参考資料

COSEL

TEST DATA OF RMC50A-2
(100V INPUT)

Regulated DC Power Supply

Date : Mar. 25. 1999

Approved by : H. Takashima
Design Manager

Prepared by : H. Asano
Design Engineer

コーセル株式会社

COSEL CO., LTD.

参考資料

COSEL

CONTENTS

1. Line Regulation ・・・・・・・・・・・・・・・・・・・・ 1
静的入力変動
2. Efficiency (by Input Voltage) ・・・・・・・・・・・・ 3
効率（入力電圧特性）
3. Power Factor (by Input Voltage) ・・・・・・・・・・・ 4
力率（入力電圧特性）
4. Hold-Up Time ・・・・・・・・・・・・・・・・・・・・・ 5
出力保持時間
5. Instantaneous Interruption Compensation ・・・・・・ 8
瞬時停電保障
6. Load Regulation ・・・・・・・・・・・・・・・・・・・ 11
静的負荷変動
7. Ripple Voltage (by Load Current) ・・・・・・・・・・ 13
リップル電圧（負荷特性）
8. Ripple-Noise ・・・・・・・・・・・・・・・・・・・・・ 16
リップルノイズ
9. Overcurrent Protection ・・・・・・・・・・・・・・・ 19
過電流保護
10. Overvoltage Protection ・・・・・・・・・・・・・・・ 21
過電圧保護
11. Inrush Current ・・・・・・・・・・・・・・・・・・・・ 22
突入電流
12. Dynamic Load Responce ・・・・・・・・・・・・・・・ 23
動的負荷変動
13. Rise and Fall Time ・・・・・・・・・・・・・・・・・ 26
立上り、立下がり時間
14. Ambient Temperature Drift ・・・・・・・・・・・・・ 29
周囲温度変動
15. Minimum Input Voltage for Regulated Output Voltage ・ 31
最低レギュレーション電圧
16. Ripple Voltage (by Ambient Temperature) ・・・・・・ 33
リップル電圧（周囲温度特性）
17. Time Lapse Drift ・・・・・・・・・・・・・・・・・・ 35
経時ドリフト
18. Output Voltage Accuracy ・・・・・・・・・・・・・・ 37
定電圧精度
19. Condensation ・・・・・・・・・・・・・・・・・・・・ 38
結露特性
20. Leakage Current ・・・・・・・・・・・・・・・・・・ 41
漏洩電流
21. Conducted Emission ・・・・・・・・・・・・・・・・・ 42
雑音端子電圧
22. Figure of Testing Circuitry ・・・・・・・・・・・・・ 43
測定回路図

(Final Page 44)

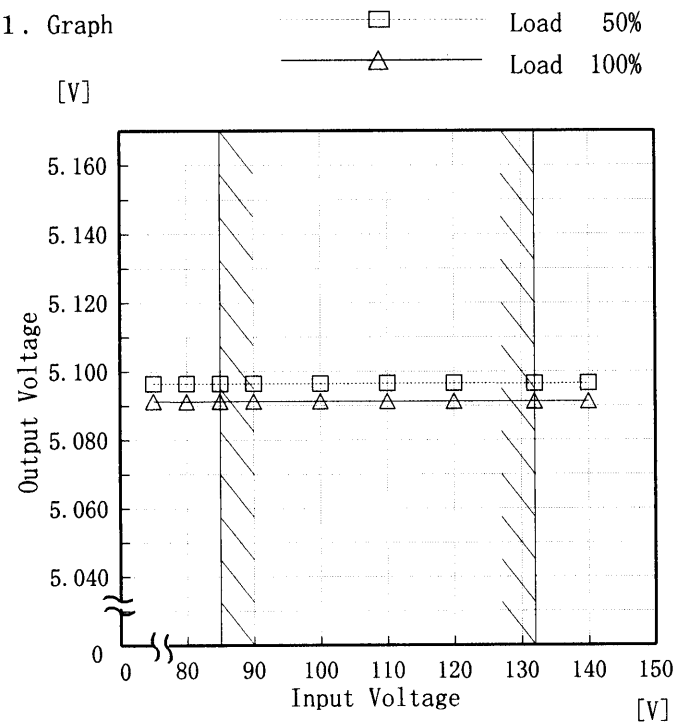
COSEL

Model	RMC50A-2
Item	Line Regulation 静的入力変動

Temperature 25℃
Testing Circuitry Figure A

Object +5.0V5A

1. Graph

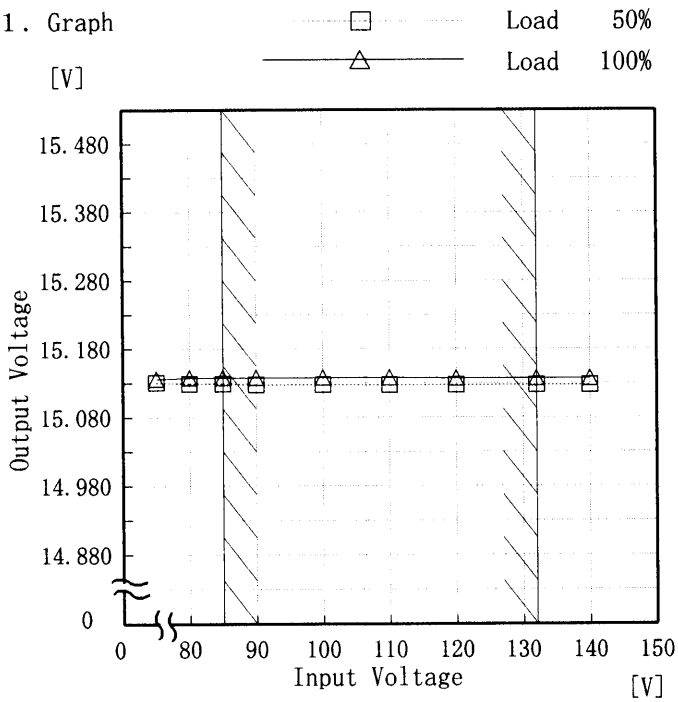


2. Values

Input Voltage [V]	Load 50% Output Volt. [V]	Load 100% Output Volt. [V]
75	5.097	5.091
80	5.097	5.091
85	5.097	5.091
90	5.097	5.091
100	5.097	5.091
110	5.097	5.091
120	5.097	5.091
132	5.097	5.091
140	5.097	5.091

Object +15V1.20A

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]	Load 50% Output Volt. [V]	Load 100% Output Volt. [V]
75	15.131	15.136
80	15.129	15.138
85	15.129	15.138
90	15.128	15.138
100	15.128	15.138
110	15.127	15.138
120	15.127	15.137
132	15.127	15.137
140	15.127	15.137

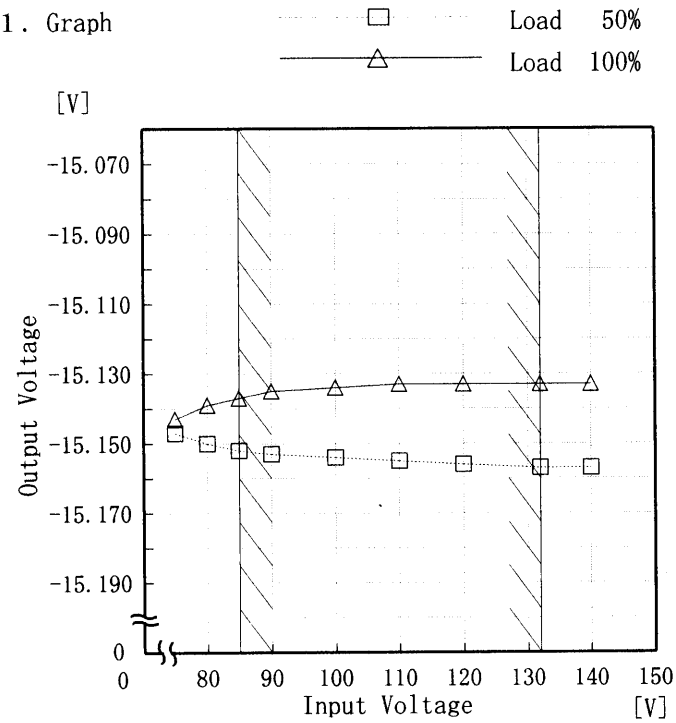
BC-3218

COSEL

Model	RMC50A-2
Item	Line Regulation 静的入力変動
Object	-15.0V0.5A

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]	Load 50% Output Volt. [V]	Load 100% Output Volt. [V]
75	-15.147	-15.143
80	-15.150	-15.139
85	-15.152	-15.137
90	-15.153	-15.135
100	-15.154	-15.134
110	-15.155	-15.133
120	-15.156	-15.133
132	-15.157	-15.133
140	-15.157	-15.133

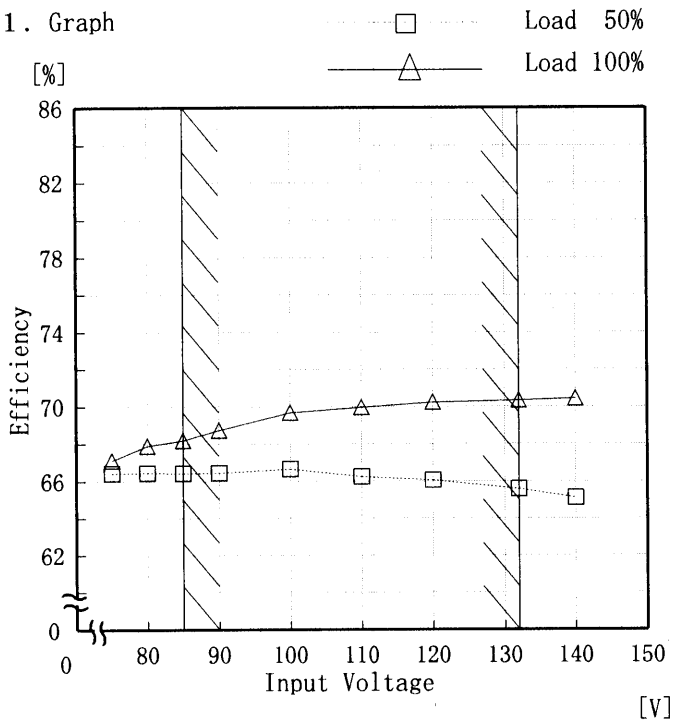
BC-3218

COSEL

Model	RMC50A-2
Item	Efficiency 効率
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]	Load 50% Efficiency [%]	Load 100% Efficiency [%]
75	66.4	67.1
80	66.5	67.9
85	66.4	68.2
90	66.5	68.7
100	66.6	69.7
110	66.2	70.0
120	66.1	70.2
132	65.6	70.3
140	65.1	70.4

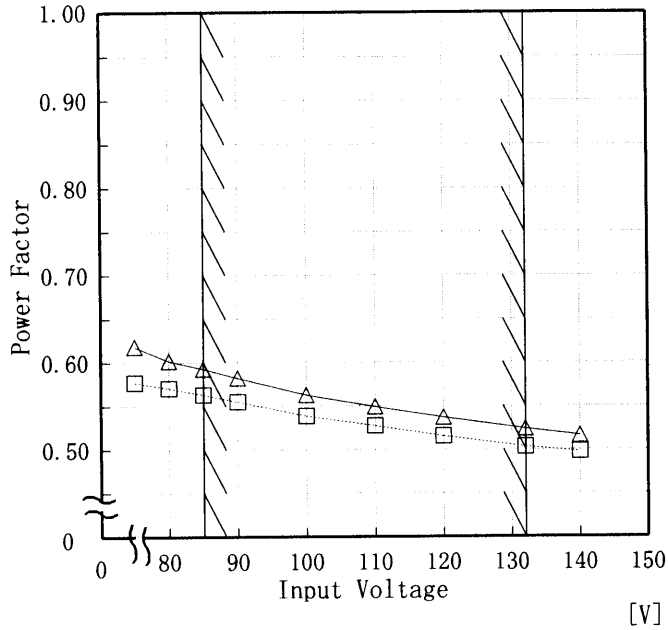
BC-3218

COSEL

Model	RMC50A-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

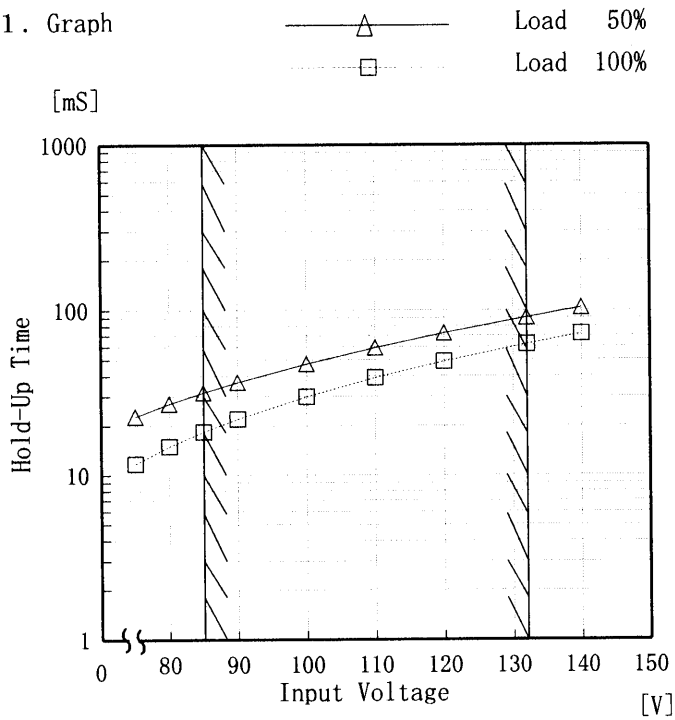
Input Voltage [V]	load 50% Power Factor	load 100% Power Factor
75	0.58	0.62
80	0.57	0.60
85	0.56	0.59
90	0.55	0.58
100	0.54	0.56
110	0.53	0.55
120	0.52	0.54
132	0.50	0.52
140	0.50	0.52

COSEL

Model	RMC50A-2
Item	Hold-Up Time 出力保持時間
Object	+5.0V5A

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]	Load 50% Hold-Up Time [mS]	Load 100% Hold-Up Time [mS]
75	23	12
80	27	15
85	32	18
90	37	22
100	47	30
110	59	39
120	73	49
132	90	62
140	104	72

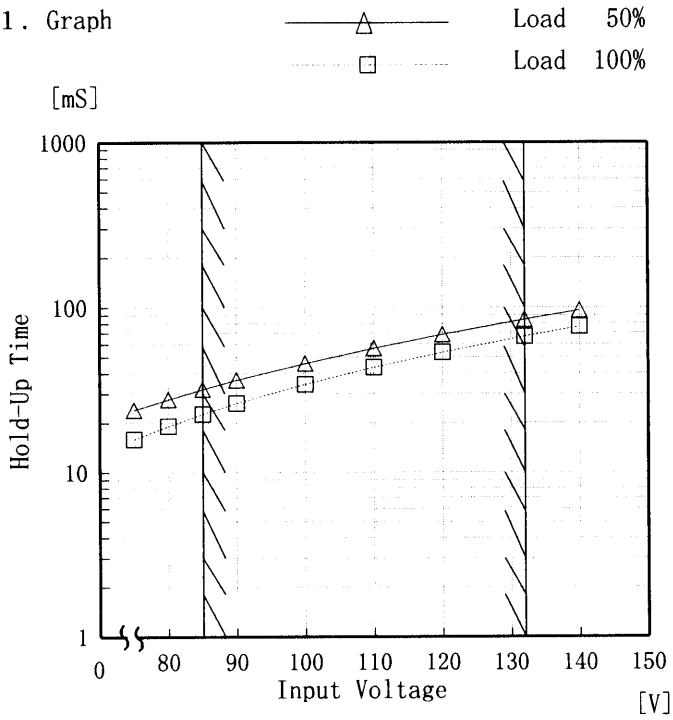
BC-3218

COSEL

Model	RMC50A-2
Item	Hold-Up Time 出力保持時間
Object	+15.0V1.2A

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]	Load 50% Hold-Up Time [mS]	Load 100% Hold-Up Time [mS]
75	24	16
80	28	19
85	32	23
90	36	26
100	46	34
110	57	43
120	68	53
132	85	67
140	96	76

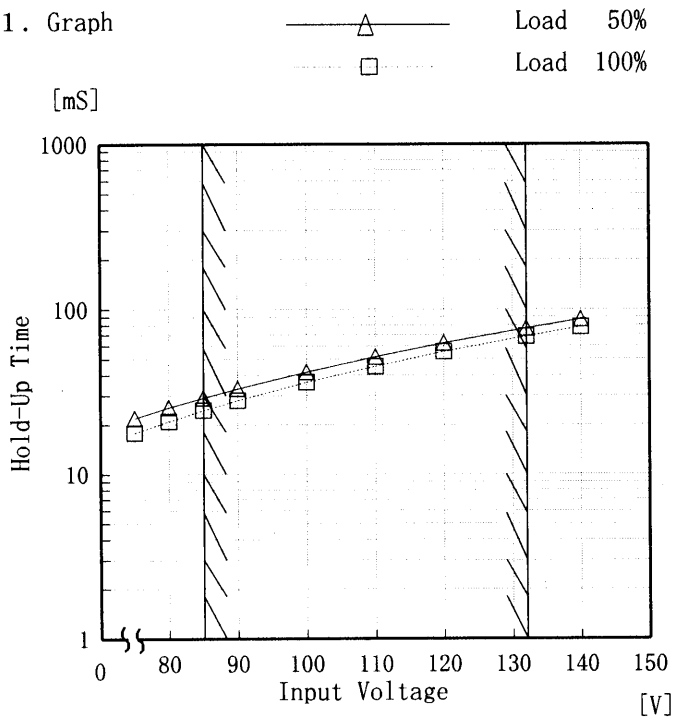
BC-3218

COSEL

Model	RMC50A-2
Item	Hold-Up Time 出力保持時間
Object	-15.0V0.5A

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

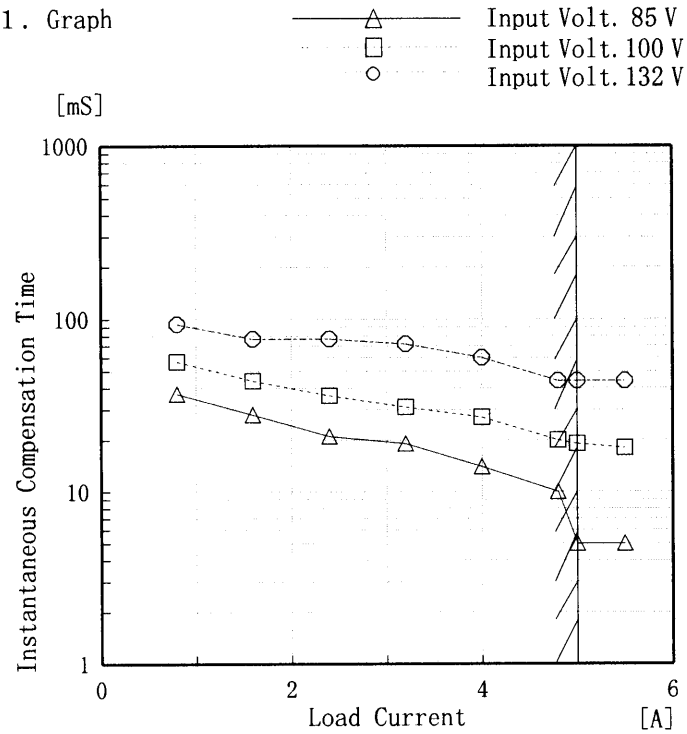
Input Voltage [V]	Load 50% Hold-Up Time [mS]	Load 100% Hold-Up Time [mS]
75	22	18
80	25	21
85	29	25
90	33	28
100	42	36
110	52	45
120	62	55
132	77	69
140	87	78

BC-3218

COSEL

Model	RMC50A-2		
Item	Instantaneous Interruption Compensation 瞬時停電保障	Temperature Testing Circuitry	25℃ Figure A
Object	+5.0V5A		

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

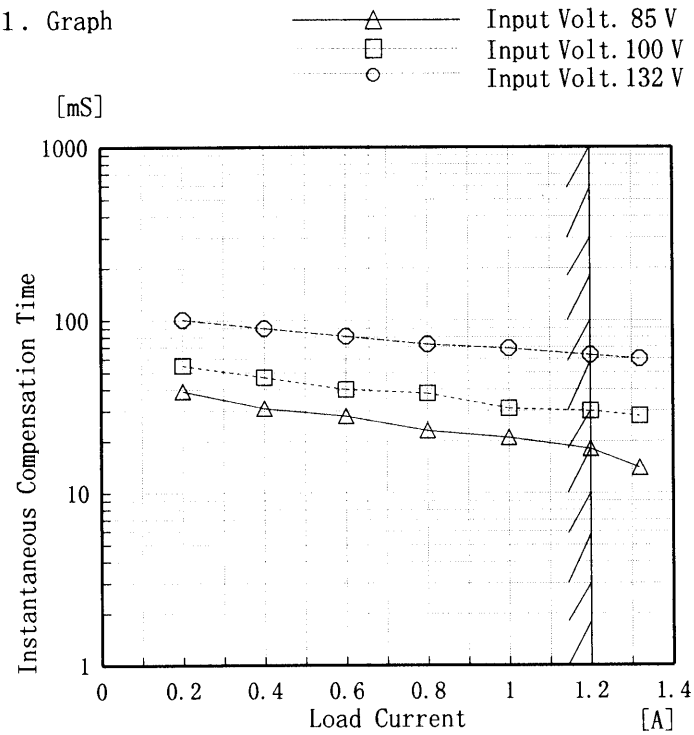
Load Current [A]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Time [mS]		
0.0	—	—	—
0.8	37	57	94
1.6	28	44	77
2.4	21	36	77
3.2	19	31	72
4.0	14	27	60
4.8	10	20	44
5.0	5	19	44
5.5	5	18	44
—	—	—	—
—	—	—	—

COSEL

Model	RMC50A-2
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	+15.0V1.2A

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]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Time [mS]		
0.00	—	—	—
0.20	39	55	101
0.40	31	47	90
0.60	28	40	81
0.80	23	38	73
1.00	21	31	69
1.20	18	30	63
1.20	18	30	63
1.32	14	28	60
—	—	—	—
—	—	—	—

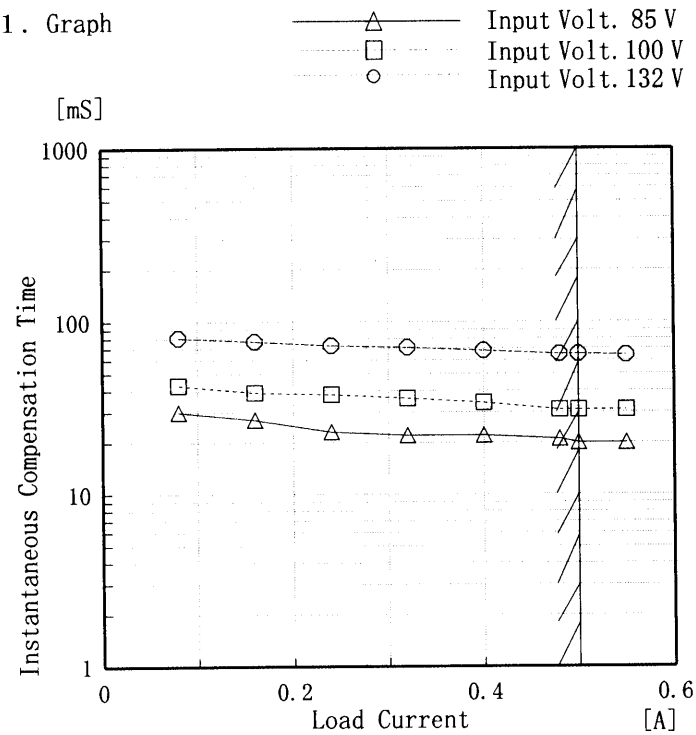
BC-3218

COSEL

Model	RMC50A-2
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	-15.0V0.5A

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 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]		
0.00	—	—	—
0.08	30	43	81
0.16	27	39	77
0.24	23	38	73
0.32	22	36	71
0.40	22	34	68
0.48	21	31	65
0.50	20	31	65
0.55	20	31	64
—	—	—	—
—	—	—	—

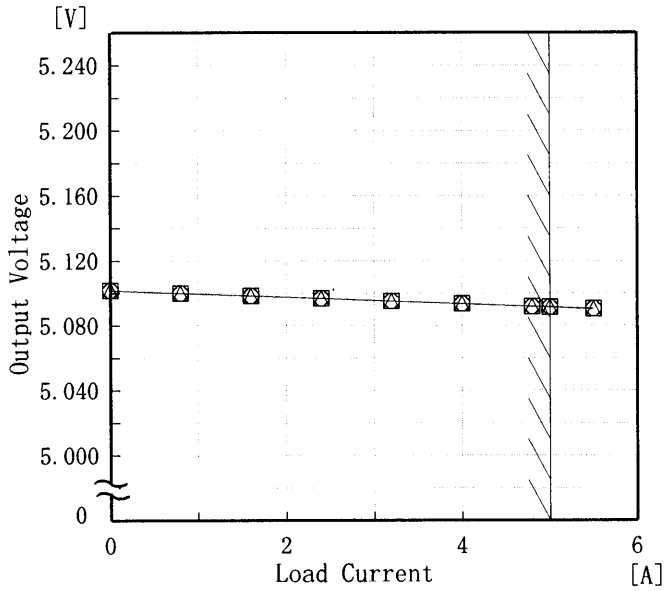
COSEL

Model	RMC50A-2
Item	Load Regulation 静的負荷変動

Temperature 25℃
Testing Circuitry Figure A

Object +5.0V5A

1. Graph

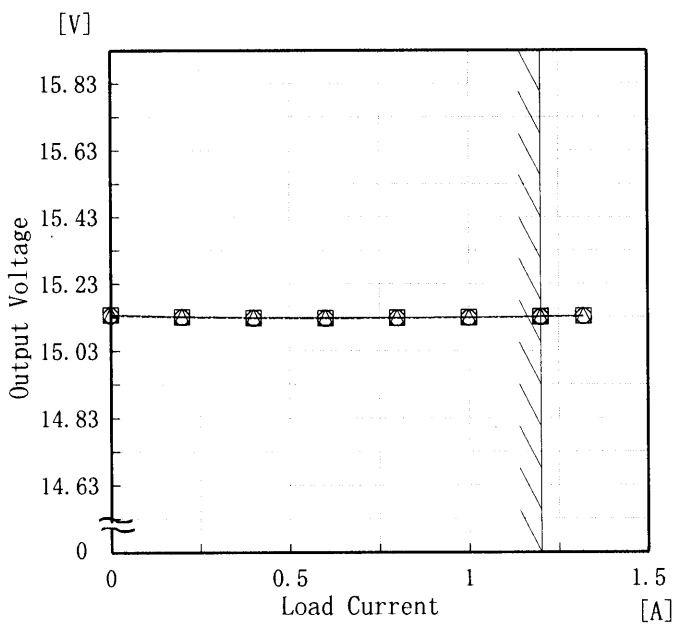


2. Values

Load Current [A]	Input Volt. 85[V] Output Volt. [V]	Input Volt. 100[V] Output Volt. [V]	Input Volt. 132[V] Output Volt. [V]
0.0	5.102	5.102	5.102
0.8	5.100	5.100	5.100
1.6	5.099	5.099	5.098
2.4	5.097	5.097	5.097
3.2	5.095	5.095	5.095
4.0	5.094	5.094	5.094
4.8	5.092	5.092	5.092
5.0	5.091	5.092	5.092
5.5	5.090	5.090	5.090
—	—	—	—

Object +15V1.2A

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]	Input Volt. 85[V] Output Volt. [V]	Input Volt. 100[V] Output Volt. [V]	Input Volt. 132[V] Output Volt. [V]
0.00	15.139	15.138	15.136
0.20	15.133	15.131	15.130
0.40	15.130	15.128	15.127
0.60	15.129	15.127	15.126
0.80	15.129	15.128	15.127
1.00	15.130	15.129	15.128
1.20	15.132	15.131	15.130
1.20	15.133	15.132	15.131
1.32	15.134	15.133	15.132
—	—	—	—

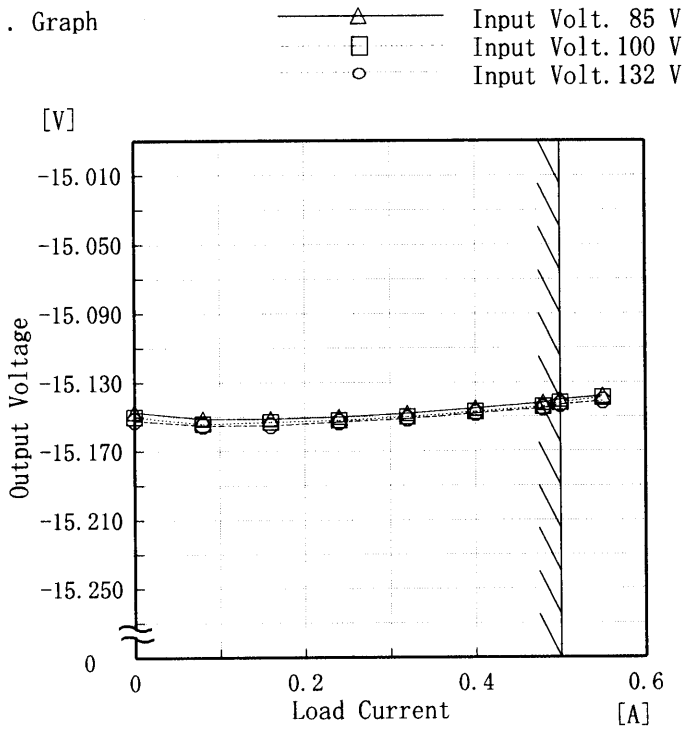
BC-3218

COSEL

Model	RMC50A-2
Item	Load Regulation 静的負荷変動
Object	-15.0V0.5A

Temperature 25℃
Testing Circuitry Figure A

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

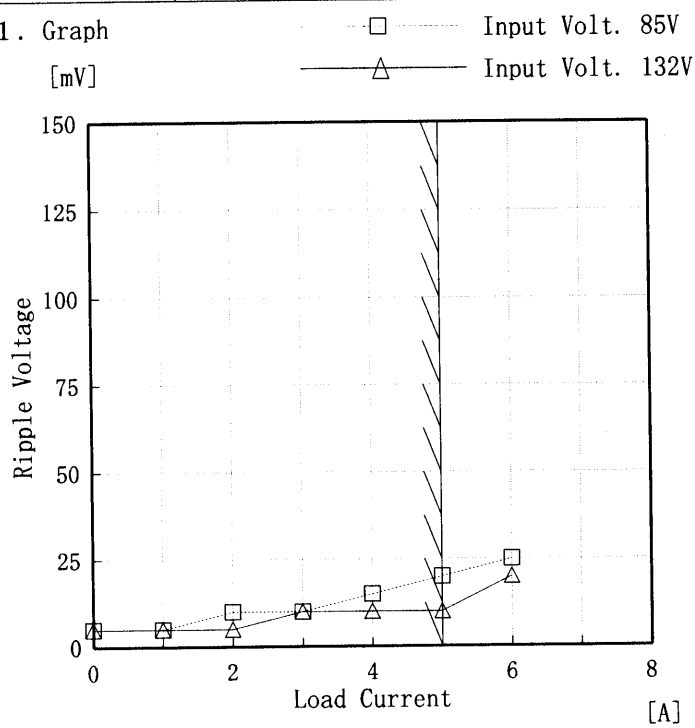
Load Current [A]	Input Volt. 85[V] Output Volt. [V]	Input Volt. 100[V] Output Volt. [V]	Input Volt. 132[V] Output Volt. [V]
0.00	-15.147	-15.150	-15.152
0.08	-15.151	-15.154	-15.155
0.16	-15.151	-15.153	-15.155
0.24	-15.150	-15.152	-15.153
0.32	-15.148	-15.150	-15.151
0.40	-15.145	-15.147	-15.148
0.48	-15.142	-15.144	-15.145
0.50	-15.140	-15.142	-15.143
0.55	-15.138	-15.139	-15.141
—	—	—	—

COSEL

Model	RMC50A-2
Item	Ripple Voltage(by Load Current) リップル電圧(負荷電流特性)
Object	+5.0V5.00A

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

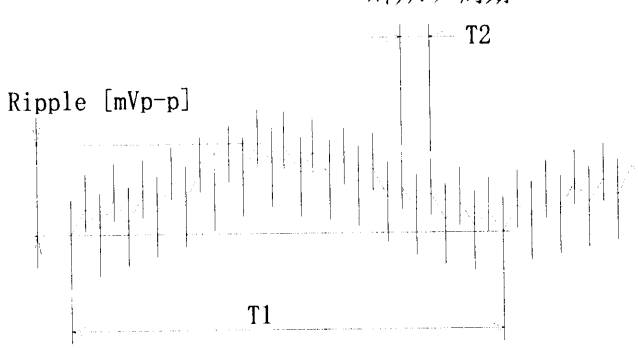


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

Load Current [A]	Input Volt. 85 [V] Ripple Output Volt. [mV]	Input Volt. 132 [V] Ripple Output Volt. [mV]
0.0	5	5
1.0	5	5
2.0	10	5
3.0	10	10
4.0	15	10
5.0	20	10
6.0	25	20
—	—	—
—	—	—
—	—	—
—	—	—

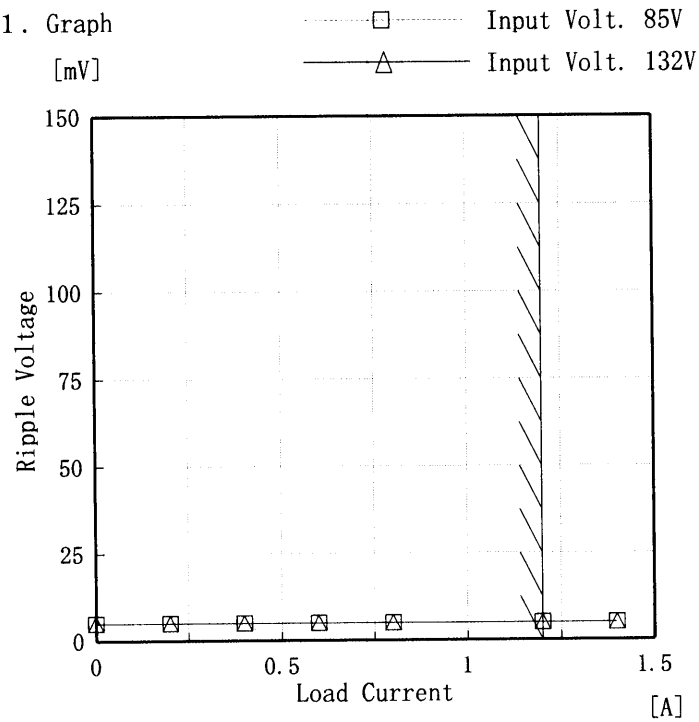
BC-3218

COSEL

Model	RMC50A-2
Item	Ripple Voltage(by Load Current) リップル電圧(負荷電流特性)
Object	+15.0V1.2A

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

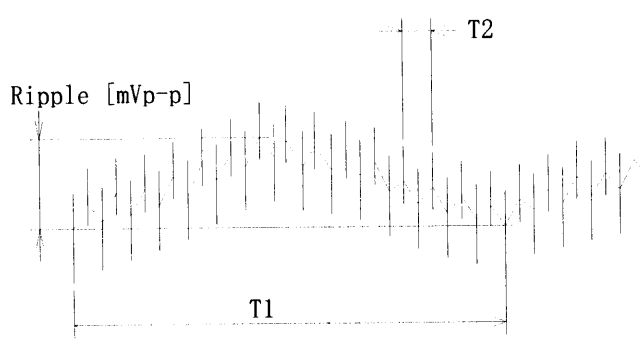


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

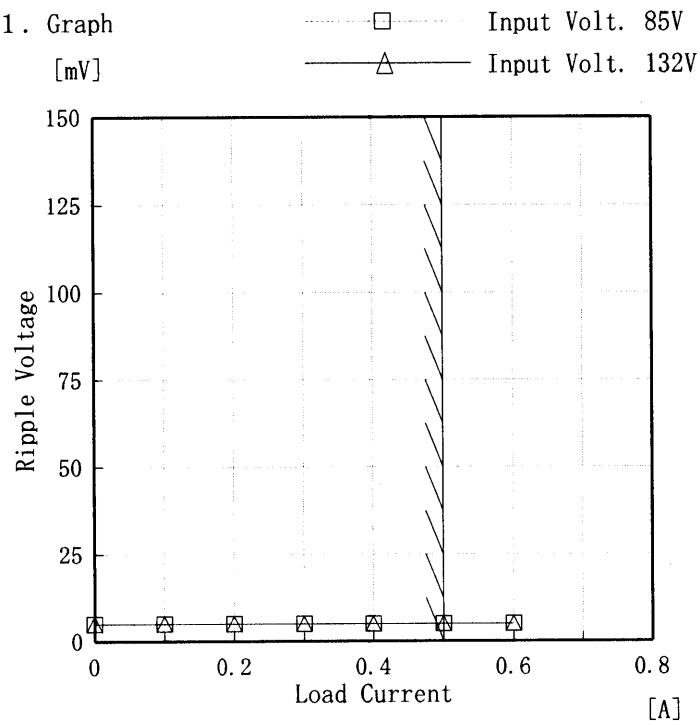
Load Current [A]	Input Volt. 85 [V] Ripple Output Volt. [mV]	Input Volt. 132 [V] Ripple Output Volt. [mV]
0.0	5	5
0.2	5	5
0.4	5	5
0.6	5	5
0.8	5	5
1.2	5	5
1.4	5	5
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	RMC50A-2
Item	Ripple Voltage(by Load Current) リップル電圧(負荷電流特性)
Object	-15.0V0.5A

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

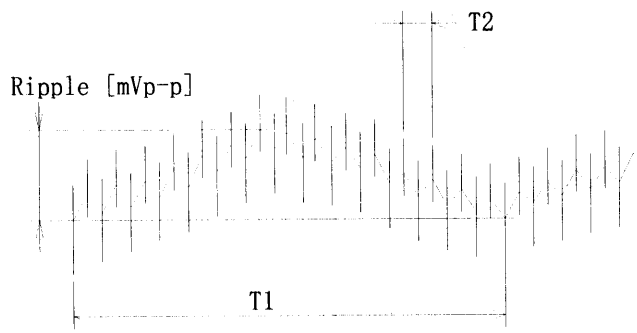


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

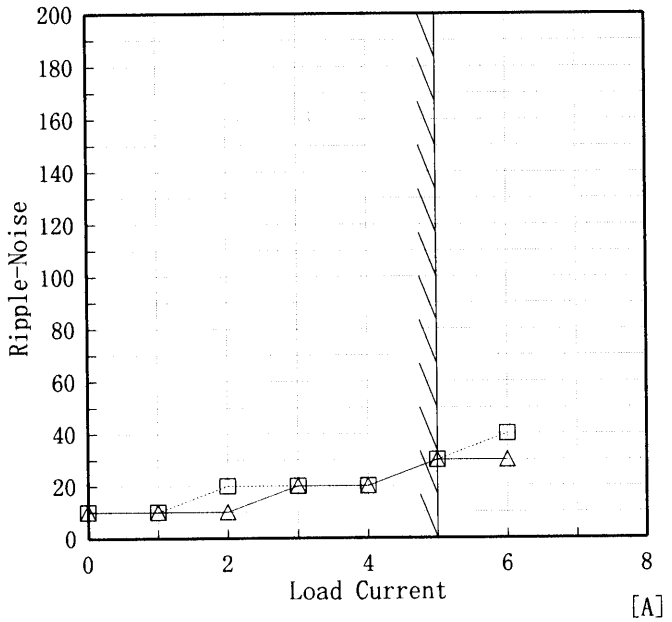
Load Current [A]	Input Volt. 85 [V] Ripple Output Volt. [mV]	Input Volt. 132 [V] Ripple Output Volt. [mV]
0.0	5	5
0.1	5	5
0.2	5	5
0.3	5	5
0.4	5	5
0.5	5	5
0.6	5	5
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	RMC50A-2
Item	Ripple-Noise リップルノイズ
Object	+5.0V5.00A

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

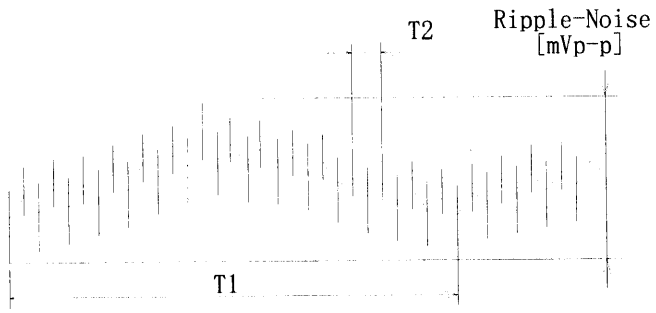


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

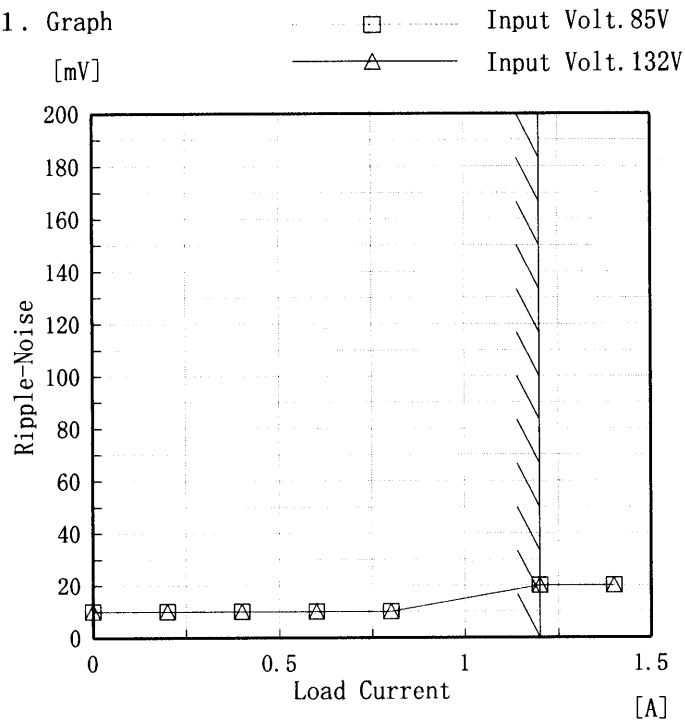
Load current [A]	Input Volt. 85 [V] Ripple-Noise [mV]	Input Volt. 132 [V] Ripple-Noise [mV]
0.0	10	10
1.0	10	10
2.0	20	10
3.0	20	20
4.0	20	20
5.0	30	30
6.0	40	30
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	RMC50A-2
Item	Ripple-Noise リップルノイズ
Object	+15.0V1.20A

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

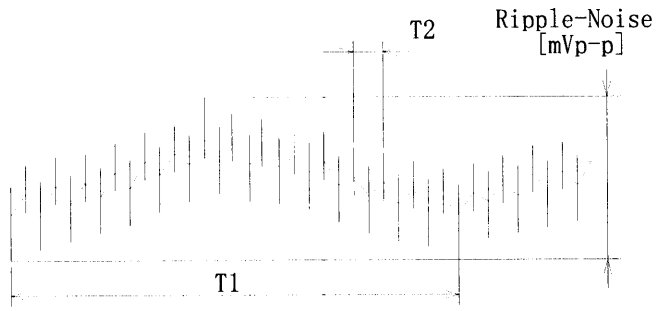


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

Load current [A]	Input Volt. 85 [V] Ripple-Noise [mV]	Input Volt. 132 [V] Ripple-Noise [mV]
0.0	10	10
0.2	10	10
0.4	10	10
0.6	10	10
0.8	10	10
1.2	20	20
1.4	20	20
—	—	—
—	—	—
—	—	—
—	—	—

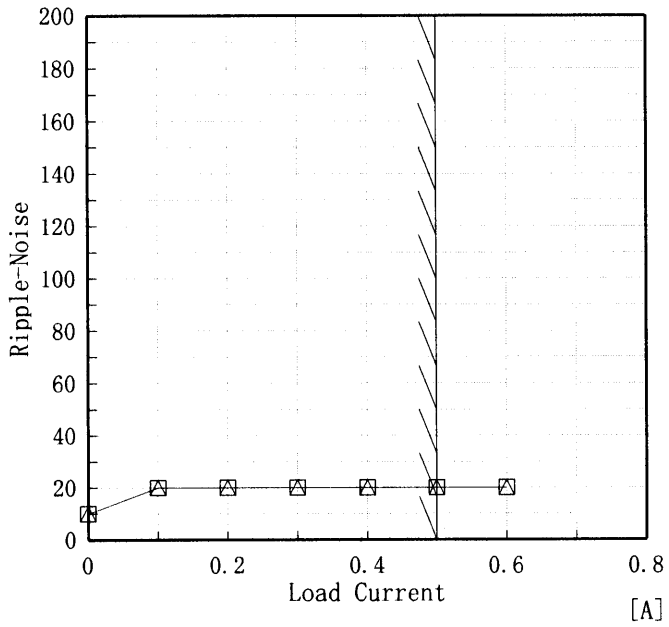
BC-3218

COSEL

Model	RMC50A-2
Item	Ripple-Noise リップルノイズ
Object	-15.0V0.5A

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

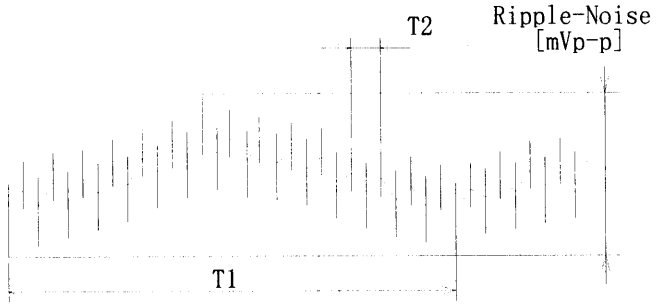


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

Load current [A]	Input Volt. 85 [V] Ripple-Noise [mV]	Input Volt. 132 [V] Ripple-Noise [mV]
0.0	10	10
0.1	20	20
0.2	20	20
0.3	20	20
0.4	20	20
0.5	20	20
0.6	20	20
—	—	—
—	—	—
—	—	—
—	—	—

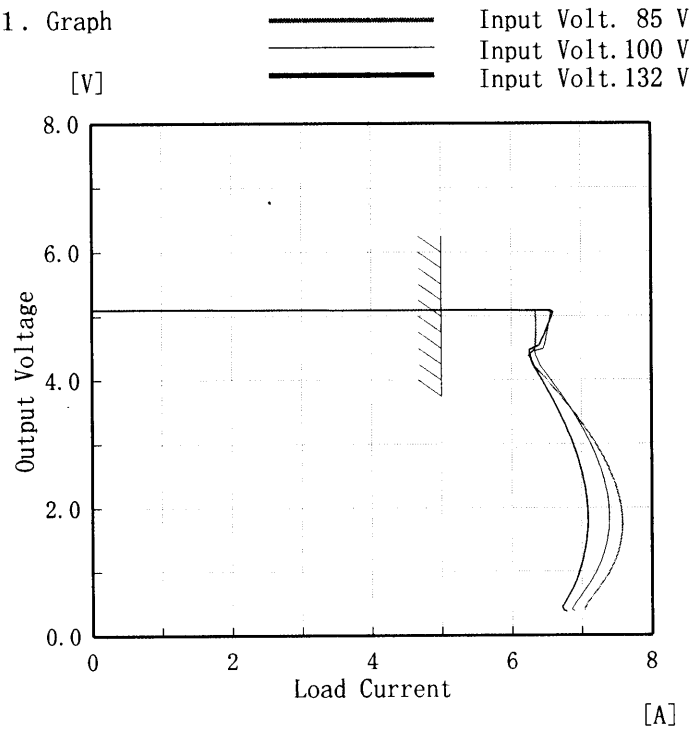
COSEL

Model	RMC50A-2
Item	Overcurrent Protection 過電流保護

Temperature 25℃
Testing Circuitry Figure A

Object +5.0V5A

1. Graph

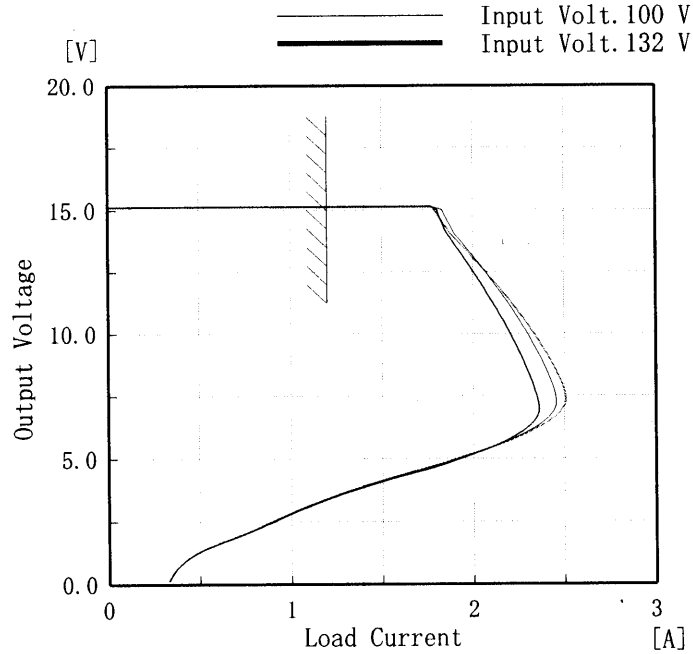


2. Values

Output Voltage [V]	Input Volt. 85[V] Load Current [A]	Input Volt. 100[V] Load Current [A]	Input Volt. 132[V] Load Current [A]
5.00	6.35	6.55	6.56
4.75	6.36	6.54	6.53
4.50	6.34	6.45	6.26
4.00	6.55	6.60	6.44
3.50	6.92	6.90	6.68
3.00	7.21	7.14	6.88
2.50	7.44	7.31	7.02
2.00	7.57	7.39	7.08
1.50	7.56	7.36	7.07
1.00	7.39	7.19	6.95
0.50	7.07	6.90	6.73
0.00	7.04	6.90	6.79

Object +15V1.2A

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]	Input Volt. 85[V] Load Current [A]	Input Volt. 100[V] Load Current [A]	Input Volt. 132[V] Load Current [A]
15.00	1.791	1.837	1.808
14.25	1.857	1.888	1.847
13.50	1.955	1.961	1.913
12.00	2.137	2.123	2.050
10.50	2.297	2.263	2.173
9.00	2.421	2.373	2.271
7.50	2.508	2.453	2.350
6.00	2.259	2.248	2.227
4.50	1.655	1.648	1.677
3.00	1.045	1.009	1.021
1.50	0.532	0.530	0.532
0.00	0.323	0.322	0.324

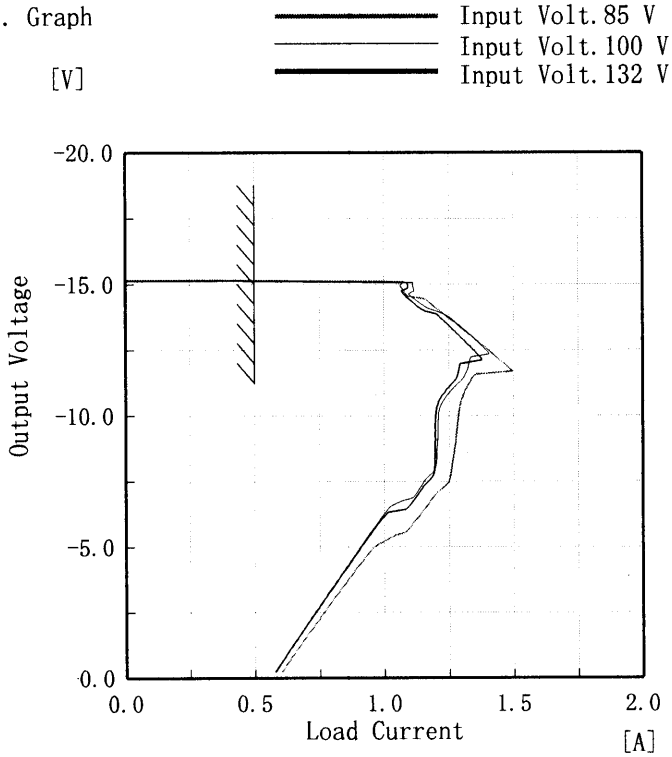
BC-3218

COSEL

Model	RMC50A-2
Item	Overcurrent Protection 過電流保護
Object	-15.0V0.50A

Temperature 25℃
Testing Circuitry Figure A

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

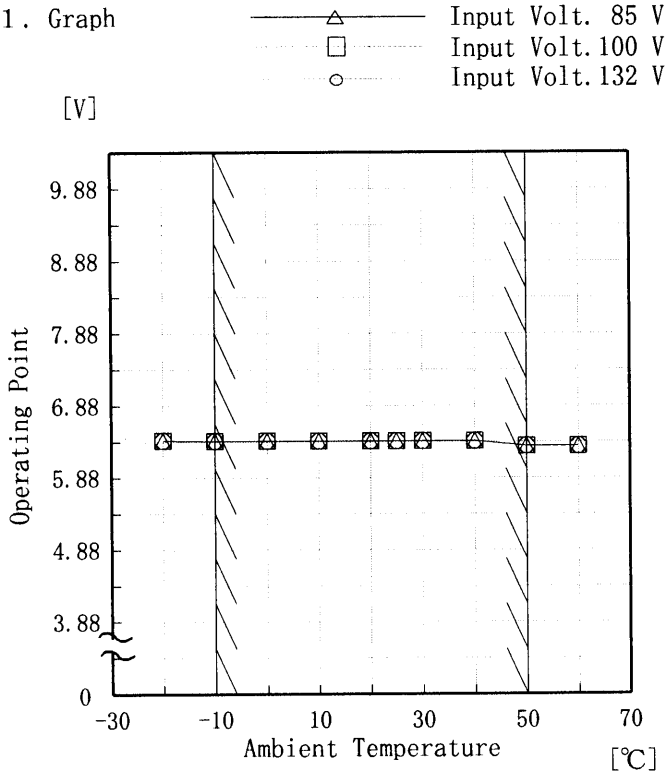
Output Voltage [V]	Input Volt. 85[V] Load Current [A]	Input Volt. 100[V] Load Current [A]	Input Volt. 132[V] Load Current [A]
-15.00	1.06	1.11	1.09
-14.25	1.19	1.15	1.13
-13.50	1.28	1.29	1.25
-12.00	1.47	1.32	1.29
-10.50	1.29	1.22	1.21
-9.00	1.27	1.20	1.20
-7.50	1.25	1.15	1.16
-6.00	1.11	0.98	0.98
-4.50	0.91	0.87	0.87
-3.00	0.79	0.76	0.77
-1.50	0.69	0.66	0.66
0.00	0.60	0.57	0.58

COSEL

Model	RMC50A-2
Item	Overvoltage Protection 過電圧保護
Object	+5.0V5A

Testing Circuitry Figure A

1. Graph



Load 0%

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

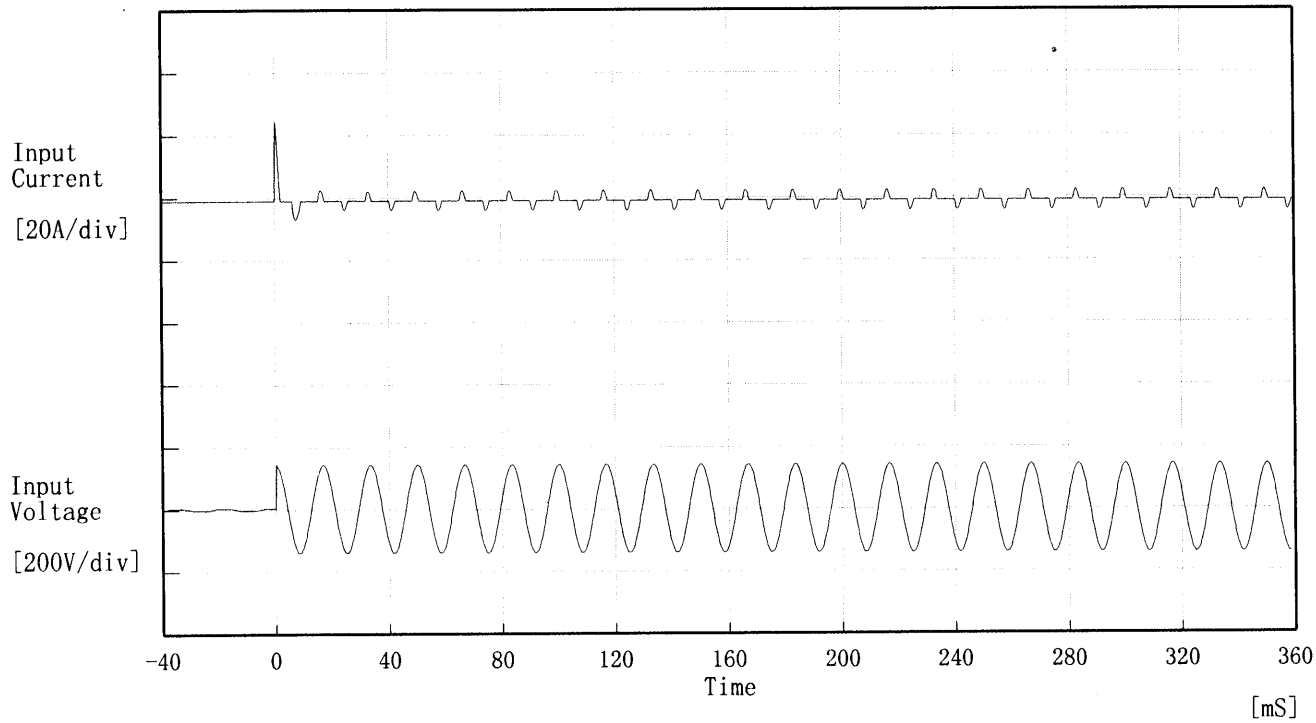
(注)斜線は定格周囲温度範囲を示す。

2. Values

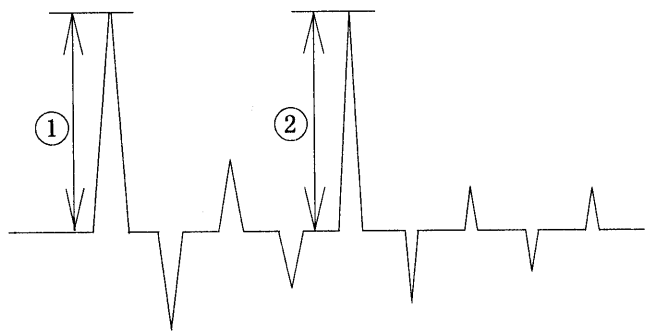
Ambient Temp. [℃]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Operating Point [V]		
-20	6.40	6.40	6.40
-10	6.39	6.39	6.39
0	6.39	6.39	6.39
10	6.39	6.39	6.39
20	6.39	6.39	6.39
25	6.39	6.39	6.39
30	6.39	6.39	6.39
40	6.39	6.39	6.39
50	6.32	6.32	6.32
60	6.32	6.32	6.32
—	—	—	—

COSEL

Model	RMC50A-2	Temperature 25℃
Item	Inrush Current 突入電流	Testing Circuitry Figure A
Object	――――――――	



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



BC-3218

COSEL

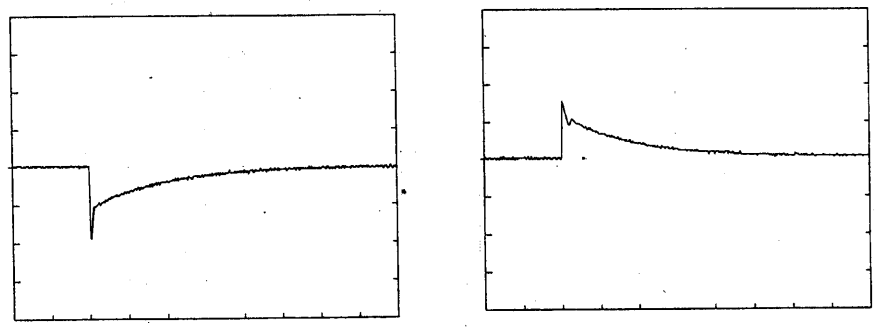
Model	RMC50A-2		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	+5.0V5.00A		

Input Volt. 100 V

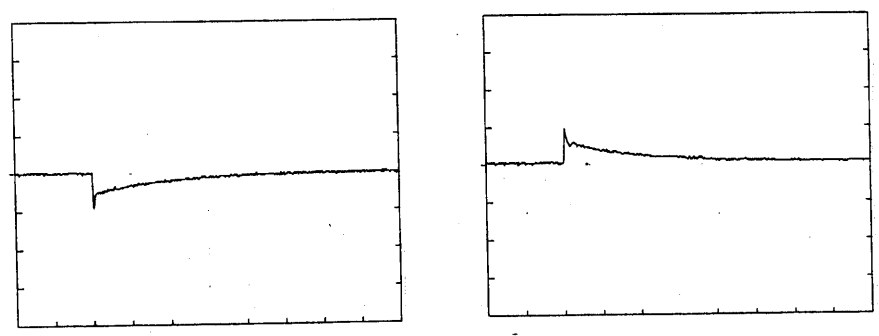
Cycle 200 mS

Load Current

Load 0% ⟷
Load 100 %



Load 0% ⟷
Load 50 %



100 mV/div

10 mS/div

COSEL

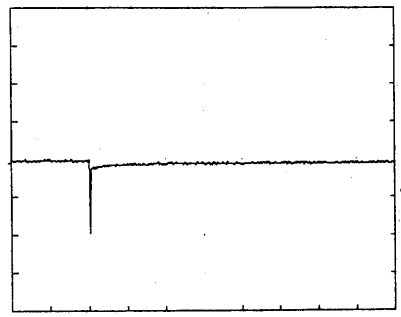
Model	RMC50A-2		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	+15.0V1.20A		

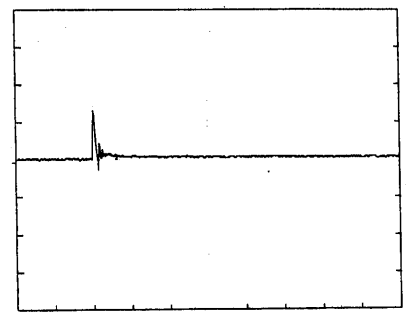
Input Volt. 100 V

Cycle 200 mS

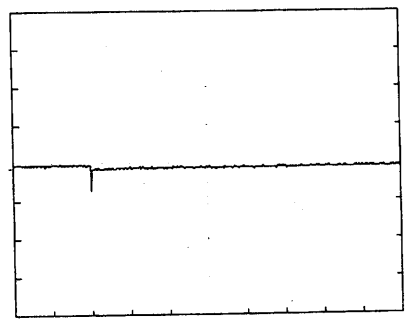
Load Current

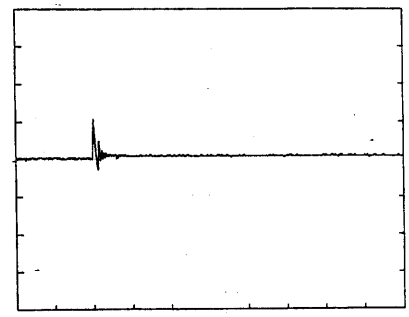
Load 0% ⟷
Load 100 %





Load 0% ⟷
Load 50 %





100 mV/div

10 mS/div

BC-3218

COSEL

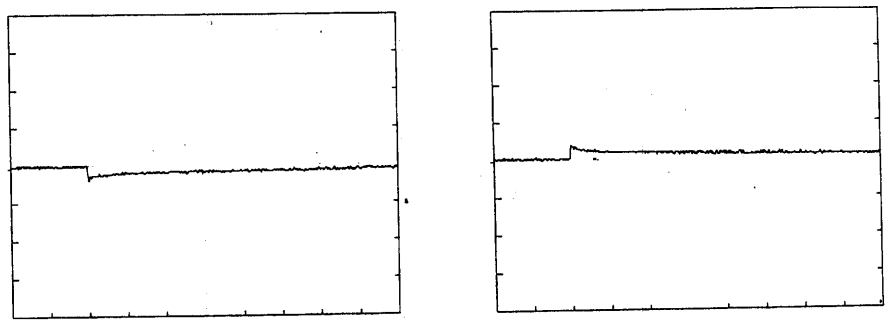
Model	RMC50A-2		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	-15.0V0.50A		

Input Volt. 100 V

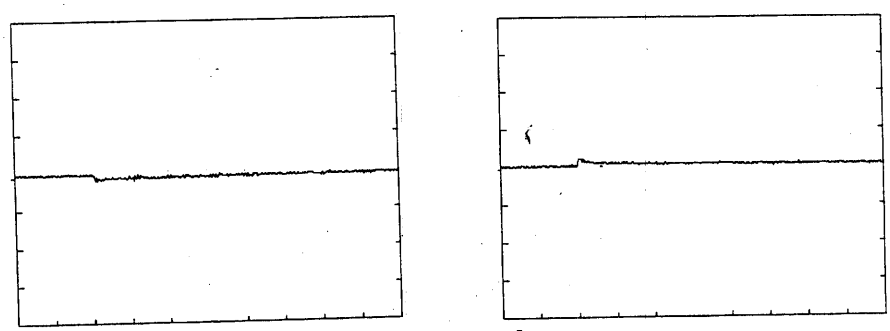
Cycle 200 mS

Load Current

Load 0% ⟷
Load 100 %



Load 0% ⟷
Load 50 %



100 mV/div

10 mS/div

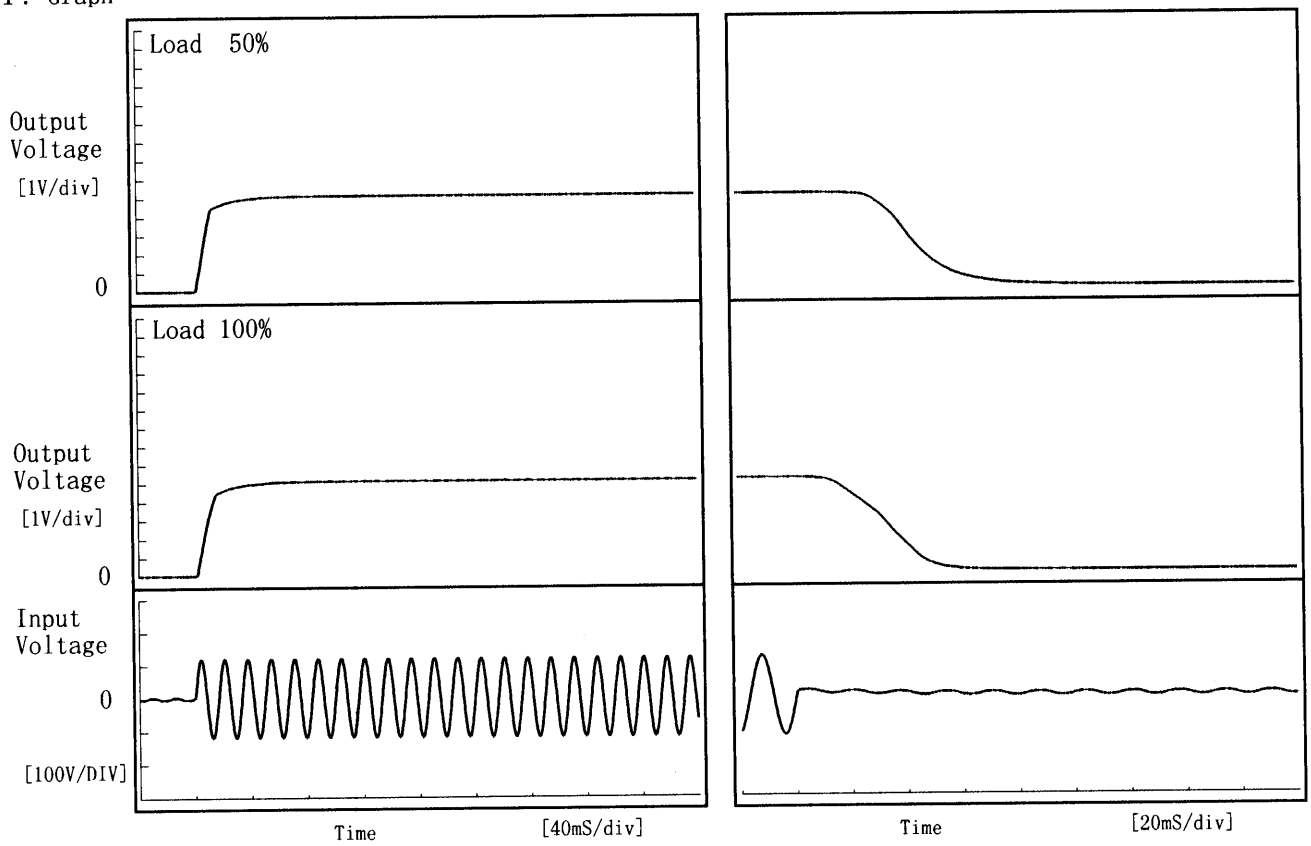
BC-3218

COSEL

Model	RMC50A-2	Temperature	25℃
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+5.0V5.00A		

1. Graph

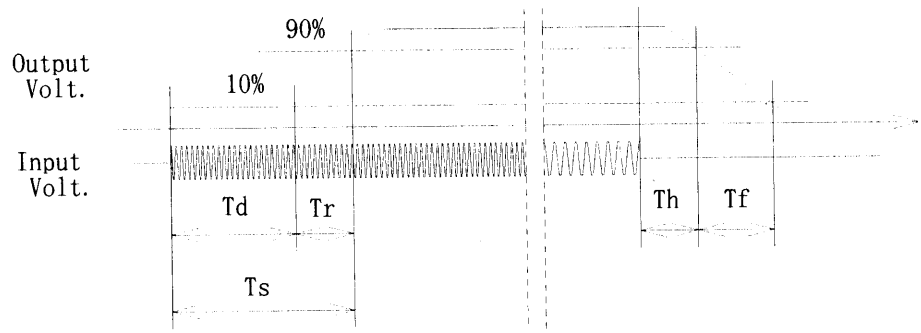
Input Volt. 85 V



2. Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	3.0	13.0	16.0	31.4	33.8
100 %	3.0	14.8	17.8	18.0	30.8



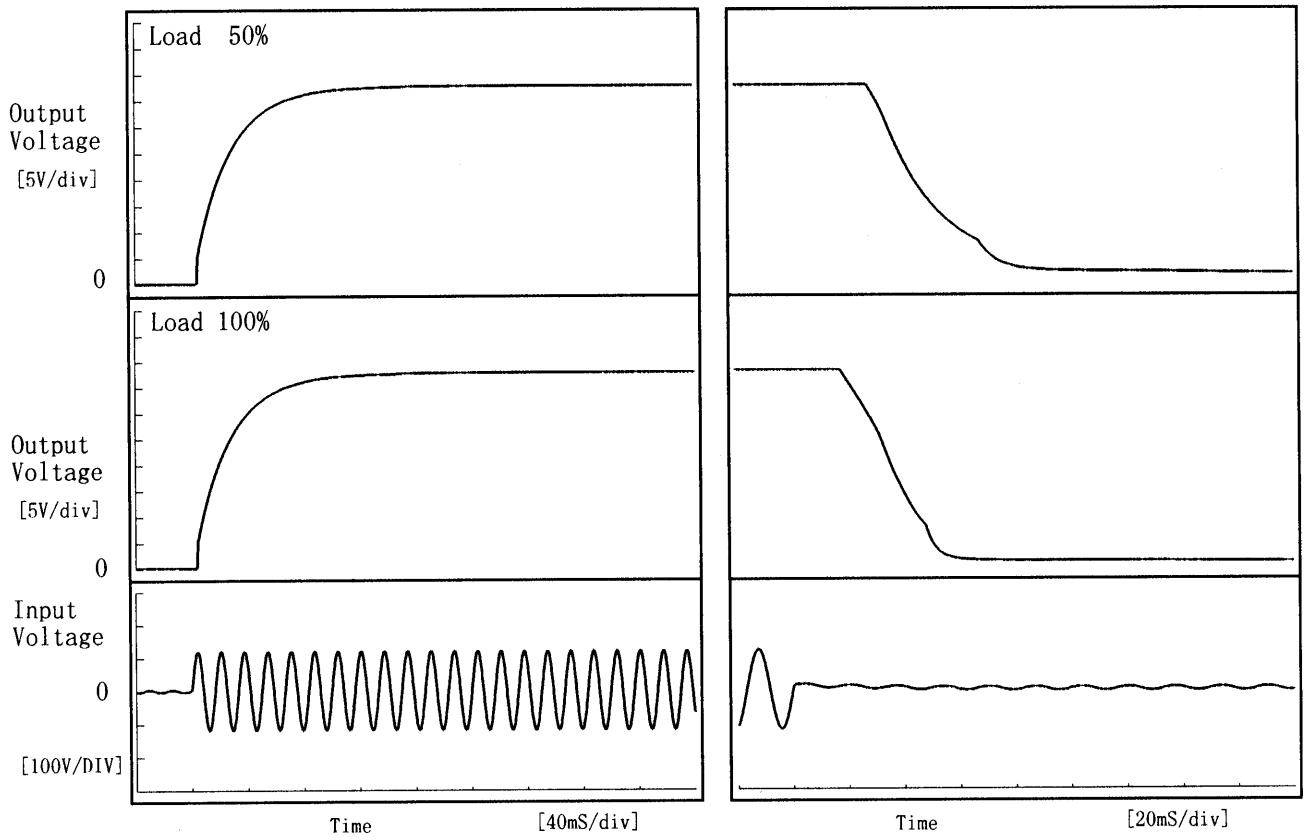
BC-3218

COSEL

Model	RMC50A-2		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+15.0V1.20A		

1. Graph

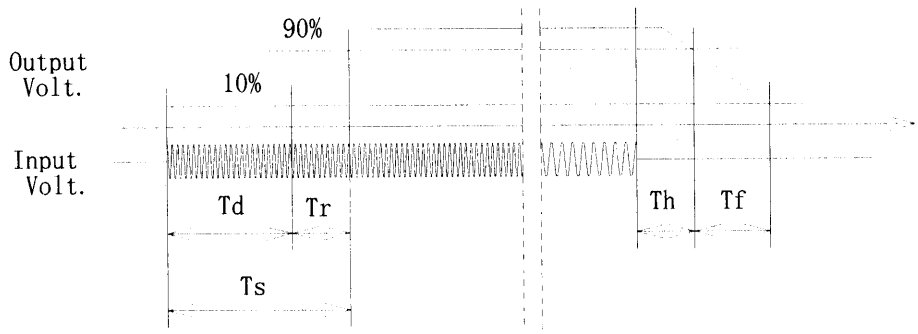
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	4.4	54.0	58.4	31.5	44.5
100 %	4.2	54.2	58.4	22.3	29.3



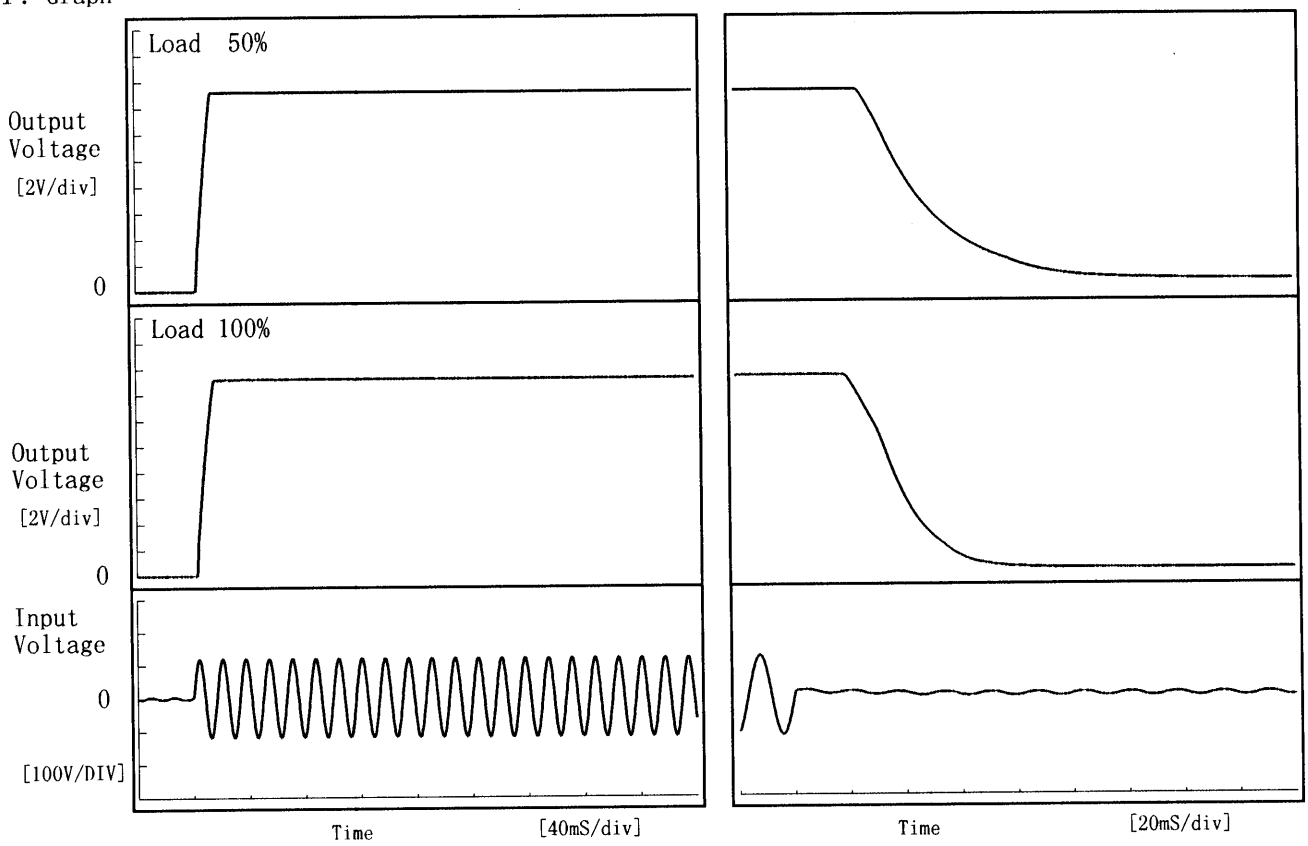
BC-3218

COSEL

Model	RMC50A-2	Temperature	25℃
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	-15.0V0.50A		

1. Graph

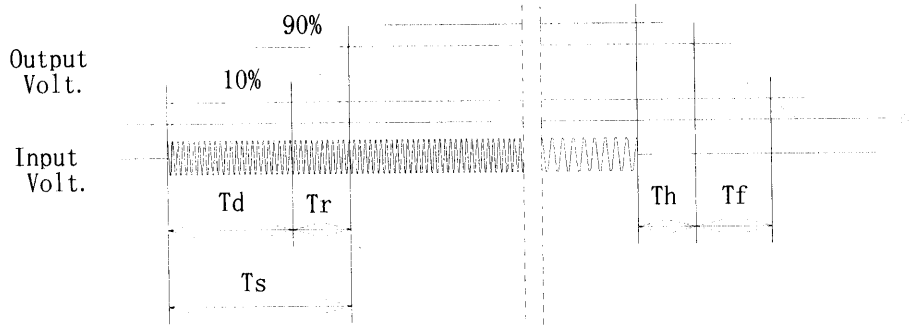
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	3.6	9.0	12.6	28.8	59.0
100 %	3.6	10.0	13.6	24.2	34.2



BC-3218

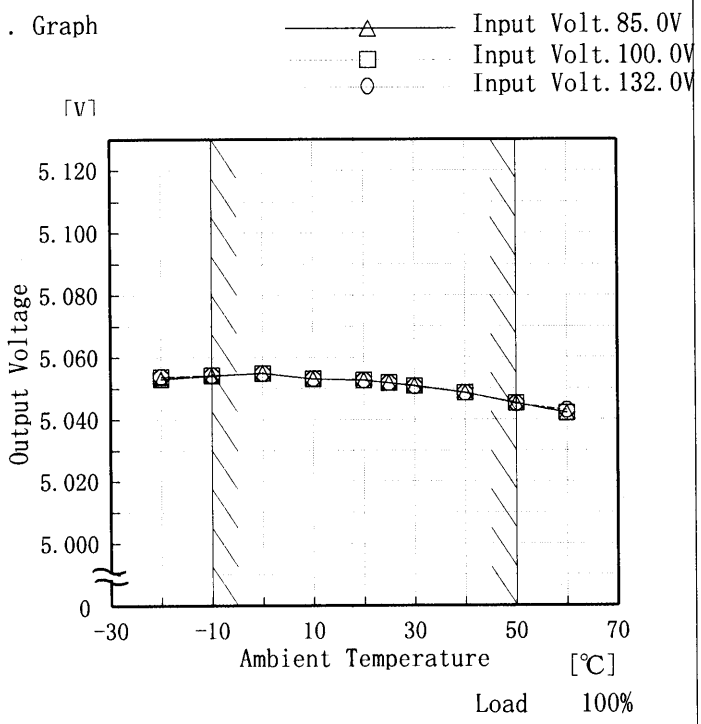
COSEL

Model	RMC50A-2
Item	Ambient Temperature Drift 周囲温度変動

Testing Circuitry Figure A

Object ＋5.0V5.00A

1. Graph

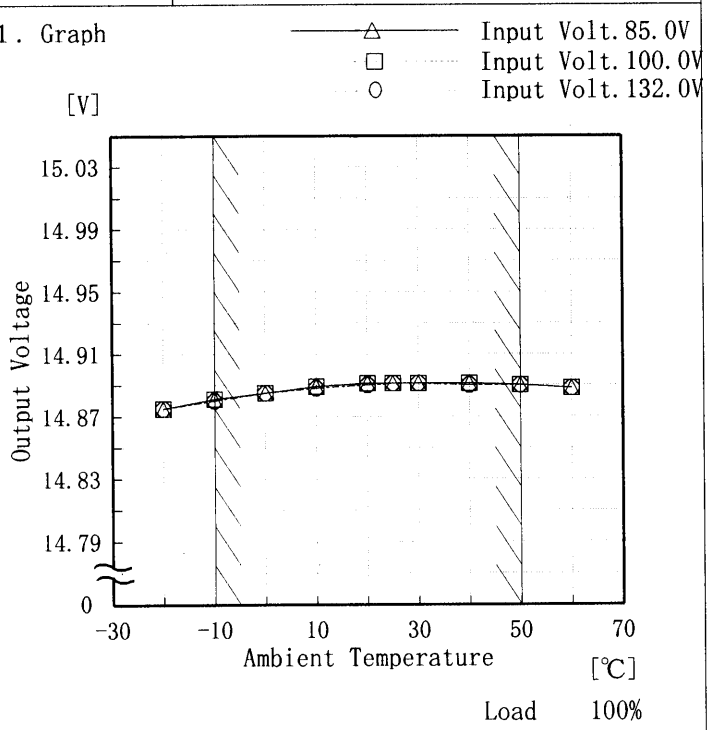


2. Values

Temperature [℃]	Input Volt. 85.0[V] Output Volt. [V]	Input Volt. 100.0[V] Output Volt. [V]	Input Volt. 132.0[V] Output Volt. [V]
-20	5.053	5.054	5.054
-10	5.054	5.054	5.054
0	5.055	5.055	5.055
10	5.053	5.053	5.053
20	5.053	5.053	5.053
25	5.052	5.052	5.052
30	5.051	5.051	5.051
40	5.049	5.049	5.049
50	5.045	5.045	5.045
60	5.042	5.042	5.043
—	—	—	—

Object ＋15V1.20A

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

Temperature [℃]	Input Volt. 85.0[V] Output Volt. [V]	Input Volt. 100.0[V] Output Volt. [V]	Input Volt. 132.0[V] Output Volt. [V]
-20	14.875	14.875	14.875
-10	14.881	14.881	14.880
0	14.885	14.885	14.885
10	14.889	14.889	14.888
20	14.891	14.891	14.890
25	14.891	14.891	14.891
30	14.891	14.891	14.891
40	14.891	14.891	14.890
50	14.890	14.890	14.890
60	14.888	14.888	14.888
—	—	—	—

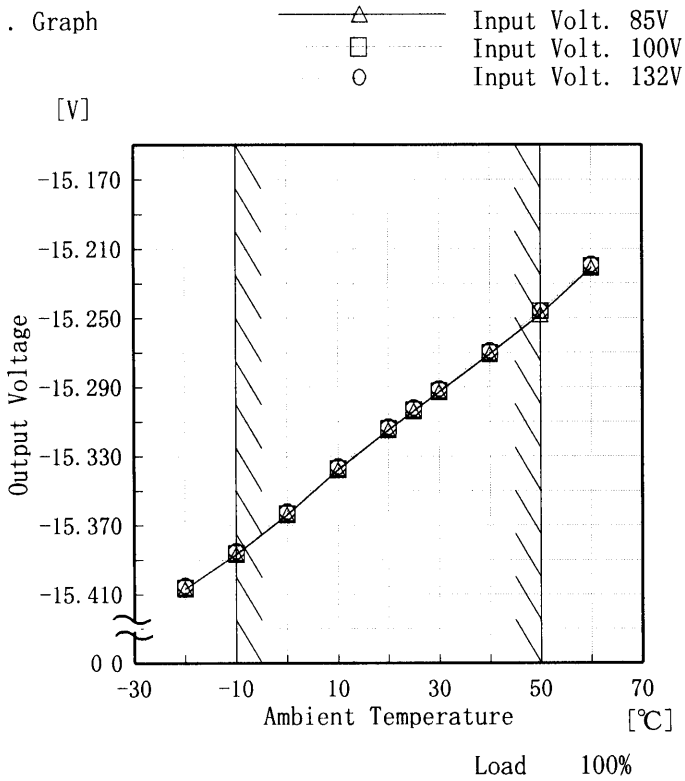
BC-3218

COSEL

Model	RMC50A-2
Item	Ambient Temperature Drift 周囲温度変動
Object	-15.0V0.50A

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

Temperature [℃]	Input Volt. 85[V] Output Volt. [V]	Input Volt. 100[V] Output Volt. [V]	Input Volt. 132[V] Output Volt. [V]
-20	-15.407	-15.406	-15.405
-10	-15.387	-15.386	-15.385
0	-15.364	-15.363	-15.362
10	-15.338	-15.337	-15.336
20	-15.315	-15.314	-15.313
25	-15.304	-15.303	-15.302
30	-15.293	-15.292	-15.291
40	-15.271	-15.270	-15.269
50	-15.248	-15.246	-15.246
60	-15.221	-15.220	-15.219
—	—	—	—

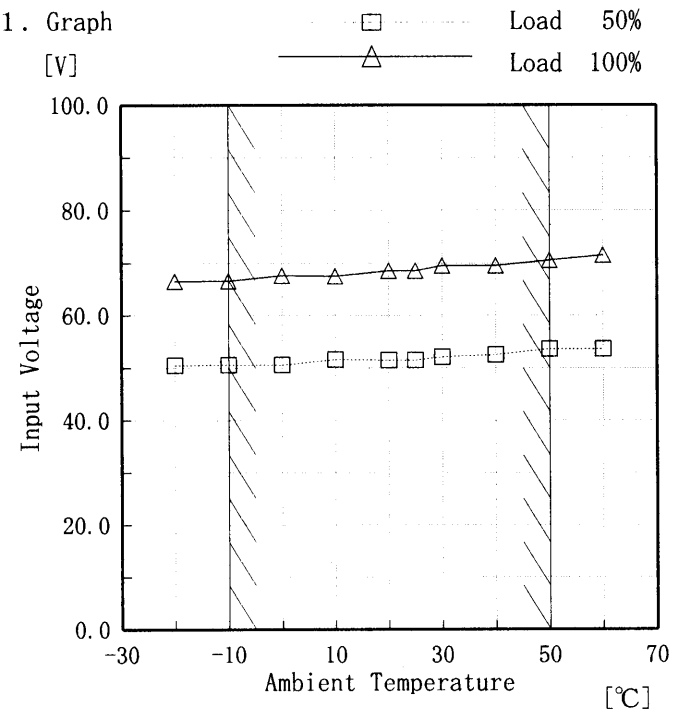
COSEL

Model	RMC50A-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 +5.0V5A

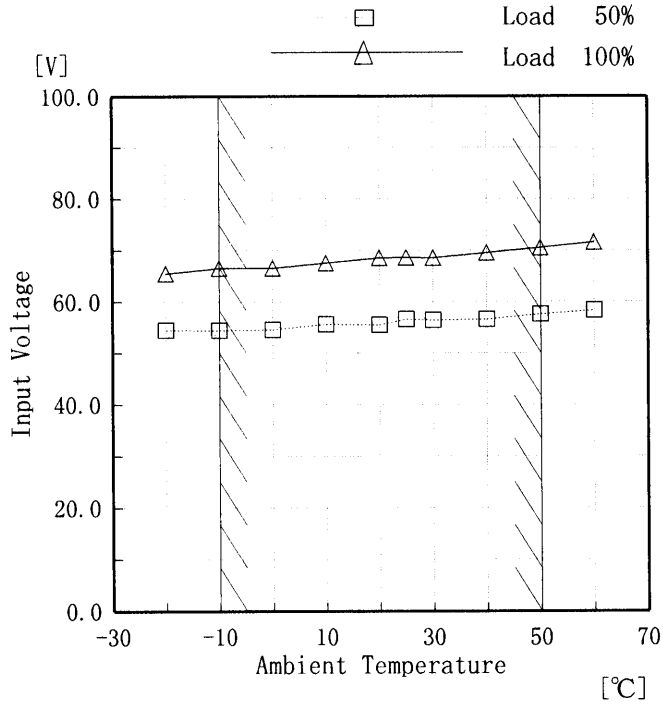
1. Graph



2. Values

Ambient Temp. [℃]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]
-20	50.5	66.5
-10	50.6	66.6
0	50.6	67.6
10	51.6	67.5
20	51.5	68.5
25	51.5	68.5
30	52.1	69.5
40	52.5	69.5
50	53.6	70.5
60	53.6	71.5
—	—	—

Object +15V1.20A



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. [℃]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]
-20	54.5	65.5
-10	54.4	66.5
0	54.6	66.5
10	55.6	67.5
20	55.5	68.5
25	56.6	68.6
30	56.4	68.5
40	56.6	69.5
50	57.6	70.5
60	58.3	71.5
—	—	—

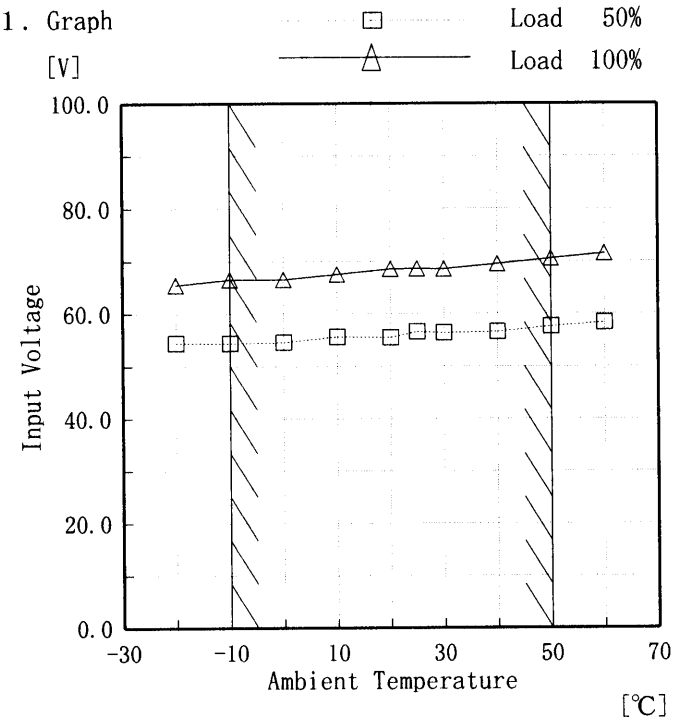
BC-3218

COSEL

Model	RMC50A-2
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	-15.0V0.50A

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. [℃]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]
-20	55	66
-10	54	67
0	55	67
10	56	68
20	56	69
25	57	69
30	56	69
40	57	70
50	58	71
60	58	72
—	—	—

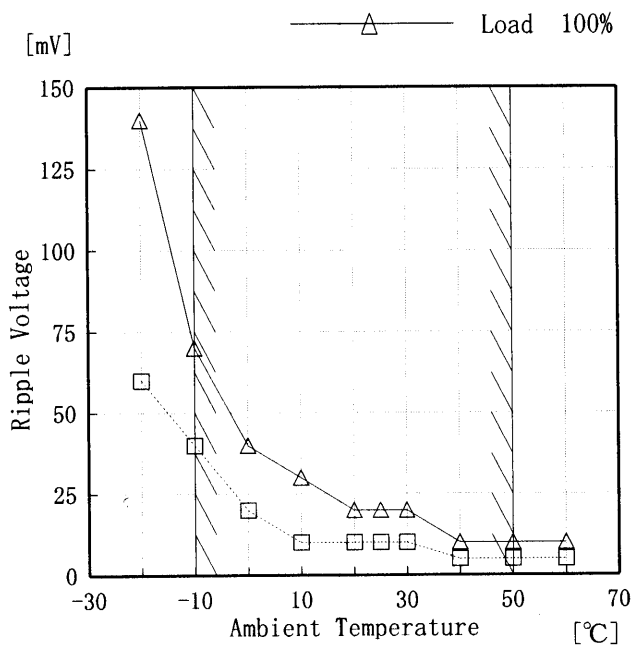
COSEL

Model	RMC50A-2
Item	Ripple Voltage (by Ambient Temp.) リップル電圧（周囲温度特性）

Testing Circuitry Figure A

Object	+5.0V5.00A

1. Graph



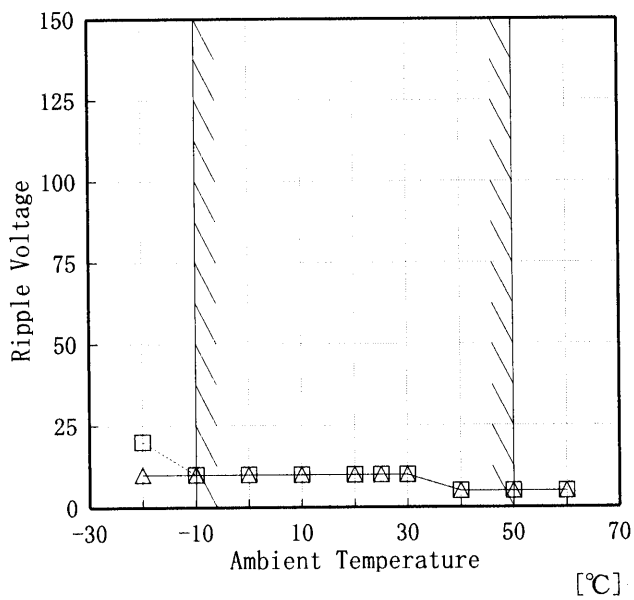
Input Volt. 100 V

2. Values

Ambient Temp. [℃]	Load 50% Ripple Output Volt. [mV]	Load 100% Ripple Output Volt. [mV]
-20	60	140
-10	40	70
0	20	40
10	10	30
20	10	20
25	10	20
30	10	20
40	5	10
50	5	10
60	5	10
—	—	—

Object	+15V1.20A

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

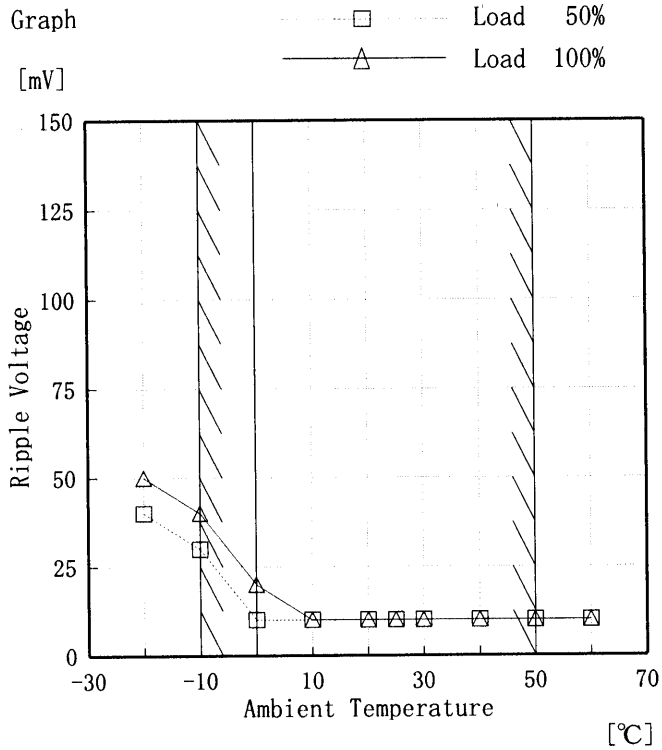
Ambient Temp. [℃]	Load 50% Ripple Output Volt. [mV]	Load 100% Ripple Output Volt. [mV]
-20	10	20
-10	10	10
0	10	10
10	10	10
20	10	10
25	10	10
30	10	10
40	5	5
50	5	5
60	5	5
—	—	—

COSEL

Model	RMC50A-2
Item	Ripple Voltage (by Ambient Temp.) リップル電圧（周囲温度特性）
Object	-15.0V0.50A

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

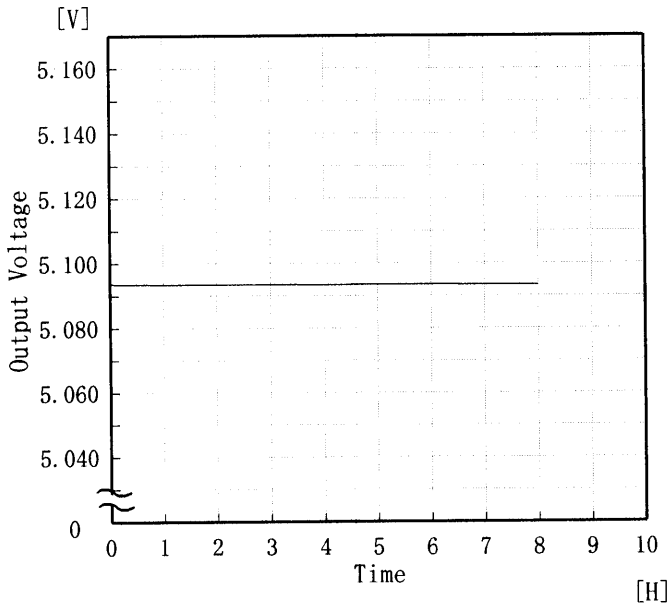
COSEL

Model	RMC50A-2
Item	Time Lapse Drift 経時ドリフト

Temperature 25 ℃
Testing Circuitry Figure A

Object ＋5.0V5.00A

1. Graph



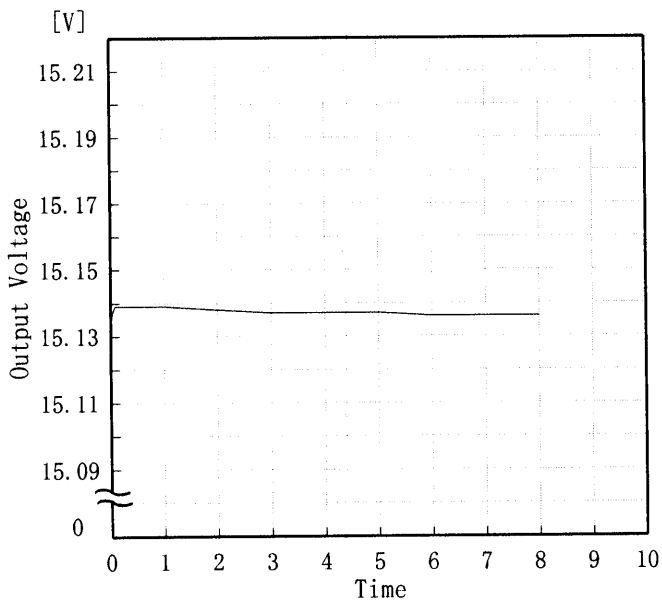
Input Volt. 100V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	5.095
0.5	5.094
1.0	5.093
2.0	5.093
3.0	5.093
4.0	5.093
5.0	5.093
6.0	5.093
7.0	5.093
8.0	5.093

Object ＋15V1.20A

1. Graph



Input Volt. 100V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	15.110
0.5	15.139
1.0	15.139
2.0	15.138
3.0	15.137
4.0	15.137
5.0	15.137
6.0	15.136
7.0	15.136
8.0	15.136

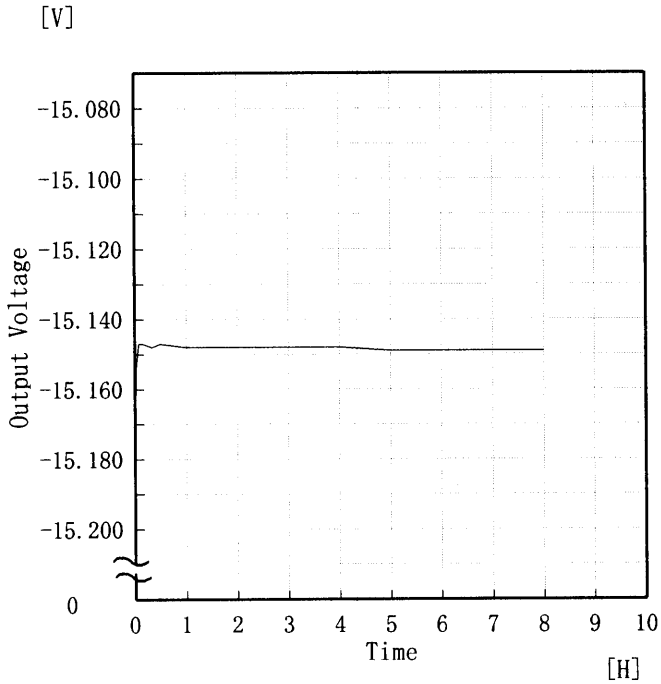
BC-3218

COSEL

Model	RMC50A-2
Item	Time Lapse Drift 経時ドリフト
Object	-15.0V0.5A

Temperature 25 ℃
Testing Circuitry Figure A

1. Graph



Input Volt. 100V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	-15.193
0.5	-15.147
1.0	-15.148
2.0	-15.148
3.0	-15.148
4.0	-15.148
5.0	-15.149
6.0	-15.149
7.0	-15.149
8.0	-15.149

BC-3218

COSEL

Model	RMC50A-2	
Item	Output Voltage Accuracy 定電圧精度	Testing Circuitry Figure A

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 : -10～50 ℃

Input Voltage : 85.0～132.0 V

Load Current (AVR 1) : 0.00～5.00 (AVR 2) : 0.00～1.20 / (AVR 3) : 0.00～0.50 A

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

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

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 -10～50 ℃

入力電圧 85.0～132.0 V

負荷電流 (AVR 1) 0.00～5.00 A (AVR 2) : 0.00～1.20 A (AVR 3) : 0.00～0.50 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

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

Object	+5.0V5.00A					
Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy (Ration) [%]
Maximum Voltage	-10	85.0	0.000	5.112	±16	±0.4
Minimum Voltage	50	85.0	5.000	5.081		

Object	+15V1.20A					
Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy (Ration) [%]
Maximum Voltage	50	85.0	1.20	15.167	±62	±0.5
Minimum Voltage	-10	132.0	0.00	15.043		

Object	−15V0.50A					
Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy (Ration) [%]
Maximum Voltage	-10	132.0	0.00	-15.219	±59	±0.4
Minimum Voltage	50	132.0	0.50	-15.102		

COSEL

Model	RMC50A-2	
Item	Condensation 結露特性	Testing Circuitry Figure A
Object	+5.0V5A	

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]	5.091	Input Volt.: 100V, Load Current:5A
Line Regulation [mV]	1	Input Volt.: 85～132V, Load Current:5A
Load Regulation [mV]	10	Input Volt.: 100V, Load Current:0～5A

COSEL

Model	RMC50A-2
Item	Condensation 結露特性
Object	+15.0V1.2A

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

Item	Data	Testing Conditions
Output Voltage [V]	15.146	Input Volt.: 100V, Load Current:1.2A
Line Regulation [mV]	1	Input Volt.: 85～132V, Load Current:1.2A
Load Regulation [mV]	26	Input Volt.: 100V, Load Current:0.0～1.2A

COSEL

Model	RMC50A-2
Item	Condensation 結露特性
Object	-15.0V0.5A

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

Item	Data	Testing Conditions
Output Voltage [V]	-15.147	Input Volt.: 100V, Load Current:0.5A
Line Regulation [mV]	12	Input Volt.: 85～132V, Load Current:0.5A
Load Regulation [mV]	33	Input Volt.: 100V, Load Current:0.0～0.5A

COSEL

Model	RMC50A-2		
Item	Leakage Current 漏洩電流	Temperature Testing Circuitry	25℃ Figure A
Object	――――――		

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DENTORI	0.23	0.27	0.36
(B) IEC60950	0.22	0.26	0.35

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	RMC50A-2
Item	Conducted Emission 雑音端子電圧
Object	――――――――

Testing Circuitry　　Figure D

1. Graph　　Input Volt. 100V

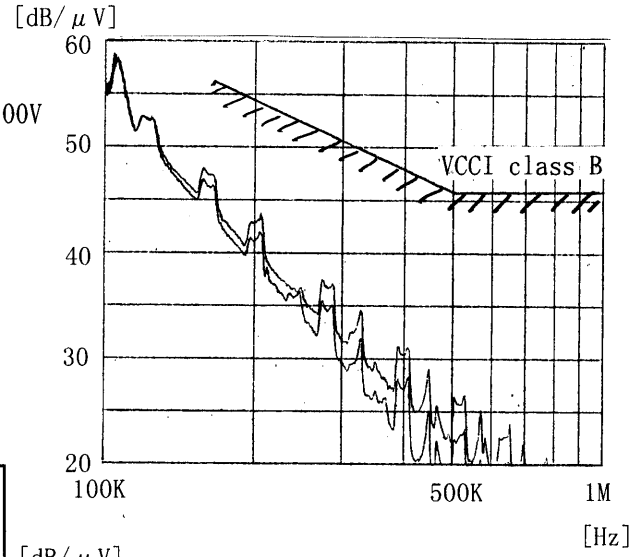
Remarks

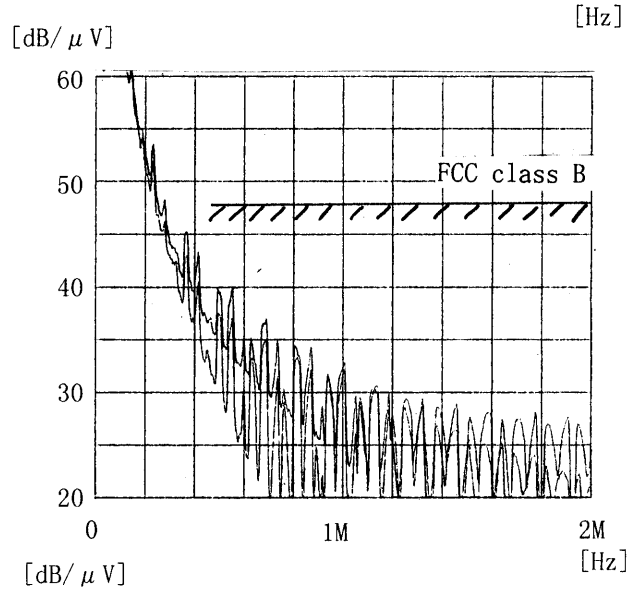
Input Volt.　120 V

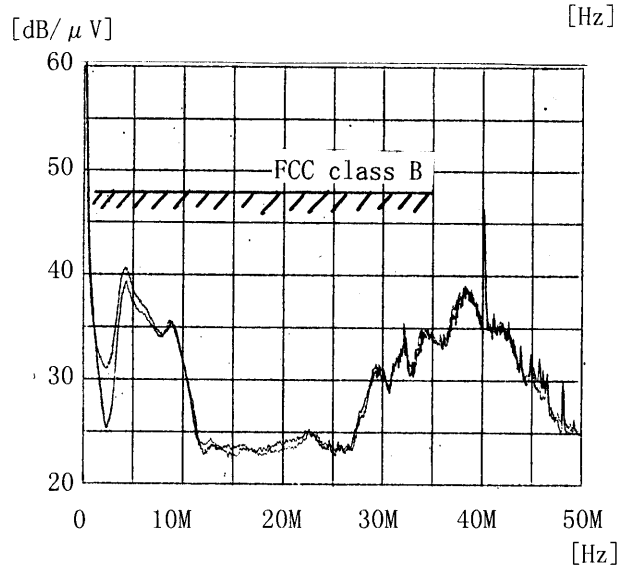
Load　100 %

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







BC-3218

COSEL

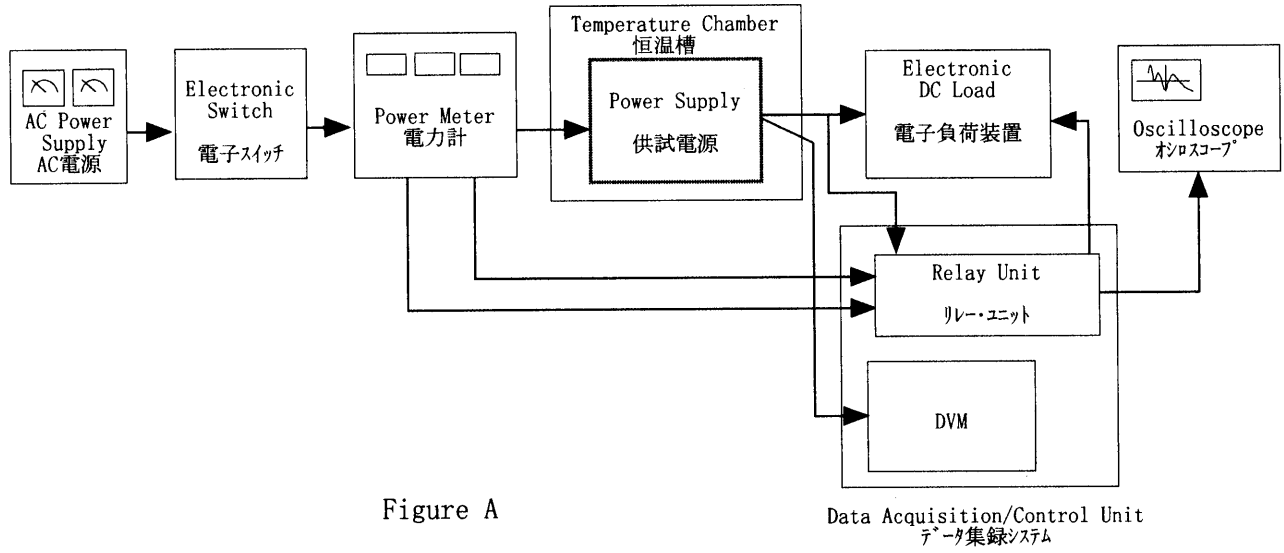


Figure A

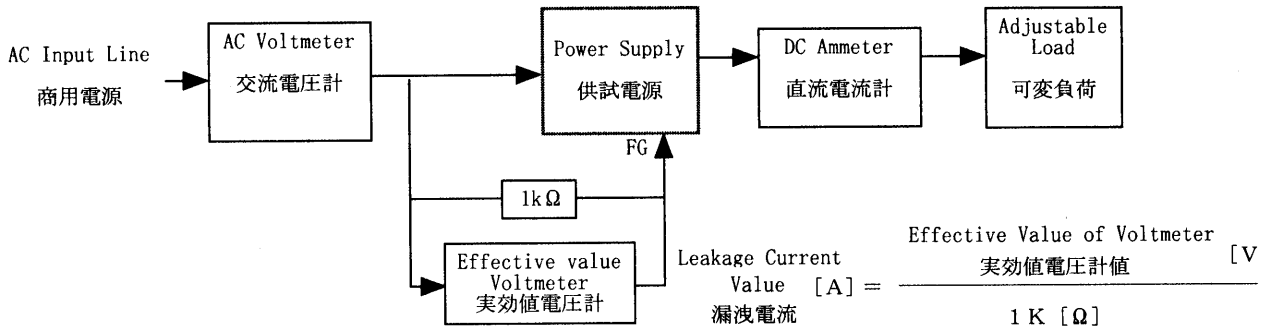


Figure B(DENTORI)

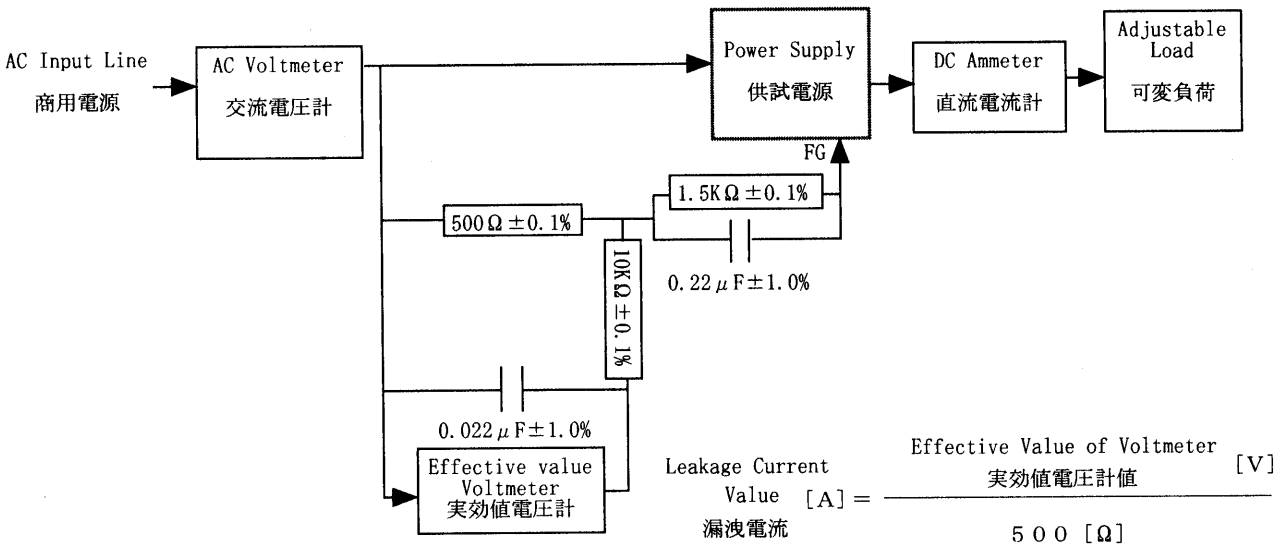


Figure B（IEC60950）

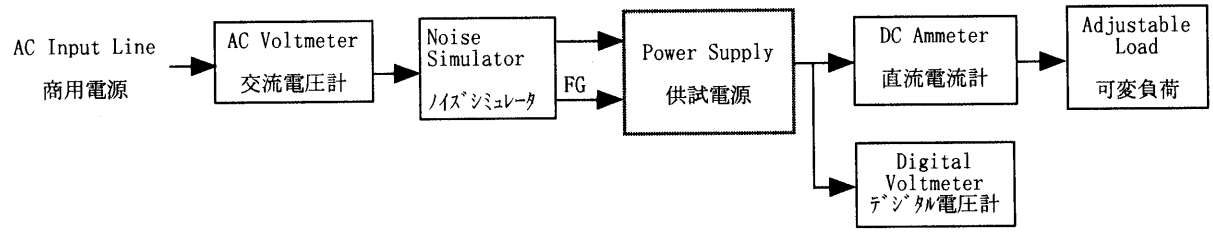


Figure C

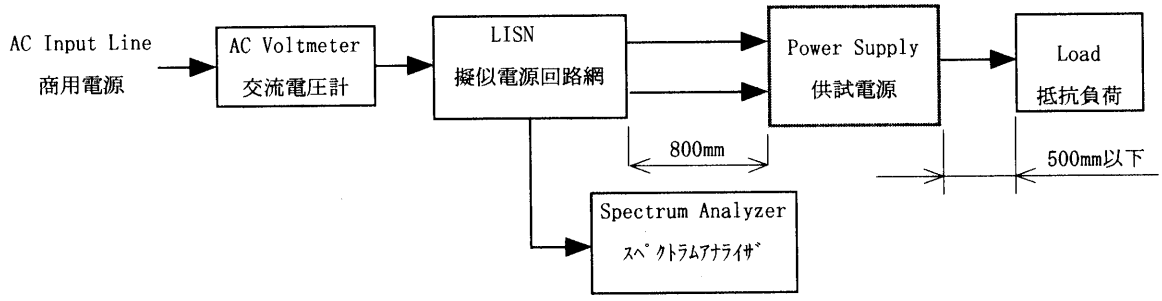


Figure D

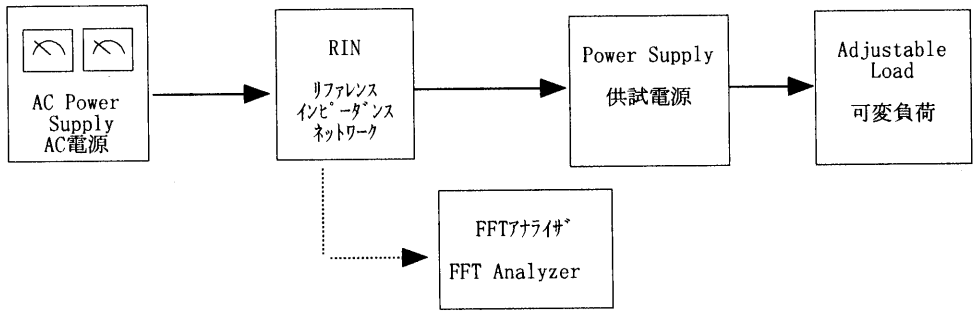


Figure E