参考資料

COSEL

TEST DATA OF MMC100A-2

(100V INPUT)

Regulated DC Power Supply

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コーセル株式会社

COSEL CO., LTD.

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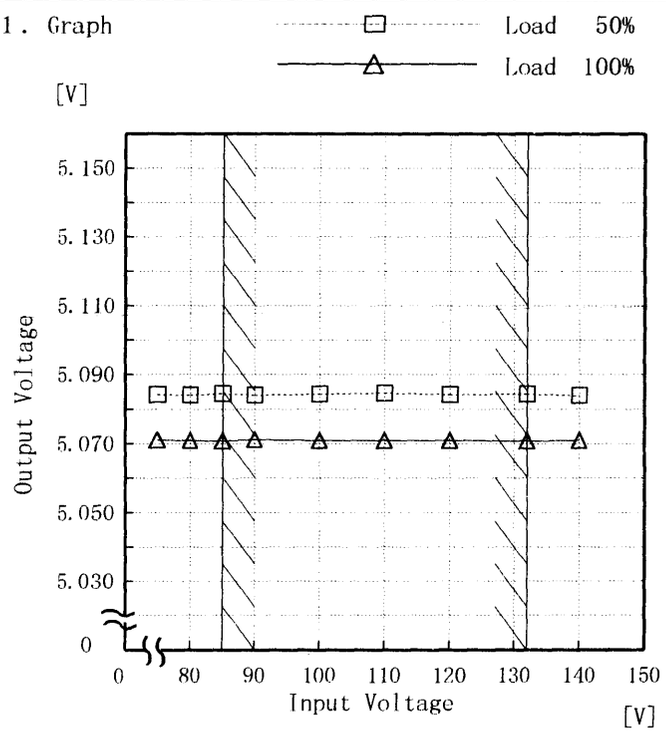
Model	MMC100A-2	Temperature	25℃
Item	Line Regulation 静的入力変動	Testing Circuitry	Figure A

Object +5.0V13A

1. Graph

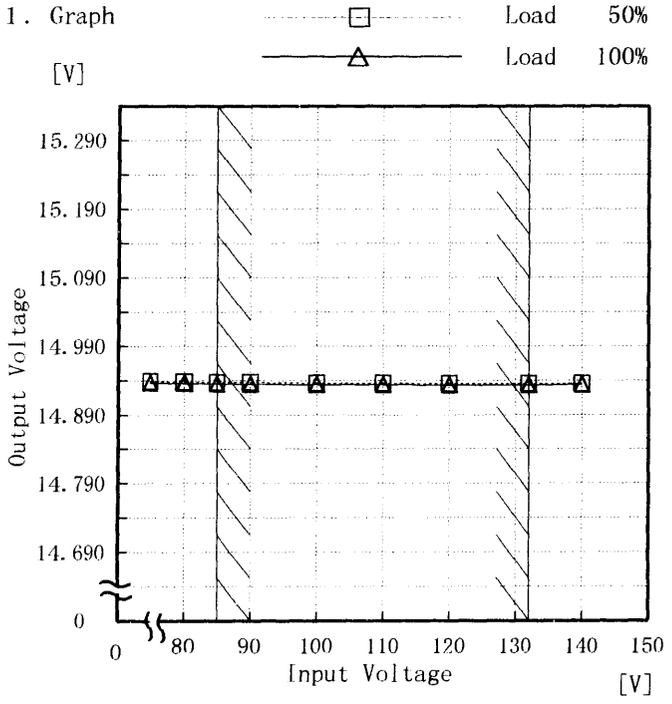


2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	5.084	5.071
80	5.084	5.071
85	5.085	5.071
90	5.084	5.071
100	5.084	5.071
110	5.085	5.071
120	5.084	5.071
132	5.084	5.071
140	5.084	5.071

Object +15.0V1.5A

1. Graph



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]	Output Voltage [V]	
	Load 50%	Load 100%
75	14.939	14.937
80	14.938	14.936
85	14.938	14.936
90	14.937	14.935
100	14.936	14.934
110	14.936	14.934
120	14.936	14.934
132	14.935	14.934
140	14.935	14.934

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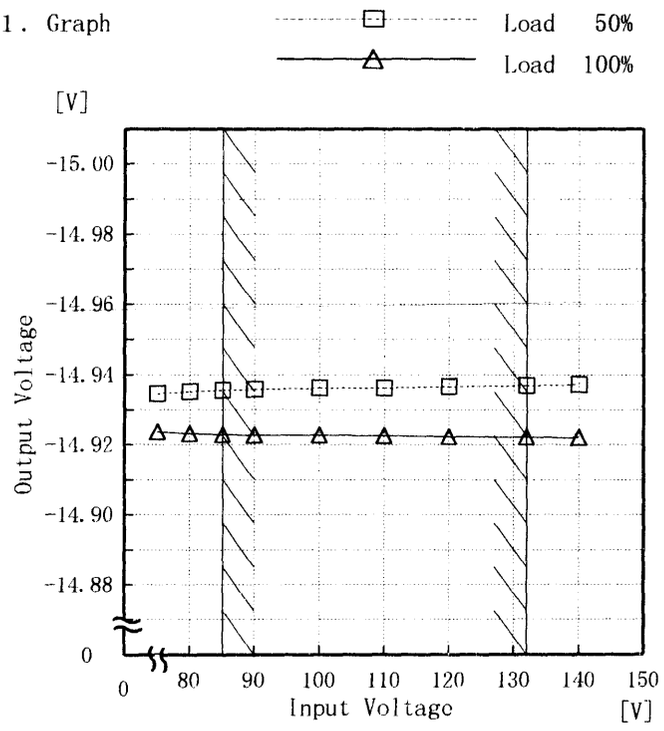
Model	MMC100A-2
Item	Line Regulation 静的入力変動
Object	−15.0V1A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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]	Output Voltage [V]	
	Load 50%	Load 100%
75	-14.935	-14.924
80	-14.935	-14.923
85	-14.936	-14.923
90	-14.936	-14.923
100	-14.936	-14.923
110	-14.936	-14.923
120	-14.937	-14.922
132	-14.937	-14.922
140	-14.937	-14.922

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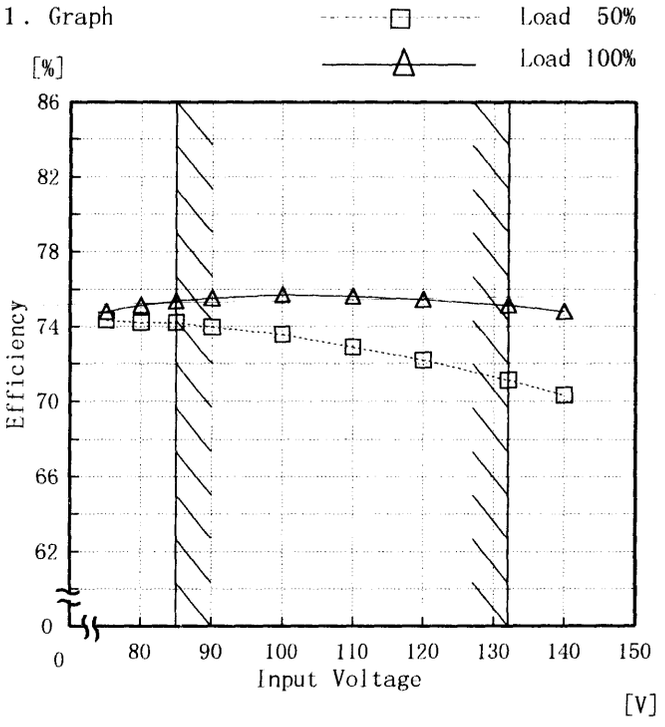
Model	MMC100A-2		
Item	Efficiency (by Input Voltage) 効率（入力電圧特性）	Temperature Testing Circuitry	25℃ Figure A
Object	———————————		

1. Graph



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]	Efficiency [%]	
	Load 50%	Load 100%
75	74.4	74.8
80	74.2	75.1
85	74.2	75.4
90	74.0	75.5
100	73.6	75.7
110	72.9	75.6
120	72.2	75.4
132	71.1	75.1
140	70.3	74.8

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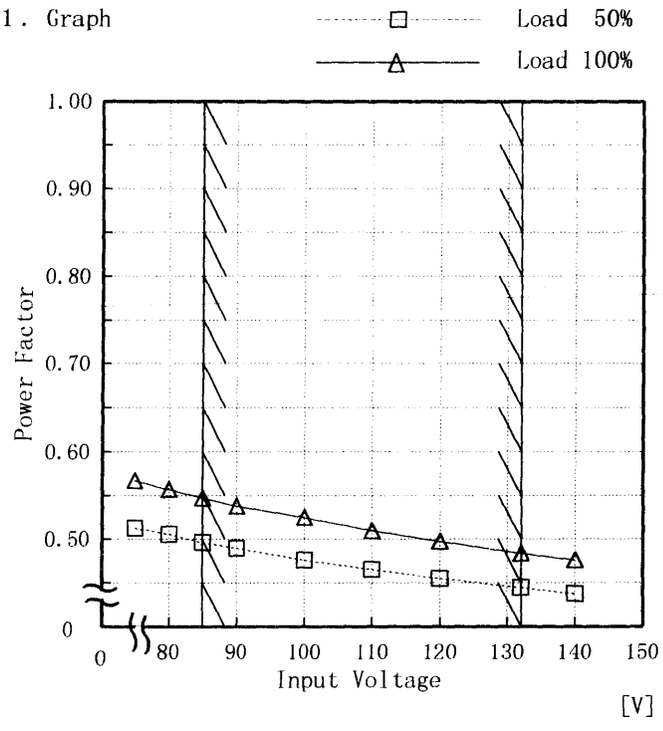
Model	MMC100A-2
Item	Power Factor (by Input Voltage) 力率（入力電圧特性）
Object	———————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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]	Power Factor	
	Load 50%	Load 100%
75	0.51	0.57
80	0.51	0.56
85	0.50	0.55
90	0.49	0.54
100	0.48	0.52
110	0.47	0.51
120	0.45	0.50
132	0.44	0.48
140	0.44	0.48

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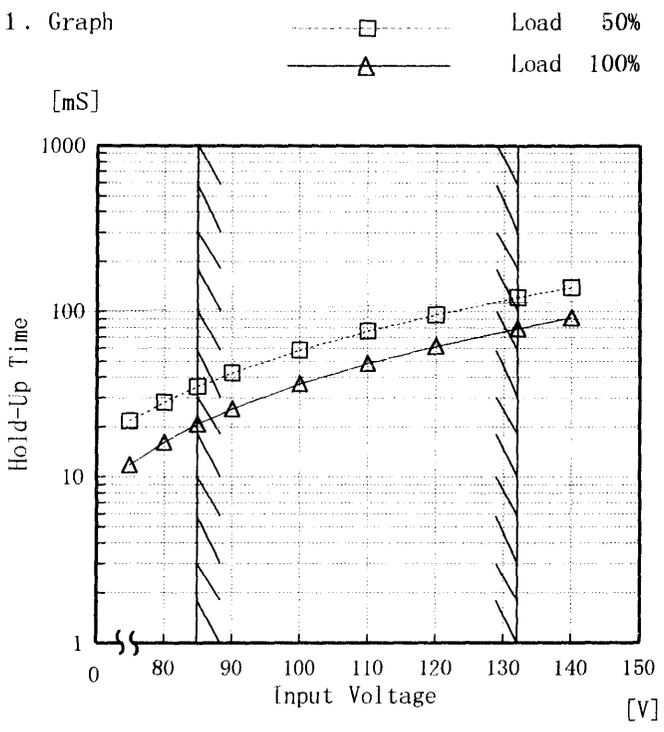
Model	MMC100A-2
Item	Hold-Up Time 出力保持時間
Object	+5.0V13A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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]	Hold-Up Time [mS]	
	Load 50%	Load 100%
75	22	12
80	28	16
85	35	21
90	43	26
100	59	36
110	76	48
120	96	62
132	122	79
140	140	92

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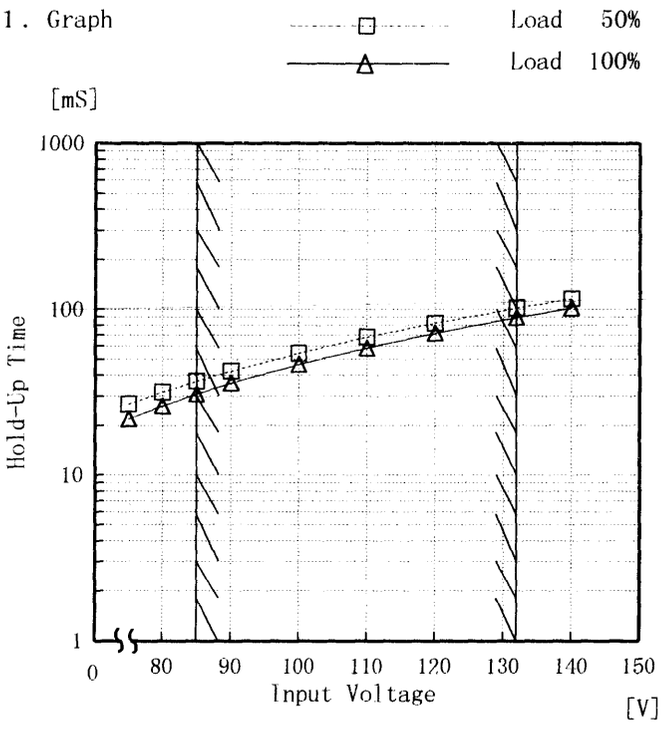
Model	MMC100A-2
Item	Hold-Up Time　出力保持時間
Object	+15.0V1.5A

Temperature　25℃
Testing Circuitry　Figure A

1. Graph



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]	Hold-Up Time [mS]	
	Load 50%	Load 100%
75	27	22
80	32	26
85	37	31
90	42	36
100	55	47
110	68	59
120	83	72
132	102	89
140	116	102

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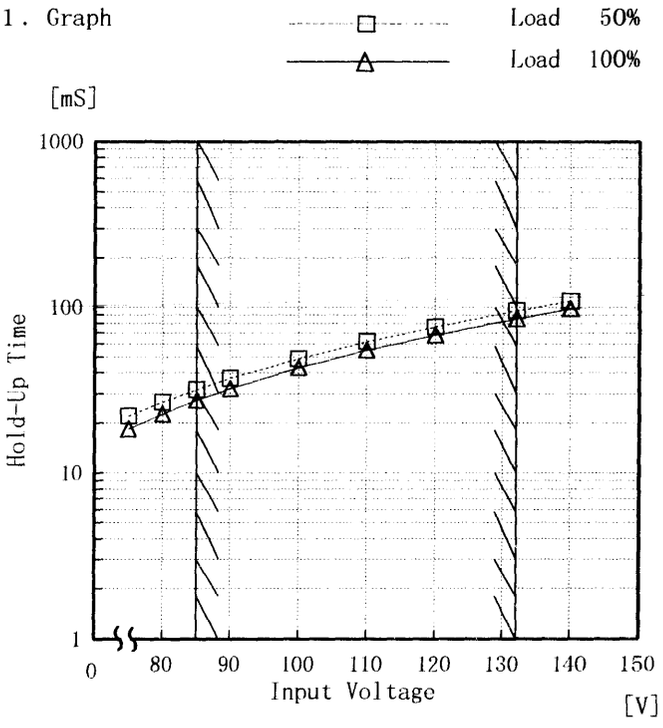
Model	MMC100A-2
Item	Hold-Up Time　出力保持時間
Object	−15.0V1A

Temperature　25℃
Testing Circuitry　Figure A

1. Graph



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]	Hold-Up Time [mS]	
	Load 50%	Load 100%
75	22	18
80	27	23
85	32	27
90	37	32
100	49	43
110	62	55
120	76	68
132	95	86
140	109	98

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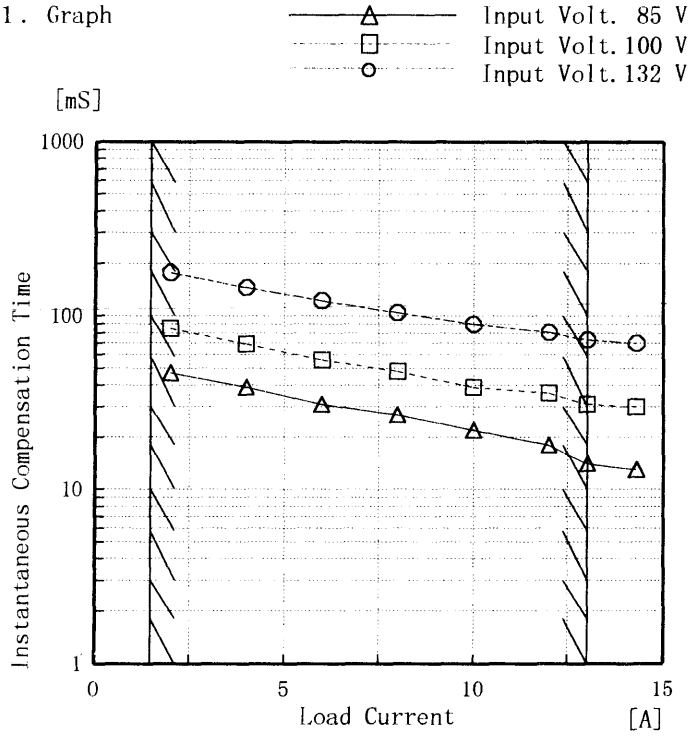
Model	MMC100A-2
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	+5.0V13A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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]	Time [mS]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	—	—	—
2.0	47	85	177
4.0	39	69	146
6.0	31	56	123
8.0	27	48	105
10.0	22	39	90
12.0	18	36	81
13.0	14	31	73
14.3	13	30	70
—	—	—	—
—	—	—	—

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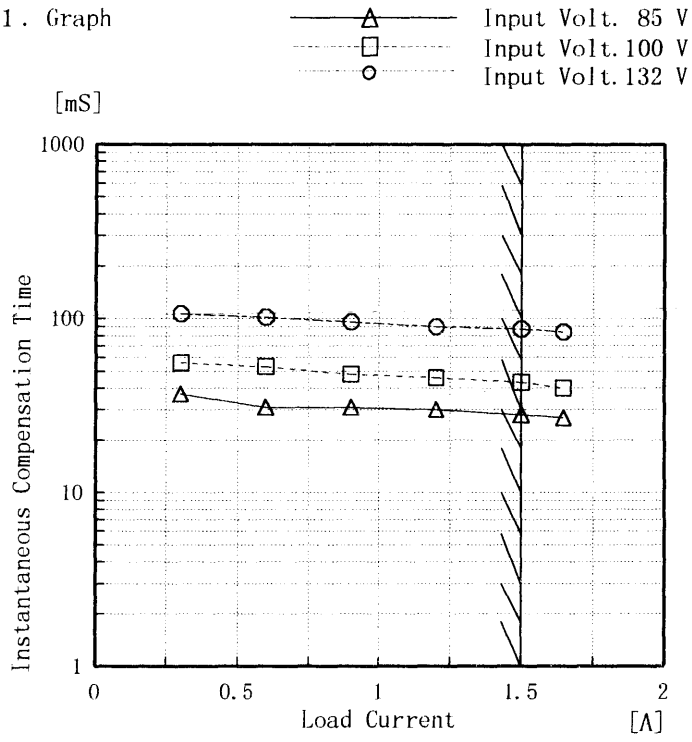
Model	MMC100A-2	
Item	Instantaneous Interruption Compensation 瞬時停電保障	Temperature 25℃ Testing Circuitry Figure A
Object	+15.0V1.5A	

1. Graph



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

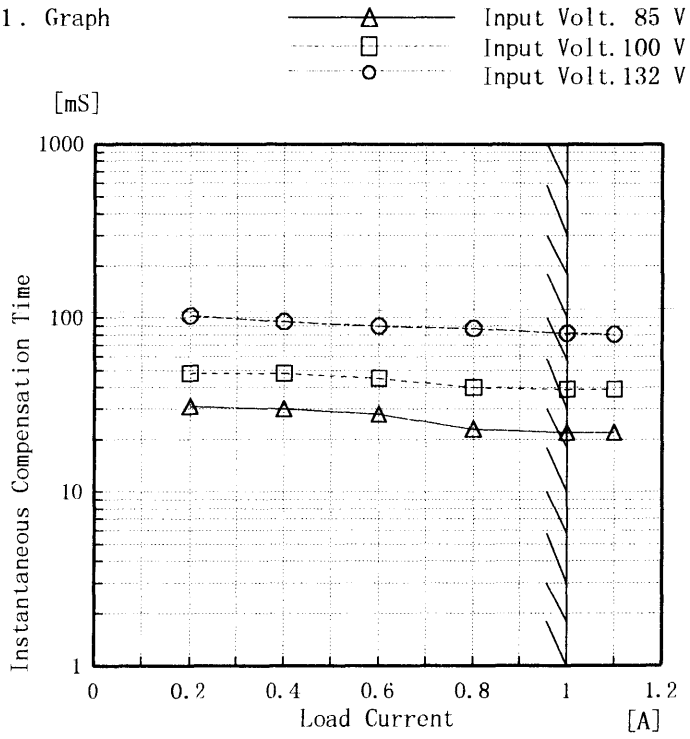
Load Current [A]	Time [mS]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	—	—	—
0.30	37	56	107
0.60	31	53	102
0.90	31	48	96
1.20	30	46	90
1.50	28	43	87
1.65	27	40	84
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	MMC100A-2
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	−15.0V1A

Temperature 25℃
Testing Circuitry Figure Λ

1. Graph



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]	Time [mS]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	—	—	—
0.2	31	48	103
0.4	30	48	95
0.6	28	45	90
0.8	23	40	87
1.0	22	39	82
1.1	22	39	81
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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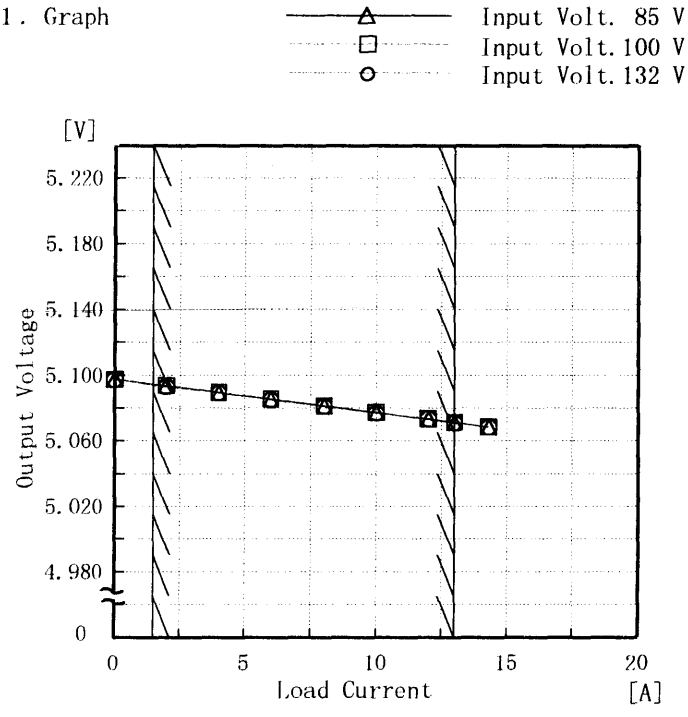
Model	MMC100A-2	Temperature	25℃
Item	Load Regulation 静的負荷変動	Testing Circuitry	Figure A

Object +5.0V13A

1. Graph

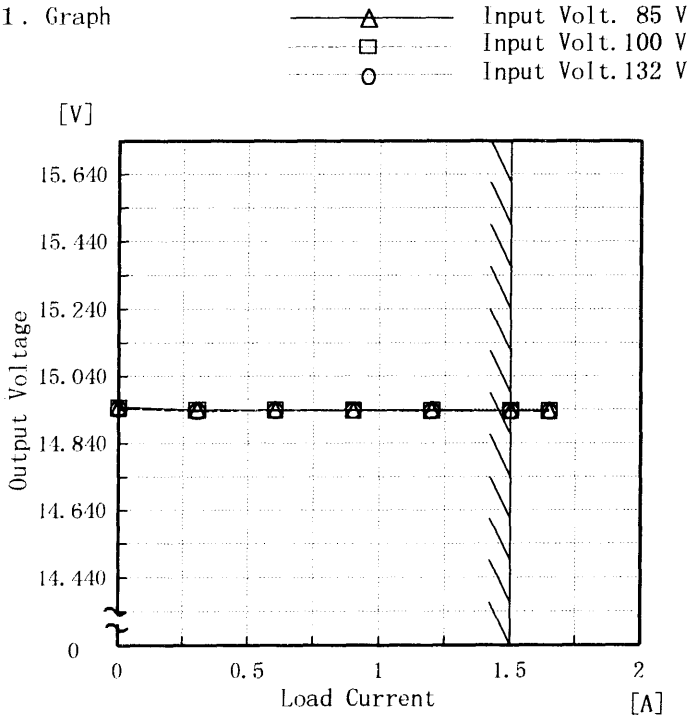


2. Values

Load Current [A]	Output Voltage [V] Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	5.098	5.097	5.097
2.0	5.094	5.094	5.093
4.0	5.089	5.090	5.089
6.0	5.085	5.086	5.085
8.0	5.081	5.081	5.081
10.0	5.077	5.077	5.077
12.0	5.073	5.073	5.073
13.0	5.071	5.071	5.071
14.3	5.069	5.068	5.068
—	—	—	—

Object +15.0V1.5A

1. Graph



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

Load Current [A]	Output Voltage [V] Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	14.948	14.946	14.945
0.30	14.939	14.938	14.936
0.60	14.939	14.938	14.937
0.90	14.939	14.938	14.936
1.20	14.938	14.937	14.936
1.50	14.937	14.936	14.935
1.65	14.937	14.936	14.935
—	—	—	—
—	—	—	—
—	—	—	—

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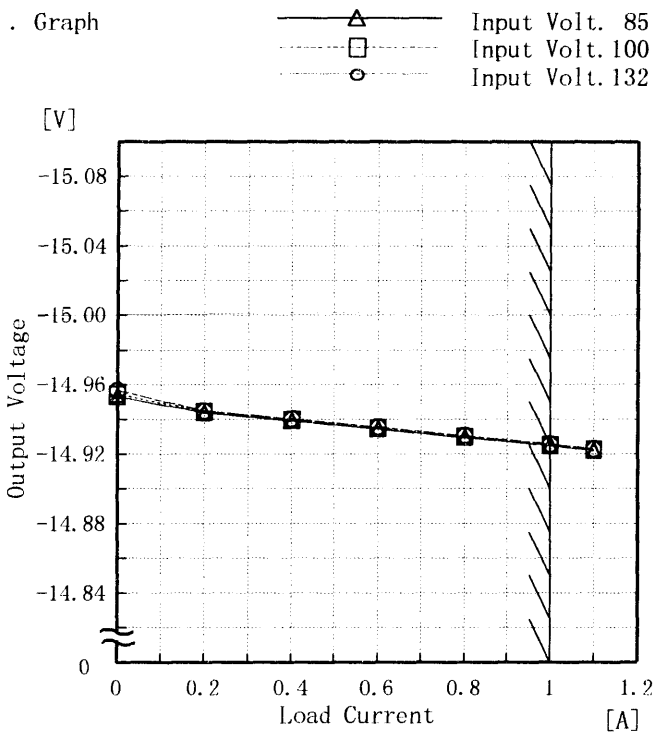
Model	MMC100A-2		
Item	Load Regulation 静的負荷変動	Temperature	25℃
		Testing Circuitry	Figure A
Object	−15.0V1A		

1. Graph



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

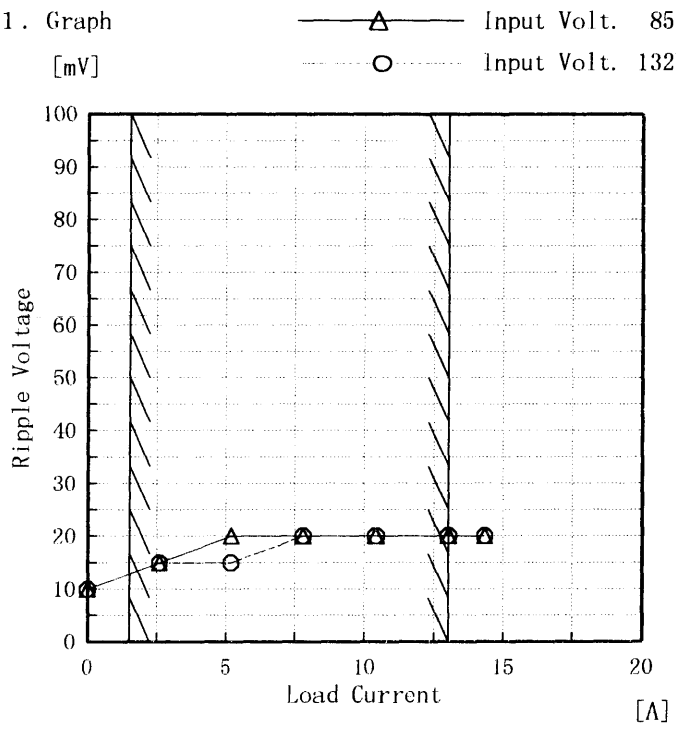
Load Current [A]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	-14.953	-14.954	-14.957
0.2	-14.944	-14.944	-14.945
0.4	-14.939	-14.940	-14.940
0.6	-14.934	-14.935	-14.935
0.8	-14.930	-14.930	-14.931
1.0	-14.925	-14.925	-14.926
1.1	-14.922	-14.922	-14.923
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	MMC100A-2
Item	Ripple Voltage(by Load Current) リップル電圧(負荷特性)
Object	+5.0V13A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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
ｽｲｯﾁﾝｸﾞ周期

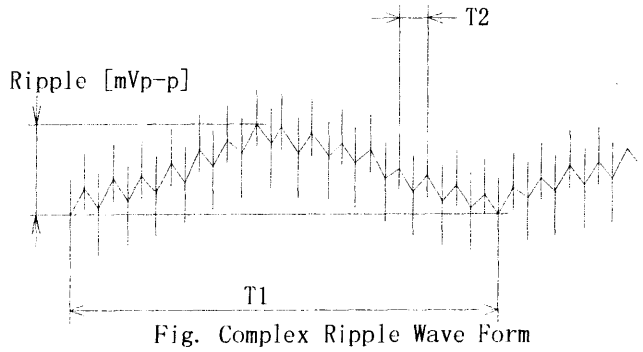


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.0	10	10
2.6	15	15
5.2	20	15
7.8	20	20
10.4	20	20
13.0	20	20
14.3	20	20
—	—	—
—	—	—
—	—	—
—	—	—

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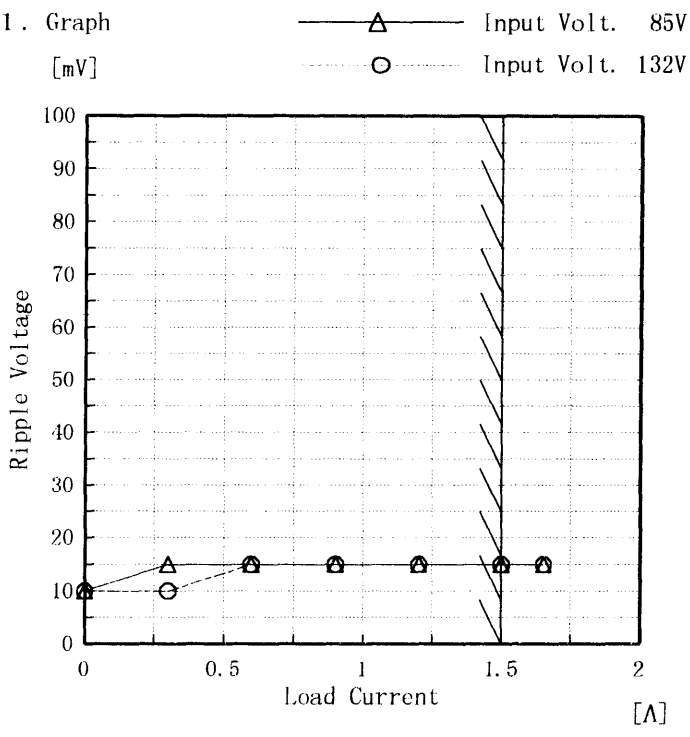
COSEL

Model	MMC100A-2
Item	Ripple Voltage(by Load Current) リップル電圧(負荷特性)
Object	+15.0V1.5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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
ｽｲｯﾁﾝｸﾞ周期

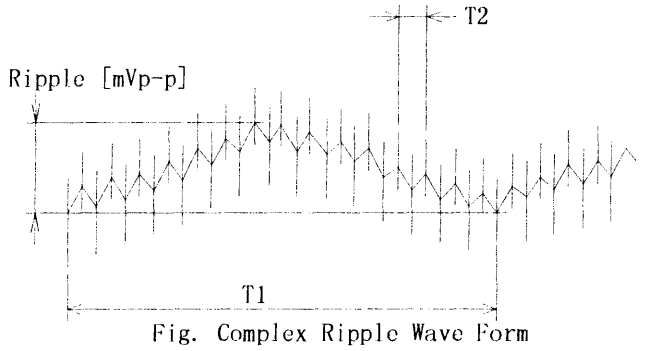


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

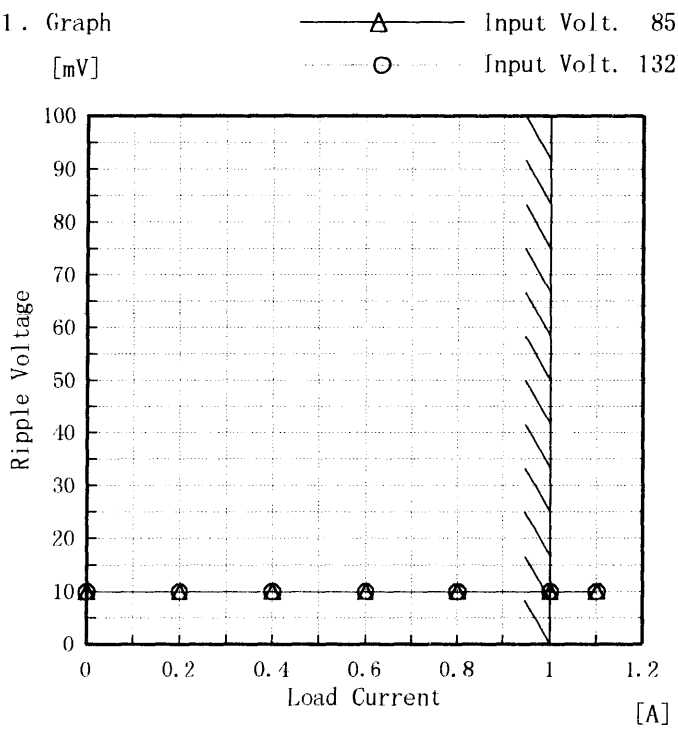
Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	10	10
0.30	15	10
0.60	15	15
0.90	15	15
1.20	15	15
1.50	15	15
1.65	15	15
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	MMC100A-2
Item	Ripple Voltage(by Load Current) リップル電圧(負荷特性)
Object	−15.0V1A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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
ｽｲｯﾁﾝｸﾞ周期

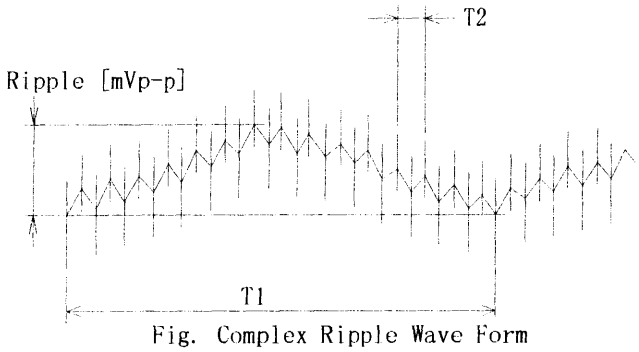


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

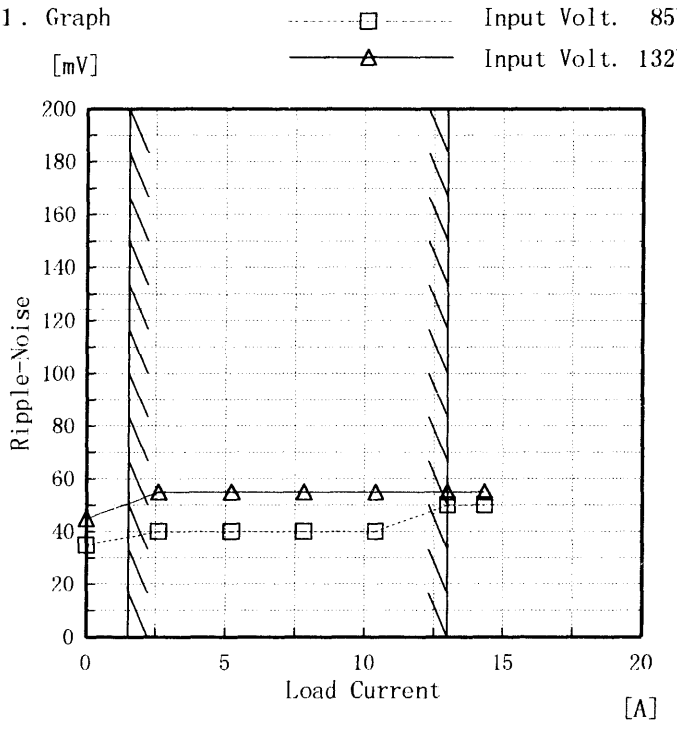
Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.0	10	10
0.2	10	10
0.4	10	10
0.6	10	10
0.8	10	10
1.0	10	10
1.1	10	10
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	MMC100A-2
Item	Ripple-Noise リップルノイズ
Object	+5.0V13A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

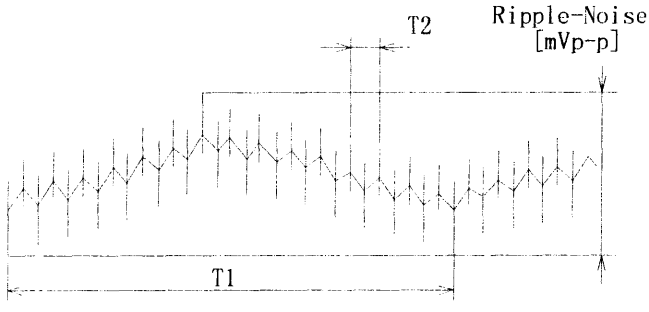


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

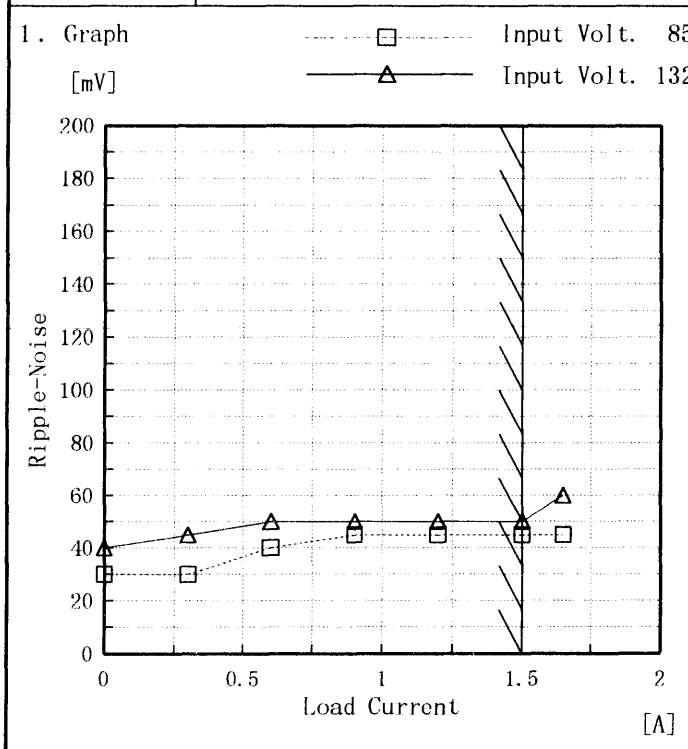
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.0	35	45
2.6	40	55
5.2	40	55
7.8	40	55
10.4	40	55
13.0	50	55
14.3	50	55
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	MMC100A-2
Item	Ripple-Noise　リップルノイズ
Object	+15.0V1.5A

Temperature　25℃
Testing Circuitry　Figure A

1. Graph



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
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

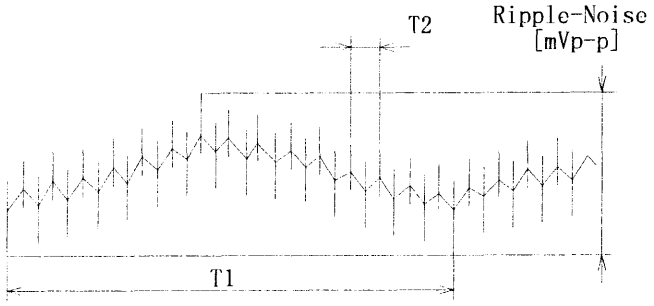


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

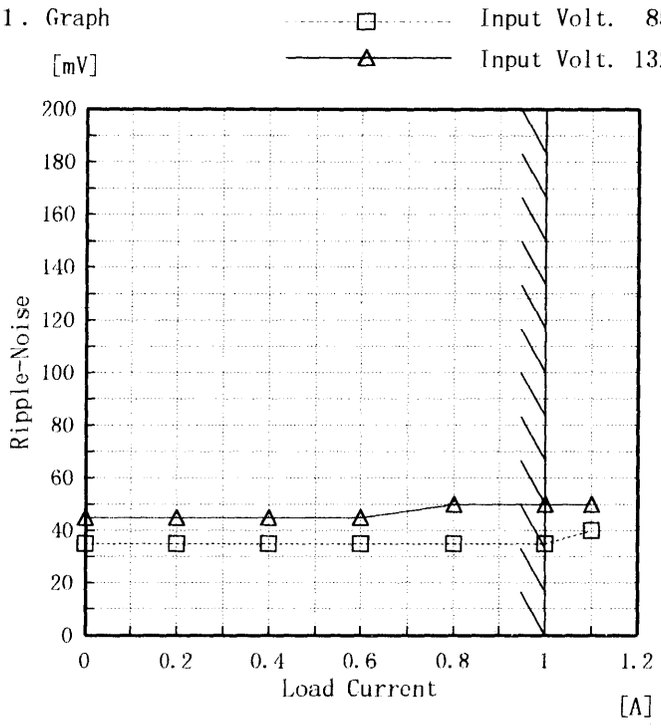
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	30	40
0.30	30	45
0.60	40	50
0.90	45	50
1.20	45	50
1.50	45	50
1.65	45	60
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	MMC100A-2
Item	Ripple-Noise リップルノイズ
Object	−15.0V1A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

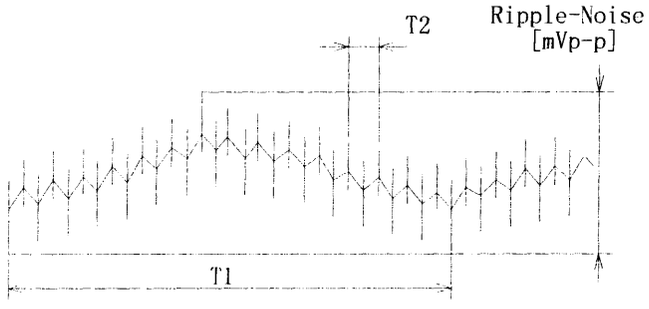


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

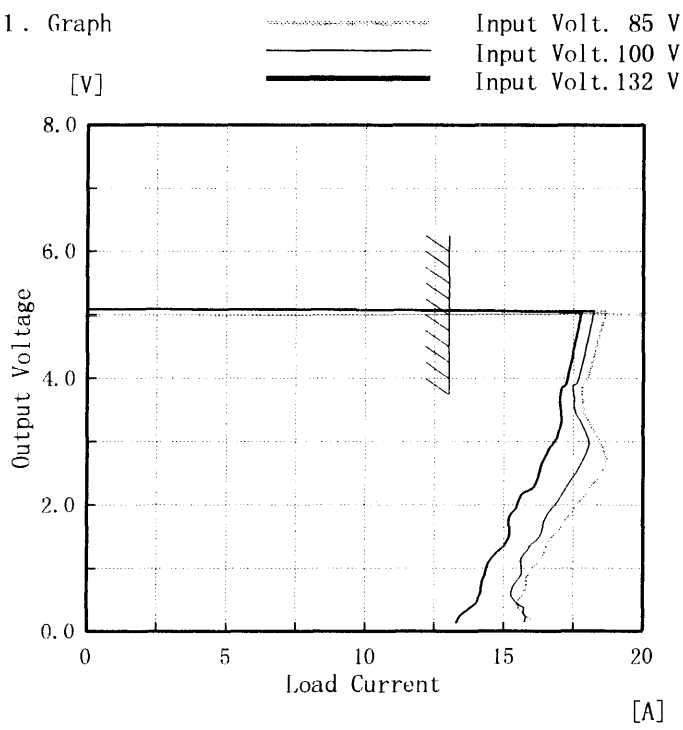
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.0	35	45
0.2	35	45
0.4	35	45
0.6	35	45
0.8	35	50
1.0	35	50
1.1	40	50
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	MMC100A-2		
Item	Overcurrent Protection 過電流保護	Temperature Testing Circuitry	25℃ Figure A

Object +5.0V13A

1. Graph

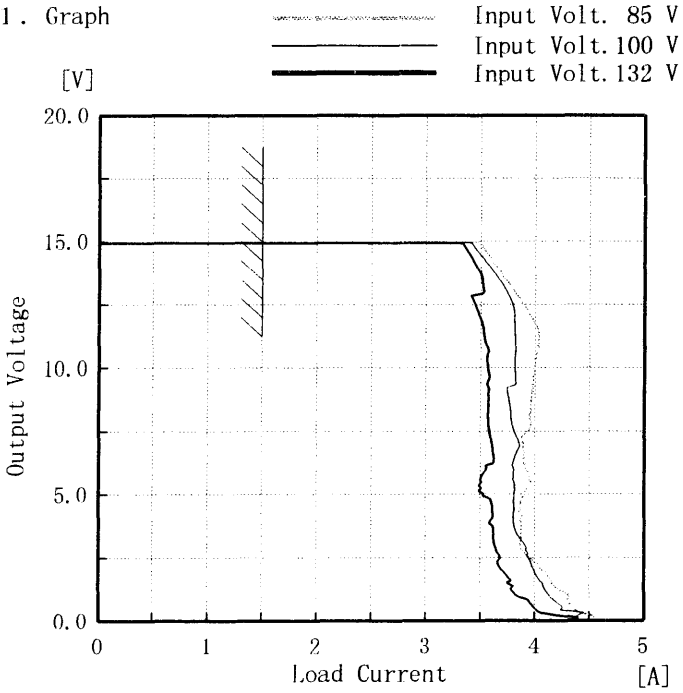


2. Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
5.00	18.65	18.20	17.75
4.75	18.48	18.07	17.65
4.50	18.35	17.97	17.52
4.00	18.02	17.68	17.26
3.50	17.86	17.53	17.03
3.00	18.39	18.03	16.86
2.50	18.54	17.58	16.24
2.00	17.67	16.81	15.50
1.50	16.78	16.28	15.18
1.00	16.06	15.64	14.38
0.50	15.60	15.32	14.08
0.00	16.12	15.74	13.29

Object +15.0V1.5A

1. Graph



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。

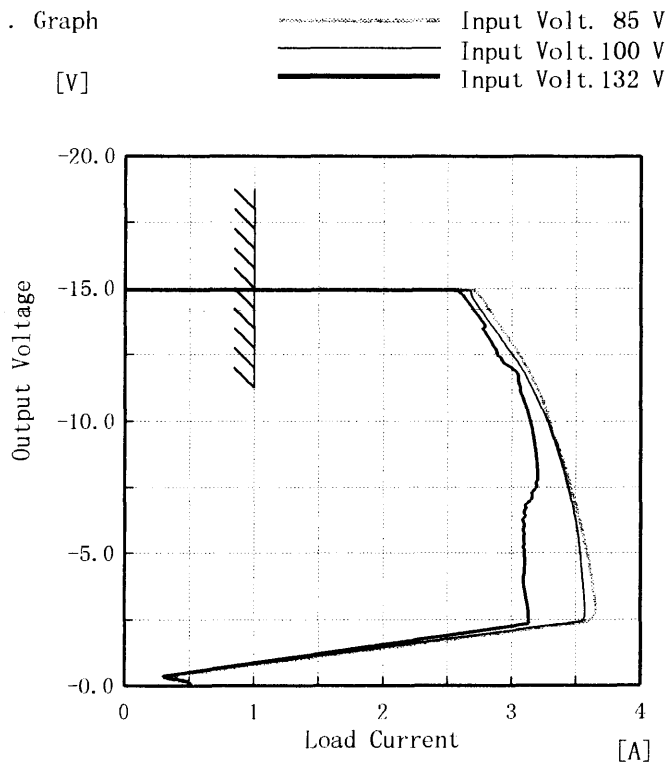
2. Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
15.00	-	-	-
14.25	3.596	3.526	3.421
13.50	3.723	3.661	3.508
12.00	3.960	3.810	3.489
10.50	4.012	3.815	3.559
9.00	3.974	3.746	3.574
7.50	3.935	3.799	3.578
6.00	3.919	3.804	3.554
4.50	3.868	3.810	3.613
3.00	3.865	3.891	3.625
1.50	4.163	4.069	3.749
0.00	4.566	4.378	4.405

COSEL

Model	MMC100A-2		
Item	Overcurrent Protection 過電流保護	Temperature Testing Circuitry	25℃ Figure A
Object	−15.0V1A		

1. Graph



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

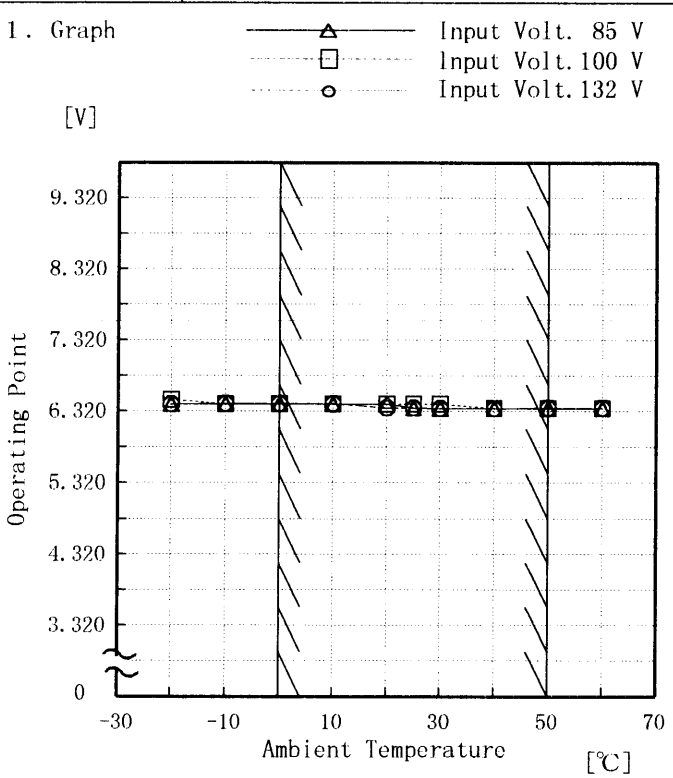
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-15.00	-	-	-
-14.25	2.81	2.75	2.69
-13.50	2.92	2.86	2.77
-12.00	3.12	3.07	3.00
-10.50	3.26	3.23	3.11
-9.00	3.36	3.35	3.19
-7.50	3.45	3.44	3.20
-6.00	3.53	3.50	3.09
-4.50	3.61	3.54	3.10
-3.00	3.66	3.57	3.12
-1.50	3.61	3.56	3.13
0.00	0.53	0.51	0.51

COSEL

Model	MMC100A-2
Item	Overvoltage Protection 過電圧保護
Object	+5.0V13A

Testing Circuitry Figure A

1. Graph



Load 0%

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

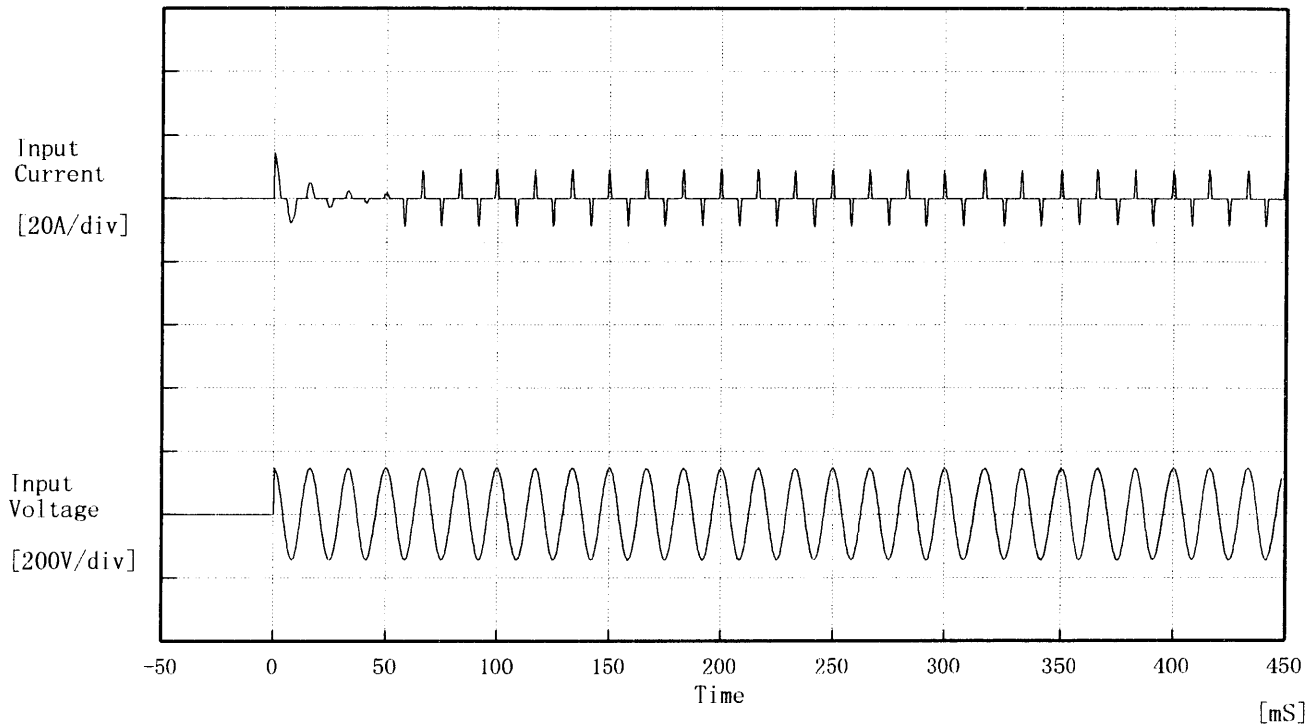
(注)斜線は定格周囲温度範囲を示す。

2. Values

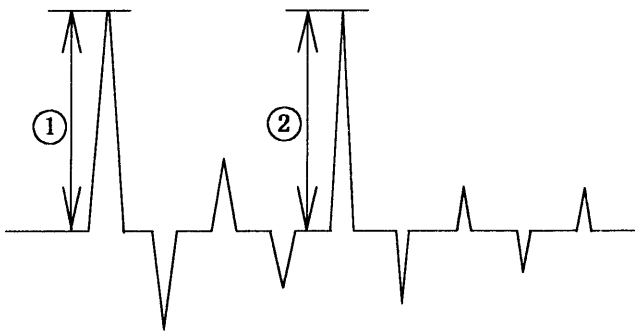
Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	6.42	6.48	6.42
-10	6.42	6.42	6.43
0	6.42	6.42	6.43
10	6.42	6.42	6.43
20	6.42	6.42	6.37
25	6.37	6.42	6.37
30	6.36	6.42	6.36
40	6.36	6.36	6.36
50	6.36	6.36	6.37
60	6.36	6.36	6.37
—	—	—	—

COSEL

Model	MMC100A-2		
Item	Inrush Current 突入電流	Temperature	25℃
Object	――――――――	Testing Circuitry	Figure A



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



COSEL

Model	MMC100A-2		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	+5.0V13A		

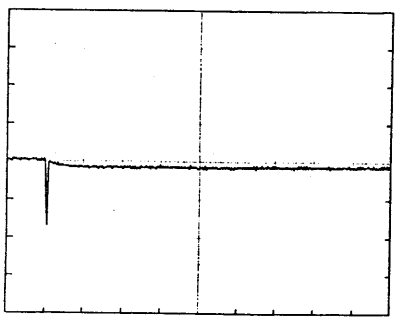
Input Volt. 100 V

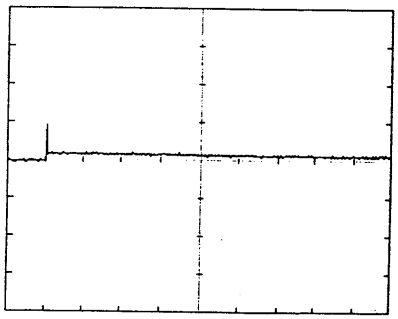
Cycle 200 mS

Load Current

Min Load ⟷

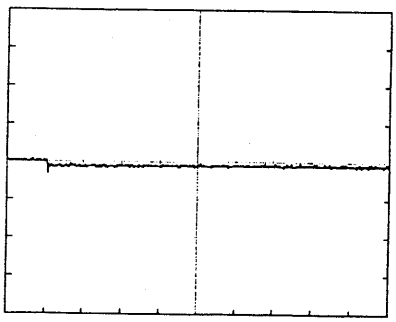
Load 100 %

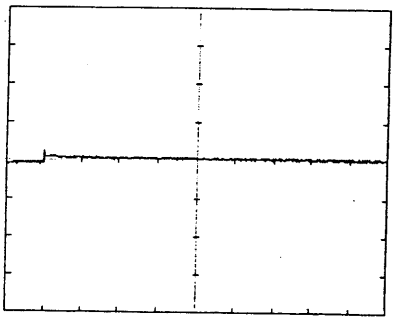




Min Load ⟷

Load 50 %





100 mV/div

10 mS/div

COSEL

Model	MMC100A-2		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	+15.0V1.5A		

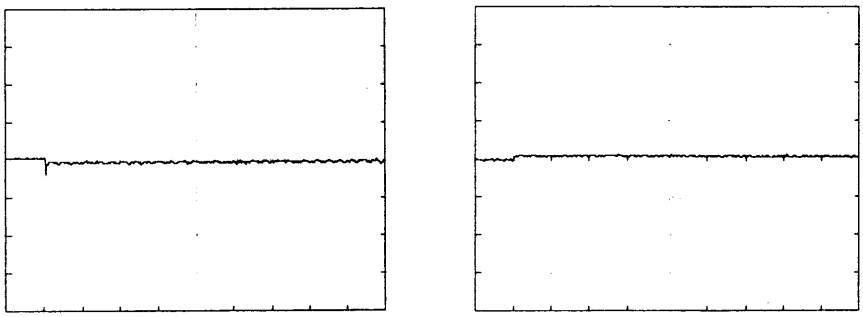
Input Volt. 100 V

Cycle 200 mS

Load Current

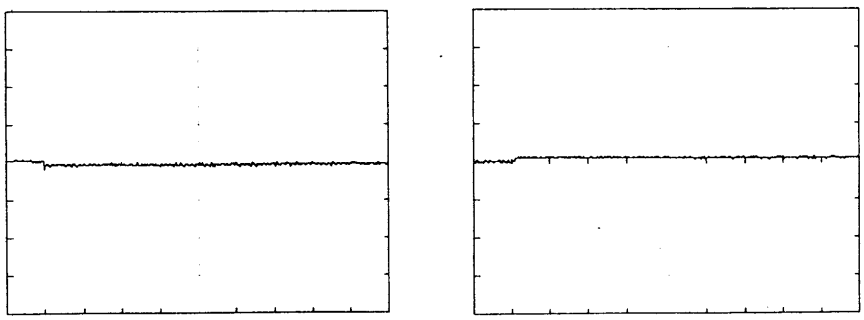
Load 0% ⟷

Load 100 %



Load 0% ⟷

Load 50 %



100 mV/div

10 mS/div

COSEL

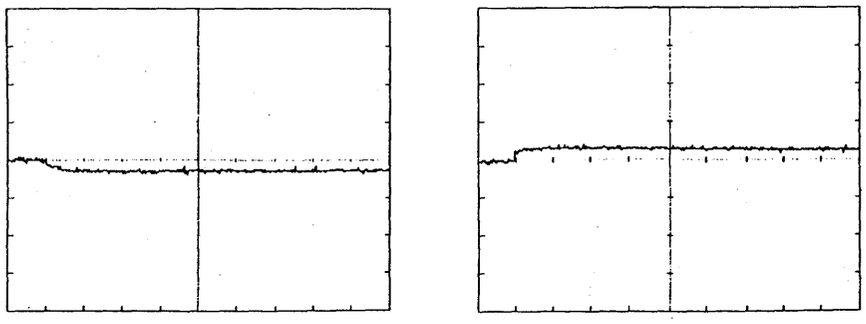
Model	MMC100A-2
Item	Dynamic Load Responce 動的負荷変動
Object	−15.0V1A

Temperature 25℃
Testing Circuitry Figure A

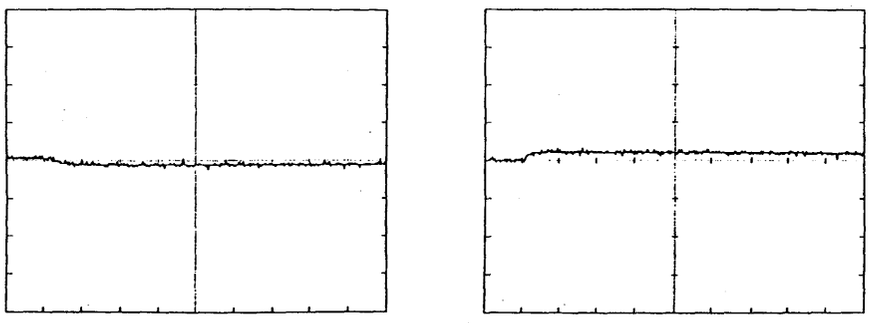
Input Volt. 100 V
Cycle 200 mS

Load Current

Load 0% ⟷
Load 100 %



Load 0% ⟷
Load 50 %



100 mV/div

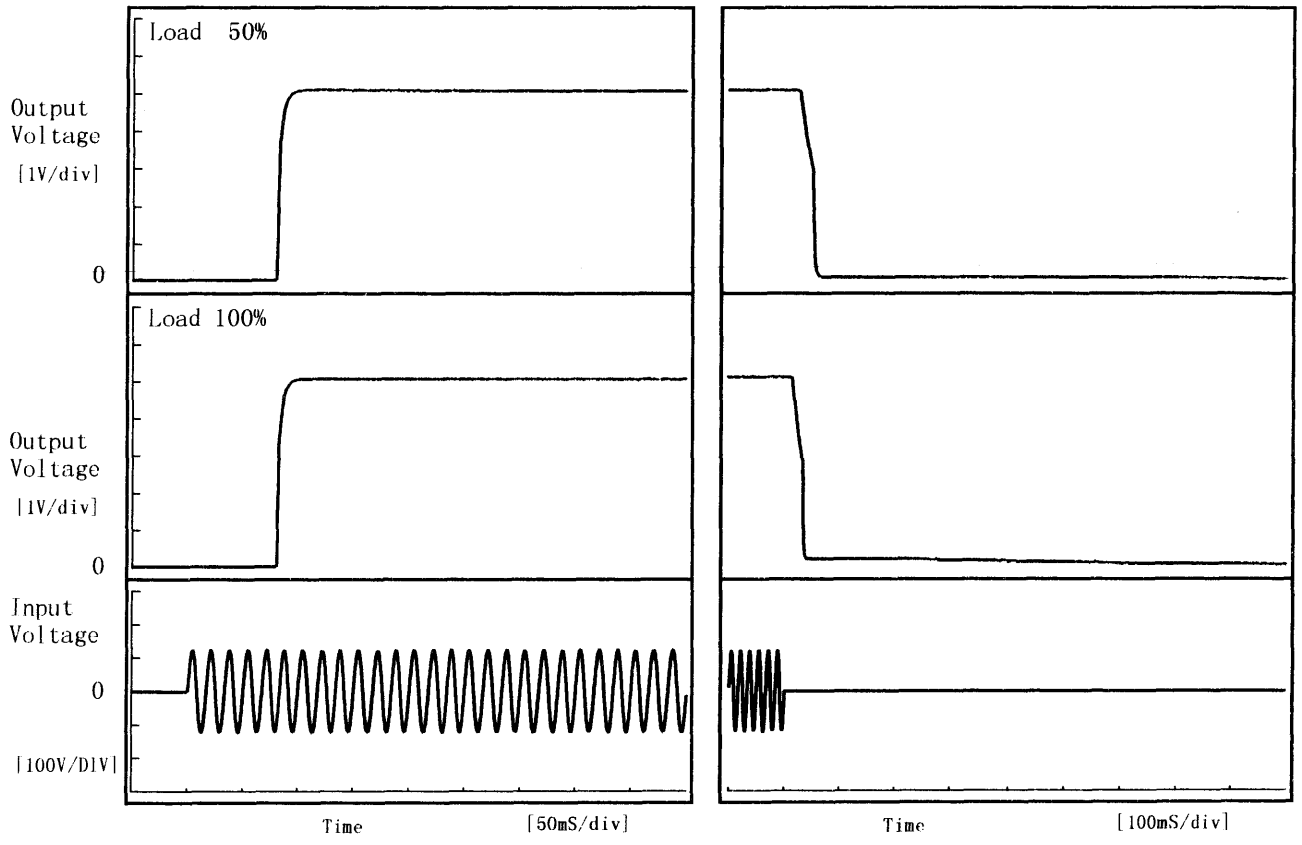
10 mS/div

COSEL

Model	MMC100A-2		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+5.0V13A		

1. Graph

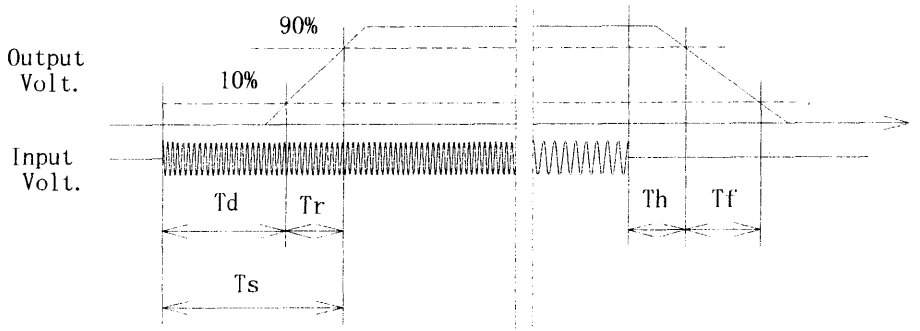
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	80.3	6.3	86.5	35.0	23.5
100 %	80.5	6.3	86.8	20.5	18.5



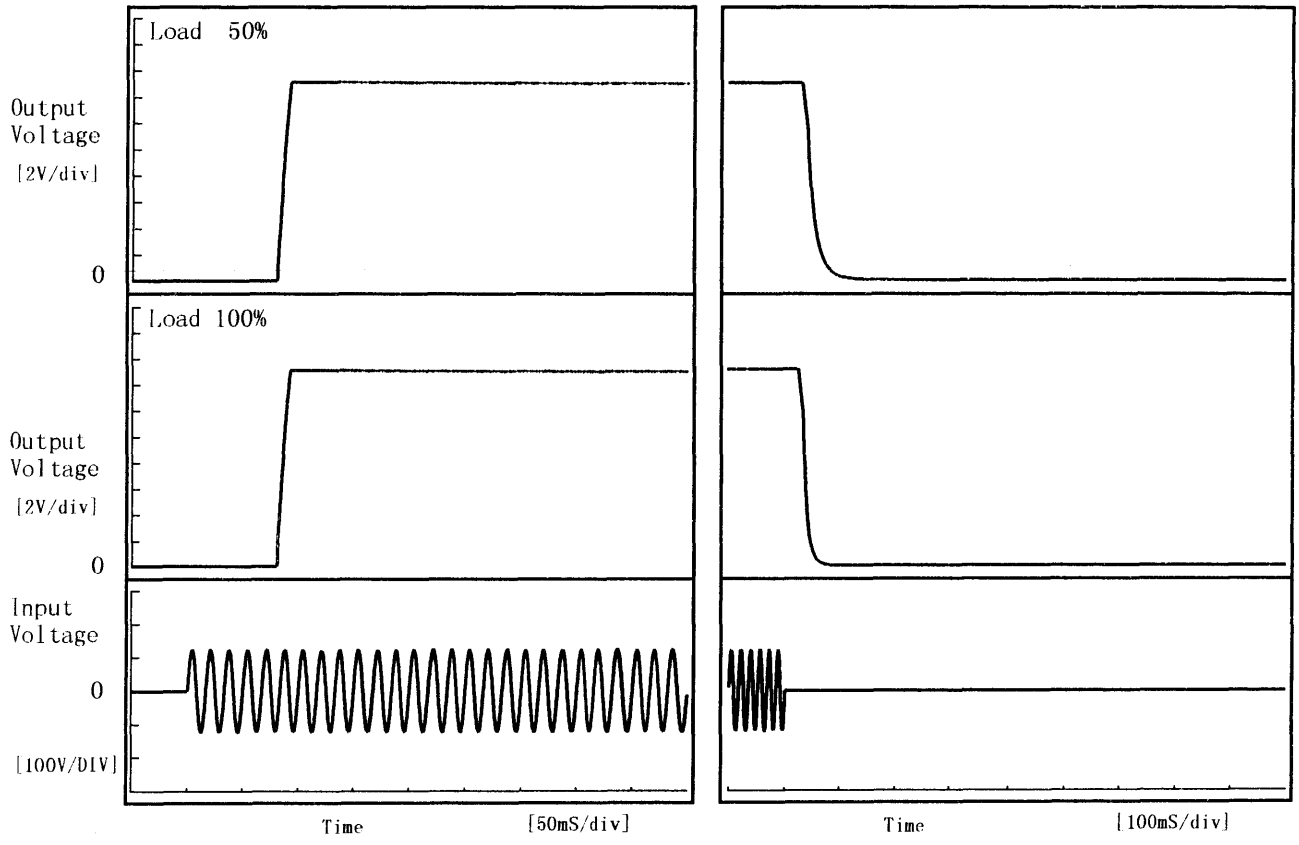
BC−3263

COSEL

Model	MMC100A-2		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+15.0V1.5A		

1. Graph

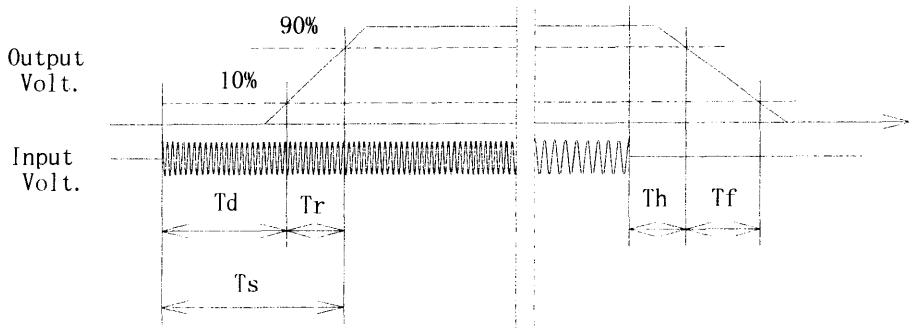
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	80.3	9.8	90.0	37.0	37.0
100 %	80.5	9.8	90.3	31.0	21.0



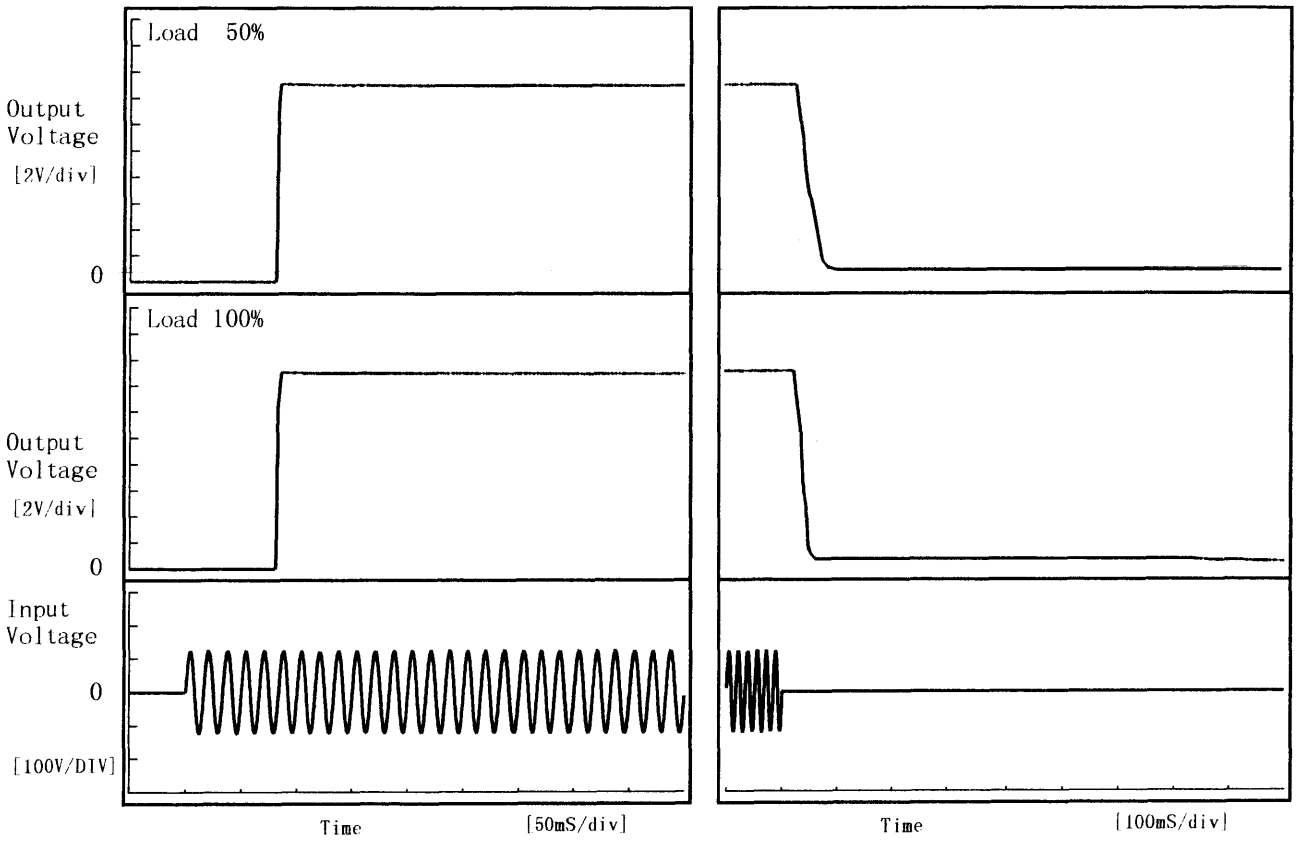
BC－3263

COSEL

Model	MMC100A-2		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	−15.0V1A		

1. Graph

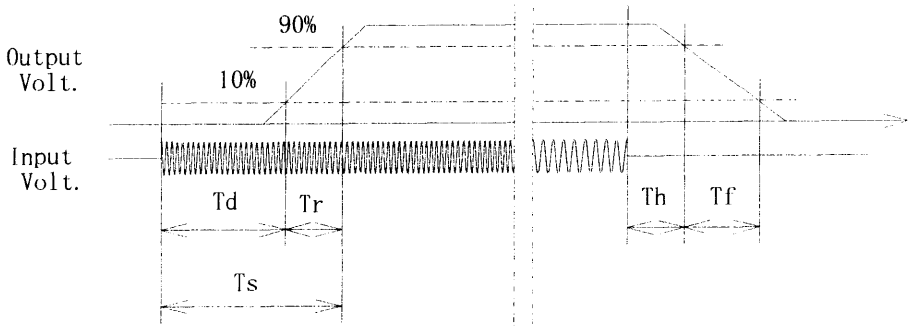
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	80.8	2.5	83.3	32.0	53.5
100 %	81.0	2.8	83.8	27.5	28.6



BC−3263

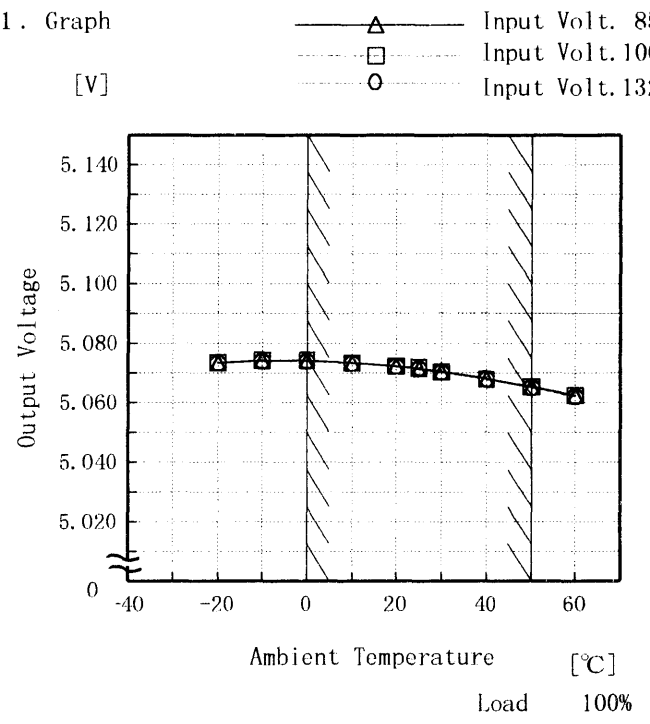
COSEL

Model	MMC100A-2
Item	Ambient Temperature Drift 周囲温度変動

Testing Circuitry Figure A

Object +5.0V13A

1. Graph



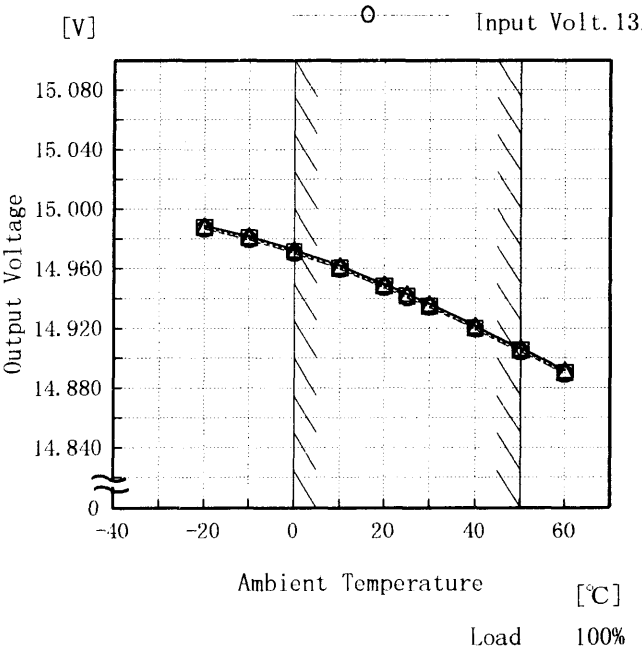
Load 100%

2. Values

Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	5.073	5.074	5.073
-10	5.074	5.074	5.074
0	5.074	5.074	5.074
10	5.073	5.073	5.073
20	5.072	5.072	5.072
25	5.072	5.072	5.072
30	5.070	5.070	5.070
40	5.068	5.068	5.068
50	5.065	5.065	5.065
60	5.062	5.062	5.062
—	—	—	—

Object +15.0V1.5A

1. Graph



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

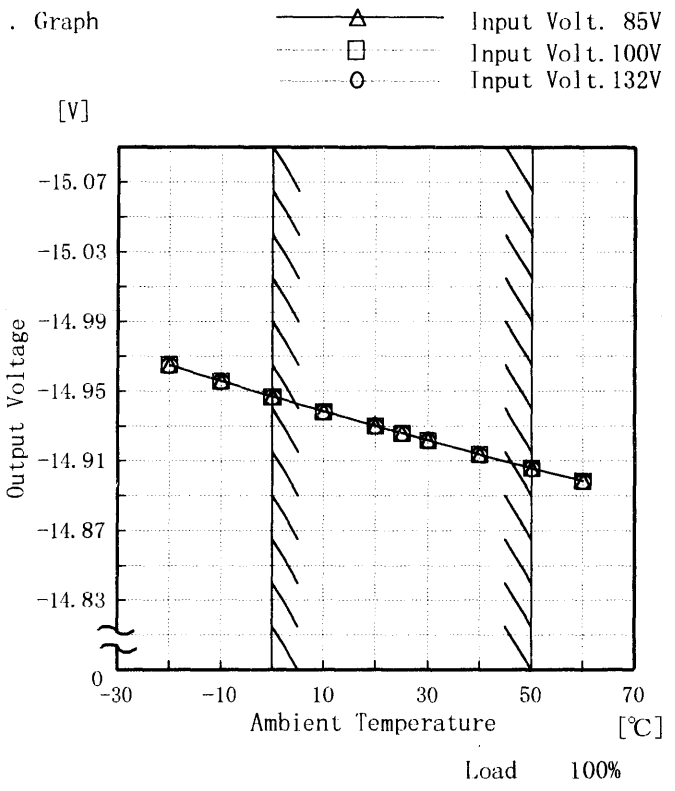
Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	14.989	14.988	14.987
-10	14.982	14.980	14.979
0	14.973	14.971	14.970
10	14.962	14.960	14.960
20	14.950	14.948	14.947
25	14.943	14.941	14.941
30	14.936	14.935	14.934
40	14.922	14.920	14.919
50	14.907	14.905	14.904
60	14.892	14.890	14.889
—	—	—	—

COSEL

Model	MMC100A-2
Item	Ambient Temperature Drift 周囲温度変動
Object	−15.0V1A

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 Temperature [℃]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	-14.965	-14.965	-14.965
-10	-14.956	-14.956	-14.956
0	-14.947	-14.947	-14.947
10	-14.938	-14.938	-14.938
20	-14.930	-14.930	-14.930
25	-14.926	-14.926	-14.926
30	-14.922	-14.922	-14.921
40	-14.914	-14.914	-14.913
50	-14.906	-14.906	-14.906
60	-14.898	-14.898	-14.898
—	—	—	—

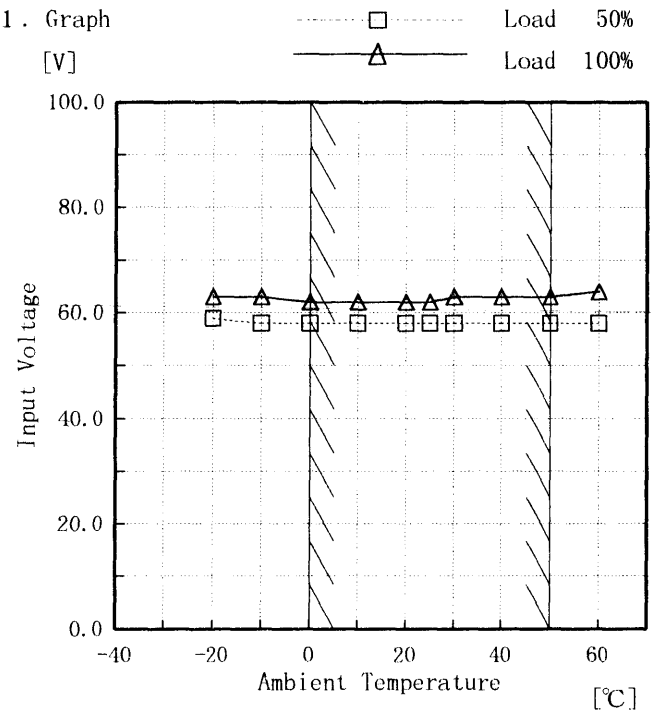
COSEL

Model	MMC100A-2
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧

Testing Circuitry Figure A

Object +5.0V13A

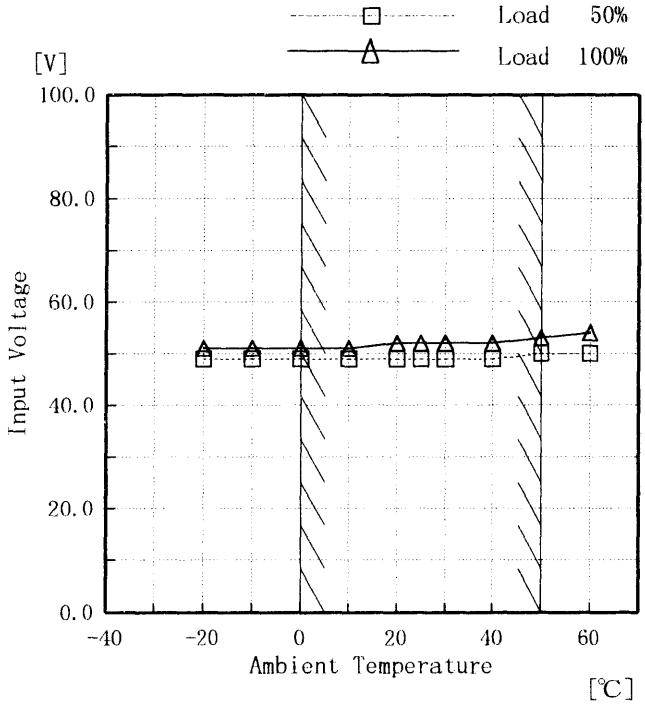
1. Graph



2. Values

Ambient Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	59	63
-10	58	63
0	58	62
10	58	62
20	58	62
25	58	62
30	58	63
40	58	63
50	58	63
60	58	64
—	—	—

Object +15.0V1.5A



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 Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	49	51
-10	49	51
0	49	51
10	49	51
20	49	52
25	49	52
30	49	52
40	49	52
50	50	53
60	50	54
—	—	—

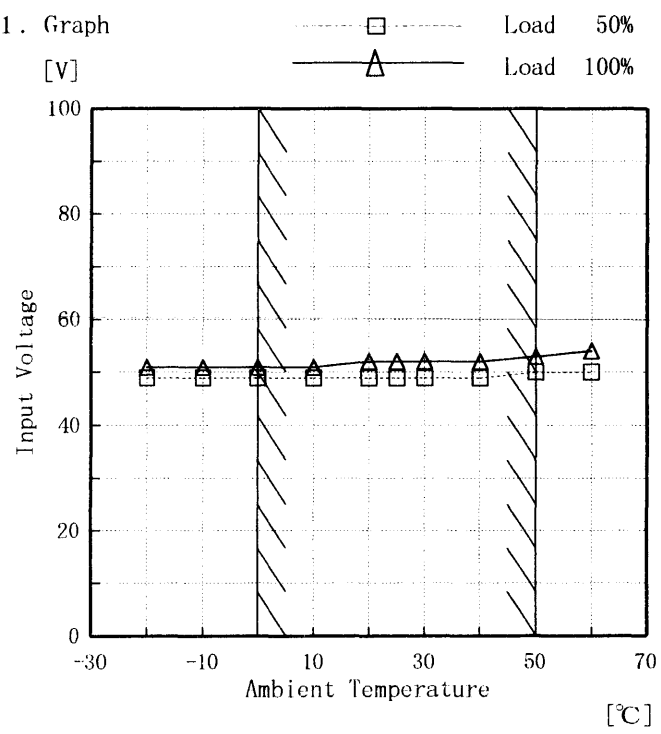
BC-3263

COSEL

Model	MMC100A-2
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	−15.0V1A

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 Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	49	51
-10	49	51
0	49	51
10	49	51
20	49	52
25	49	52
30	49	52
40	49	52
50	50	53
60	50	54
—	—	—

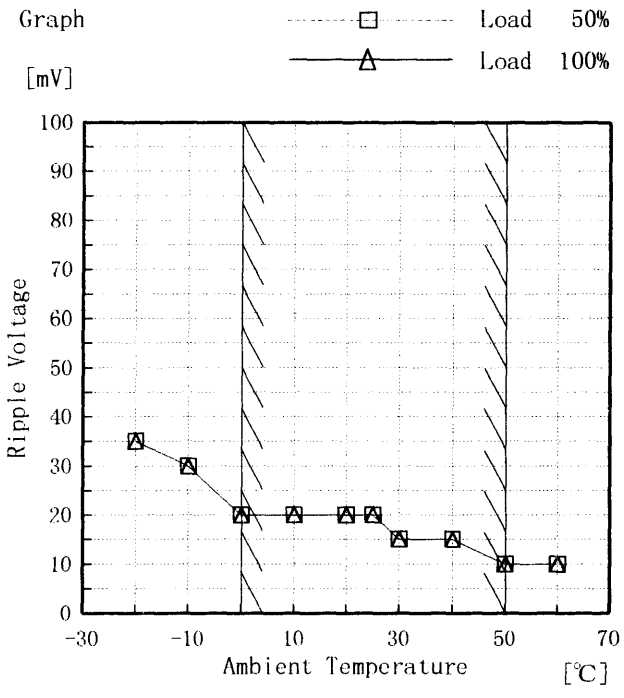
COSEL

Model	MMC100A-2
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)

Testing Circuitry Figure A

Object +5.0V13A

1. Graph



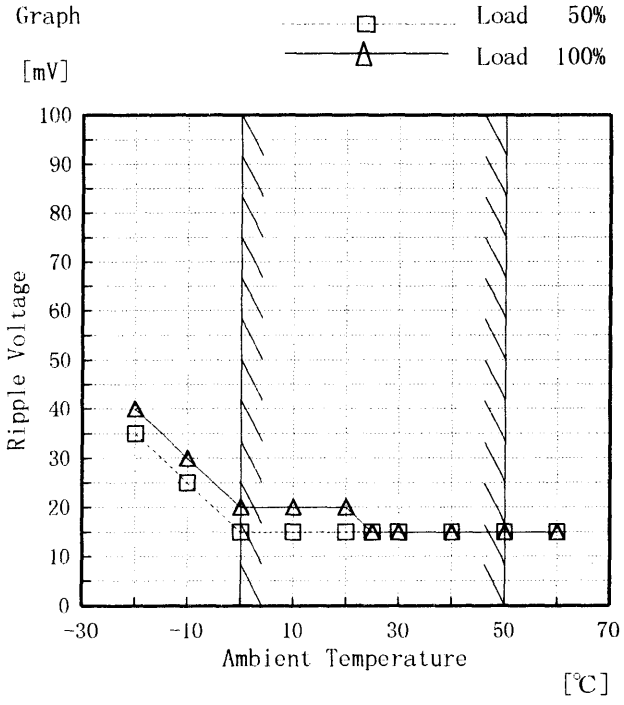
Input Volt. 100 V

2. Values

Ambient Temperature [℃]	Ripple Output Voltage [mV]	
	Load 50%	Load 100%
-20	35	35
-10	30	30
0	20	20
10	20	20
20	20	20
25	20	20
30	15	15
40	15	15
50	10	10
60	10	10
—	—	—

Object +15.0V1.5A

1. Graph



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

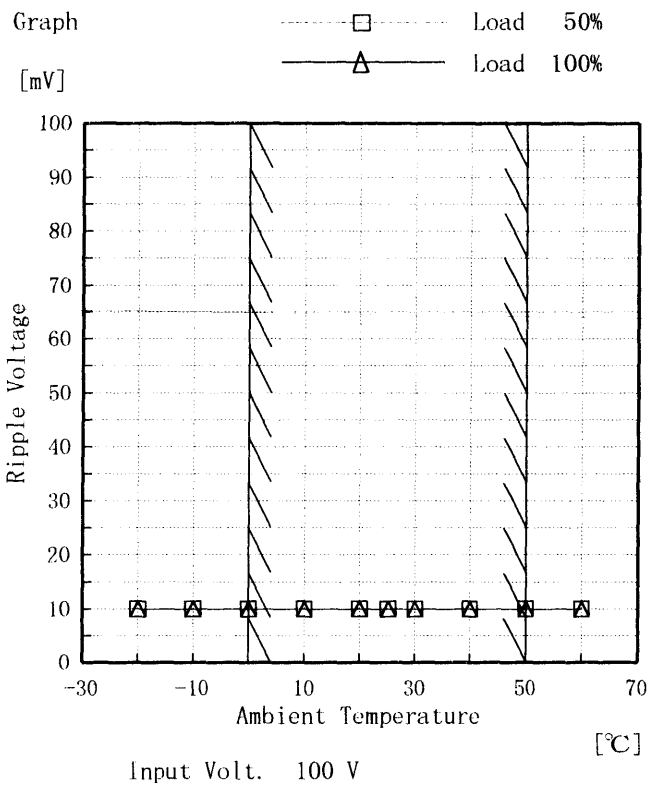
Ambient Temperature [℃]	Ripple Output Voltage [mV]	
	Load 50%	Load 100%
-20	35	40
-10	25	30
0	15	20
10	15	20
20	15	20
25	15	15
30	15	15
40	15	15
50	15	15
60	15	15
—	—	—

COSEL

Model	MMC100A-2
Item	Ripple Voltage (by Ambient Temp.) リップル電圧（周囲温度特性）
Object	−15.0V1A

Testing Circuitry Figure A

1. Graph



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 Temperature [℃]	Ripple Output Voltage [mV]	
	Load 50%	Load 100%
-20	10	10
-10	10	10
0	10	10
10	10	10
20	10	10
25	10	10
30	10	10
40	10	10
50	10	10
60	10	10
—	—	—

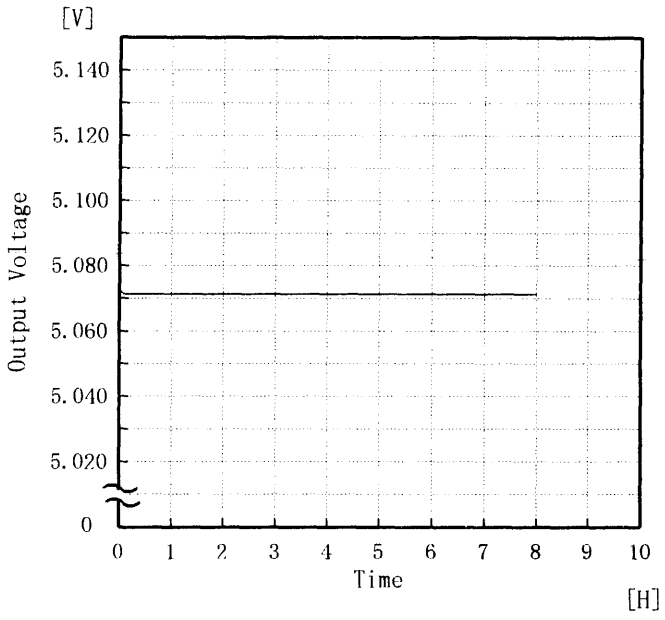
COSEL

Model	MMC100A-2
Item	Time Lapse Drift 経時ドリフト

Temperature 25℃
Testing Circuitry Figure A

Object +5.0V13A

1. Graph



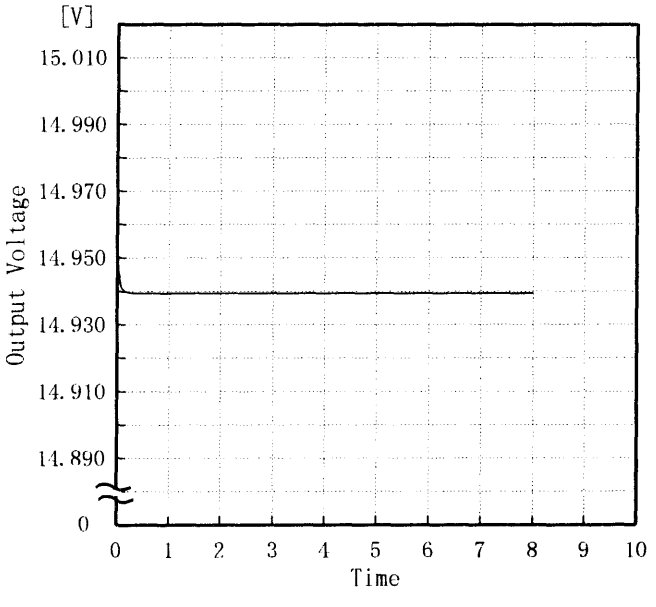
Input Volt. 100V
Load 100%

2. Values

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

Object +15.0V1.5A

1. Graph



Input Volt. 100V
Load 100%

2. Values

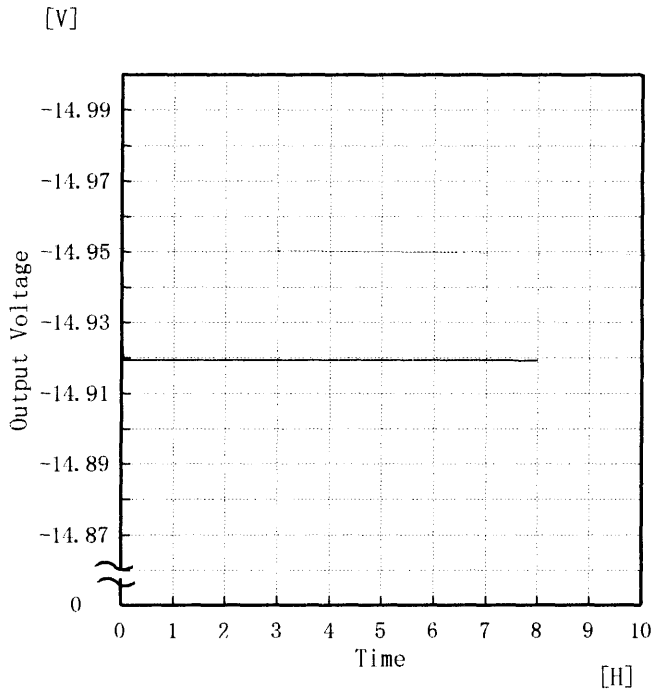
Time since start [H]	Output Voltage [V]
0.0	14.960
0.5	14.939
1.0	14.939
2.0	14.939
3.0	14.939
4.0	14.939
5.0	14.939
6.0	14.939
7.0	14.939
8.0	14.939

COSEL

Model	MMC100A-2
Item	Time Lapse Drift 経時ドリフト
Object	−15.0V1A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Input Volt. 100V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	-14.935
0.5	-14.919
1.0	-14.919
2.0	-14.919
3.0	-14.919
4.0	-14.919
5.0	-14.919
6.0	-14.919
7.0	-14.919
8.0	-14.919

COSEL

Model	MMC100A-2	
Item	Output Voltage Accuracy 定電圧精度	Testing Circuitry Figure A

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 : 0～50 ℃

Input Voltage : 85～132 V

Load Current (AVR 1) : 1.5～13 A (AVR 2) : 0～1.5 A (AVR 3) : 0～1 A

* Output Voltage Accuracy = ±(Maximum of Output Voltage − Minimum of Output Voltage)／2

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

1. 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 ℃

入力電圧 85～132 V

負荷電流 (AVR 1) : 1.5～13 A (AVR 2) : 0～1.5 A (AVR 3) : 0～1 A

* 定電圧精度(変動値) = ±(出力電圧の最高値−出力電圧の最低値)／2

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

2. Values

Object	+5.0V13A					
Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration)[%]
Maximum Voltage	0	85	1.5	5.097	±17	±0.4
Minimum Voltage	50	132	13.0	5.064		

Object	+15.0V1.5A					
Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration)[%]
Maximum Voltage	0	85	0.0	14.982	±43	±0.3
Minimum Voltage	50	132	1.5	14.897		

Object	−15.0V1A					
Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration)[%]
Maximum Voltage	0	132	0	-14.984	±42	±0.3
Minimum Voltage	50	132	1	-14.901		

COSEL

Model	MMC100A-2	
Item	Condensation 結露特性	Testing Circuitry Figure A

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

Object +5.0V13A

Item	Data	Testing Conditions
Output Voltage [V]	5.071	Input Volt.: 100V, Load Current:13A
Line Regulation [mV]	1	Input Volt.: 85～132V, Load Current:13A
Load Regulation [mV]	23	Input Volt.: 100V, Load Current:1.5～13A

Object +15.0V1.5A

Item	Data	Testing Conditions
Output Voltage [V]	14.934	Input Volt.: 100V, Load Current:1.5A
Line Regulation [mV]	2	Input Volt.: 85～132V, Load Current:1.5A
Load Regulation [mV]	10	Input Volt.: 100V, Load Current:0～1.5A

Object −15.0V1A

Item	Data	Testing Conditions
Output Voltage [V]	-14.923	Input Volt.: 100V, Load Current:1A
Line Regulation [mV]	1	Input Volt.: 85～132V, Load Current:1A
Load Regulation [mV]	29	Input Volt.: 100V, Load Current:0～1A

COSEL

Model	MMC100A-2		
Item	Leakage Current 漏洩電流	Temperature	25℃
		Testing Circuitry	Figure B
Object	————————		

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DENTORI	0.13	0.15	0.20
(B) IEC60950	0.13	0.15	0.21

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.

交流入力の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	MMC100A-2	
Item	Conducted Emission 雑音端子電圧	Testing Circuitry Figure D
Object	――――――	

1. Graph

Remarks

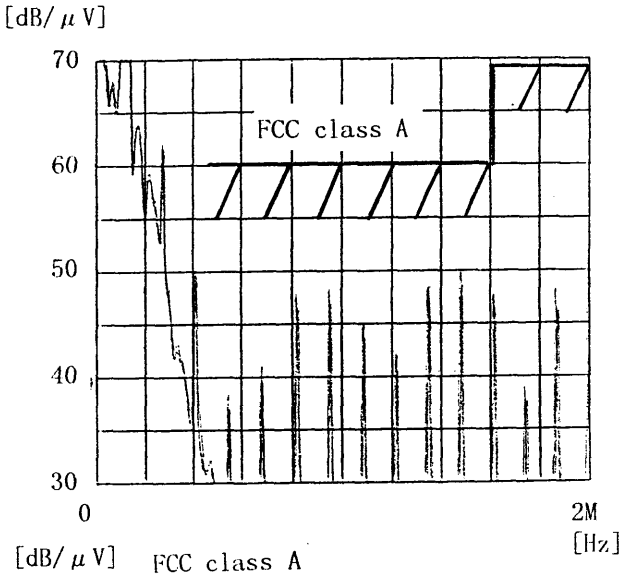
Input Volt. 120 V

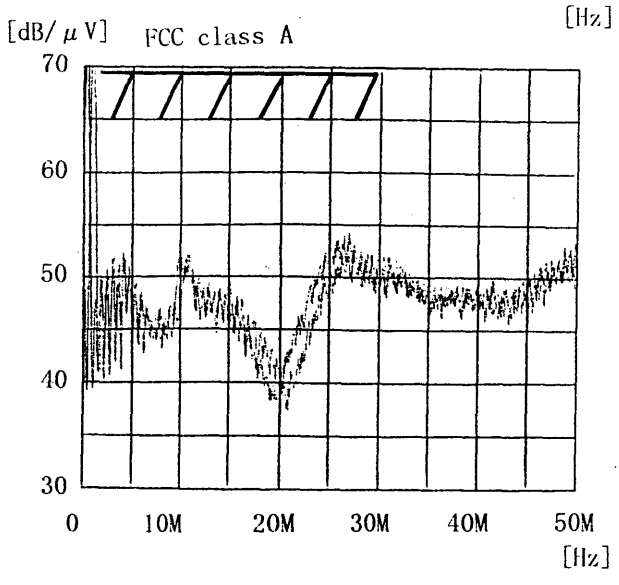
Load 100 %

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





COSEL

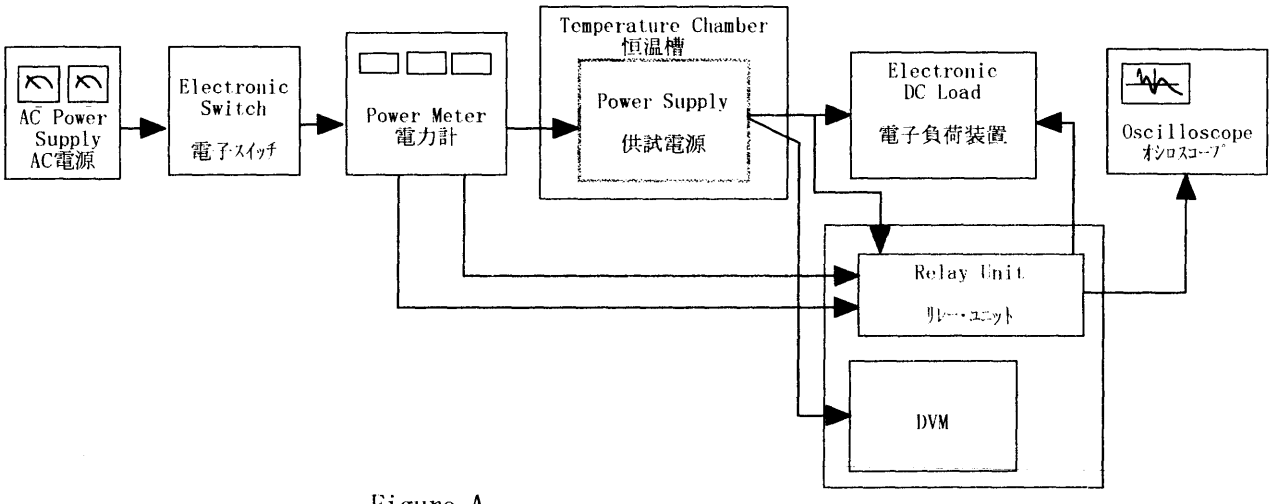


Figure A

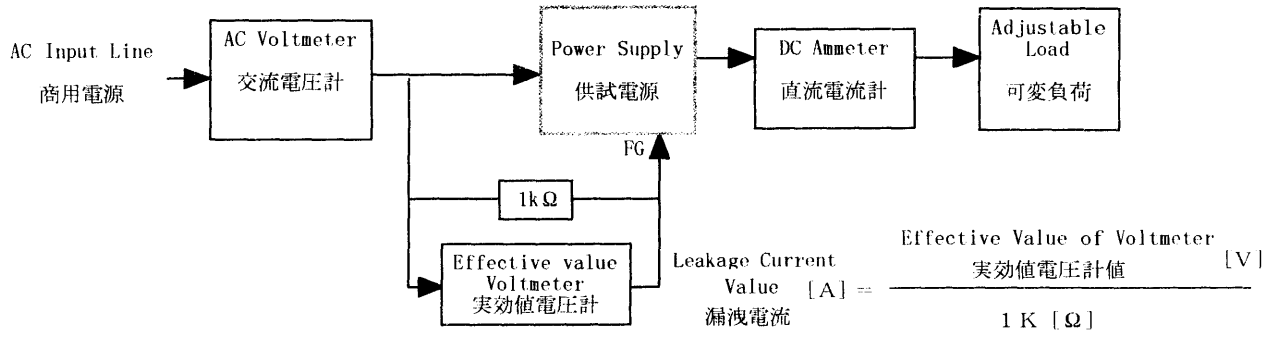


Figure B(DENTORI)

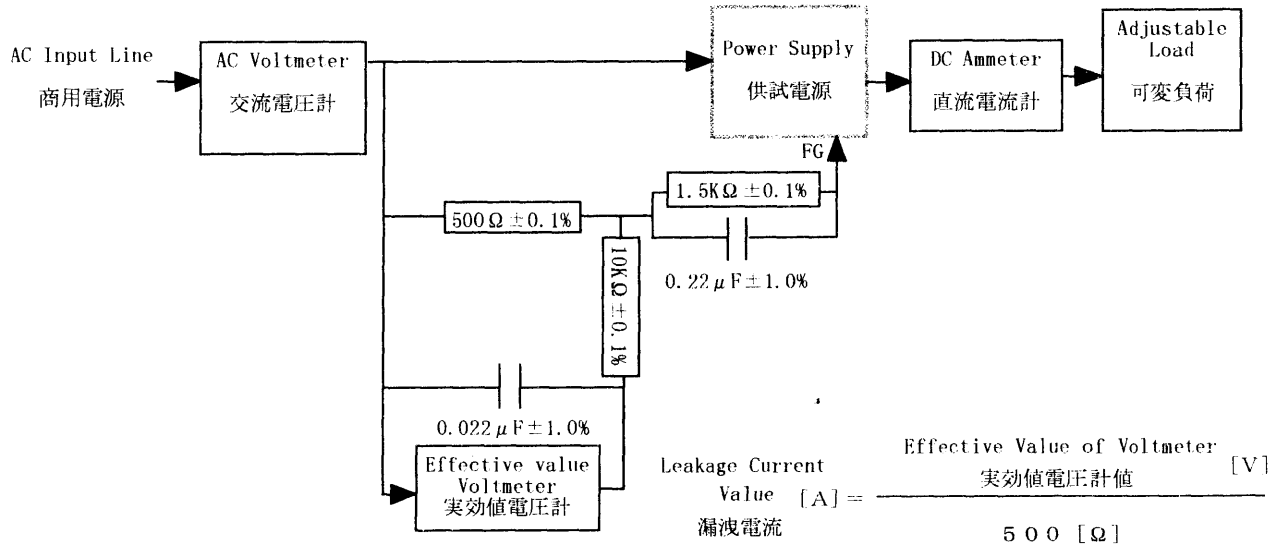


Figure B (IEC60950)

COSEL

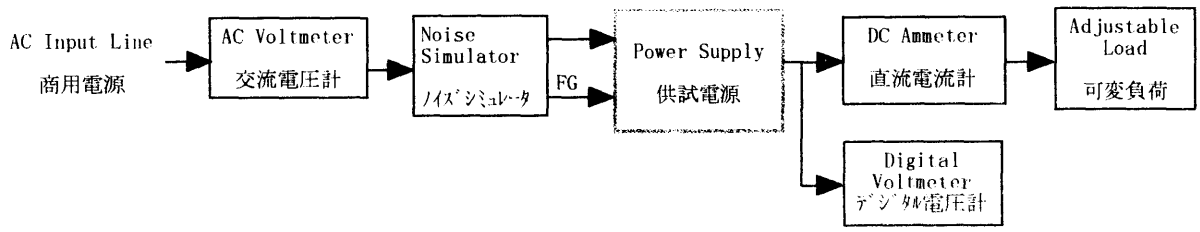


Figure C

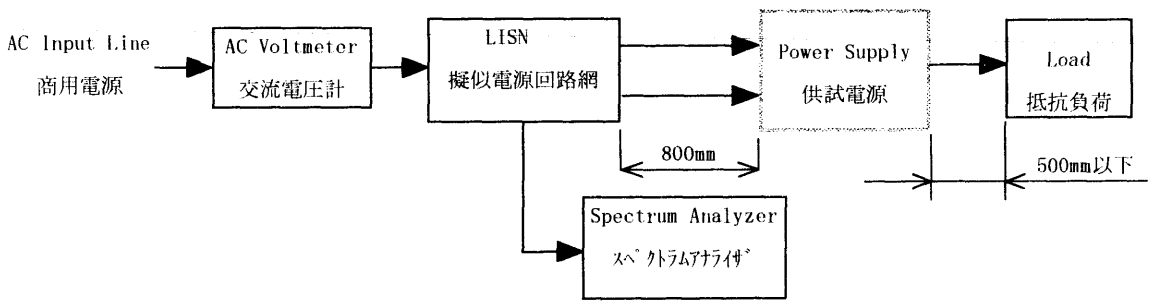


Figure D

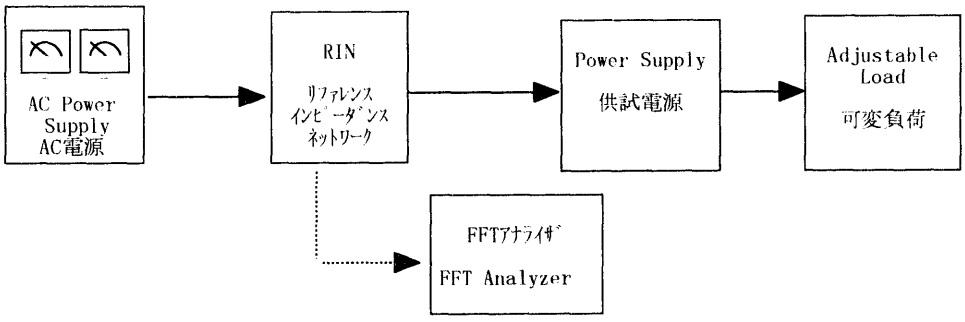


Figure E