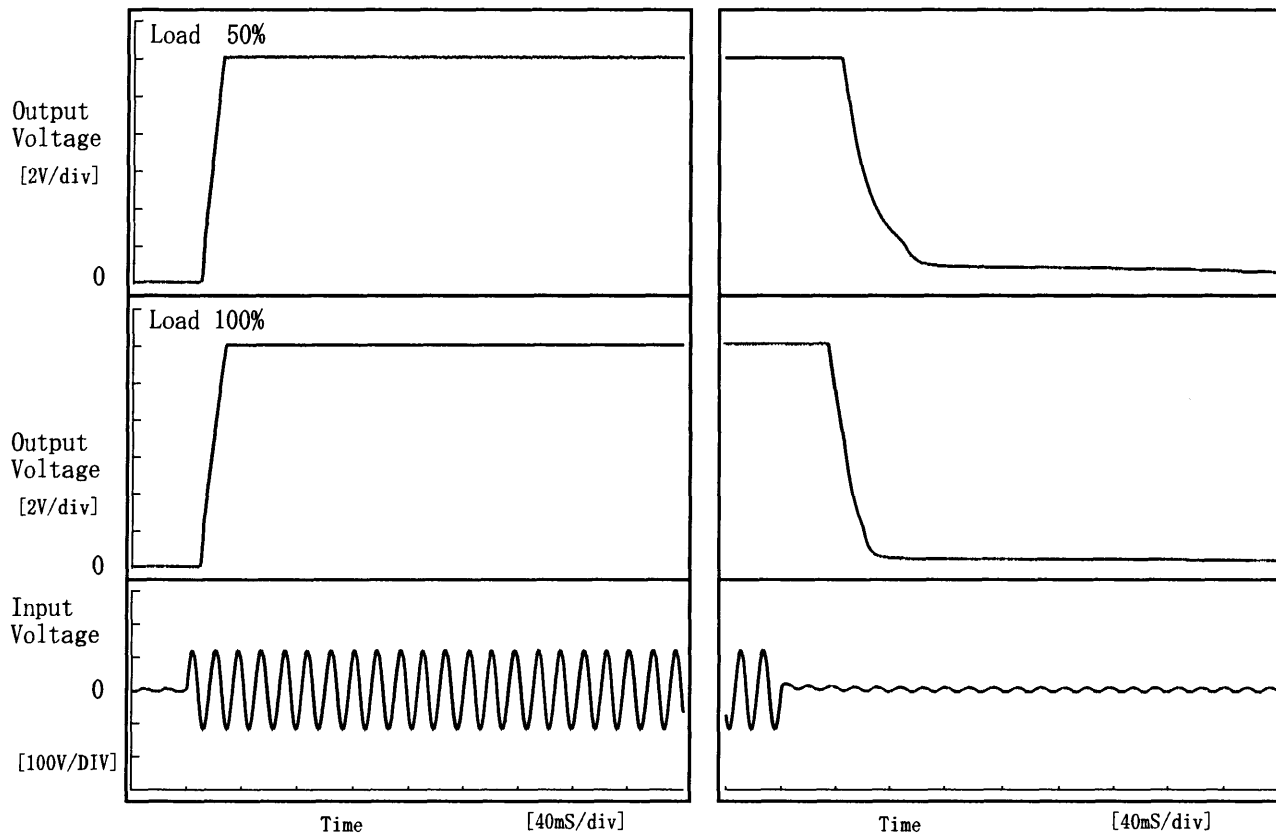
Load \ Time	T <sub>d</sub>	T <sub>r</sub>	T <sub>s</sub>	T <sub>h</sub>	T <sub>f</sub>
50 %	8.0	16.4	24.4	57.6	43.2
100 %	8.0	21.4	29.4	33.0	27.4



# COSEL

Model	MMC50A-4	
Item	Rise and Fall Time 立上り、立下り時間	Temperature 25°C Testing Circuitry Figure A
Object	+12.0V1.00A	

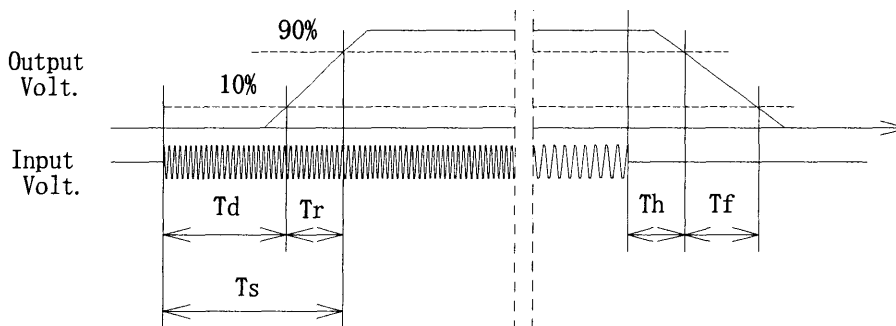
1. Graph



2. Values

Load \ Time	T <sub>d</sub>	T <sub>r</sub>	T <sub>s</sub>	T <sub>h</sub>	T <sub>f</sub>
50 %	11.0	12.8	23.8	47.2	52.6
100 %	11.2	14.4	25.6	37.6	27.0

[mS]

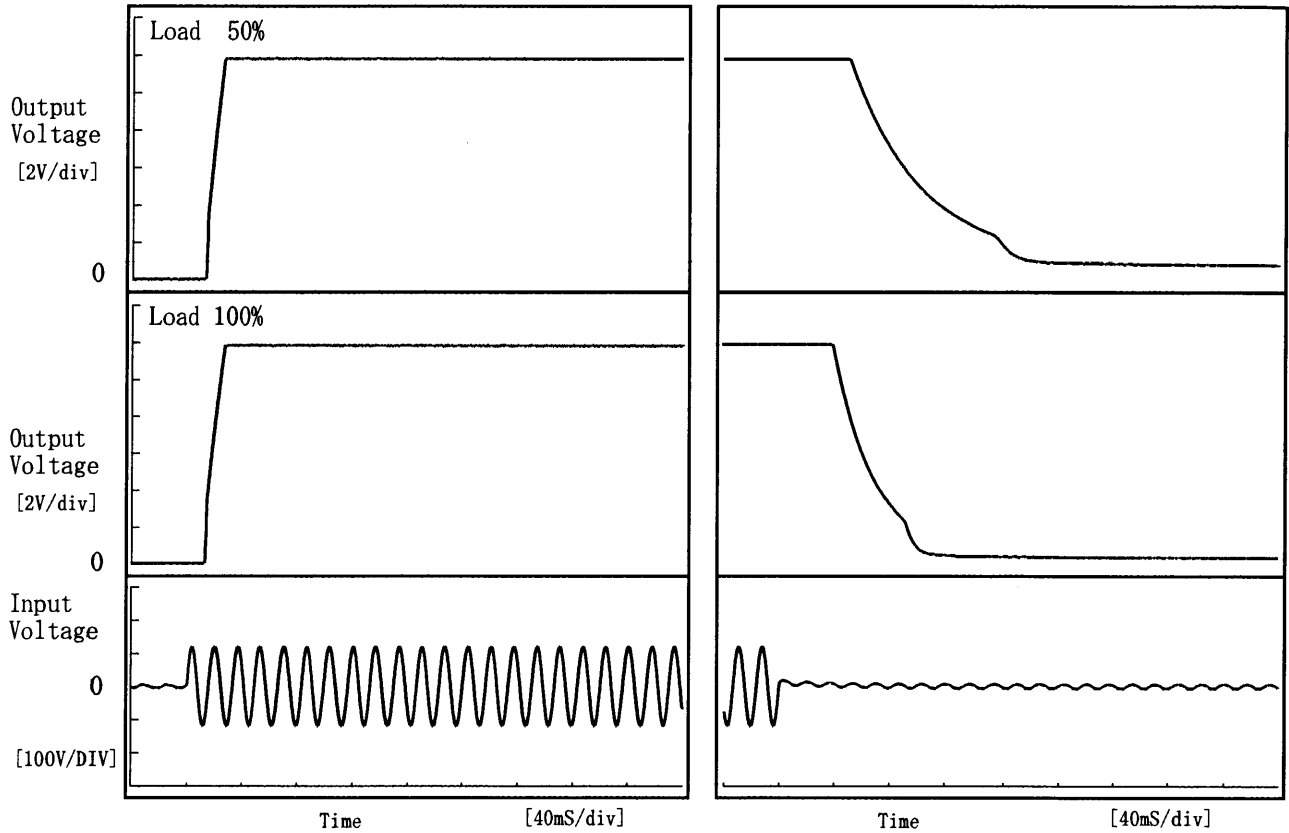




Model	MMC50A-4	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	-12.0V0.30A		

1. Graph

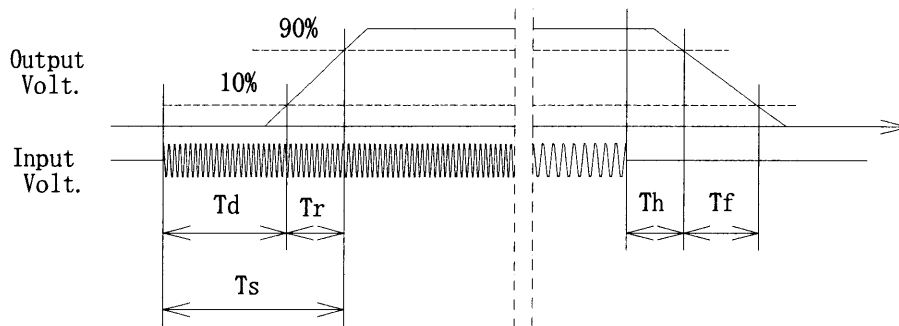
Input Volt. 85 V

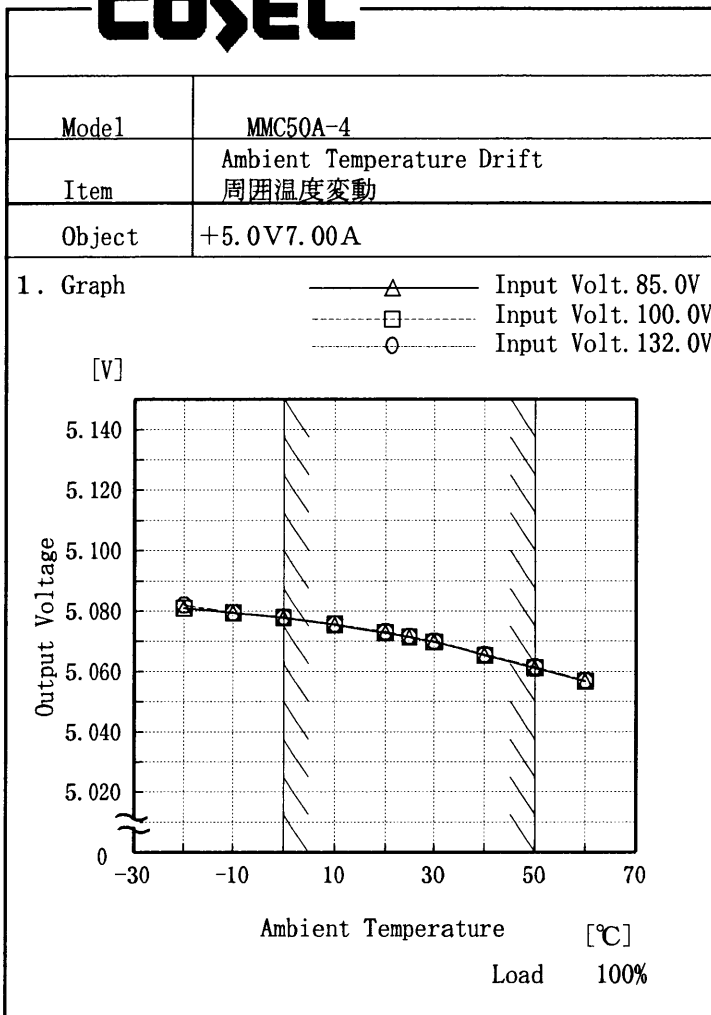


2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	14.0	10.8	24.8	56.4	115.8
100 %	13.8	11.6	25.4	42.6	55.6

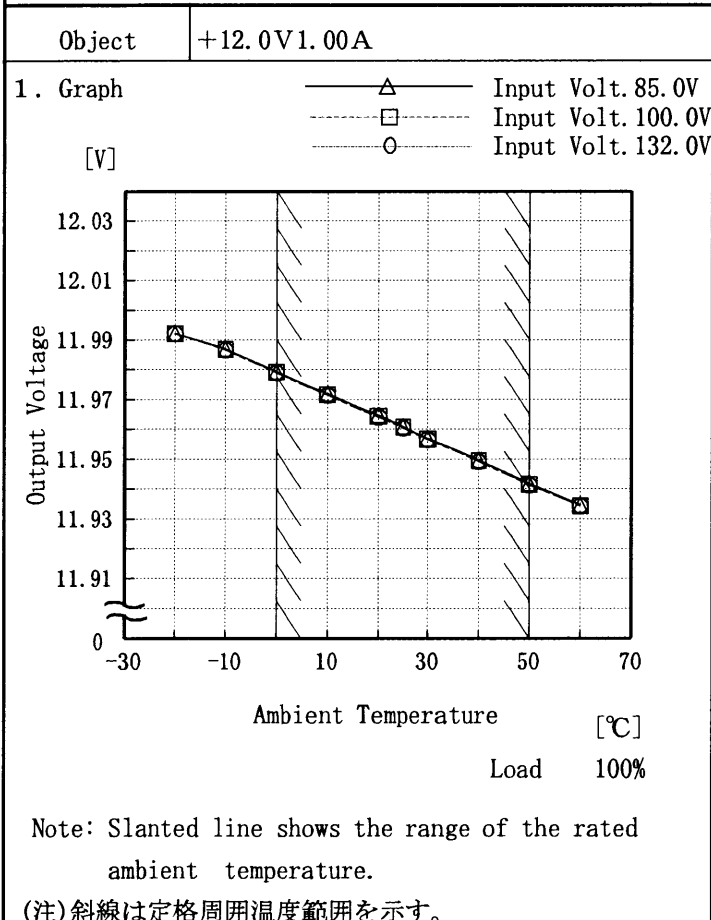




Testing Circuitry Figure A

2. Values

Temperature [°C]	Input Volt. 85.0[V]	Input Volt. 100.0[V]	Input Volt. 132.0[V]
	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]
-20	5.081	5.081	5.082
-10	5.079	5.080	5.080
0	5.078	5.078	5.078
10	5.076	5.076	5.076
20	5.073	5.073	5.073
25	5.071	5.072	5.072
30	5.070	5.070	5.070
40	5.065	5.065	5.066
50	5.061	5.061	5.062
60	5.057	5.057	5.057
-	-	-	-



2. Values

Temperature [°C]	Input Volt. 85.0[V]	Input Volt. 100.0[V]	Input Volt. 132.0[V]
	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]
-20	11.992	11.992	11.992
-10	11.987	11.987	11.987
0	11.979	11.979	11.979
10	11.972	11.972	11.971
20	11.965	11.964	11.964
25	11.961	11.961	11.960
30	11.957	11.957	11.957
40	11.950	11.949	11.949
50	11.942	11.942	11.941
60	11.935	11.934	11.934
-	-	-	-

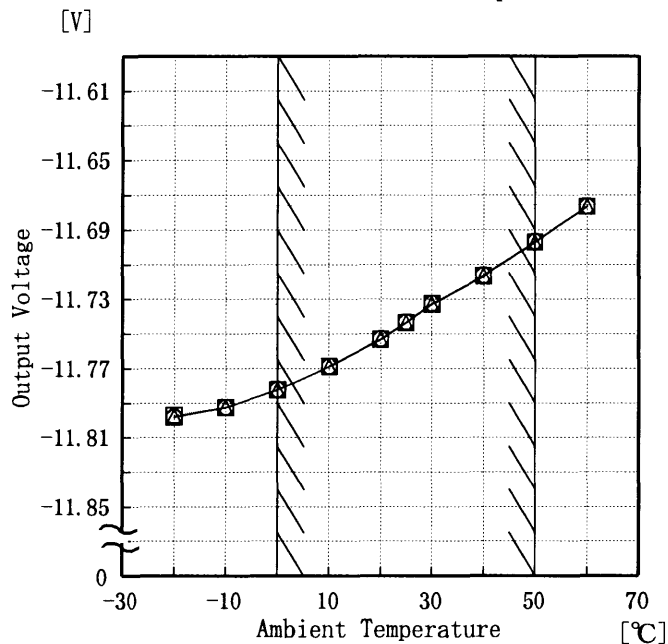


Model	MMC50A-4
Item	Ambient Temperature Drift 周囲温度変動
Object	-12.0V0.30A

Testing Circuitry Figure A

1. Graph

- △— Input Volt. 85V
- Input Volt. 100V
- Input Volt. 132V



Load 100%

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

(注)斜線は定格周囲温度範囲を示す。

2. Values

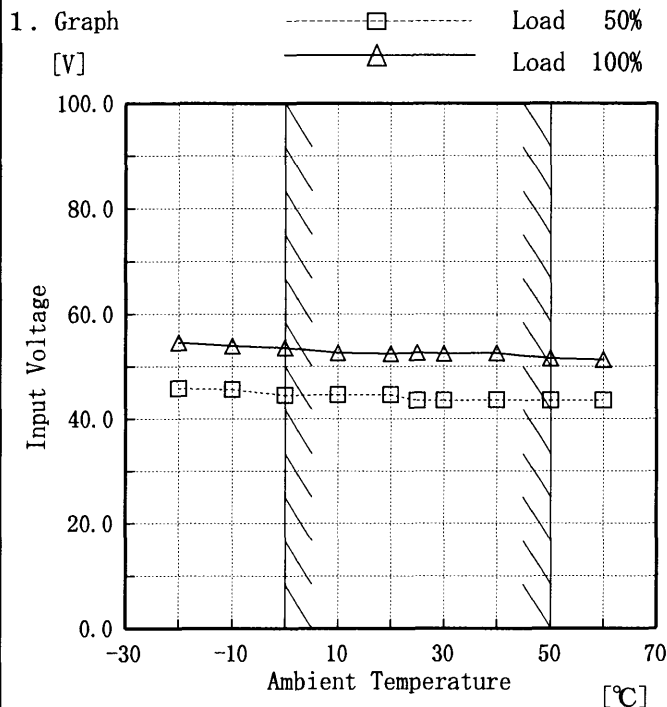
Temperature [°C]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]
-20	-11.798	-11.797	-11.798
-10	-11.793	-11.792	-11.792
0	-11.782	-11.782	-11.782
10	-11.769	-11.769	-11.769
20	-11.753	-11.753	-11.753
25	-11.744	-11.743	-11.743
30	-11.733	-11.733	-11.732
40	-11.717	-11.716	-11.716
50	-11.697	-11.697	-11.697
60	-11.677	-11.677	-11.676
—	—	—	—





Model	MMC50A-4
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+5.0V7.00A

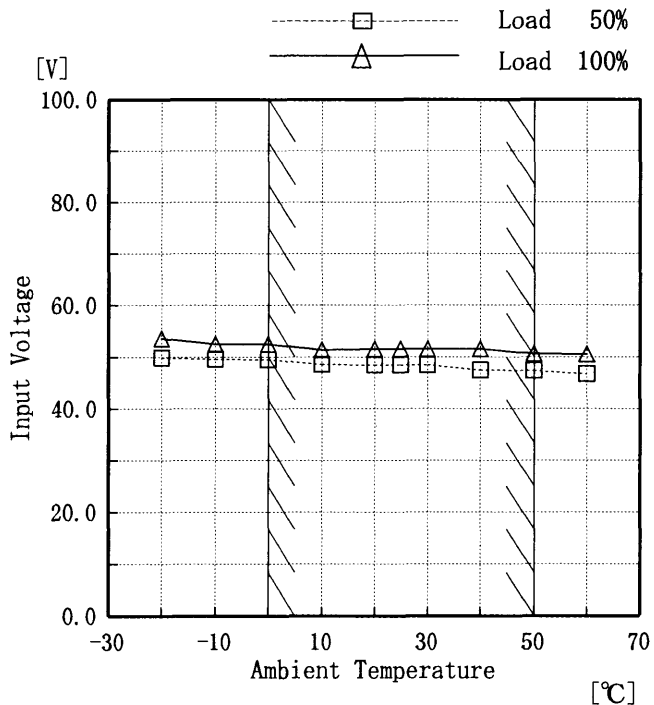
Testing Circuitry Figure A



2. Values

Ambient Temp. [°C]	Load 50%	Load 100%
	Input Volt. [V]	Input Volt. [V]
-20	45.8	54.5
-10	45.6	53.9
0	44.5	53.5
10	44.6	52.6
20	44.6	52.4
25	43.5	52.6
30	43.5	52.4
40	43.6	52.5
50	43.5	51.5
60	43.5	51.3
—	—	—

Object	+12.0V1.00A
--------	-------------



2. Values

Ambient Temp. [°C]	Load 50%	Load 100%
	Input Volt. [V]	Input Volt. [V]
-20	49.9	53.6
-10	49.6	52.5
0	49.5	52.5
10	48.6	51.3
20	48.5	51.5
25	48.5	51.5
30	48.5	51.5
40	47.5	51.5
50	47.4	50.6
60	46.7	50.5
—	—	—

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

(注)斜線は定格周囲温度範囲を示す。



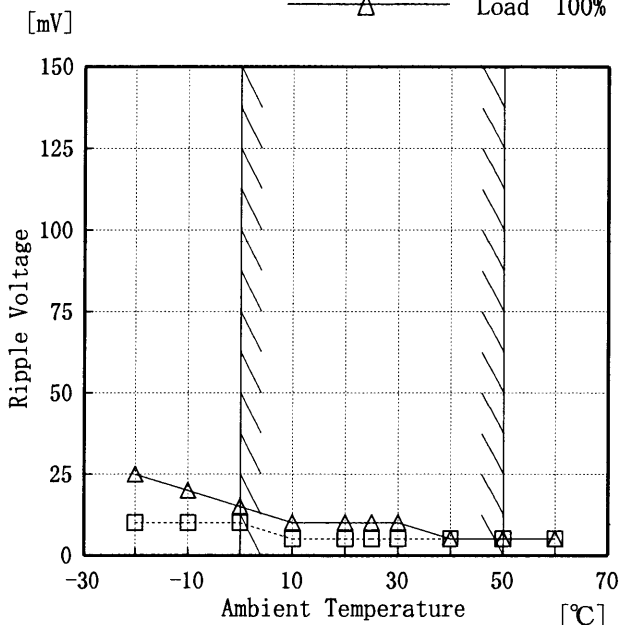
Model		MMC50A-4		Testing Circuitry Figure A																																				
Item		Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧																																						
Object		-12.0V0.30A																																						
1. Graph			-----□----- Load 50% -----△----- Load 100%	2. Values																																				
				<table border="1"> <thead> <tr> <th>Ambient Temp. [°C]</th> <th>Load 50% Input Volt. [V]</th> <th>Load 100% Input Volt. [V]</th> </tr> </thead> <tbody> <tr><td>-20</td><td>51.6</td><td>53.6</td></tr> <tr><td>-10</td><td>51.5</td><td>52.5</td></tr> <tr><td>0</td><td>50.5</td><td>51.4</td></tr> <tr><td>10</td><td>50.4</td><td>51.6</td></tr> <tr><td>20</td><td>50.5</td><td>51.4</td></tr> <tr><td>25</td><td>50.5</td><td>51.4</td></tr> <tr><td>30</td><td>49.5</td><td>51.5</td></tr> <tr><td>40</td><td>49.5</td><td>50.5</td></tr> <tr><td>50</td><td>49.4</td><td>50.4</td></tr> <tr><td>60</td><td>49.5</td><td>50.7</td></tr> <tr><td>—</td><td>—</td><td>—</td></tr> </tbody> </table>	Ambient Temp. [°C]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]	-20	51.6	53.6	-10	51.5	52.5	0	50.5	51.4	10	50.4	51.6	20	50.5	51.4	25	50.5	51.4	30	49.5	51.5	40	49.5	50.5	50	49.4	50.4	60	49.5	50.7	—	—	—
Ambient Temp. [°C]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]																																						
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10	50.4	51.6																																						
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—	—	—																																						
Note: Slanted line shows the range of the rated ambient temperature. (注)斜線は定格周囲温度範囲を示す。																																								



Model	MMC50A-4
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)
Object	+5.0V7.00A

Testing Circuitry Figure A

1. Graph -----□----- Load 50%  
-----△----- Load 100%



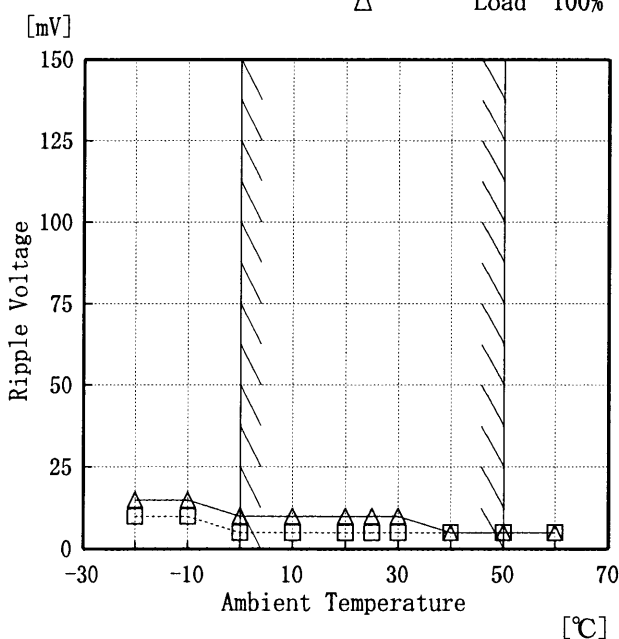
Input Volt. 100 V

2. Values

Ambient Temp. [°C]	Load 50%	Load 100%
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]
-20	10	25
-10	10	20
0	10	15
10	5	10
20	5	10
25	5	10
30	5	10
40	5	5
50	5	5
60	5	5
—	—	—

Object	+12.0V1.00A
--------	-------------

1. Graph -----□----- Load 50%  
-----△----- Load 100%



Input Volt. 100 V

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

(注)斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temp. [°C]	Load 50%	Load 100%
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]
-20	10	15
-10	10	15
0	5	10
10	5	10
20	5	10
25	5	10
30	5	10
40	5	5
50	5	5
60	5	5
—	—	—



Model		MMC50A-4		Testing Circuitry Figure A																																							
Item		Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)																																									
Object		-12.0V0.30A																																									
1. Graph		<p>-----□----- Load 50%</p> <p>-----△----- Load 100%</p>		2. Values																																							
<p>[mV]</p> <p>Ripple Voltage</p> <p>Ambient Temperature [°C]</p> <p>Input Volt. 100 V</p>		<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temp. [°C]</th> <th>Load 50%</th> <th>Load 100%</th> </tr> <tr> <th>Ripple Output Volt. [mV]</th> <th>Ripple Output Volt. [mV]</th> </tr> </thead> <tbody> <tr><td>-20</td><td>5</td><td>10</td></tr> <tr><td>-10</td><td>5</td><td>10</td></tr> <tr><td>0</td><td>5</td><td>5</td></tr> <tr><td>10</td><td>5</td><td>5</td></tr> <tr><td>20</td><td>5</td><td>5</td></tr> <tr><td>25</td><td>5</td><td>5</td></tr> <tr><td>30</td><td>5</td><td>5</td></tr> <tr><td>40</td><td>5</td><td>5</td></tr> <tr><td>50</td><td>5</td><td>5</td></tr> <tr><td>60</td><td>5</td><td>5</td></tr> <tr><td>—</td><td>—</td><td>—</td></tr> </tbody> </table>		Ambient Temp. [°C]	Load 50%	Load 100%	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]	-20	5	10	-10	5	10	0	5	5	10	5	5	20	5	5	25	5	5	30	5	5	40	5	5	50	5	5	60	5	5	—	—	—		
Ambient Temp. [°C]	Load 50%	Load 100%																																									
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]																																									
-20	5	10																																									
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0	5	5																																									
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<b>COSEL</b>																									
Model	MMC50A-4	Temperature	25 °C																						
Item	Time Lapse Drift 経時ドリフト	Testing Circuitry	Figure A																						
Object	+5.0V7.00A																								
<p>1. Graph</p> <p style="text-align: center;">Input Volt. 100.0V Load 100%</p>		<p>2. Values</p> <table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>5.073</td></tr> <tr><td>0.5</td><td>5.071</td></tr> <tr><td>1.0</td><td>5.071</td></tr> <tr><td>2.0</td><td>5.071</td></tr> <tr><td>3.0</td><td>5.071</td></tr> <tr><td>4.0</td><td>5.071</td></tr> <tr><td>5.0</td><td>5.071</td></tr> <tr><td>6.0</td><td>5.071</td></tr> <tr><td>7.0</td><td>5.071</td></tr> <tr><td>8.0</td><td>5.071</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	5.073	0.5	5.071	1.0	5.071	2.0	5.071	3.0	5.071	4.0	5.071	5.0	5.071	6.0	5.071	7.0	5.071	8.0	5.071
Time since start [H]	Output Voltage [V]																								
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Time since start [H]	Output Voltage [V]																								
0.0	11.970																								
0.5	11.954																								
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<b>COSEL</b>																								
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Item	Time Lapse Drift 経時ドリフト	Temperature 25 °C Testing Circuitry Figure A																						
Object	-12.0V0.30A																							
<p>1. Graph</p> <p>[V]</p> <p>Output Voltage</p> <p>Time [H]</p> <p>Input Volt. 100V Load 100%</p>		<p>2. Values</p> <table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>-11.762</td></tr> <tr><td>0.5</td><td>-11.732</td></tr> <tr><td>1.0</td><td>-11.732</td></tr> <tr><td>2.0</td><td>-11.732</td></tr> <tr><td>3.0</td><td>-11.732</td></tr> <tr><td>4.0</td><td>-11.732</td></tr> <tr><td>5.0</td><td>-11.732</td></tr> <tr><td>6.0</td><td>-11.732</td></tr> <tr><td>7.0</td><td>-11.732</td></tr> <tr><td>8.0</td><td>-11.732</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	-11.762	0.5	-11.732	1.0	-11.732	2.0	-11.732	3.0	-11.732	4.0	-11.732	5.0	-11.732	6.0	-11.732	7.0	-11.732	8.0	-11.732
Time since start [H]	Output Voltage [V]																							
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7.0	-11.732																							
8.0	-11.732																							



Model		MMC50A-4	Testing Circuitry Figure A
Item		Output Voltage Accuracy 定電圧精度	

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 : 0~50 °C

Input Voltage : 85~132 V

Load Current (AVR 1) : 0.75~7.00 A (AVR 2) : 0~1 A (AVR 3) : 0~0.3 A

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

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

定電圧精度

周囲温度、入力電圧、負荷電流を下記仕様内で、任意に変動させたときの出力電圧の変動をいう。

周囲温度 0~50 °C

入力電圧 85~132 V

負荷電流 (AVR 1) : 0.75~7.00 A (AVR 2) : 0~1 A (AVR 3) : 0~0.3 A

\* 定電圧精度(変動値) =  $\pm(\text{出力電圧の最高値} - \text{出力電圧の最低値}) / 2$

\* 定電圧精度(変動率) =  $\frac{\text{変動値}}{\text{定格出力電圧}} \times 100$

Object		+5.0V7.00A				
Item	Temperature [°C]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration) [%]
Maximum Voltage	0	132	0.75	5.093	±17	±0.4
Minimum Voltage	50	85	7.00	5.060		

Object		+12.0V1.00A				
Item	Temperature [°C]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration) [%]
Maximum Voltage	0	85	0	12.012	±39	±0.4
Minimum Voltage	50	132	1	11.935		

Object		-12.0V0.30A				
Item	Temperature [°C]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration) [%]
Maximum Voltage	0	132	0.0	-11.808	±62	±0.6
Minimum Voltage	50	132	0.3	-11.684		



<b>COSEL</b>		
Model	MMC50A-4	
Item	Condensation 結露特性	Testing Circuitry Figure A
Object	+5.0V7.00A	

1. Condensation test

Testing procedure is as follows.

- ① Keeping and cooling the unit in a tank at -10°C for an hour with the input off.
- ② Taking it out of the tank and dewing itself in a room where the temperature is 25°C and the humidity is 40%RH.
- ③ Testing electrical characteristics of the unit to confirm there be no fault.

1. 結露特性試験

入力を切った状態で、恒温槽で-10°Cに冷却しておき、約1時間後に恒温槽から取り出し、室温25°C、湿度40%RHの状態におき結露させ、その電気的特性の測定を行い、異常のないことを確認する。

2. Values

Item	Data	Testing Conditions
Output Voltage [V]	5.069	Input Volt.: 100V, Load Current:7.00A
Line Regulation [mV]	1	Input Volt.: 85~132V, Load Current:7.00A
Load Regulation [mV]	15	Input Volt.: 100V, Load Current:0.75~7.00A





Model		MMC50A-4	Testing Circuitry Figure A
Item		Condensation 結露特性	
Object		+12.0V1.00A	

1. Condensation test

Testing procedure is as follows.

- ① Keeping and cooling the unit in a tank at -10°C for an hour with the input off.
- ② Taking it out of the tank and dewing itself in a room where the temperature is 25°C and the humidity is 40%RH.
- ③ Testing electrical characteristics of the unit to confirm there be no fault.

1. 結露特性試験

入力を切った状態で、恒温槽で-10℃に冷却しておき、約1時間後に恒温槽から取り出し、室温25℃、湿度40%RHの状態におき結露させ、その電気的特性の測定を行い、異常のないことを確認する。

2. Values

Item	Data	Testing Conditions
Output Voltage [V]	11.955	Input Volt.: 100V, Load Current:1A
Line Regulation [mV]	1	Input Volt.: 85~132V, Load Current:1A
Load Regulation [mV]	35	Input Volt.: 100V, Load Current:0~1A



<b>COSEL</b>		
Model	MMC50A-4	
Item	Condensation 結露特性	Testing Circuitry Figure A
Object	-12.0V0.30A	

1. Condensation test

Testing procedure is as follows.

- ① Keeping and cooling the unit in a tank at -10°C for an hour with the input off.
- ② Taking it out of the tank and dewing itself in a room where the temperature is 25°C and the humidity is 40%RH.
- ③ Testing electrical characteristics of the unit to confirm there be no fault.

1. 結露特性試験

入力を切った状態で、恒温槽で-10℃に冷却しておき、約1時間後に恒温槽から取り出し、室温25℃、湿度40%RHの状態におき結露させ、その電気的特性の測定を行い、異常のないことを確認する。

2. Values

Item	Data	Testing Conditions
Output Voltage [V]	-11.791	Input Volt.: 100V, Load Current:0.3A
Line Regulation [mV]	1	Input Volt.: 85~132V, Load Current:0.3A
Load Regulation [mV]	13	Input Volt.: 100V, Load Current:0.0~0.3A



Model		MMC50A-4	Temperature 25°C Testing Circuitry Figure A
Item		Leakage Current 漏洩電流	
Object		_____	

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DENTORI	0.24	0.26	0.33
(B) IEC60950	0.22	0.27	0.33

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 230 [V]	Input Volt. 264 [V]
(B) IEC60950	—	—	—

2. Condition

Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

交流入力 of 両相について測定し、その大きい方を漏洩電流測定値とする。



Model		MMC50A-4	Testing Circuitry Figure D
Item		Conducted Emission 雑音端子電圧	
Object		_____	

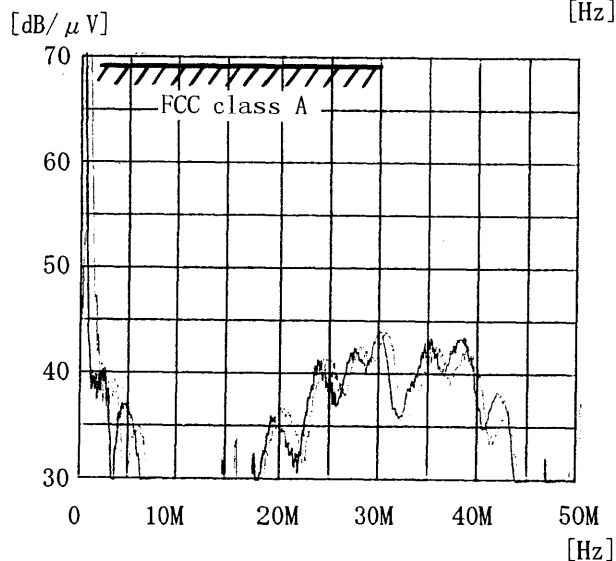
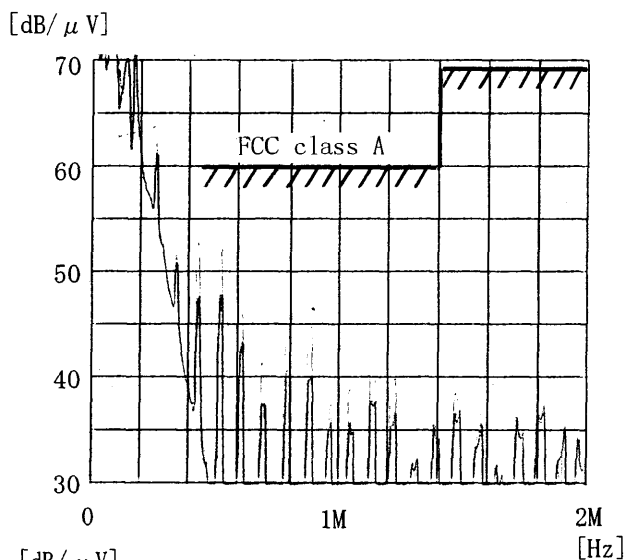
1. Graph

Remarks

Input Volt. 120 V  
Load 100 %

Note: Slanted line shows the range of Tolerance.  
(注)斜線は許容値を示す。

NO	Standards	Standards Complied	Frequency [MHz]	Tolerance [dB/μV]
1	FCC class A	○	0.45~1.6	60
			1.6~30	69.5
2	FCC class B		0.45~30	48
3	VCCI class A		0.15~0.5	79
			0.5~30	73
4	VCCI class B		0.15~0.5	66-56
			0.5~5	56
			5~30	60
5	CISPR Pub. 22 class A (EN55022)		0.15~0.5	79
			0.5~30	73
6	CISPR Pub. 22 class B (EN55022)		0.15~0.5	66-56
			0.5~5	56
			5~30	60



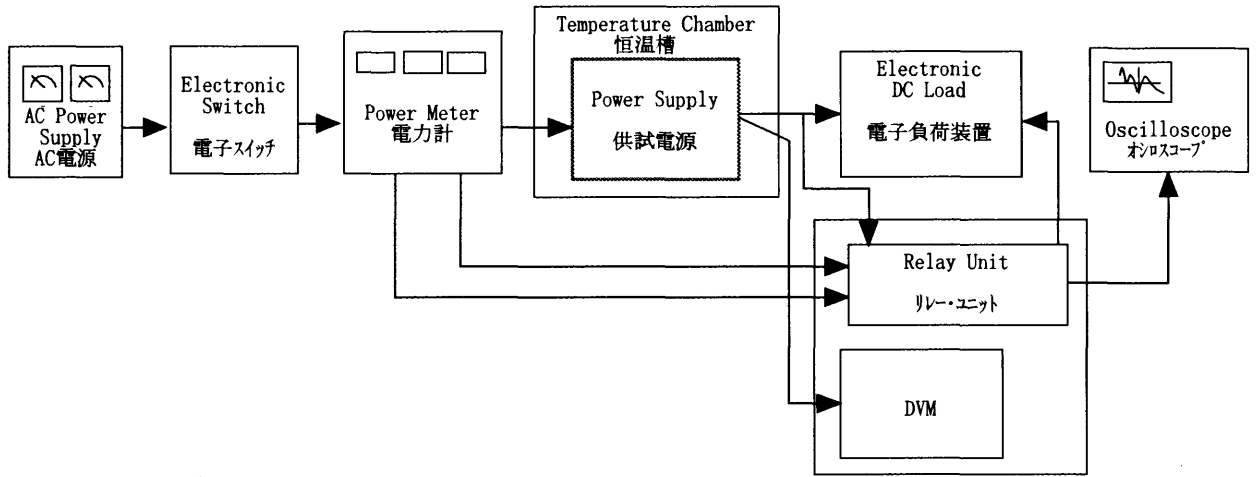


Figure A

Data Acquisition/Control Unit  
データ集録システム

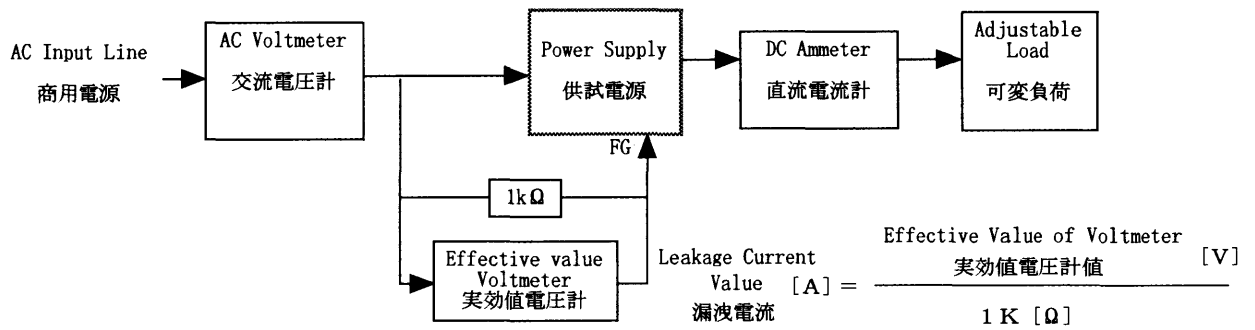


Figure B (DENTORI)

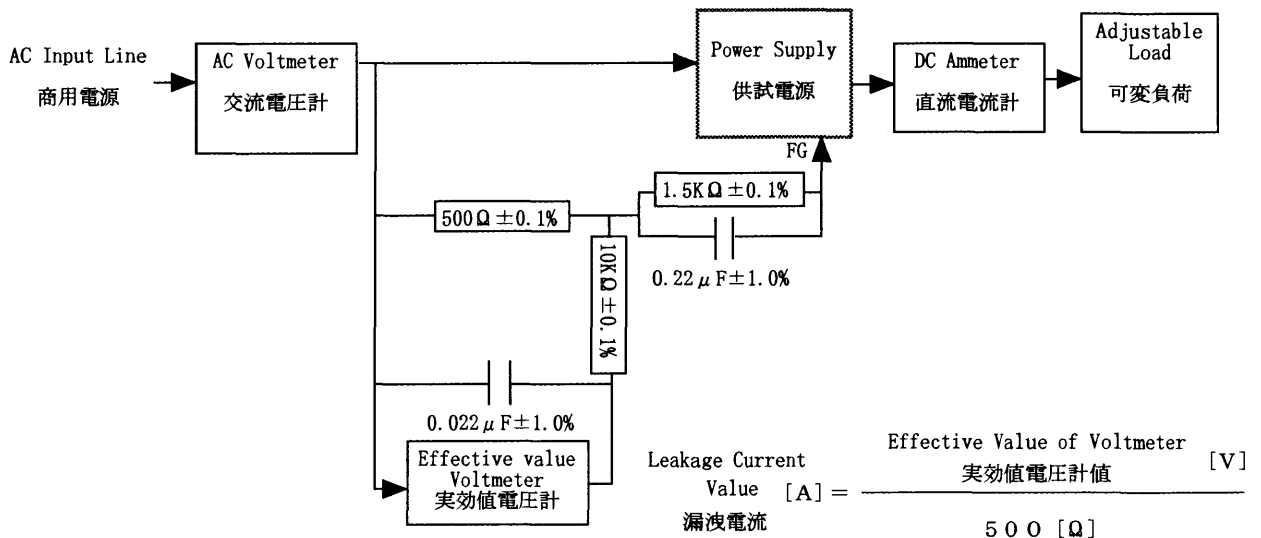


Figure B (IEC 60950)

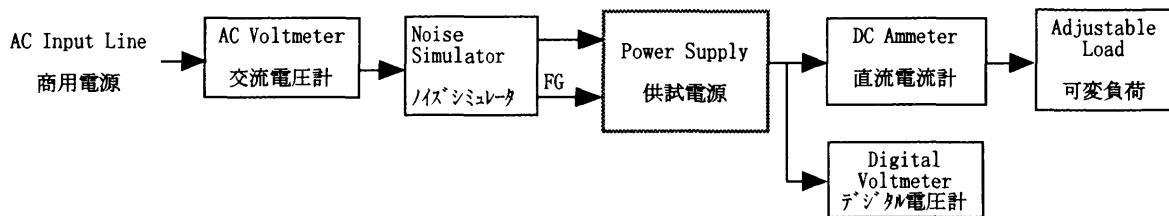


Figure C

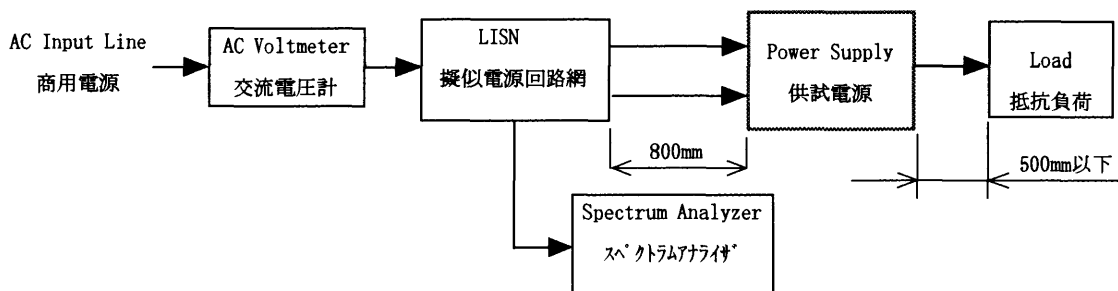


Figure D

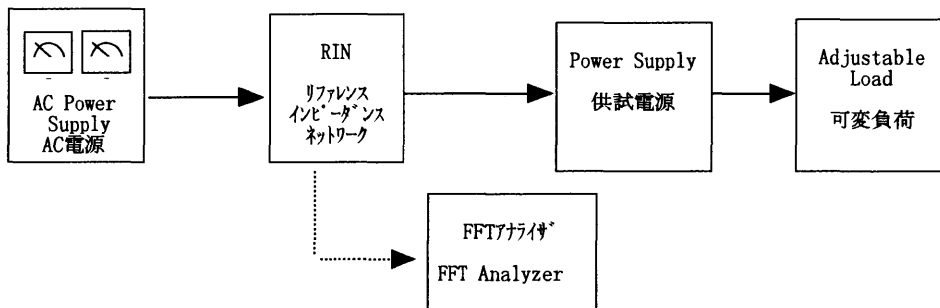


Figure E