



TEST DATA OF MMC8A-3 (100V INPUT)

Regulated DC Power Supply

Date : Mar.18. 1999

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Design Manager

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Design Engineer

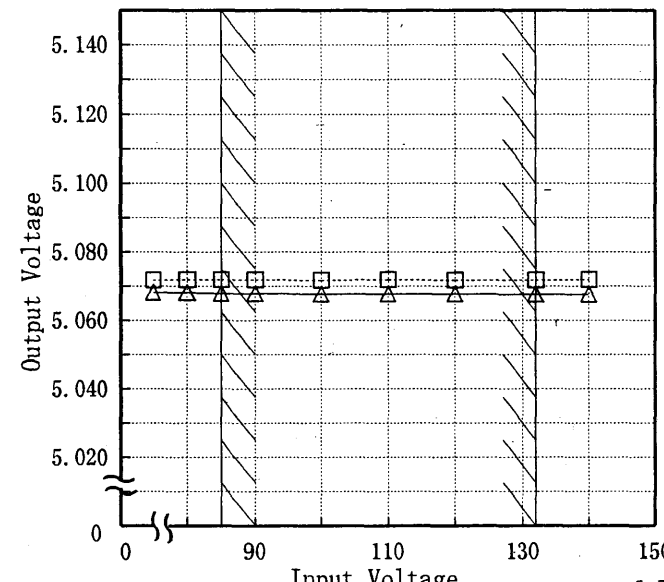
コーセル株式会社
COSEL CO.,LTD.

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Model		MMC8A-3	
Item		Line Regulation 静的入力変動	
Object		+5.0V1.2A	
1. Graph		-----□----- Load 50% -----△----- Load 100%	
[V]			
			
Output Voltage		Input Voltage [V]	

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Model		MMC8A-3	
Item		Line Regulation 静的入力変動	
Object		-5.0V0.1A	

1. Graph

<

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Model	MMC8A-3	Temperature	25°C
Item	Efficiency 効率	Testing Circuitry	Figure A
Object			

1. Graph

-----□----- Load 50%

-----△----- Load 100%

Efficiency [%]

Input Voltage [V]

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% Efficiency [%]	Load 100% Efficiency [%]
75	61.8	65.0
80	61.4	64.9
85	61.0	65.2
90	60.3	65.2
100	59.0	65.0
110	57.7	64.5
120	55.8	64.2
132	54.2	63.1
140	52.9	62.7

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Model	MMC8A-3	Temperature	25°C
Item	Power Factor (by Input Voltage) 力率 (入力電圧特性)	Testing Circuitry	Figure A
Object			

1. Graph

-----□----- load 50%

-----△----- load 100%

Power Factor

Input Voltage [V]

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% Power Factor	load 100% Power Factor
75	0.54	0.60
80	0.53	0.59
85	0.52	0.57
90	0.51	0.56
100	0.49	0.54
110	0.48	0.53
120	0.47	0.51
132	0.46	0.50
140	0.45	0.49

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Model		MMC8A-3	
Item		Hold-Up Time 出力保持時間	
Object		+5.0V1.2A	

1. Graph

—△—

Load 50%

- -□- -

Load 100%

[mS]

1000

100

10

1

Hold-Up Time

0

80

90

100

110

120

130

140

150

Input Voltage

[V]

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。

Temperature	25℃
Testing Circuitry	Figure A

2. Values

Input Voltage [V]	Load 50%	Load 100%
	Hold-Up Time [mS]	Hold-Up Time [mS]
75	50	28
80	58	33
85	66	38
90	75	44
100	94	56
110	116	70
120	138	86
132	168	106
140	189	120

2. Values

Input Voltage [V]	Load 50% Hold-Up Time [mS]	Load 100% Hold-Up Time [mS]
75	50	28
80	58	33
85	66	38
90	75	44
100	94	56
110	116	70
120	138	86
132	168	106
140	189	120

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Model		MMC8A-3	
Item		Hold-Up Time 出力保持時間	
Object		+12.0V0.1A	

1. Graph

—△— Load 50%

---□--- Load 100%

[mS]

1000

100

10

1

0 80 90 100 110 120 130 140 150

Input Voltage [V]

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。

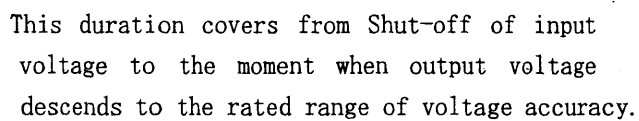
2. Values

Input Voltage [V]	Load 50%	Load 100%
	Hold-Up Time [mS]	Hold-Up Time [mS]
75	42	33
80	47	39
85	53	44
90	59	50
100	73	62
110	88	76
120	104	92
132	126	112
140	141	126

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Model		MMC8A-3		Temperature		25℃																																	
Item		Hold-Up Time 出力保持時間		Testing Circuitry		Figure A																																	
Object		-5.0V0.1A																																					
1. Graph				2. Values																																			
<div><div><div>—△—</div><div>Load 50%</div></div><div><div>- -□- -</div><div>Load 100%</div></div></div> <div><div>[mS]</div><div>1000</div><div>100</div><div>10</div><div>1</div><div>55</div><div>Hold-Up Time</div><div>0 80 90 100 110 120 130 140 150</div><div>Input Voltage</div><div>[V]</div></div>				<table><tr><th rowspan="2">Input Voltage [V]</th><th>Load 50%</th><th>Load 100%</th></tr><tr><th>Hold-Up Time [mS]</th><th>Hold-Up Time [mS]</th></tr><tr><td>75</td><td>35</td><td>32</td></tr><tr><td>80</td><td>41</td><td>37</td></tr><tr><td>85</td><td>46</td><td>42</td></tr><tr><td>90</td><td>53</td><td>48</td></tr><tr><td>100</td><td>66</td><td>61</td></tr><tr><td>110</td><td>80</td><td>75</td></tr><tr><td>120</td><td>97</td><td>90</td></tr><tr><td>132</td><td>118</td><td>110</td></tr><tr><td>140</td><td>133</td><td>125</td></tr></table>				Input Voltage [V]	Load 50%	Load 100%	Hold-Up Time [mS]	Hold-Up Time [mS]	75	35	32	80	41	37	85	46	42	90	53	48	100	66	61	110	80	75	120	97	90	132	118	110	140	133	125
Input Voltage [V]	Load 50%	Load 100%																																					
	Hold-Up Time [mS]	Hold-Up Time [mS]																																					
75	35	32																																					
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100	66	61																																					
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<p>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.</p> <p>Note: Slanted line shows the range of the rated input voltage.</p> <p>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。</p> <p>(注)斜線は定格入力電圧範囲を示す。</p>																																							

1. Graph		Input Volt. 85V
		Input Volt. 100V
		Input Volt. 132V



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。

Testing Circuitry Figure A

Load Current [A]	Input Volt.	Input Volt.	Input Volt.
	85[V]	100[V]	132[V]
	Time [mS]		
0.0	—	—	—
0.20	103	143	227
0.40	77	110	177
0.60	61	89	144
0.80	48	72	127
1.00	40	60	115
1.20	31	51	94
1.32	28	45	78
—	—	—	—
—	—	—	—
—	—	—	—

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Model		MMC8A-3	
Item		Instantaneous Interruption Compensation 瞬時停電保障	
Object		+12.0V0.1A	

1. Graph

—△—

Input Volt. 85V

- -□- -

Input Volt. 100V

- -○- -

Input Volt. 132V

[mS]

1000

100

10

1

Instantaneous Compensation Time

0

0.02

0.04

0.06

0.08

0.1

0.12

Load Current

[A]

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	—	—	—
0.02	97	120	177
0.04	55	75	130
0.06	47	65	118
0.08	43	62	112
0.10	40	59	107
0.11	38	57	105
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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Model	MMC8A-3
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	-5.0V0.1A

Testing Circuitry Figure A

1. Graph

—△—

Input Volt. 85V

- -□- -

Input Volt. 100V

- -○- -

Input Volt. 132V

[mS]

1000

Instantaneous Compensation Time

100

10

1

0.02

0.04

0.06

0.08

0.1

0.12

Load Current

[A]

2. Values

Load Current [A]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Time [mS]		
0.0	—	—	—
0.02	48	68	120
0.04	45	64	115
0.06	44	62	112
0.08	42	60	109
0.10	40	57	107
0.11	39	55	104
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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。

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Model		MMC8A-3		Temperature		25℃																																																								
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Object		+5.0V1.2A																																																												
1. Graph		<div><div>—△—</div>Input Volt. 85 V</div> <div><div>- -□- -</div>Input Volt. 100 V</div> <div><div>- -○- -</div>Input Volt. 132 V</div>		2. Values																																																										
<div><div><div>Output Voltage</div><div>[V]</div><div><div></div><div>5.210</div><div>5.170</div><div>5.130</div><div>5.090</div><div>5.050</div><div>5.010</div><div>4.970</div><div>0</div></div></div><div><div></div><div>0</div><div>0.5</div><div>1</div><div>1.5</div><div>Load Current</div><div>[A]</div></div></div>				<table><tr><th rowspan="2">Load Current</th><th>Input Volt.</th><th>Input Volt.</th><th>Input Volt.</th></tr><tr><th>85[V]</th><th>100[V]</th><th>132[V]</th></tr><tr><th>Output</th><th>Output</th><th>Output</th><th>Output</th></tr><tr><th>[A]</th><th>Volt. [V]</th><th>Volt. [V]</th><th>Volt. [V]</th></tr><tr><td>0.00</td><td>5.076</td><td>5.076</td><td>5.076</td></tr><tr><td>0.20</td><td>5.075</td><td>5.075</td><td>5.075</td></tr><tr><td>0.40</td><td>5.073</td><td>5.073</td><td>5.073</td></tr><tr><td>0.60</td><td>5.072</td><td>5.072</td><td>5.072</td></tr><tr><td>0.80</td><td>5.071</td><td>5.070</td><td>5.071</td></tr><tr><td>1.00</td><td>5.069</td><td>5.069</td><td>5.069</td></tr><tr><td>1.20</td><td>5.068</td><td>5.068</td><td>5.068</td></tr><tr><td>1.20</td><td>5.068</td><td>5.068</td><td>5.068</td></tr><tr><td>1.32</td><td>5.067</td><td>5.067</td><td>5.067</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr></table>				Load Current	Input Volt.	Input Volt.	Input Volt.	85[V]	100[V]	132[V]	Output	Output	Output	Output	[A]	Volt. [V]	Volt. [V]	Volt. [V]	0.00	5.076	5.076	5.076	0.20	5.075	5.075	5.075	0.40	5.073	5.073	5.073	0.60	5.072	5.072	5.072	0.80	5.071	5.070	5.071	1.00	5.069	5.069	5.069	1.20	5.068	5.068	5.068	1.20	5.068	5.068	5.068	1.32	5.067	5.067	5.067	—	—	—	—
Load Current	Input Volt.	Input Volt.	Input Volt.																																																											
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1.00	5.069	5.069	5.069																																																											
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<div><div><div>Output Voltage</div><div>[V]</div><div><div></div><div>12.26</div><div>12.16</div><div>12.06</div><div>11.96</div><div>11.86</div><div>11.76</div><div>11.66</div><div>0</div></div></div><div><div></div><div>0</div><div>0.02</div><div>0.04</div><div>0.06</div><div>0.08</div><div>0.1</div><div>0.12</div><div>Load Current</div><div>[A]</div></div></div>				<table><tr><th rowspan="2">Load Current</th><th>Input Volt.</th><th>Input Volt.</th><th>Input Volt.</th></tr><tr><th>85[V]</th><th>100[V]</th><th>132[V]</th></tr><tr><th>Output</th><th>Output</th><th>Output</th><th>Output</th></tr><tr><th>[A]</th><th>Volt. [V]</th><th>Volt. [V]</th><th>Volt. [V]</th></tr><tr><td>0.00</td><td>11.911</td><td>11.911</td><td>11.911</td></tr><tr><td>0.02</td><td>11.910</td><td>11.910</td><td>11.910</td></tr><tr><td>0.04</td><td>11.910</td><td>11.910</td><td>11.910</td></tr><tr><td>0.06</td><td>11.911</td><td>11.911</td><td>11.911</td></tr><tr><td>0.08</td><td>11.912</td><td>11.912</td><td>11.912</td></tr><tr><td>0.10</td><td>11.913</td><td>11.913</td><td>11.913</td></tr><tr><td>0.11</td><td>11.913</td><td>11.913</td><td>11.913</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	Input Volt.	Input Volt.	Input Volt.	85[V]	100[V]	132[V]	Output	Output	Output	Output	[A]	Volt. [V]	Volt. [V]	Volt. [V]	0.00	11.911	11.911	11.911	0.02	11.910	11.910	11.910	0.04	11.910	11.910	11.910	0.06	11.911	11.911	11.911	0.08	11.912	11.912	11.912	0.10	11.913	11.913	11.913	0.11	11.913	11.913	11.913	—	—	—	—	—	—	—	—				
Load Current	Input Volt.	Input Volt.	Input Volt.																																																											
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0.08	11.912	11.912	11.912																																																											
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-11-

BC-3221

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Model		MMC8A-3		Temperature		25℃	
Item		Load Regulation 静的負荷変動		Testing Circuitry		Figure A	
Object		-5.0V0.1A					
1. Graph				2. Values			
<div><div><div>—△—</div><div>Input Volt. 85V</div></div><div><div>- - -□-</div><div>Input Volt. 100V</div></div><div><div>- - -○-</div><div>Input Volt. 132V</div></div></div> <div><div><div><div>[V]</div><div><div><div>-4.880</div><div>-4.920</div><div>-4.960</div><div>-5.000</div><div>-5.040</div><div>-5.080</div><div>-5.120</div><div>0</div></div><div><div>0</div><div>0.02</div><div>0.04</div><div>0.06</div><div>0.08</div><div>0.1</div><div>0.12</div></div></div><div><div>Output Voltage</div><div>Load Current</div><div>[A]</div></div></div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></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COSEL

Model		MMC8A-3	
Item		Ripple Voltage(by Load Current) リップル電圧(負荷電流特性)	
Object		+5.0V1.2A	

1. Graph

-----□----- Input Volt. 85V

-----△----- Input Volt. 132V

[mV]

150

125

100

75

50

25

0

Ripple Voltage

0

0.5

1

1.5

Load Current

[A]

Ripple Voltage is shown as p-p in the figure below.

Note: Slanted line shows the range of the rated load current.

リップル電圧は、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

T2: Due to Switching
スイッチング周期

Ripple [mVp-p]

T1

T2

Fig. Complex Ripple Wave Form

図 リップル波形詳細図

2.Values

Load Current [A]	Input Volt. 85 [V]	Input Volt. 132 [V]
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]
0.00	5	5
0.20	5	5
0.40	5	5
0.60	5	5
0.80	10	5
1.00	10	10
1.20	10	10
1.3	15	10
—	—	—
—	—	—
—	—	—

COSEL

Model		MMC8A-3	
Item		Ripple Voltage (by Load Current) リップル電圧 (負荷電流特性)	
Object		+12.0V 0.1A	

1. Graph

-----□----- Input Volt. 85V

-----△----- Input Volt. 132V

[mV]

150

125

100

75

50

25

0

0

0.02

0.04

0.06

0.08

0.1

0.12

Ripple Voltage

Load Current

[A]

Ripple Voltage is shown as p-p in the figure below.

Note: Slanted line shows the range of the rated load current.

リップル電圧は、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

T2: Due to Switching
スイッチング周期

Ripple [mVp-p]

T1

T2

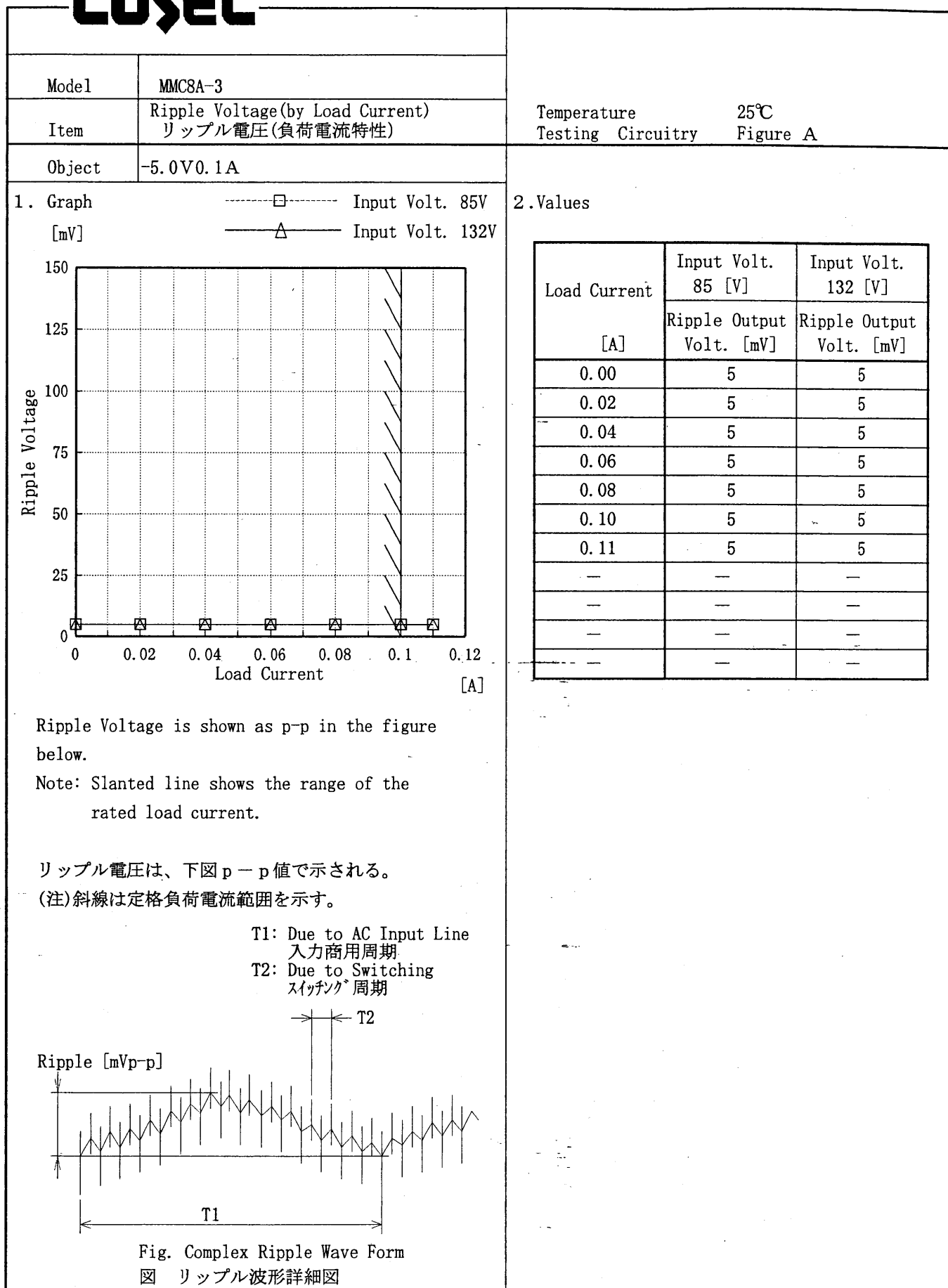
Fig. Complex Ripple Wave Form

図 リップル波形詳細図

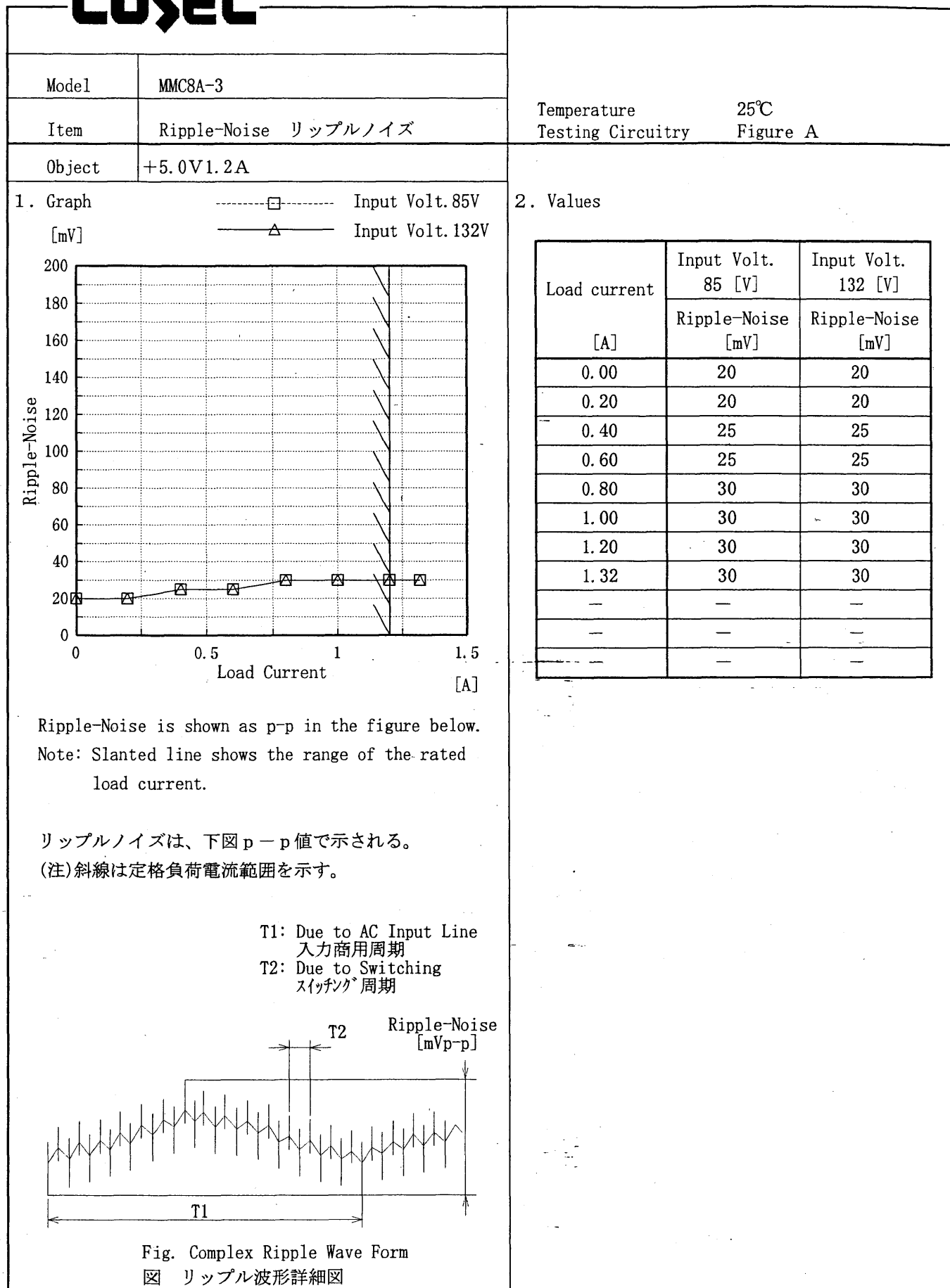
2. Values

Load Current [A]	Input Volt. 85 [V]	Input Volt. 132 [V]
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]
0.00	5	5
0.02	5	5
0.04	5	5
0.06	5	5
0.08	5	5
0.10	5	5
0.11	5	5
—	—	—
—	—	—
—	—	—
—	—	—

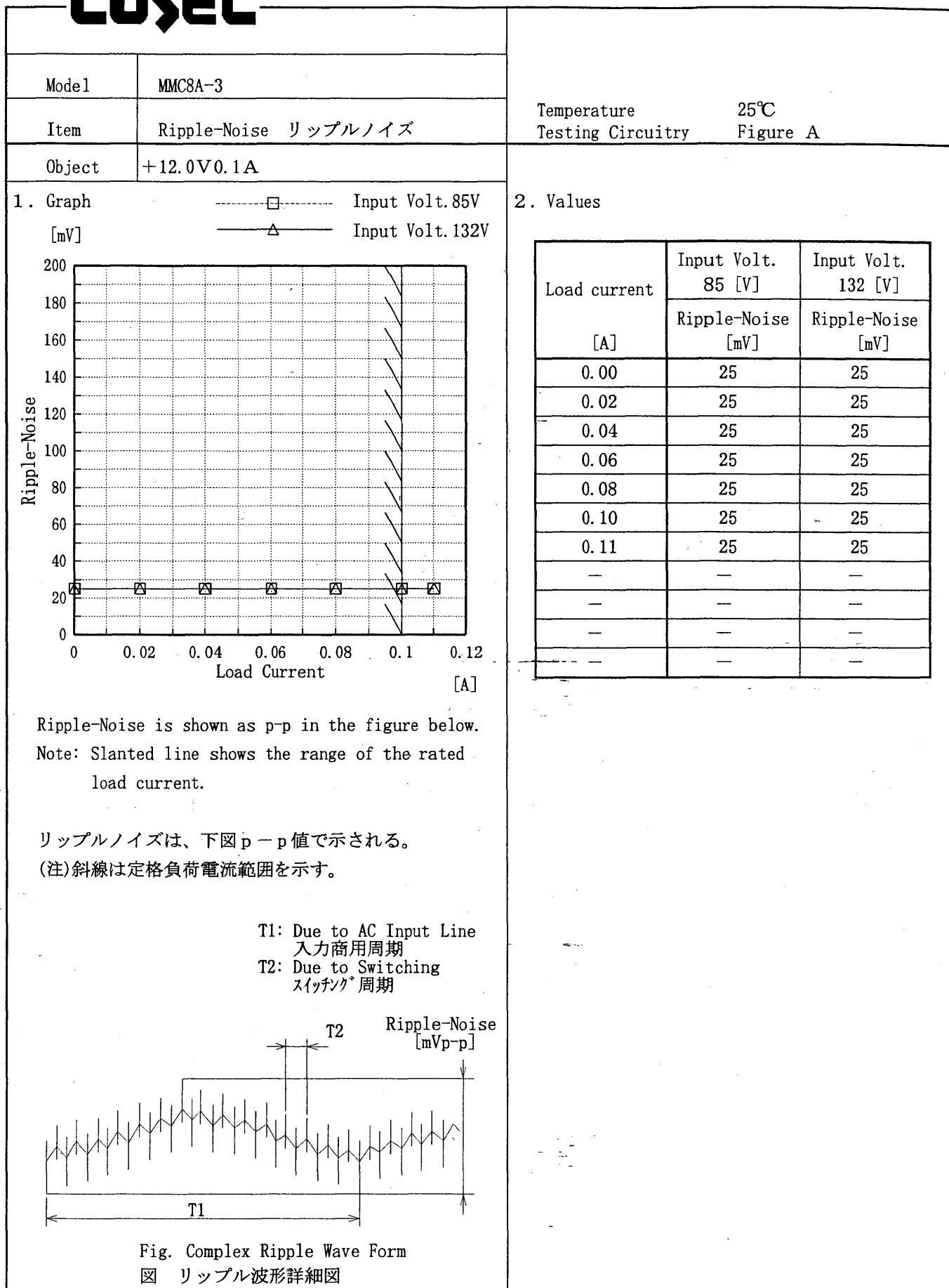
COSEL



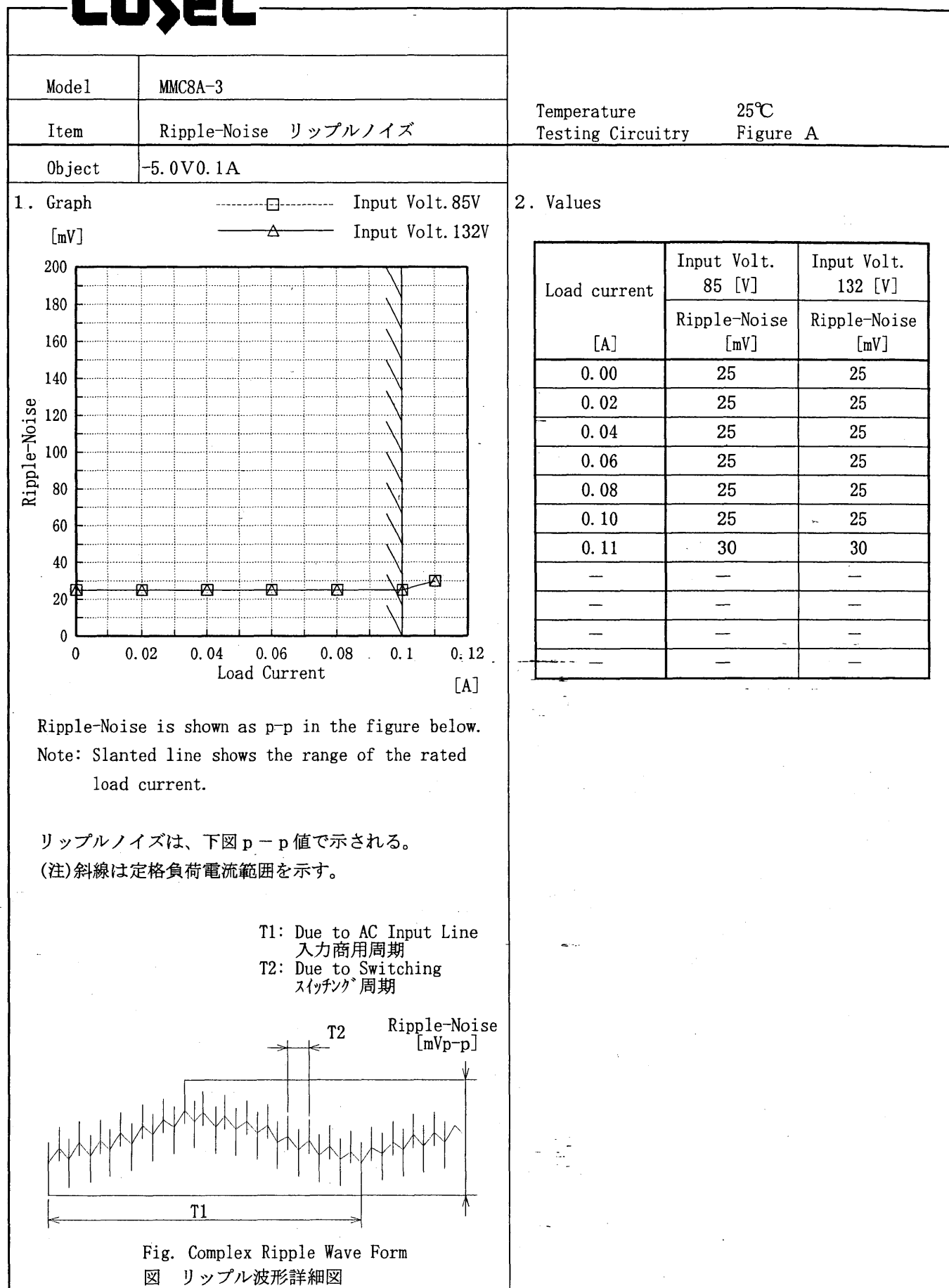
COSEL



COSEL



COSEL



COSEL

Model		MMC8A-3		Temperature		25℃																																																					
Item		Overcurrent Protection 過電流保護		Testing Circuitry		Figure A																																																					
Object		+5.0V 1.2A																																																									
1. Graph				2. Values																																																							
<div><div>Input Volt. 85.0 V</div><div>Input Volt. 100.0 V</div><div>Input Volt. 132.0 V</div></div> <p>Output Voltage [V]</p> <p>Load Current [A]</p>				<table><tr><th>Output Voltage [V]</th><th>Input Volt. 85.0[V] Load Current [A]</th><th>Input Volt. 100.0[V] Load Current [A]</th><th>Input Volt. 132.0[V] Load Current [A]</th></tr><tr><td>5.00</td><td>-</td><td>-</td><td>-</td></tr><tr><td>4.75</td><td>2.049</td><td>1.935</td><td>1.801</td></tr><tr><td>4.50</td><td>2.068</td><td>1.952</td><td>1.819</td></tr><tr><td>4.00</td><td>2.049</td><td>1.931</td><td>1.806</td></tr><tr><td>3.50</td><td>2.055</td><td>1.939</td><td>1.817</td></tr><tr><td>3.00</td><td>2.036</td><td>1.920</td><td>1.805</td></tr><tr><td>2.50</td><td>1.983</td><td>1.869</td><td>1.771</td></tr><tr><td>2.00</td><td>1.908</td><td>1.808</td><td>1.738</td></tr><tr><td>1.50</td><td>1.806</td><td>1.718</td><td>1.692</td></tr><tr><td>1.00</td><td>1.646</td><td>1.593</td><td>1.594</td></tr><tr><td>0.50</td><td>0.787</td><td>1.295</td><td>1.444</td></tr><tr><td>0.00</td><td>0.875</td><td>0.962</td><td>1.262</td></tr></table>				Output Voltage [V]	Input Volt. 85.0[V] Load Current [A]	Input Volt. 100.0[V] Load Current [A]	Input Volt. 132.0[V] Load Current [A]	5.00	-	-	-	4.75	2.049	1.935	1.801	4.50	2.068	1.952	1.819	4.00	2.049	1.931	1.806	3.50	2.055	1.939	1.817	3.00	2.036	1.920	1.805	2.50	1.983	1.869	1.771	2.00	1.908	1.808	1.738	1.50	1.806	1.718	1.692	1.00	1.646	1.593	1.594	0.50	0.787	1.295	1.444	0.00	0.875	0.962	1.262
Output Voltage [V]	Input Volt. 85.0[V] Load Current [A]	Input Volt. 100.0[V] Load Current [A]	Input Volt. 132.0[V] Load Current [A]																																																								
5.00	-	-	-																																																								
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4.50	2.068	1.952	1.819																																																								
4.00	2.049	1.931	1.806																																																								
3.50	2.055	1.939	1.817																																																								
3.00	2.036	1.920	1.805																																																								
2.50	1.983	1.869	1.771																																																								
2.00	1.908	1.808	1.738																																																								
1.50	1.806	1.718	1.692																																																								
1.00	1.646	1.593	1.594																																																								
0.50	0.787	1.295	1.444																																																								
0.00	0.875	0.962	1.262																																																								
Object		+12.0V 0.1A																																																									
1. Graph				2. Values																																																							
<div><div>Input Volt. 85.0 V</div><div>Input Volt. 100.0 V</div><div>Input Volt. 132.0 V</div></div> <p>Output Voltage [V]</p> <p>Load Current [A]</p>				<table><tr><th>Output Voltage [V]</th><th>Input Volt. 85.0[V] Load Current [A]</th><th>Input Volt. 100.0[V] Load Current [A]</th><th>Input Volt. 132.0[V] Load Current [A]</th></tr><tr><td>12.00</td><td>-</td><td>-</td><td>-</td></tr><tr><td>11.40</td><td>0.435</td><td>0.399</td><td>0.356</td></tr><tr><td>10.80</td><td>0.436</td><td>0.409</td><td>0.369</td></tr><tr><td>9.60</td><td>0.359</td><td>0.386</td><td>0.393</td></tr><tr><td>8.40</td><td>0.322</td><td>0.320</td><td>0.394</td></tr><tr><td>7.20</td><td>0.306</td><td>0.303</td><td>0.331</td></tr><tr><td>6.00</td><td>0.288</td><td>0.285</td><td>0.306</td></tr><tr><td>4.80</td><td>0.258</td><td>0.257</td><td>0.266</td></tr><tr><td>3.60</td><td>0.228</td><td>0.228</td><td>0.238</td></tr><tr><td>2.40</td><td>0.205</td><td>0.203</td><td>0.208</td></tr><tr><td>1.20</td><td>0.185</td><td>0.185</td><td>0.186</td></tr><tr><td>0.00</td><td>0.170</td><td>0.169</td><td>0.171</td></tr></table>				Output Voltage [V]	Input Volt. 85.0[V] Load Current [A]	Input Volt. 100.0[V] Load Current [A]	Input Volt. 132.0[V] Load Current [A]	12.00	-	-	-	11.40	0.435	0.399	0.356	10.80	0.436	0.409	0.369	9.60	0.359	0.386	0.393	8.40	0.322	0.320	0.394	7.20	0.306	0.303	0.331	6.00	0.288	0.285	0.306	4.80	0.258	0.257	0.266	3.60	0.228	0.228	0.238	2.40	0.205	0.203	0.208	1.20	0.185	0.185	0.186	0.00	0.170	0.169	0.171
Output Voltage [V]	Input Volt. 85.0[V] Load Current [A]	Input Volt. 100.0[V] Load Current [A]	Input Volt. 132.0[V] Load Current [A]																																																								
12.00	-	-	-																																																								
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Note: Slanted line shows the range of the rated load current.																																																											
(注) 斜線は定格負荷電流範囲を示す。																																																											

COSEL

Model		MMC8A-3		Temperature25℃ Testing CircuitryFigure A
Item		Overcurrent Protection 過電流保護		
Object		-5.0V0.1A		

1. Graph

[V]

-8.0

-6.0

-4.0

-2.0

-0.0

Output Voltage

0

0.1

0.2

0.3

0.4

0.5

Load Current

[A]

Input Volt. 85 V

Input Volt. 100 V

Input Volt. 132 V

Note: Slanted line shows the range of the rated load current.

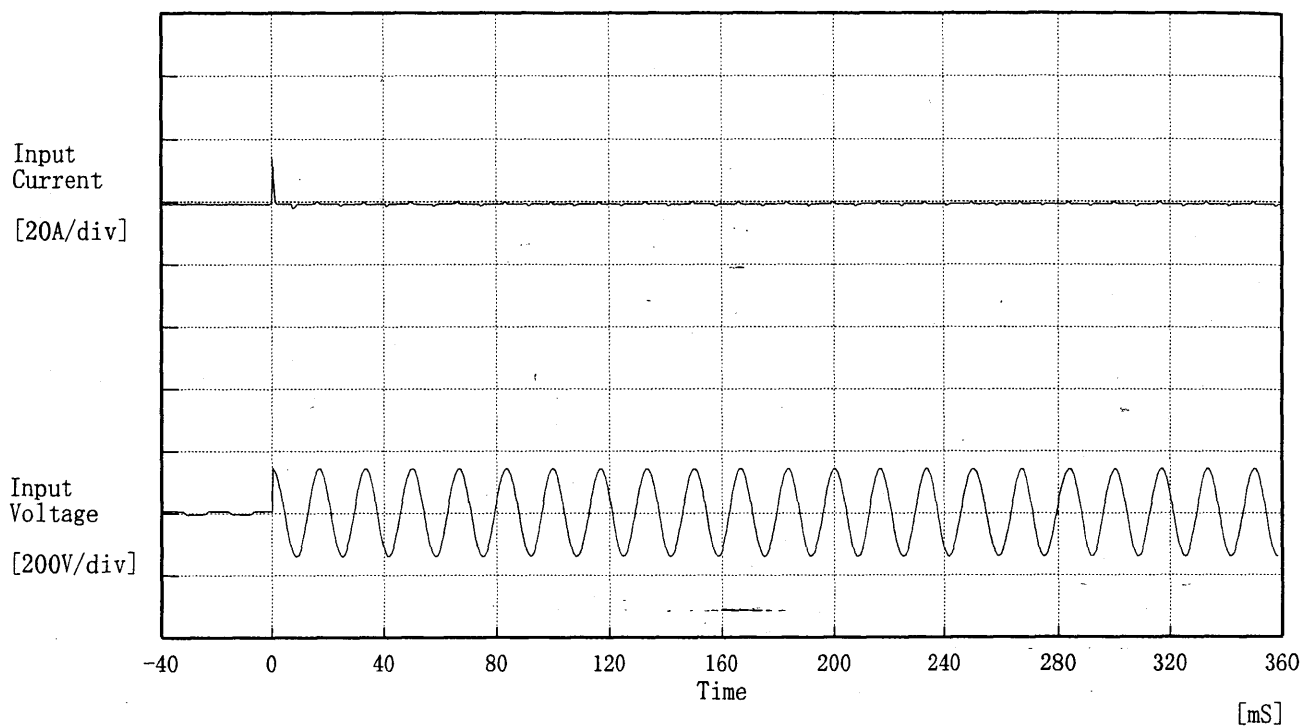
(注)斜線は定格負荷電流範囲を示す。

2. Values

Output Voltage [V]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Load Current [A]	Load Current [A]	Load Current [A]
-5.00	-	-	-
-4.75	0.39	0.38	0.39
-4.50	0.37	0.37	0.37
-4.00	0.34	0.33	0.33
-3.50	0.32	0.31	0.31
-3.00	0.30	0.30	0.30
-2.50	0.30	0.30	0.30
-2.00	0.29	0.29	0.29
-1.50	0.29	0.29	0.29
-1.00	0.28	0.28	0.28
-0.50	0.28	0.28	0.28
0.00	0.27	0.27	0.27

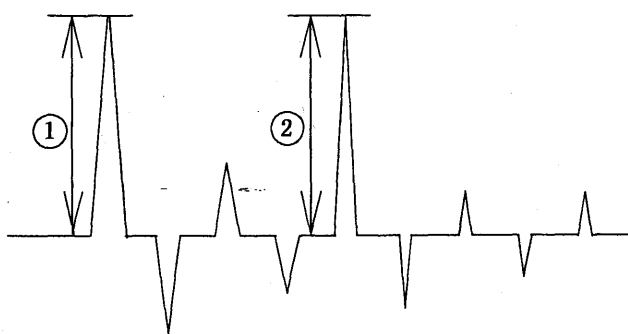
COSEL

Model	MMC8A-3	Temperature 25℃ Testing Circuitry Figure A
Item	Inrush Current 突入電流	
Object	_____	



Input Voltage 100 V
 Frequency 60 Hz
 Load 100 %
 Inrush Current

- ① 13.48 [A]
 ② 1.46 [A]



COSEL

Model	MMC8A-3	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response 動的負荷変動	
Object	+5.0V 1.2A	

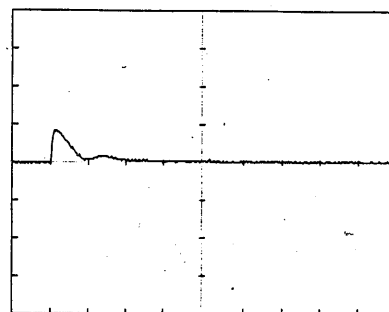
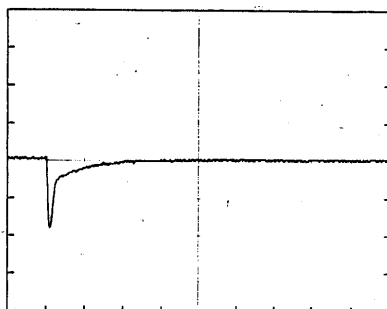
Input Volt. 100 V

Cycle 200 mS

Load Current

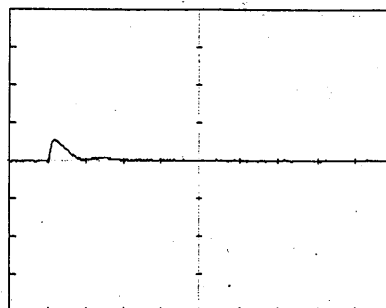
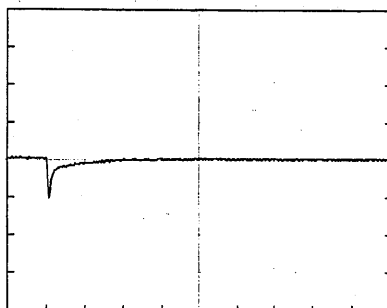
Load 0% ↔

Load 100 %



Load 0% ↔

Load 50 %



200 mV/div

10 mS/div

COSEL

Model	MMC8A-3	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response 動的負荷変動	
Object	+12.0V0.1A	

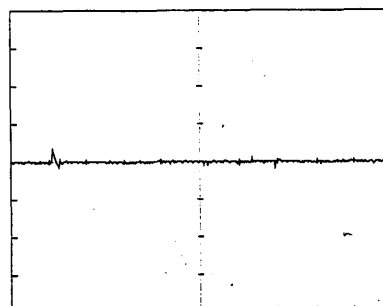
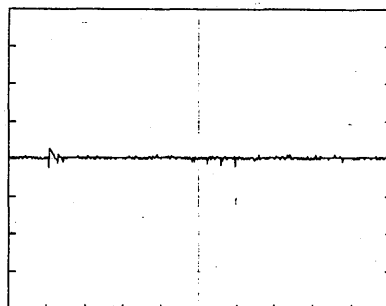
Input Volt. 100 V

Cycle 200 mS

Load Current

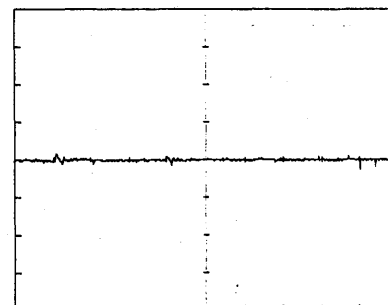
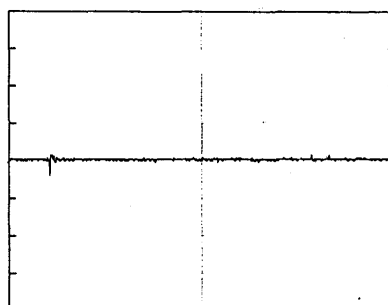
Load 0% ↔

Load 100 %



Load 0% ↔

Load 50 %



100 mV/div

10 mS/div

COSEL

Model	MMC8A-3	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Response 動的負荷変動	
Object	-5.0V0.1A	

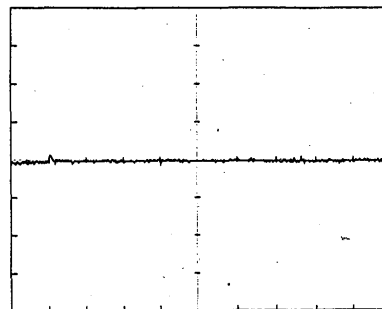
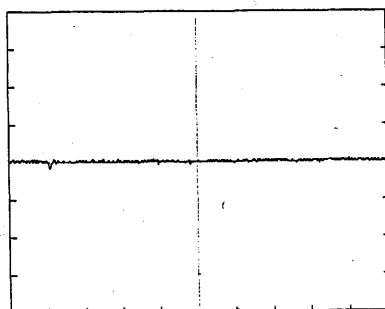
Input Volt. 100 V

Cycle 200 mS

Load Current

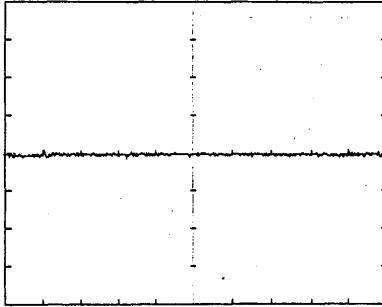
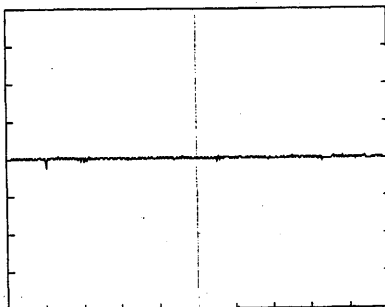
Load 0% ↔

Load 100 %



Load 0% ↔

Load 50 %



100 mV/div

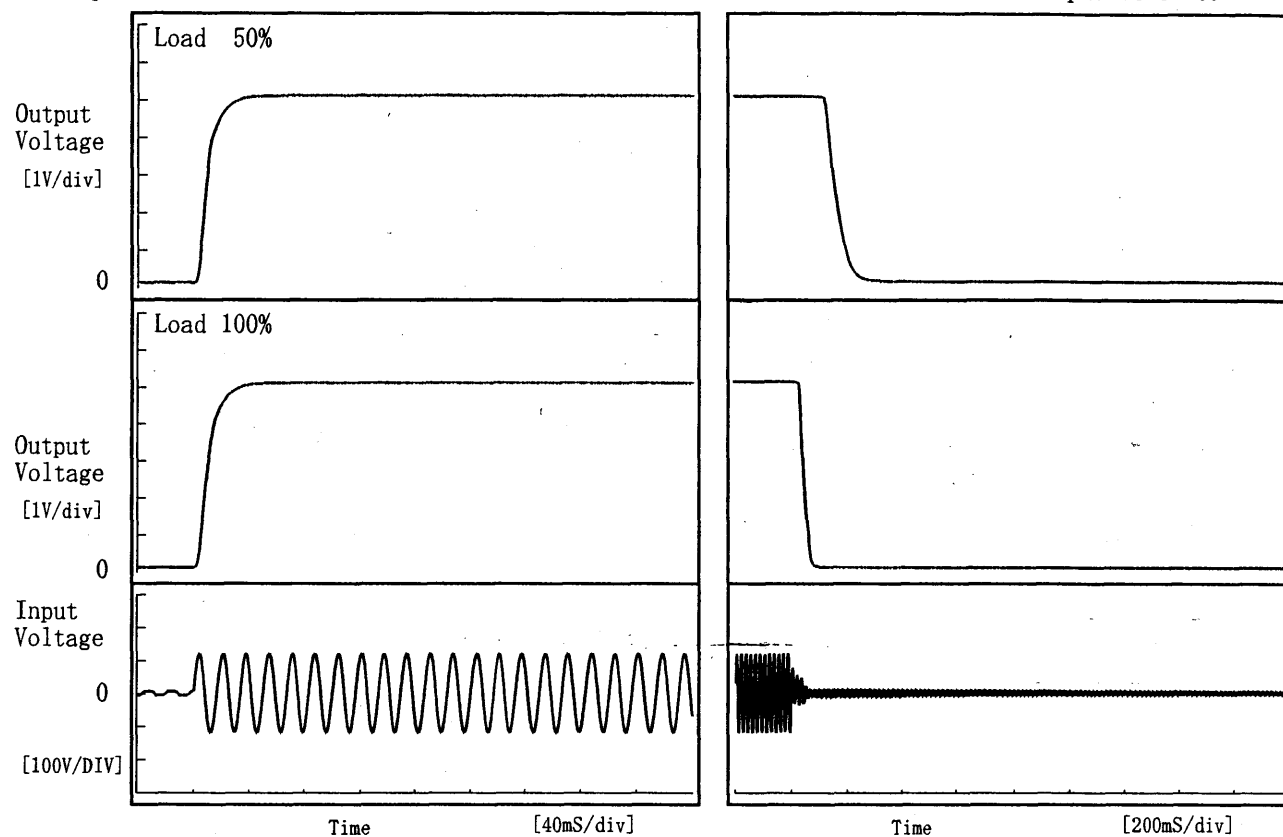
10 mS/div

COSEL

Model	MMC8A-3	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+5.0V1.2A		

1. Graph

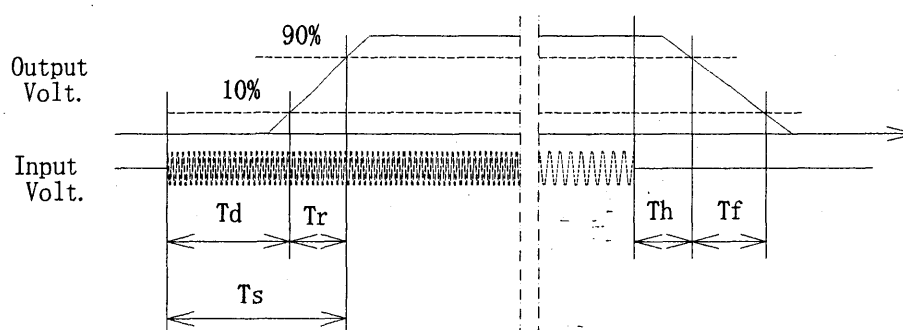
Input Volt. 85 V

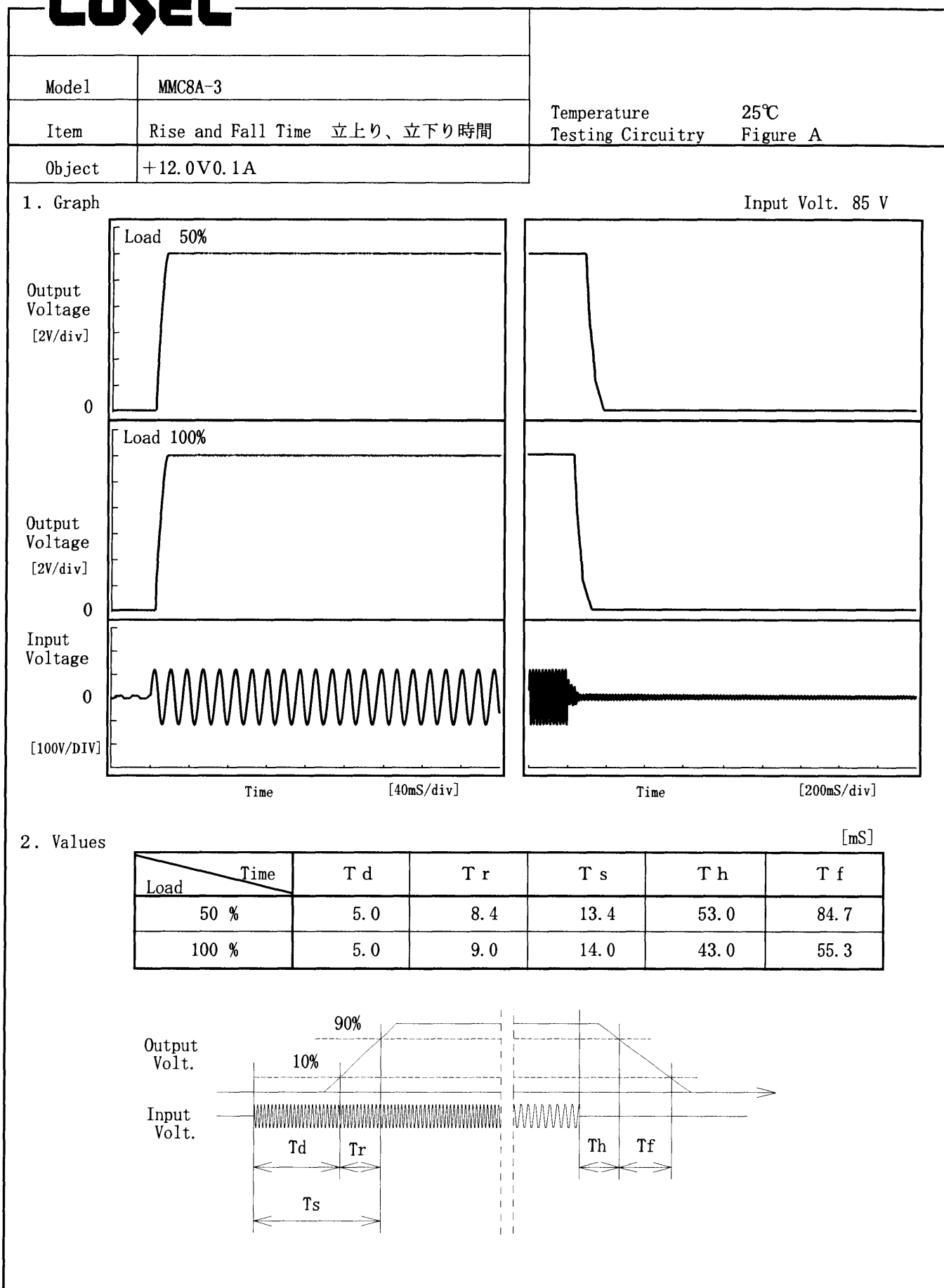


2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	3.2	15.0	18.2	66.0	46.5
100 %	3.6	16.0	19.6	37.0	36.0



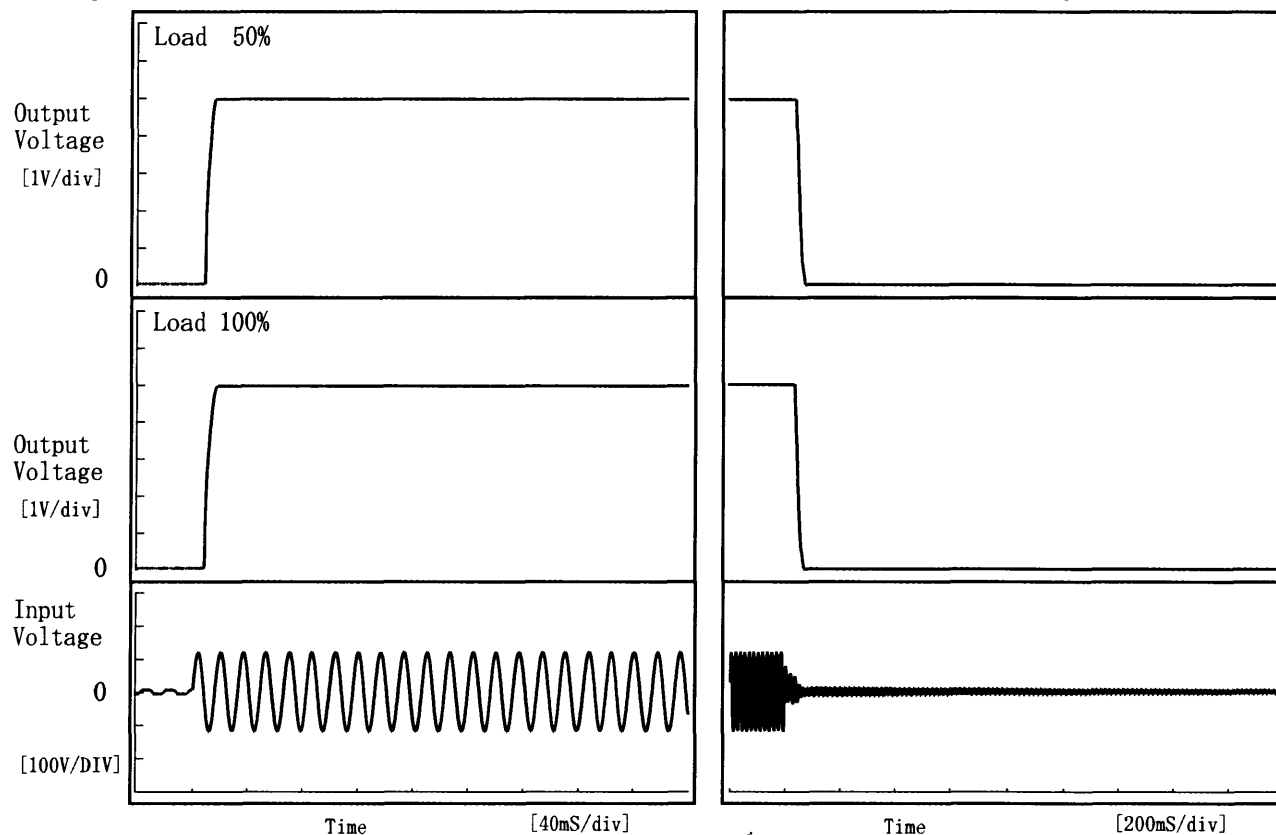
COSEL

COSEL

Model	MMC8A-3	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	-5.0V0.1A		

1. Graph

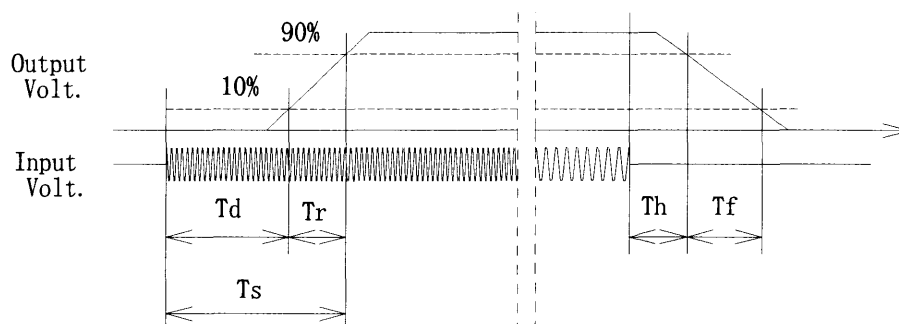
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	8.0	5.6	13.6	46.0	82.1
100 %	8.4	6.0	14.4	41.0	53.0



COSEL

Model		MMC8A-3																																																					
Item		Ambient Temperature Drift 周囲温度変動																																																					
Object		+5.0V1.2A																																																					
1. Graph		2. Values																																																					
<div><div>—△—</div><div>---□---</div><div>---○---</div></div> <div><div>Input Volt. 85.0V</div><div>Input Volt. 100.0V</div><div>Input Volt. 132.0V</div></div> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>		<table><tr><th>Temperature</th><th>Input Volt. 85.0[V]</th><th>Input Volt. 100.0[V]</th><th>Input Volt. 132.0[V]</th></tr><tr><th>[°C]</th><th>Output Volt. [V]</th><th>Output Volt. [V]</th><th>Output Volt. [V]</th></tr><tr><td>-20</td><td>5.073</td><td>5.073</td><td>5.073</td></tr><tr><td>-10</td><td>5.073</td><td>5.073</td><td>5.072</td></tr><tr><td>0</td><td>5.072</td><td>5.072</td><td>5.072</td></tr><tr><td>10</td><td>5.071</td><td>5.070</td><td>5.070</td></tr><tr><td>20</td><td>5.069</td><td>5.069</td><td>5.069</td></tr><tr><td>25</td><td>5.068</td><td>5.068</td><td>5.068</td></tr><tr><td>30</td><td>5.067</td><td>5.067</td><td>5.067</td></tr><tr><td>40</td><td>5.064</td><td>5.065</td><td>5.065</td></tr><tr><td>50</td><td>5.062</td><td>5.062</td><td>5.062</td></tr><tr><td>60</td><td>5.059</td><td>5.059</td><td>5.059</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr></table>		Temperature	Input Volt. 85.0[V]	Input Volt. 100.0[V]	Input Volt. 132.0[V]	[°C]	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]	-20	5.073	5.073	5.073	-10	5.073	5.073	5.072	0	5.072	5.072	5.072	10	5.071	5.070	5.070	20	5.069	5.069	5.069	25	5.068	5.068	5.068	30	5.067	5.067	5.067	40	5.064	5.065	5.065	50	5.062	5.062	5.062	60	5.059	5.059	5.059	—	—	—	—
Temperature	Input Volt. 85.0[V]	Input Volt. 100.0[V]	Input Volt. 132.0[V]																																																				
[°C]	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]																																																				
-20	5.073	5.073	5.073																																																				
-10	5.073	5.073	5.072																																																				
0	5.072	5.072	5.072																																																				
10	5.071	5.070	5.070																																																				
20	5.069	5.069	5.069																																																				
25	5.068	5.068	5.068																																																				
30	5.067	5.067	5.067																																																				
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Temperature	Input Volt. 85.0[V]	Input Volt. 100.0[V]	Input Volt. 132.0[V]																																																				
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-20	11.908	11.908	11.908																																																				
-10	11.910	11.910	11.910																																																				
0	11.911	11.911	11.911																																																				
10	11.912	11.912	11.911																																																				
20	11.913	11.913	11.913																																																				
25	11.913	11.913	11.913																																																				
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(注)斜線は定格周囲温度範囲を示す。																																																							

—28—

BC-3221

COSEL

Model		MMC8A-3	
Item		Ambient Temperature Drift 周囲温度変動	
Object		-5.0V0.1A	

1. Graph

△

Input Volt. 85V

□

Input Volt. 100V

○

Input Volt. 132V

Output Voltage [V]

-4.880

-4.920

-4.960

-5.000

-5.040

-5.080

-5.120

0

-30

-10

10

30

50

70

Ambient Temperature [°C]

Load 100%

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

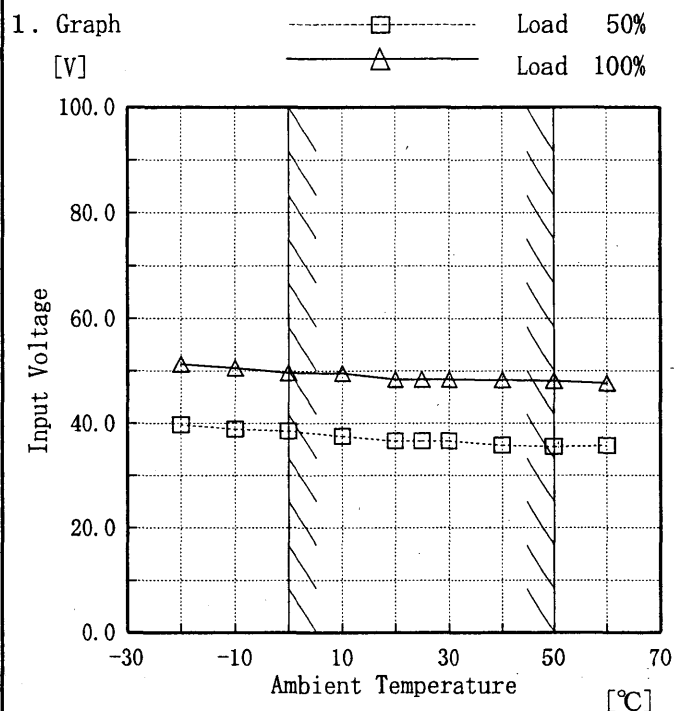
(注)斜線は定格周囲温度範囲を示す。

2. Values

Temperature	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
[°C]	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]
-20	-5.016	-5.015	-5.015
-10	-5.018	-5.018	-5.018
0	-5.020	-5.019	-5.019
10	-5.020	-5.020	-5.020
20	-5.021	-5.021	-5.021
25	-5.021	-5.021	-5.021
30	-5.021	-5.021	-5.021
40	-5.021	-5.021	-5.021
50	-5.020	-5.020	-5.020
60	-5.019	-5.019	-5.019
—	—	—	—

COSEL

Model	MMC8A-3
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+5.0V1.2A

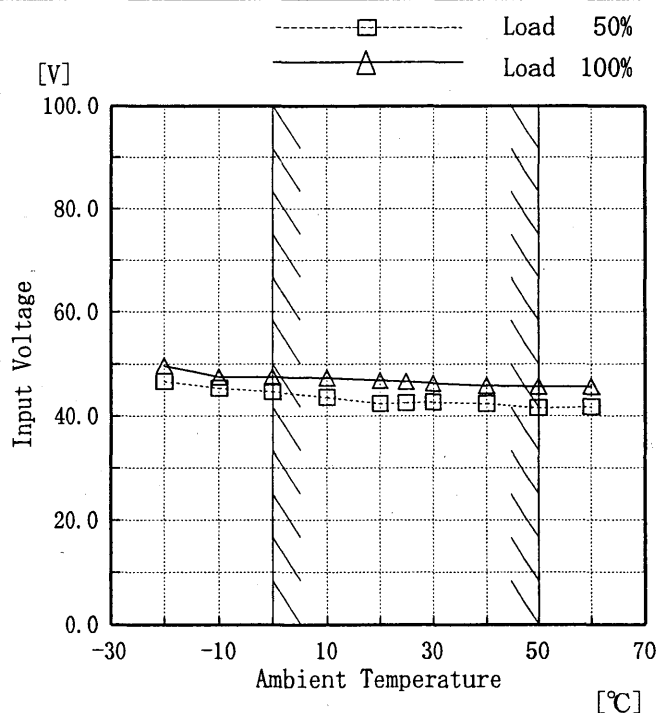


Testing Circuitry Figure A

2. Values

Ambient Temp. [°C]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]
-20	39.7	51.3
-10	38.9	50.5
0	38.5	49.6
10	37.6	49.5
20	36.6	48.4
25	36.6	48.4
30	36.6	48.4
40	35.8	48.3
50	35.6	48.1
60	35.7	47.6
—	—	—

Object	+12.0V0.1A
--------	------------



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

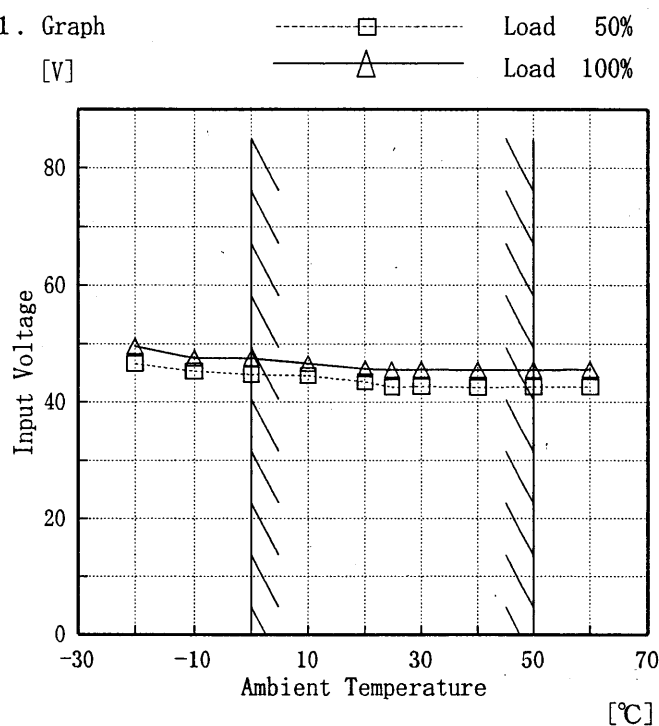
Ambient Temp. [°C]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]
-20	46.6	49.6
-10	45.3	47.5
0	44.7	47.5
10	43.6	47.3
20	42.4	46.8
25	42.6	46.6
30	42.7	46.3
40	42.4	45.8
50	41.6	45.6
60	41.7	45.6
—	—	—

COSEL

Model	MMC8A-3
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	-5.0V0.1A

Testing Circuitry Figure A

1. Graph



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% Input Volt. [V]	Load 100% Input Volt. [V]
-20	46.6	49.6
-10	45.3	47.5
0	44.7	47.5
10	44.6	46.6
20	43.5	45.7
25	42.6	45.6
30	42.7	45.6
40	42.5	45.5
50	42.6	45.5
60	42.6	45.6
—	—	—

COSEL

Model		MMC8A-3	
Item		Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)	
Object		+5.0V1.2A	
1. Graph		2. Values	

COSEL

Model		MMC8A-3	
Item		Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)	
Object		-5.0V0.1A	

1. Graph

-----□----- Load 50%

-----△----- Load 100%

[mV]

150

125

100

75

50

25

0

Ripple Voltage

-30

-10

10

30

50

70

Ambient Temperature

[°C]

Input Volt. 85 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。

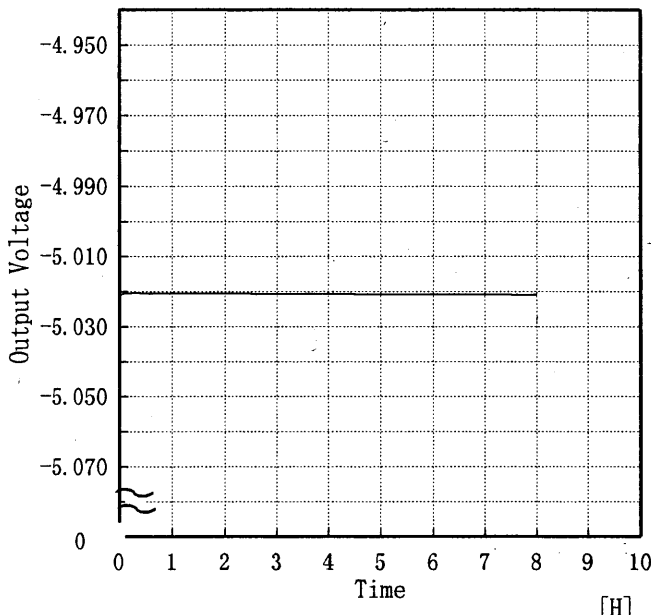
2. Values

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

COSEL

COSEL	
Model	MMC8A-3
Item	Time Lapse Drift 経時ドリフト
Object	+5.0V1.2A
1. Graph	
<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

COSEL																									
Model	MMC8A-3																								
Item	Time Lapse Drift 経時ドリフト																								
Object	-5.0V0.1A																								
1. Graph		2.Values																							
<div>[V]</div> <div></div> <div>Input Volt. 100V</div> <div>Load 100%</div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>-5.020</td></tr><tr><td>0.5</td><td>-5.021</td></tr><tr><td>1.0</td><td>-5.021</td></tr><tr><td>2.0</td><td>-5.021</td></tr><tr><td>3.0</td><td>-5.021</td></tr><tr><td>4.0</td><td>-5.021</td></tr><tr><td>5.0</td><td>-5.021</td></tr><tr><td>6.0</td><td>-5.021</td></tr><tr><td>7.0</td><td>-5.021</td></tr><tr><td>8.0</td><td>-5.021</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	-5.020	0.5	-5.021	1.0	-5.021	2.0	-5.021	3.0	-5.021	4.0	-5.021	5.0	-5.021	6.0	-5.021	7.0	-5.021	8.0	-5.021
Time since start [H]	Output Voltage [V]																								
0.0	-5.020																								
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6.0	-5.021																								
7.0	-5.021																								
8.0	-5.021																								

COSEL

Model	MMC8A-3	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 : 85.0~132.0 V

Load Current (AVR 1) : 0.00~0.10 , (AVR 2) : 0.00~0.10 A (AVR 3) : 0.00~0.10 A

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

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

定電圧精度

周囲温度、入力電圧、負荷を下記仕様内で、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 85.0~132.0 V

負荷電流 (AVR 1) 0.00~0.10 A (AVR 2) : 0.00~0.10 A (AVR 3) : 0.00~0.10 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	-5.0V0.10A					
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	0.000	5.080	±10	±0.1
Minimum Voltage	50	132.0	1.200	5.061		

Object	+12V0.10A					
Item	Temperature [°C]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration) [%]
Maximum Voltage	25	85.0	0.10	11.913	±5	±0.1
Minimum Voltage	0	85.0	0.00	11.903		

Object	-5V0.10A					
Item	Temperature [°C]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration) [%]
Maximum Voltage	25	100.0	0.10	-5.021	±3	±0.1
Minimum Voltage	0	132.0	0.00	-5.015		

COSEL

LOVEL

		Testing Circuitry Figure A
Model	MMC8A-3	
Item	Condensation 結露特性	
Object	+5.0V1.2A	

1. Condensation test

Testing procedure is as follows.

① Keeping and cooling the unit in a tank at -10℃ 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℃ 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、その電气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]	5.067	Input Volt.: 100V, Load Current:1.2A
Line Regulation [mV]	1	Input Volt.: 85~132V, Load Current:1.2A
Load Regulation [mV]	8	Input Volt.: 100V, Load Current:0.0~1.2A

COSEL

LOREL

		Testing Circuitry	Figure A
Model	MMC8A-3		
Item	Condensation 結露特性		
Object	+12.0V0.1A		

1. Condensation test

Testing procedure is as follows.

① Keeping and cooling the unit in a tank at -10℃ 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℃ 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]	11.913	Input Volt.: 100V, Load Current:0.1A
Line Regulation [mV]	1	Input Volt.: 85~132V, Load Current:0.1A
Load Regulation [mV]	3	Input Volt.: 100V, Load Current:0.0~0.1A

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COSEL

LOREL

Model	MMC8A-3														
Item	Condensation 結露特性	Testing Circuitry	Figure A												
Object	-5.0V0.1A														
<div>1. Condensation test</div> <div>Testing procedure is as follows.</div> <div>① Keeping and cooling the unit in a tank at -10℃ for an hour with the input off.</div> <div>② Taking it out of the tank and dewing itself in a room where the temperature is 25℃ and the humidity is 40%RH.</div> <div>③ Testing electrical characteristics of the unit to confirm there be no fault.</div>															
<div>1. 結露特性試験</div> <div>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。</div>															
<div>2. Values</div> <table><tr><td>Item</td><td>Data</td><td>Testing Conditions</td></tr><tr><td>Output Voltage [V]</td><td>-5.022</td><td>Input Volt.: 100V, Load Current:0.1A</td></tr><tr><td>Line Regulation [mV]</td><td>1</td><td>Input Volt.: 85~132V, Load Current:0.1A</td></tr><tr><td>Load Regulation [mV]</td><td>2</td><td>Input Volt.: 100V, Load Current:0.0~0.1A</td></tr></table>				Item	Data	Testing Conditions	Output Voltage [V]	-5.022	Input Volt.: 100V, Load Current:0.1A	Line Regulation [mV]	1	Input Volt.: 85~132V, Load Current:0.1A	Load Regulation [mV]	2	Input Volt.: 100V, Load Current:0.0~0.1A
Item	Data	Testing Conditions													
Output Voltage [V]	-5.022	Input Volt.: 100V, Load Current:0.1A													
Line Regulation [mV]	1	Input Volt.: 85~132V, Load Current:0.1A													
Load Regulation [mV]	2	Input Volt.: 100V, Load Current:0.0~0.1A													

COSEL

Model	MMC8A-3	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	0.10	0.12	0.13
(B) UL	0.11	0.12	0.14
(C) CSA	0.11	0.13	0.15

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 220 [V]	Input Volt. 264 [V]
(D) VDE	—	—	—

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。

COSEL

Model	MMC8A-3	Testing Circuitry	Figure D
Item	Conducted Emission 雑音端子電圧		
Object	_____		

1. Graph

Remarks

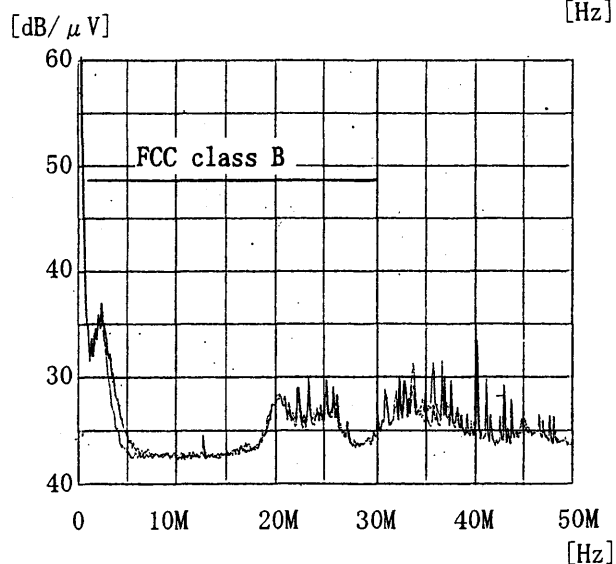
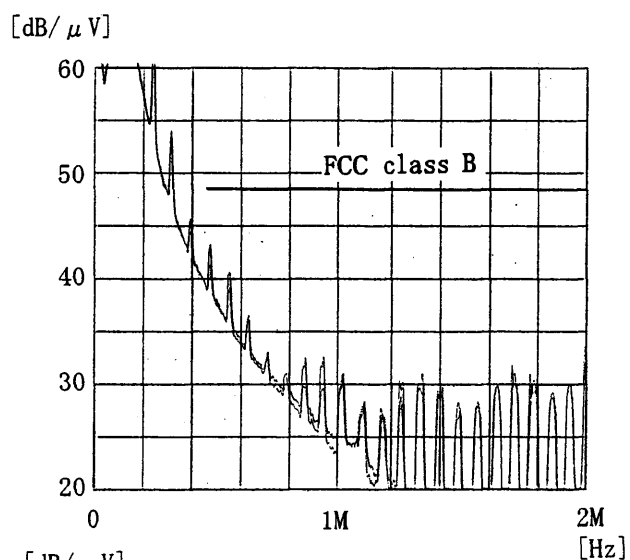
Input Volt. 120 V

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



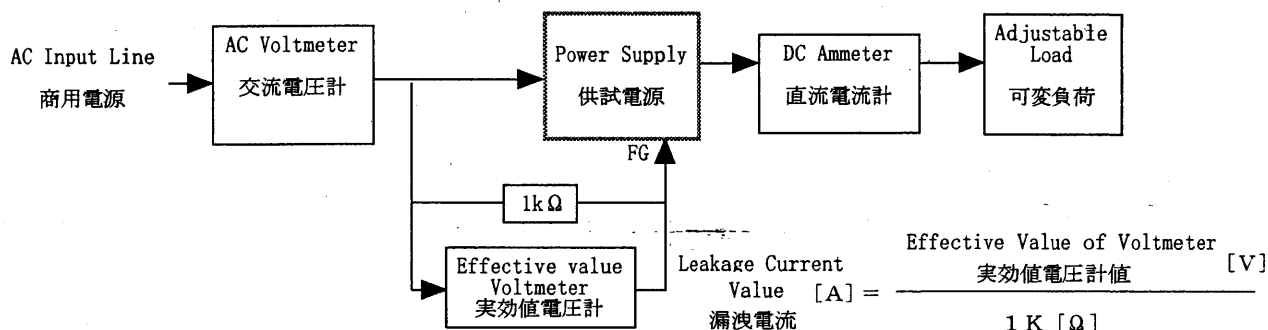
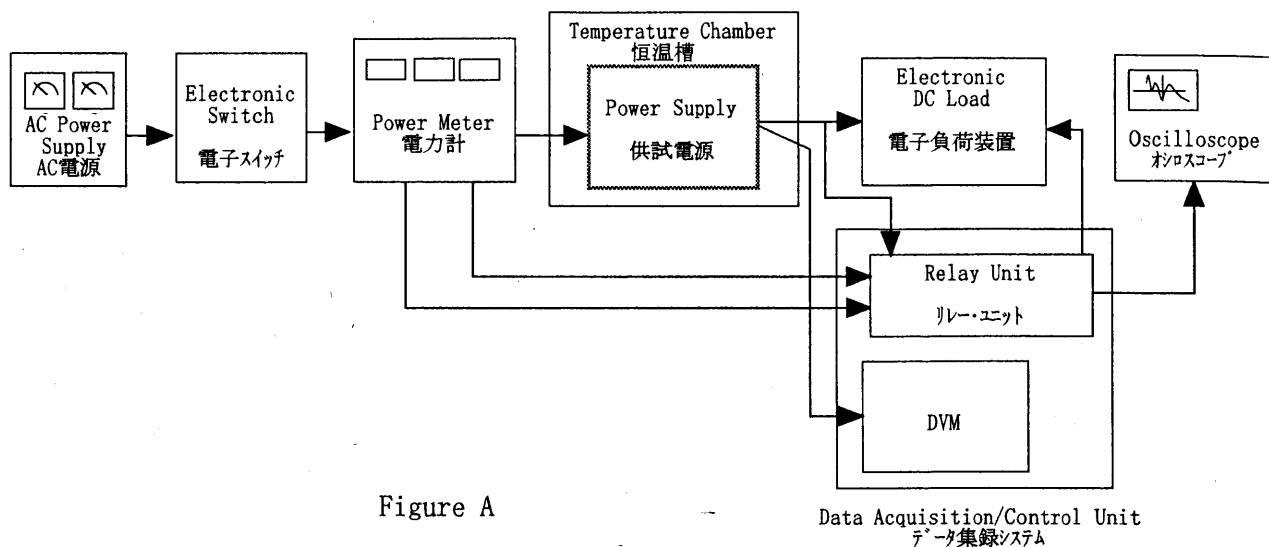


Figure B (DENTORI)

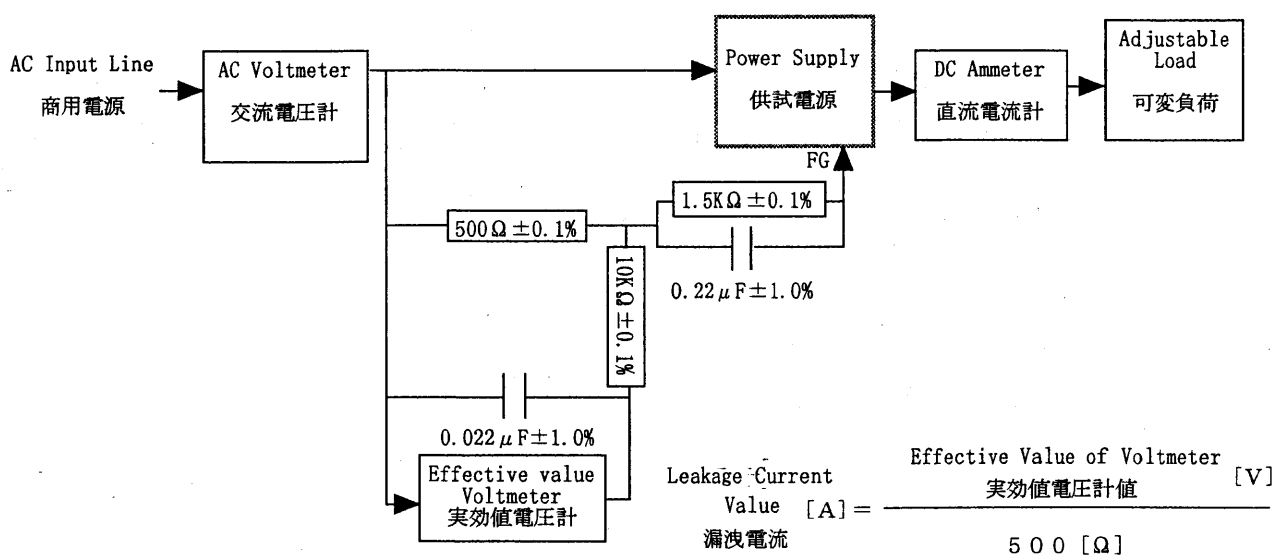


Figure B (UL, CSA, VDE)

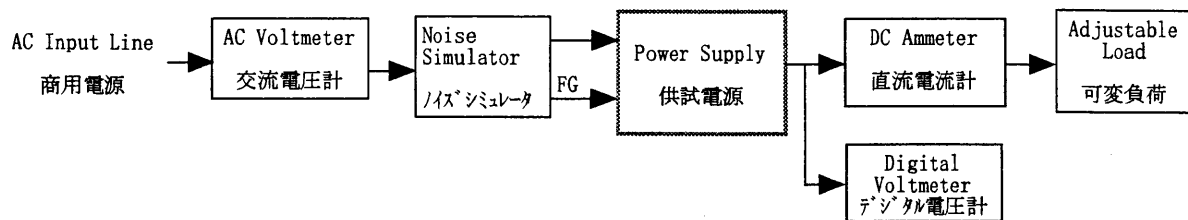


Figure C

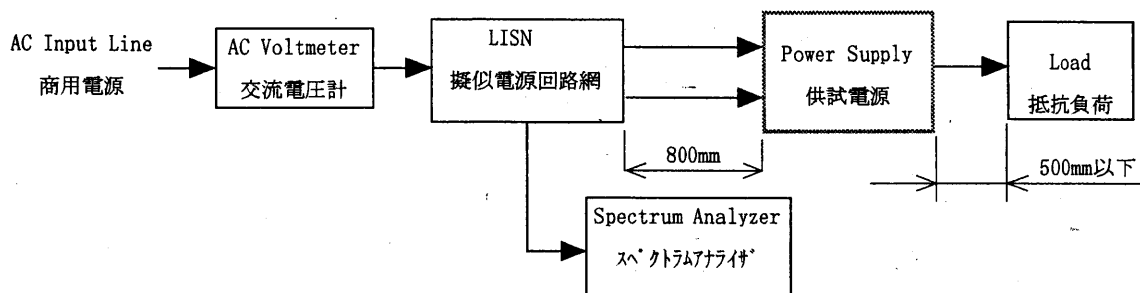


Figure D

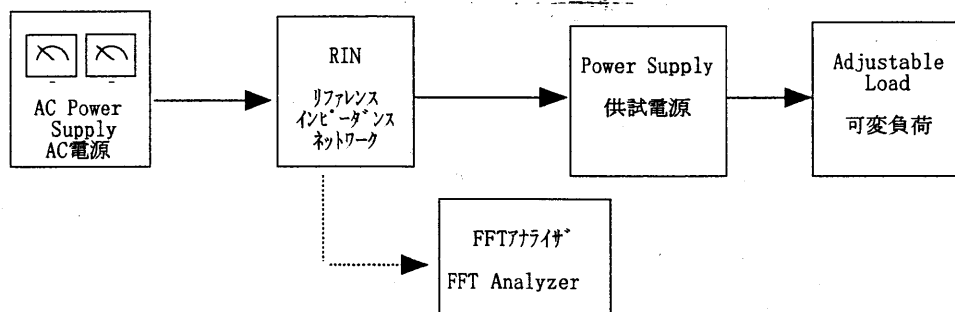


Figure E