

JWS50

EVALUATION DATA

型式データ

INDEX

1. 測定方法	Evaluation Method	PAGE
1.1	測定回路 Circuit used for determination	T-1~5
	(1) 静特性 Steady state data	
	(2) 通電ドリフト特性 Warm up voltage drift characteristics	
	(3) 過電流保護特性 Over current protection (OCP) characteristics	
	(4) 過電圧保護特性 Over voltage protection (OVP) characteristics	
	(5) 出力立ち上がり特性 Output rise characteristics	
	(6) 出力立ち下がり特性 Output fall characteristics	
	(7) 過渡応答 (入力急変) 特性 Dynamic line response characteristics	
	(8) 過渡応答 (負荷急変) 特性 Dynamic load response characteristics	
	(9) 入力サージ電流 (突入電流) 特性 Inrush current characteristics	
	(10) リーク電流特性 Leakage current characteristics	
	(11) 出力リップル、ノイズ波形 Output ripple and noise waveform	
1.2	使用測定機器 List of equipment used	T-6
2.	特性データ Characteristics	
2.1	静特性 Steady state data	
	(1) 入力・負荷・温度変動	
	Regulation - line and load, temperature drift	T-7
	(2) 出力電圧・リップル電圧対入力電圧	
	Output voltage and ripple voltage vs. input voltage	T-8
	(3) 効率・入力電流対出力電流	
	Efficiency and input current vs. output current	T-9
	(4) 力率・入力電流対出力電流	
	Power factor and input current vs. output current	T-10
2.2	通電ドリフト特性 Warm up voltage drift characteristics	T-11
2.3	過電流保護特性 Over current protection (OCP) characteristics	T-12
2.4	過電圧保護特性 Over voltage protection (OVP) characteristics	T-13
2.5	出力立ち上がり特性 Output rise characteristics	T-14~17
2.6	出力立ち下がり特性 Output fall characteristics	T-18~21
2.7	ON/OFFコントロール時出力立ち上がり特性	
	Output rise characteristics with ON/OFF CONTROL	T-22
	準標準品 JWS50-*/R にて対応	
	For alternative standard model JWS50-*/R	
2.8	ON/OFFコントロール時出力立ち下がり特性	
	Output fall characteristics with ON/OFF CONTROL	T-23
	準標準品 JWS50-*/R にて対応	
	For alternative standard model JWS50-*/R	

2.9	出力保持時間特性	Hold up time characteristics	.....	T-24
2.10	過渡応答（入力急変）特性	Dynamic line response characteristics	.....	T-25~26
2.11	過渡応答（負荷急変）特性	Dynamic load response characteristics	.....	T-27~38
2.12	入力電圧瞬停特性	Response to brown out characteristics	.....	T-39~40
2.13	入力サージ電流（突入電流）特性	Inrush current waveform	.....	T-41~42
2.14	瞬停時突入電流特性	Inrush current characteristics	.....	T-43~44
2.15	入力電流波形	Input current waveform	.....	T-45
2.16	高調波成分	Input current harmonics	.....	T-46
2.17	リーク電流特性	Leakage current characteristics	.....	T-47~48
2.18	出力リップル、ノイズ波形	Output ripple and noise waveform	.....	T-49~56
2.19	EMI特性	Electro-Magnetic Interference characteristics	.....	T-57~66

使用記号 Terminology used

	Definition	
V_{in}	..... 入力電圧	Input voltage
V_{out}	..... 出力電圧	Output voltage
I_{in}	..... 入力電流	Input current
I_{out}	..... 出力電流	Output current
T_a	..... 周囲温度	Ambient temperature

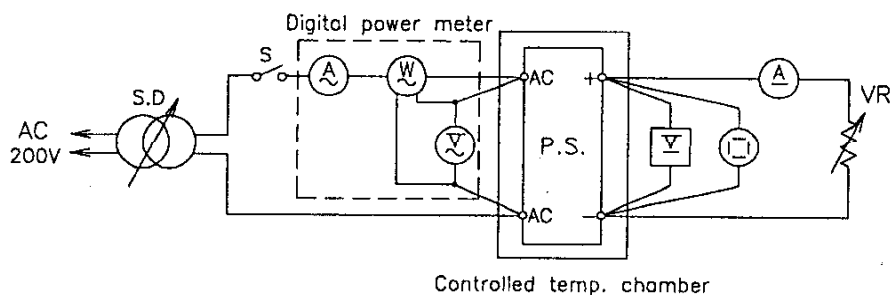
1. 1

測定回路

Circuit used for determination

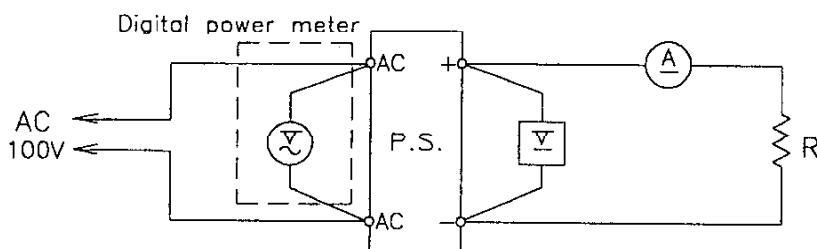
(1) 静特性

Steady state data



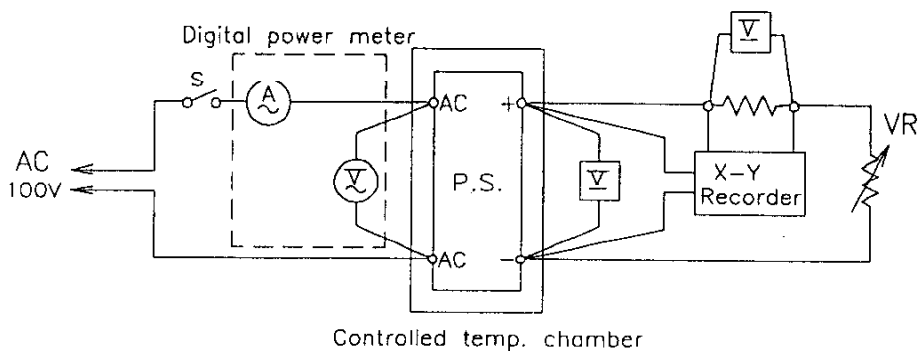
(2) 通電ドリフト特性

Warm up voltage drift characteristics



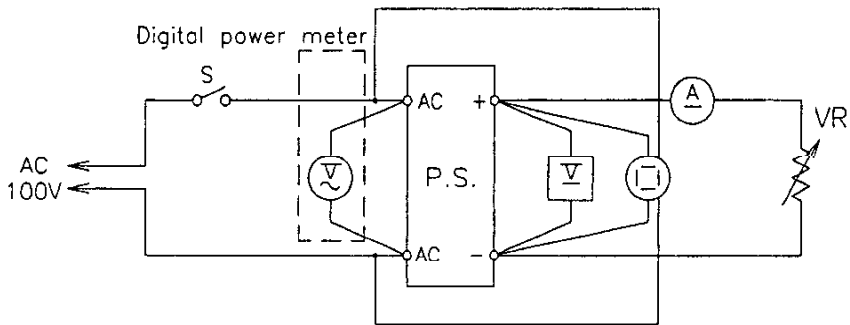
(3) 過電流保護特性

Over current protection (O.C.P.) characteristics



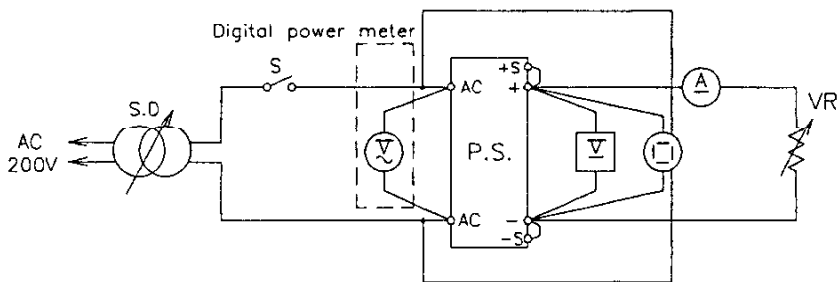
(4) 過電圧保護特性

Over voltage protection (O.V.P.) characteristics



(5) 出力立ち上がり特性

Output rise characteristics



(6) 出力立ち下がり特性

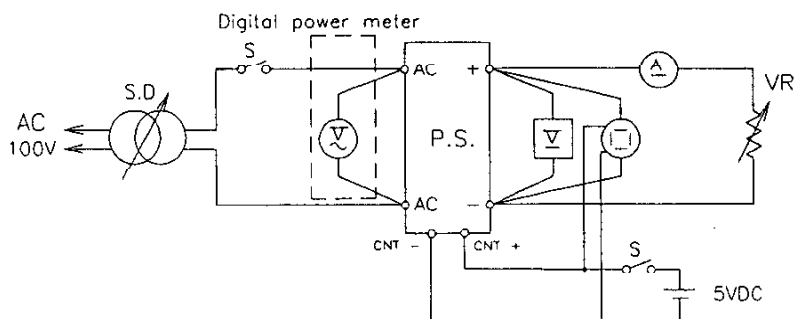
Output fall characteristics

Same as output rise characteristics

(7) 出力立ち上がり特性 (ON/OFFコントロール時)

Output rise characteristics with ON/OFF CONTROL

標準標準品 JWS50-*/R にて対応 For alternative standard model JWS50-*/R



(8) 出力立ち下がり特性 (ON/OFFコントロール時)

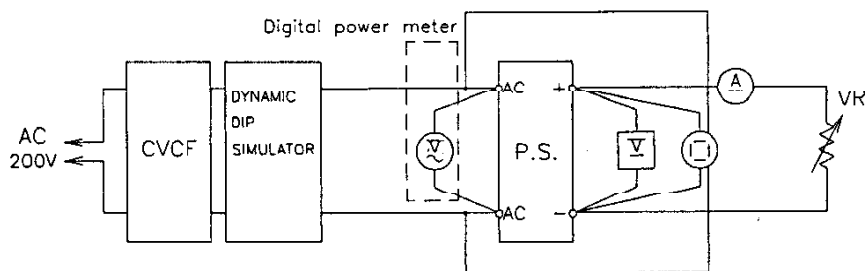
Output fall characteristics with ON/OFF CONTROL

標準品 JWS50-*/R にて対応 For alternative standard model JWS50-*/R

Same as output rise characteristics with ON/OFF CONTROL

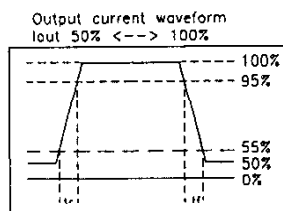
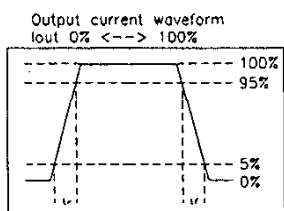
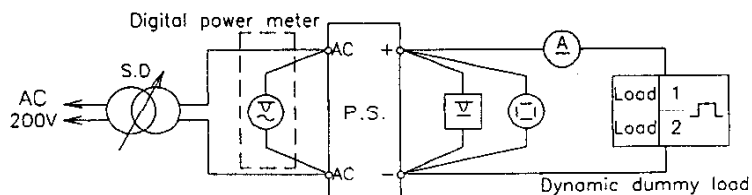
(9) 過渡応答 (入力急変) 特性

Dynamic line response characteristics



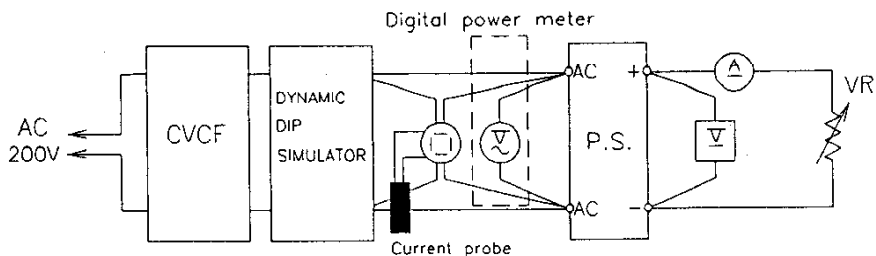
(10) 過渡応答 (負荷急変) 特性

Dynamic road response characteristics



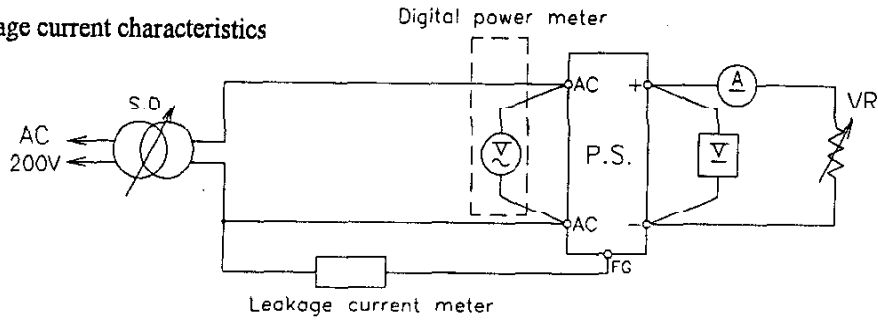
(11) 入力サージ電流 (突入電流) 特性

Inrush current characteristics



(12) リーク電流

Leakage current characteristics

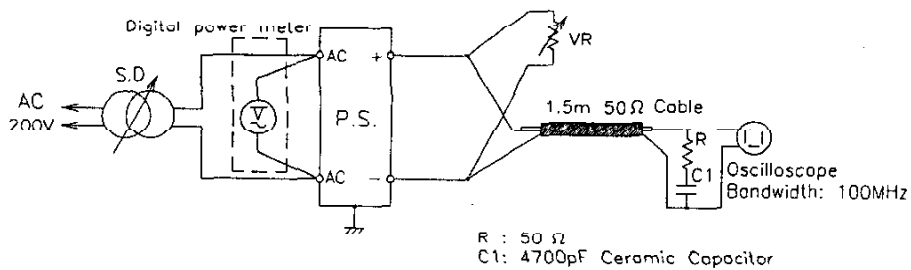


NOTE : For YOKOGAWA TYPE 3226
 Leakage current measured through a 1kΩ resistor.
 Range used---AC+DC

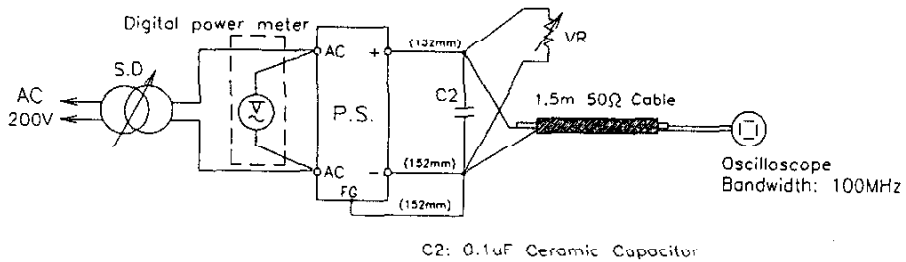
(13) 出力リップルノイズ

Output ripple noise

(a) Normal Mode



(b) Normal + Common Mode

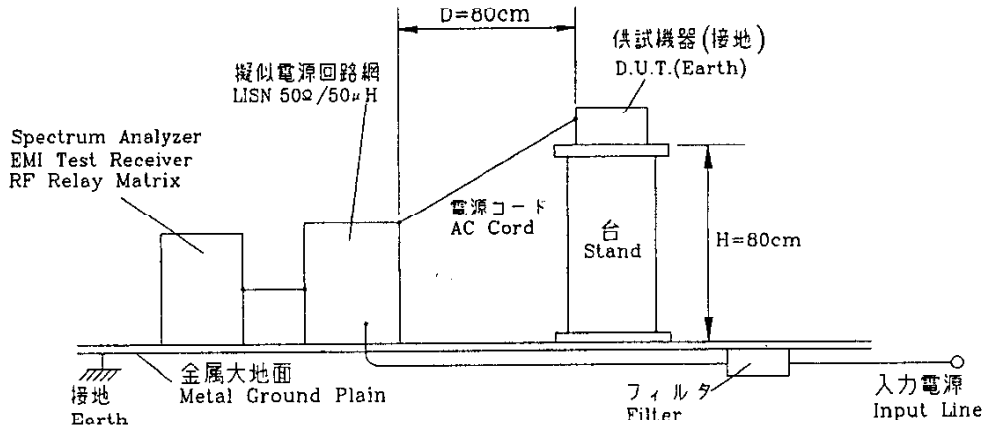


(14) EMI 特性

Electro-Magnetic Interference characteristics

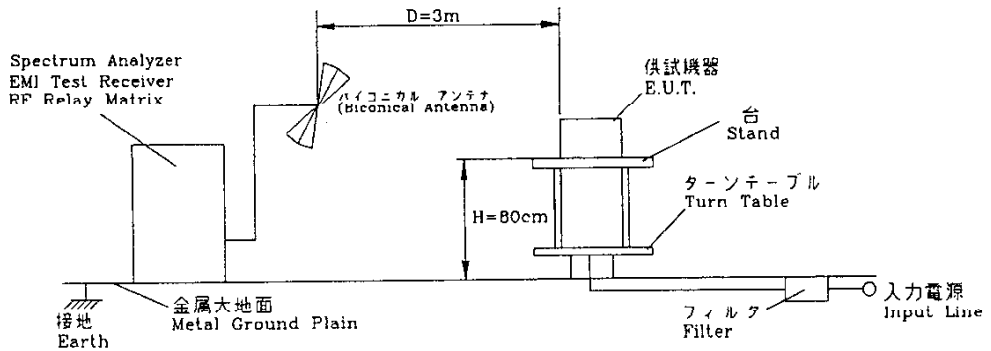
(a) 雑音端子電圧 (帰還ノイズ)

Conducted Emission Noise



(b) 雑音電界強度 (輻射ノイズ)

Radiated Emission Noise



1.2 使用測定機器 LIST OF EQUIPMENT USED

	EQUIPMENT USED	MANUFACTURER	MODEL NO.
1	OSCILLOSCOPE	HITACHI DENSHI	V-1050F
2	DIGITAL STORAGE OSCILLOSCOPE	TEKTRONIX	TDS540B
3	DIGITAL MULTIMETER	ADVANTEST	R6341A
4	DIGITAL POWER METER	YOKOGAWA ELECT.	WT110
5	DC AMPERE METER	YOKOGAWA ELECT.	TYPE2051
6	CURRENT PROBE/AMPLIFIER	TEKTRONIX	A6303/AM503
7	DYNAMIC DUMMY LOAD	TAKAMIZAWA	PSA150D
8	SLIDE REGURATOR	MATSUNAGA	S3-3019
9	CVCF	KIKUSUI	PCR6000
10	LEAKAGE CURRENT METER	SIMPSON	229-2
11	LEAKAGE CURRENT METER	YOKOGAWA	TYPE3226
12	X-Y RECORDER	GRAPHTEC	WX4309
13	DYNAMIC DIP SIMULATOR	TAKAMIZAWA CYBERNETICS	PSA-300
14	CONTROLLED TEMP. CHANBER	TABAI ESPEC	SH-240
15	SPECTRUM ANALYZER	ROHDE & SCHWARZ	FSA
16	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESHS10
17	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESVS10
18	RF RELAY MATRIX	ROHDE & SCHWARZ	PSU
19	LISN	KYORITU DENSHI	KNW-242
20	ANTENA(BICONICAL ANTENA)	SCHWARZBECK	BBA9106

2. 特性データ Characteristics

2.1 静特性 Steady state data

(1) 入力、負荷、温度変動 Regulation - line and load, temperature drift

5V

1. Regulation - line and load

condition Ta : 25°C

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	5.031V	5.031V	5.031V	5.031V	0mV	0.00%
50%	5.020V	5.020V	5.020V	5.020V	0mV	0.00%
100%	5.010V	5.010V	5.010V	5.010V	0mV	0.00%
load	21mV	21mV	21mV	21mV		
regulation	0.42%	0.42%	0.42%	0.42%		

2. Temperature drift

conditions Vin=100VAC
Io =100%

Ta	-10°C	+25°C	+50°C	temperature stability	
Vo	5.015V	5.010V	5.004V	11mV	0.22%

12V

1. Regulation - line and load

condition Ta : 25°C

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	12.030V	12.030V	12.027V	12.027V	3mV	0.03%
50%	12.022V	12.021V	12.018V	12.018V	4mV	0.03%
100%	12.018V	12.017V	12.013V	12.013V	5mV	0.04%
load	12mV	13mV	14mV	14mV		
regulation	0.10%	0.11%	0.12%	0.12%		

2. Temperature drift

conditions Vin=100VAC
Io =100%

Ta	-10°C	+25°C	+50°C	temperature stability	
Vo	12.033V	12.017V	12.006V	27mV	0.23%

24V

1. Regulation - line and load

condition Ta : 25°C

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	24.040V	24.040V	24.030V	24.030V	10mV	0.04%
50%	24.020V	24.020V	24.000V	24.000V	20mV	0.08%
100%	24.010V	24.010V	23.990V	23.990V	20mV	0.08%
load	30mV	30mV	40mV	40mV		
regulation	0.13%	0.13%	0.17%	0.17%		

2. Temperature drift

conditions Vin=100VAC
Io =100%

Ta	-10°C	+25°C	+50°C	temperature stability	
Vo	24.070V	24.010V	23.910V	160mV	0.67%

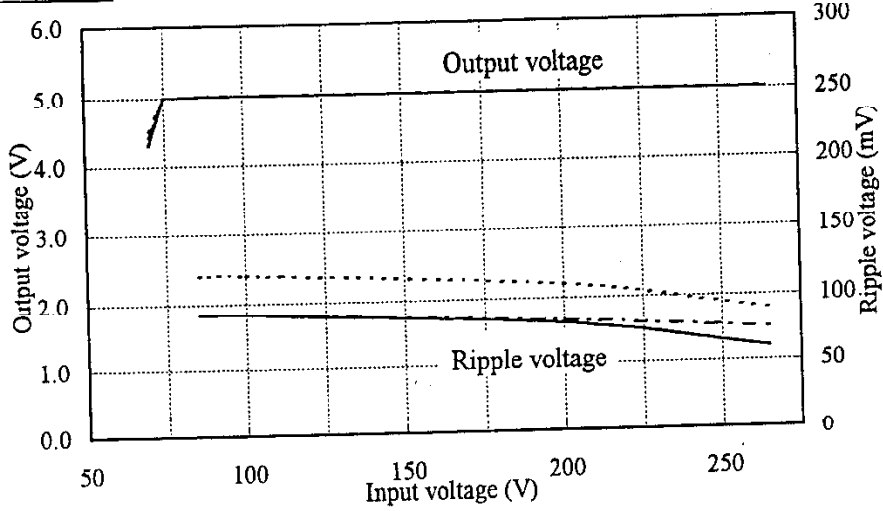
2.1-(2) 出力電圧、リップル電圧対入力電圧

Output voltage and Ripple voltage v.s. Input voltage

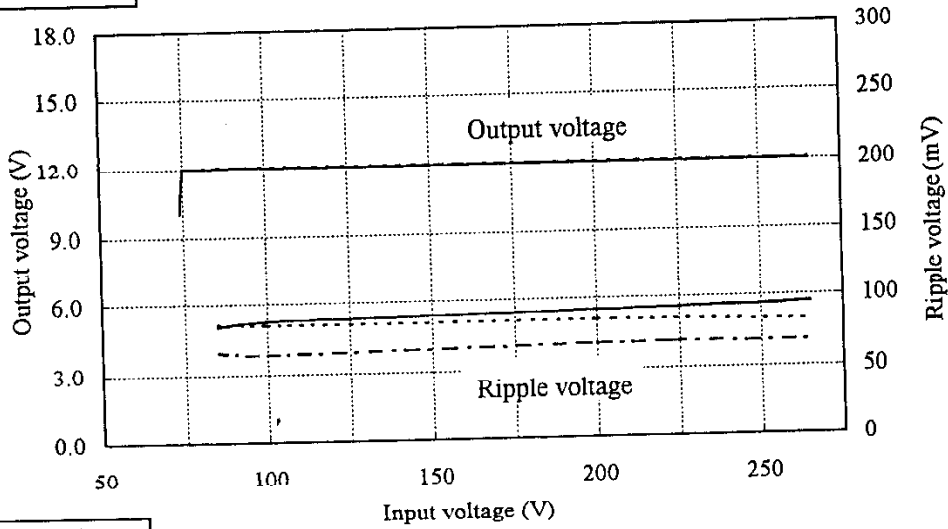
Conditions Iout : 100%

Ta : -10°C
 : 25°C
 : 50°C ———

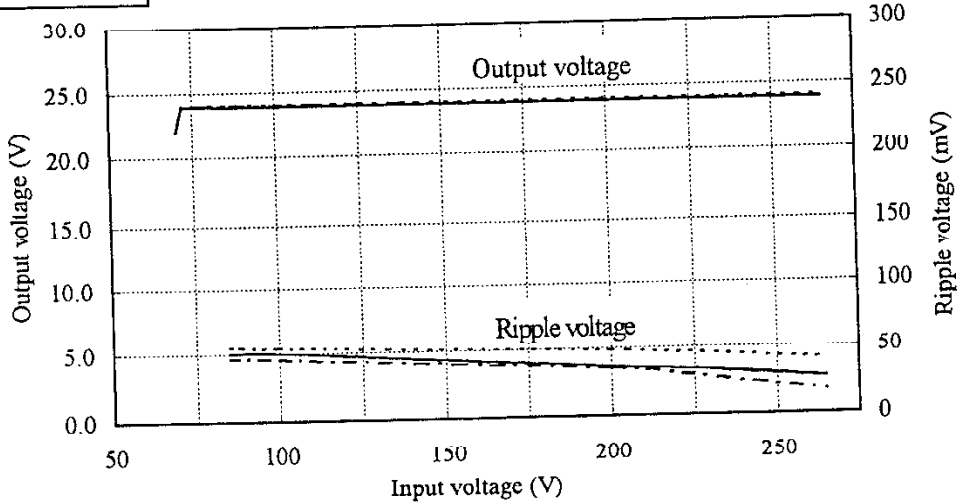
5V



12V



24V

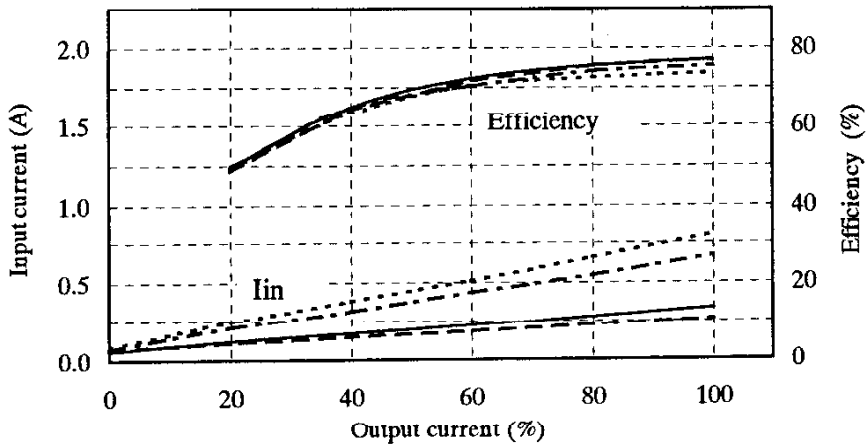


2.1 (3) 効率、入力電流対出力電流

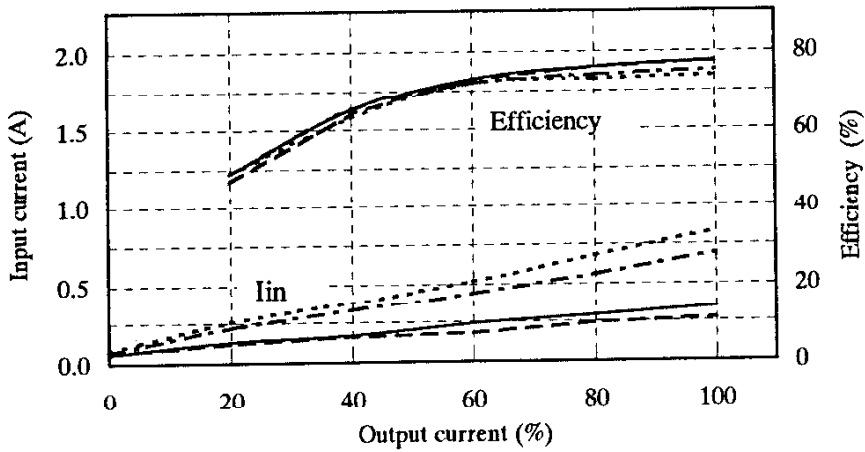
Efficiency and Input current v.s. Output current

Conditions V_{in} : 85VAC
 : 100VAC - - - - -
 : 200VAC ————
 : 265VAC - - - - -
 T_a : 25°C

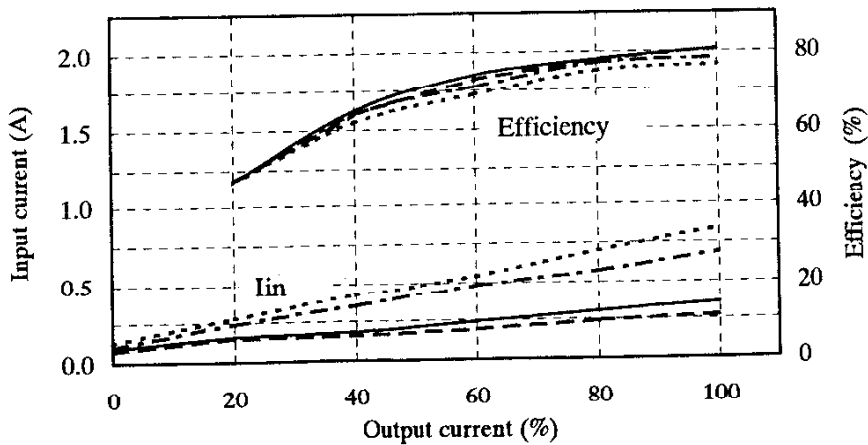
5V



12V



24V

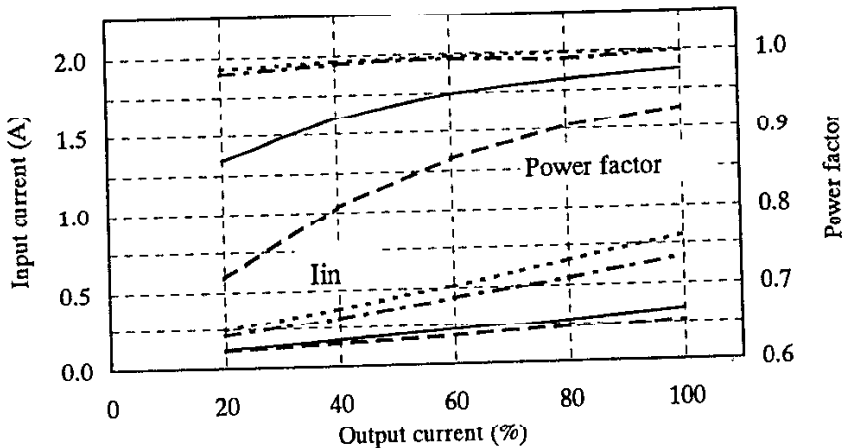


2.1-(4) 力率、入力電流対出力電流

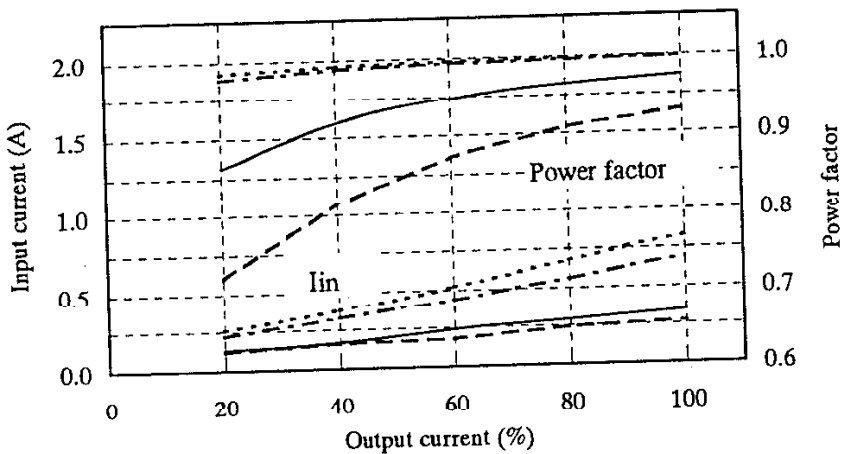
Power factor and Input current v.s. Output current

Conditions V_{in} : 85VAC
 : 100VAC - - - - -
 : 200VAC ————
 : 265VAC - - - - -
 T_a : 25°C

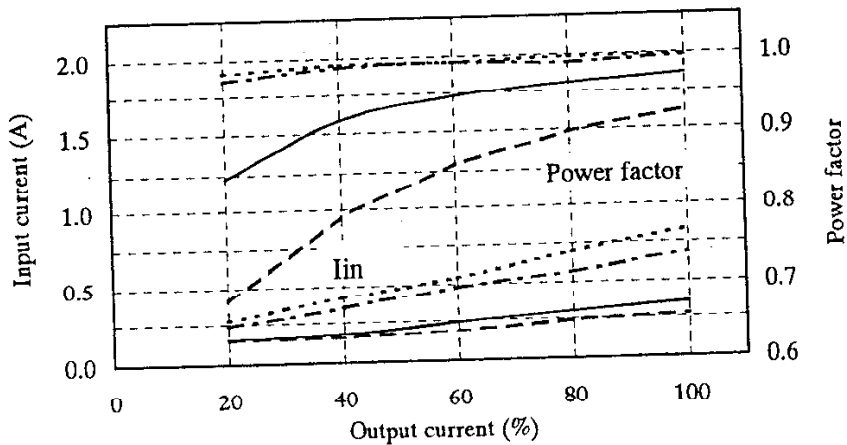
5V



12V



24V



2.2 通電ドリフト特性

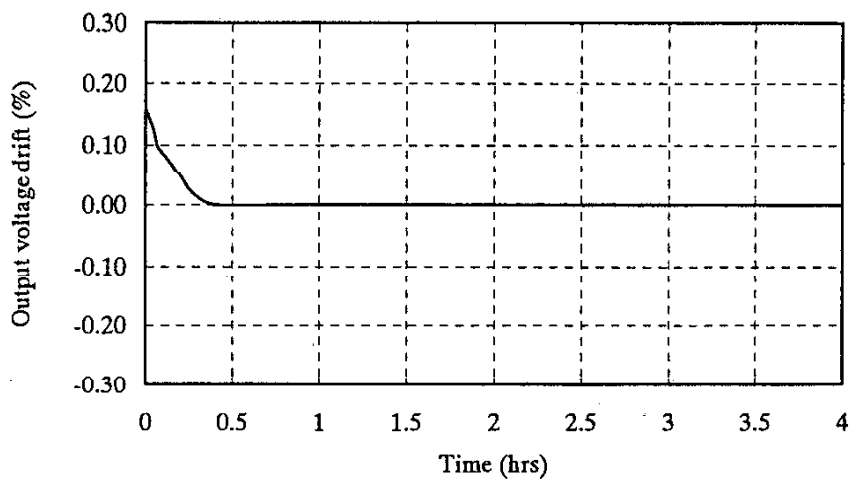
Warm up voltage drift characteristics

Conditions V_{in} : 100VAC

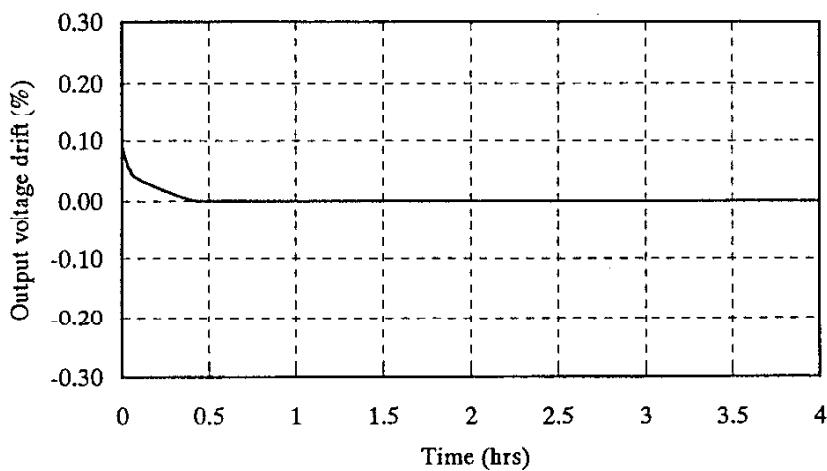
I_o : 100%

T_a : 25°C

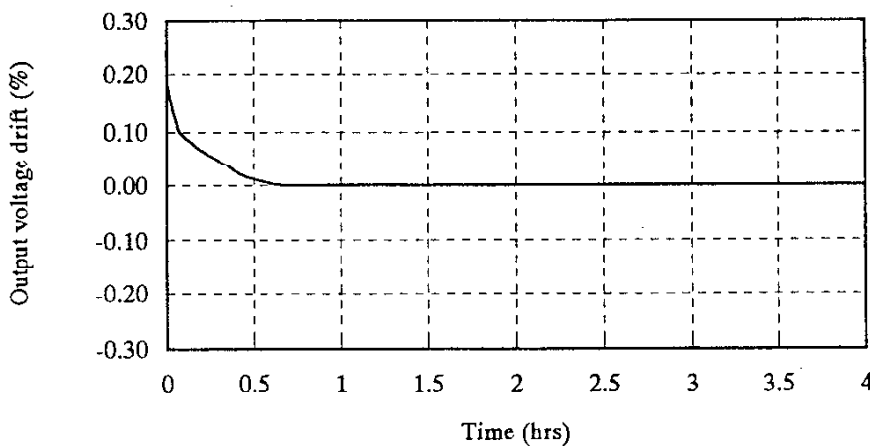
5V



12V



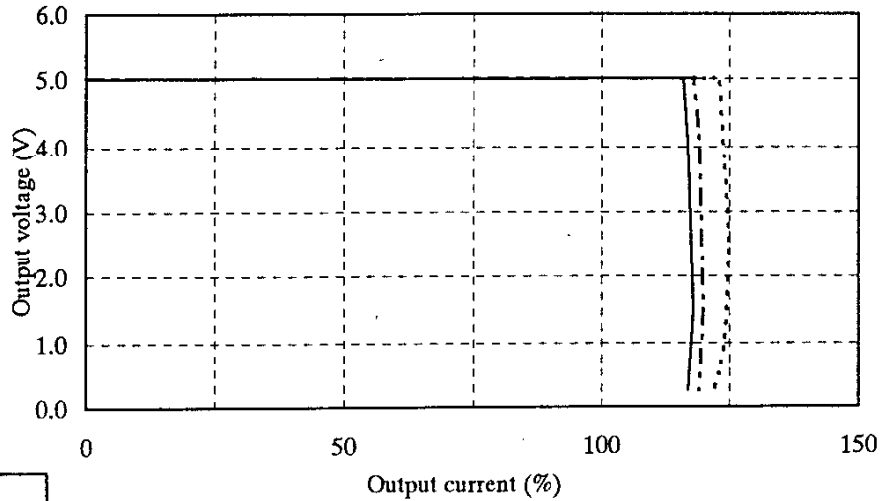
24V



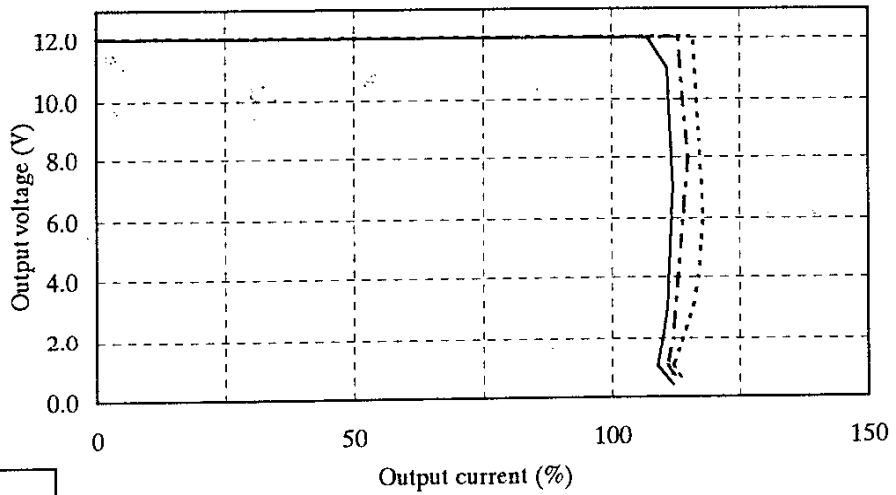
2.3 過電流保護特性
Over current protection (OCP) characteristics

Conditions Ta : -10°C
: 25°C
: 50°C
Vin : 85-265VAC

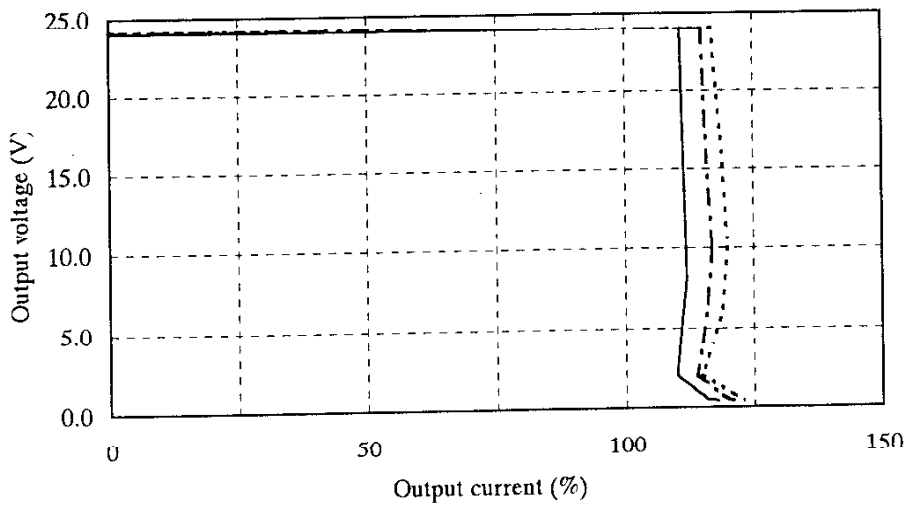
5V



12V



24V



2.4 過電圧保護特性

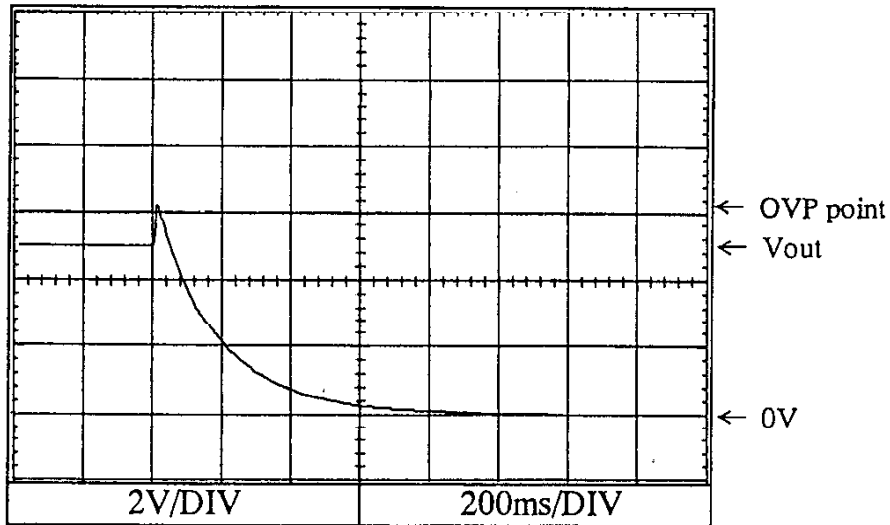
Over voltage protection (OVP) characteristics

Conditions V_{in} : 100VAC

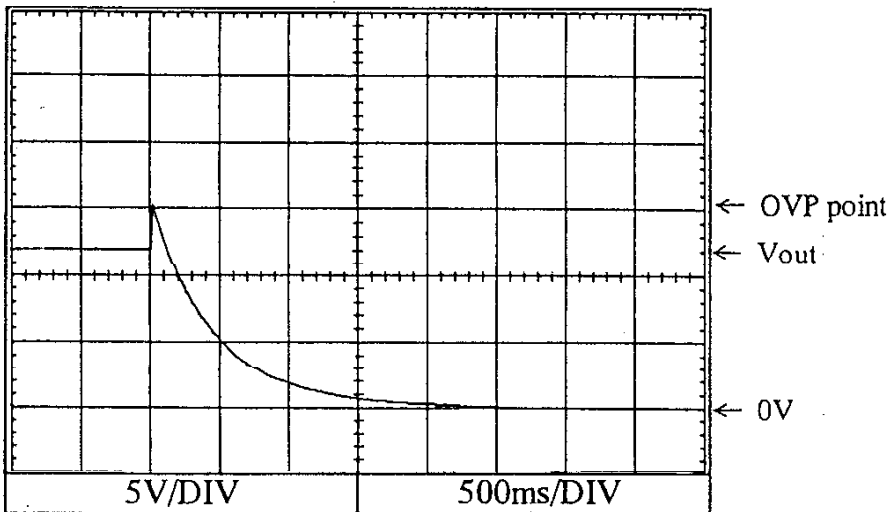
I_{out} : 0%

T_a : 25°C

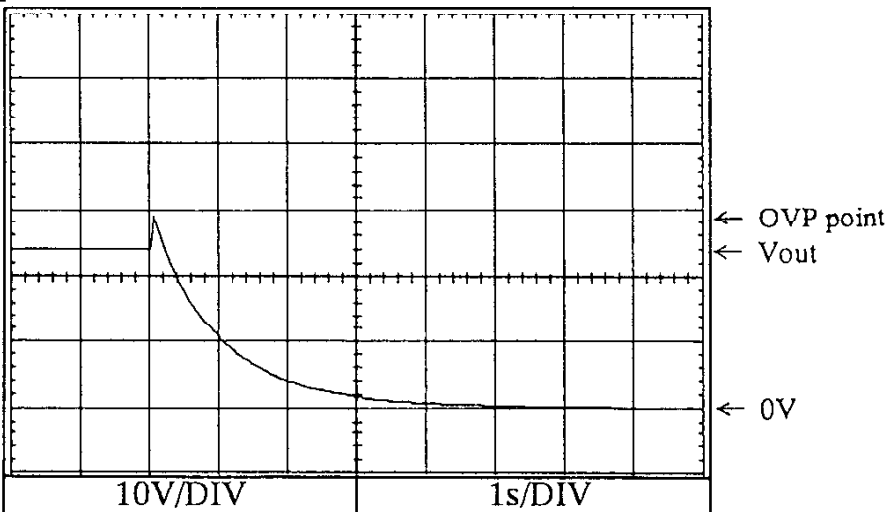
5V



12V



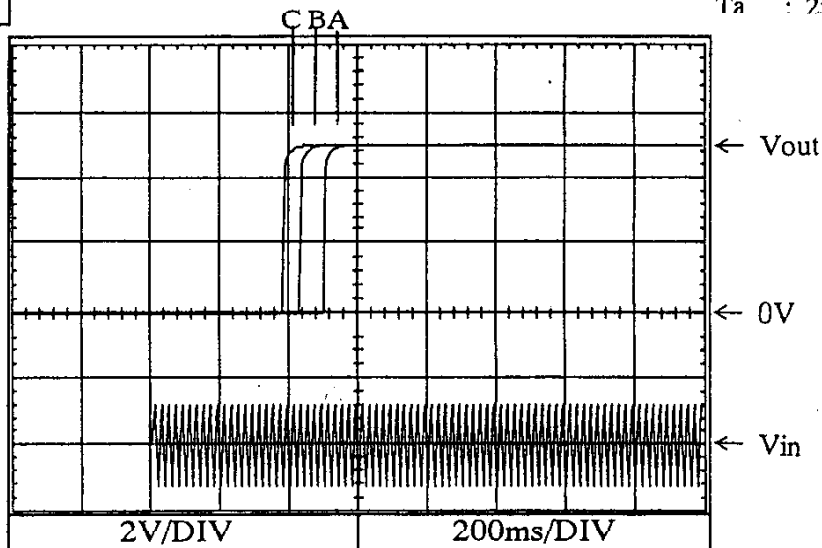
24V



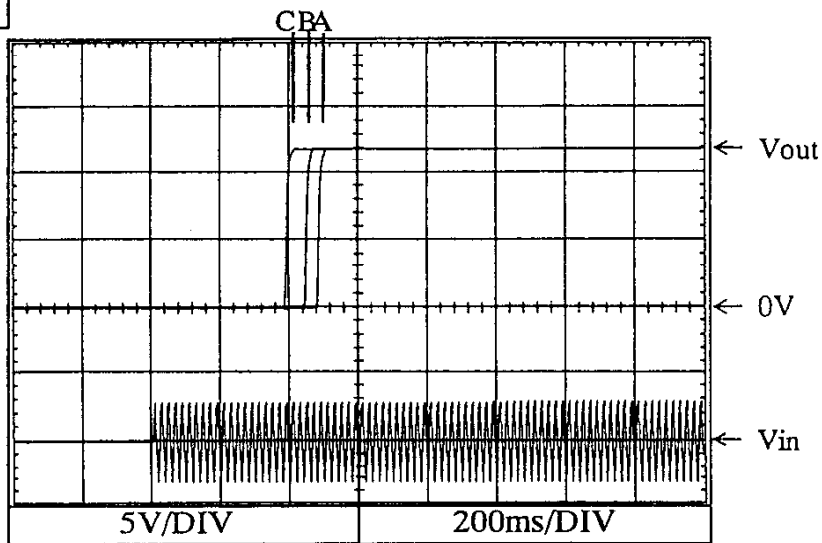
Conditions Vin : 85VAC (A)
 : 100VAC (B)
 : 132VAC (C)
 Iout : 0%
 Ta : 25°C

2.5 出力立ち上がり特性 Output rise characteristics

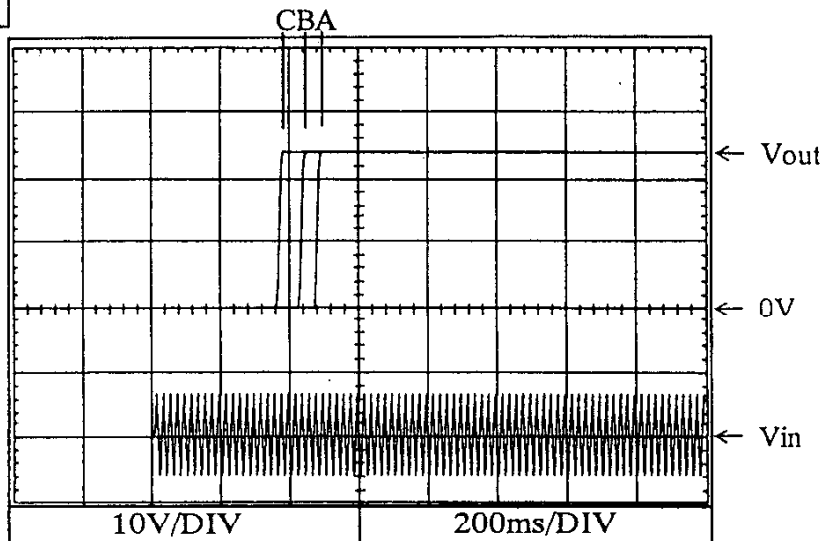
5V



12V



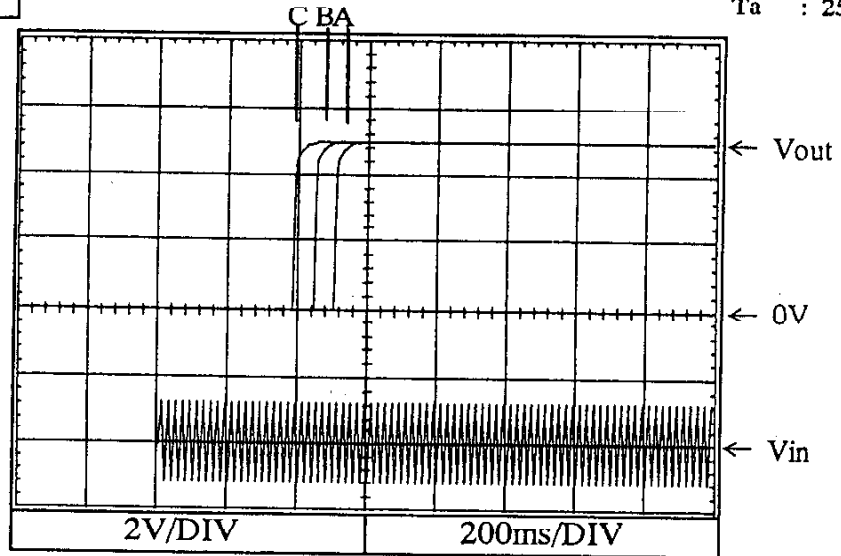
24V



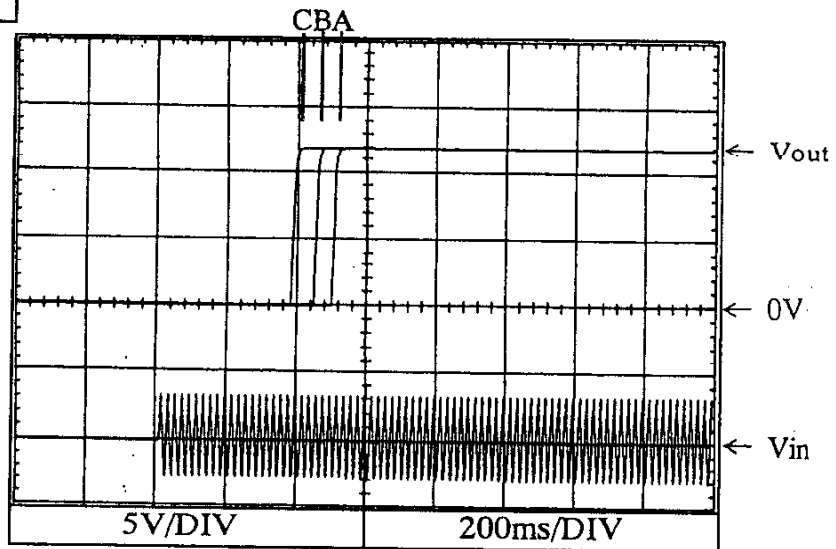
2.5 出力立ち上がり特性
Output rise characteristics

Conditions Vin : 85VAC (A)
: 100VAC (B)
: 132VAC (C)
Iout : 100%
Ta : 25°C

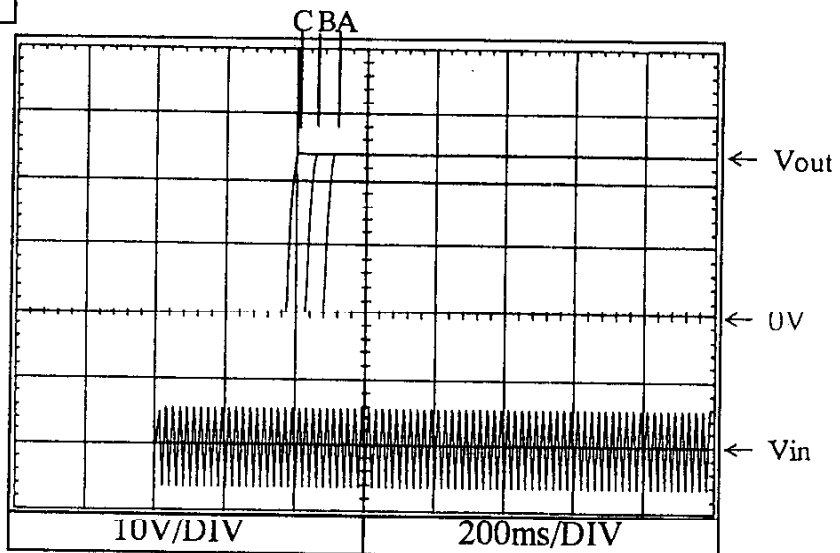
5V



12V



24V

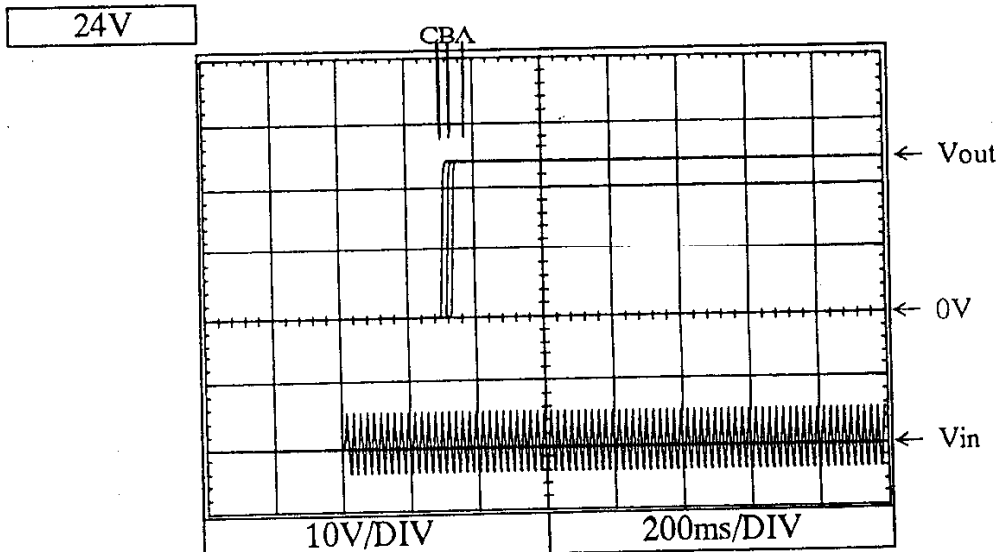
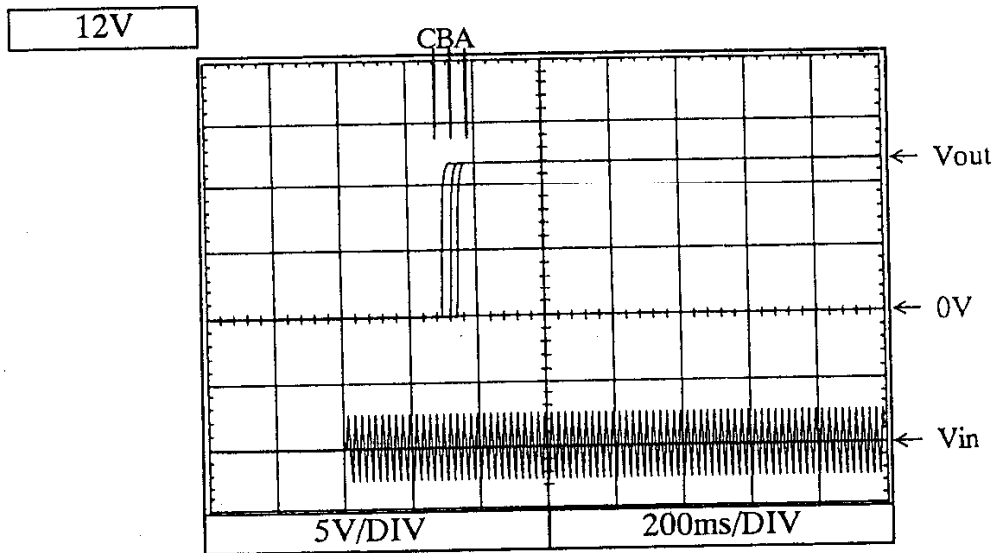
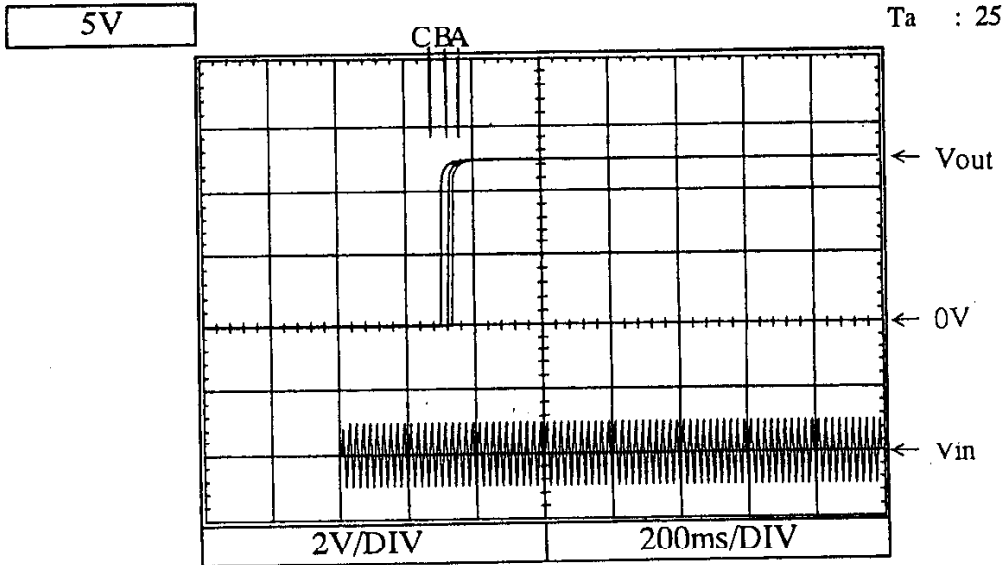


Conditions Vin : 170VAC (A)
: 200VAC (B)
: 265VAC (C)

Iout : 0%

Ta : 25°C

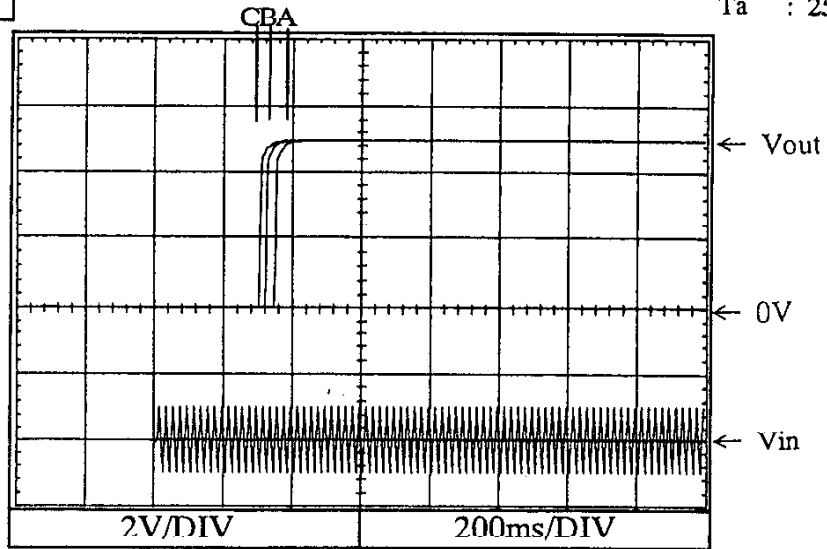
2.5 出力立ち上がり特性
Output rise characteristics



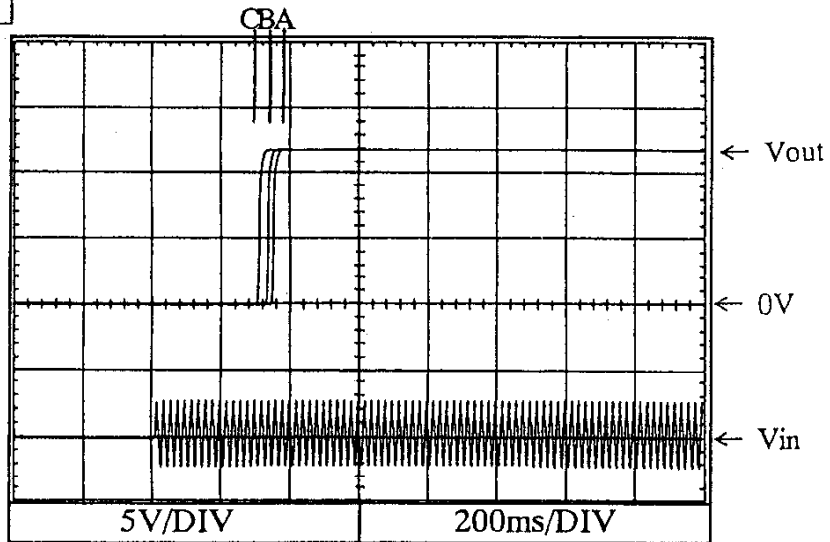
Conditions Vin : 170VAC (A)
: 200VAC (B)
: 265VAC (C)
Iout : 100%
Ta : 25°C

2.5 出力立ち上がり特性 Output rise characteristics

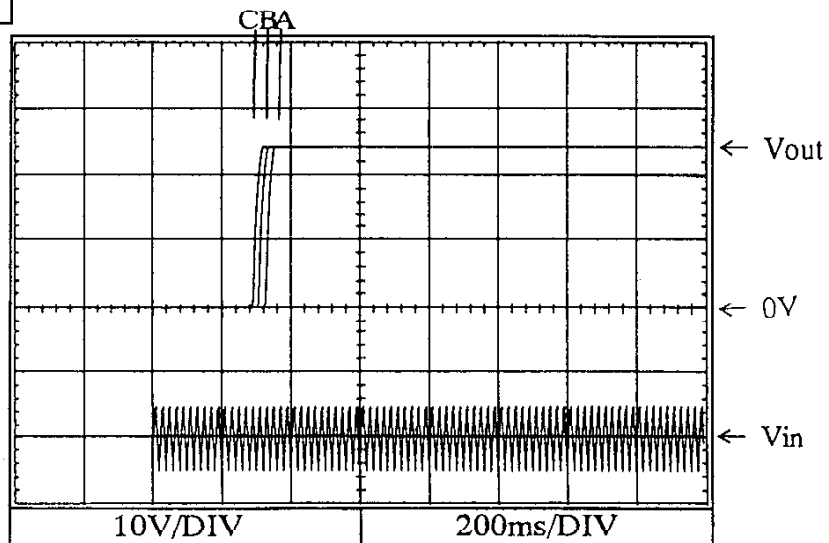
5V



12V

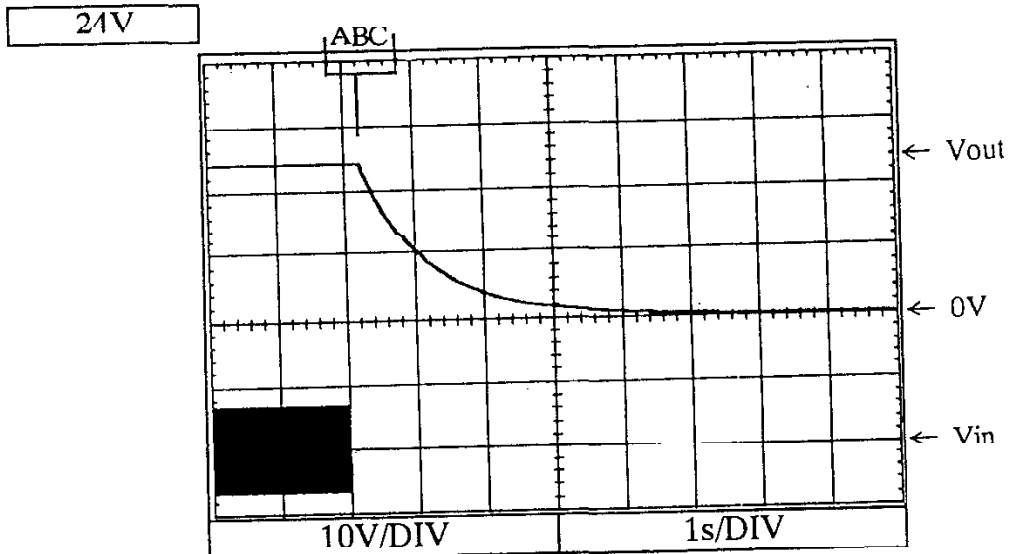
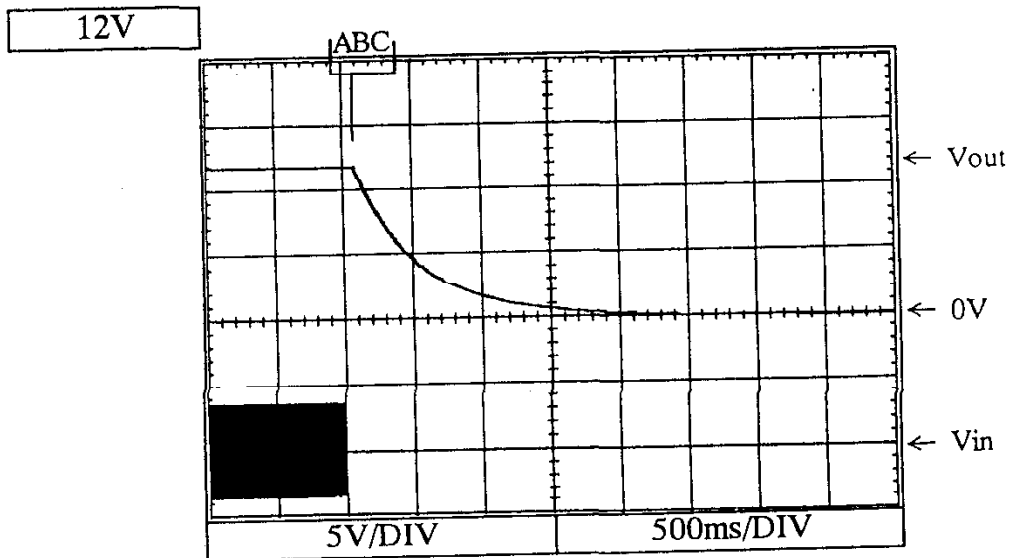
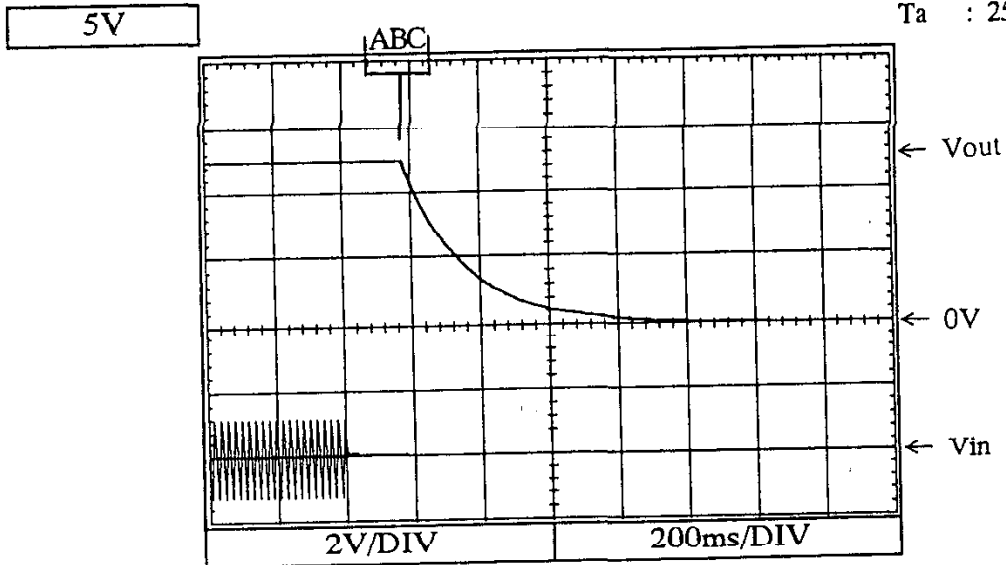


24V



2.6 出力立ち下がり特性
Output fall characteristics

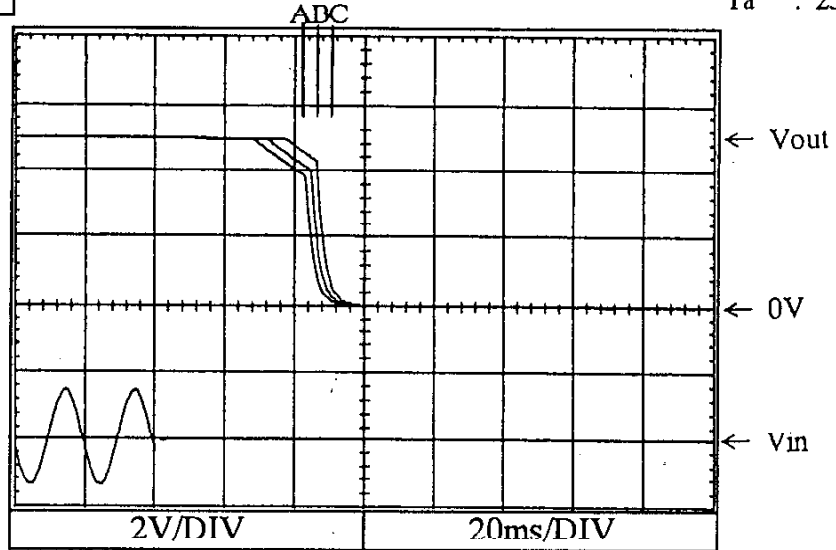
Conditions Vin : 85VAC (A)
: 100VAC (B)
: 132VAC (C)
Iout : 0%
Ta : 25°C



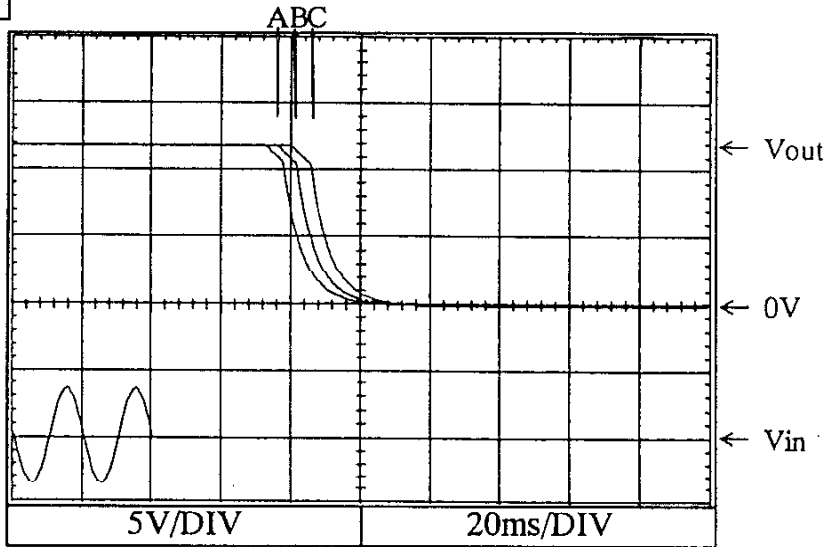
2.6 出力立ち下がり特性
Output fall characteristics

Conditions V_{in} : 85VAC (A)
 : 100VAC (B)
 : 132VAC (C)
 I_{out} : 100%
 T_a : 25°C

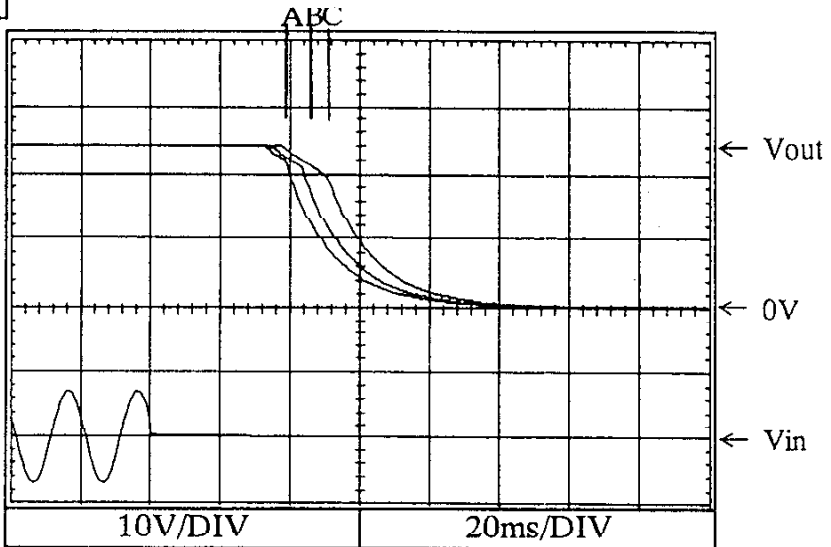
5V



12V



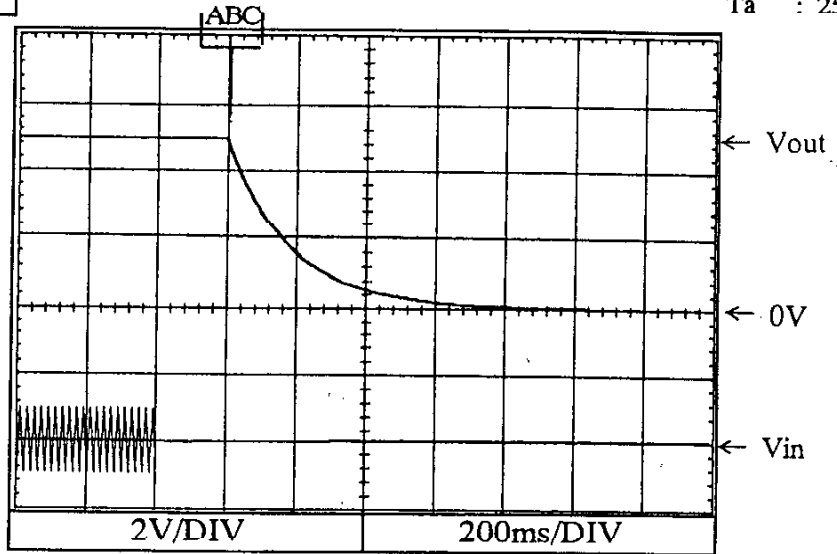
24V



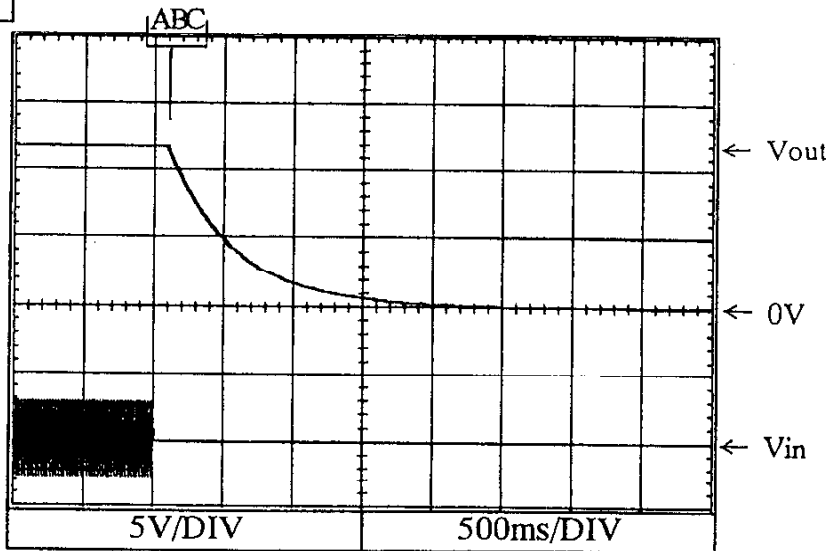
2.6 出力立ち下がり特性
Output fall characteristics

Conditions Vin : 170VAC (A)
 : 200VAC (B)
 : 265VAC (C)
Iout : 0%
Ta : 25°C

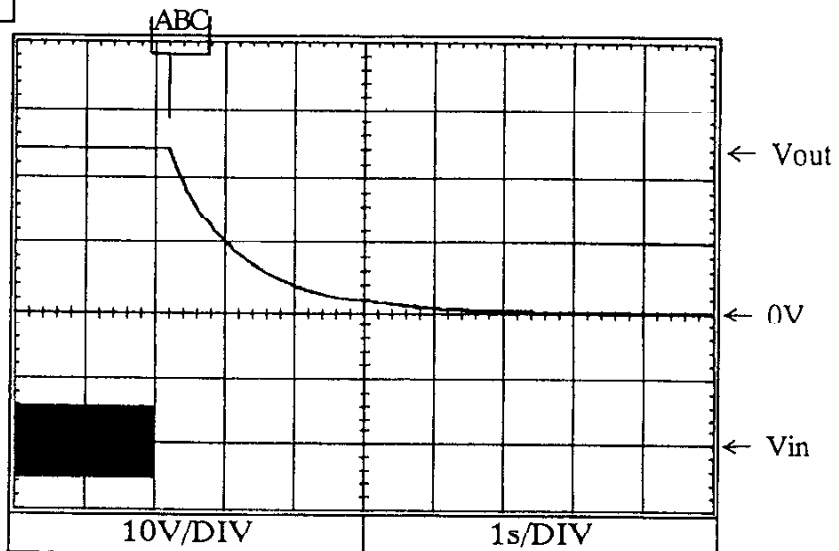
5V



12V



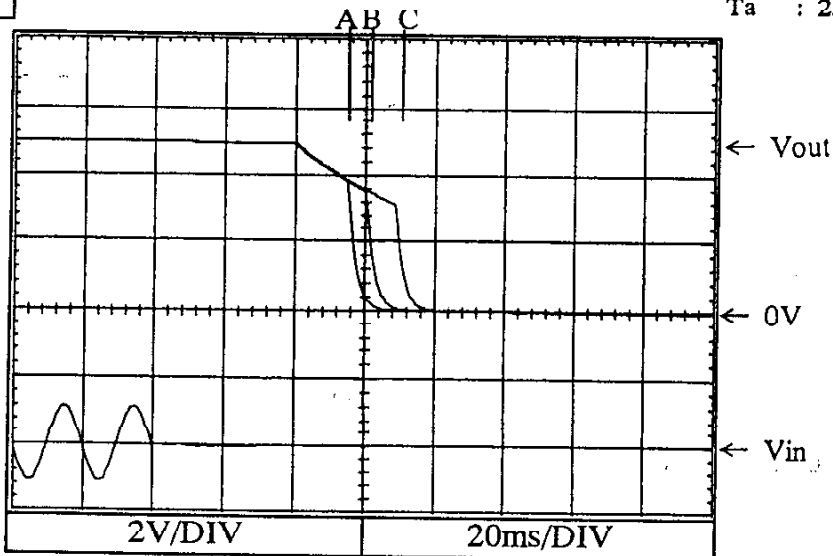
24V



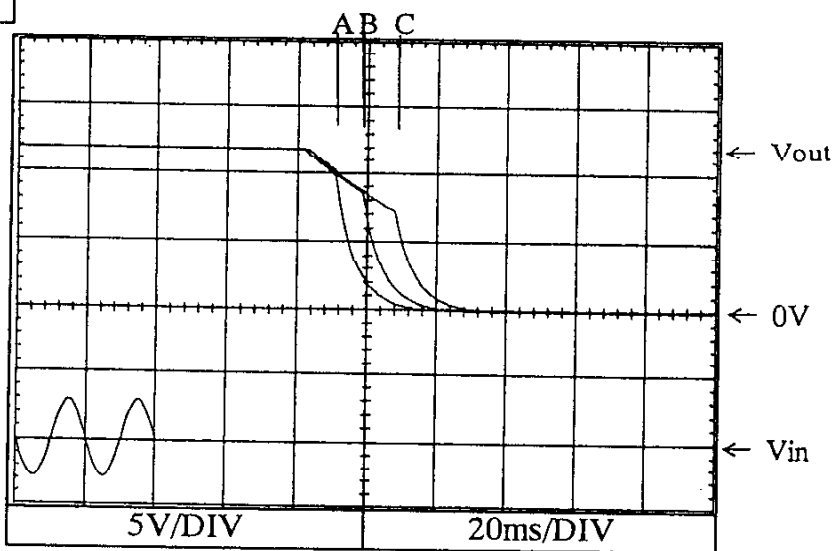
2.6 出力立ち下がり特性
Output fall characteristics

Conditions Vin : 170VAC (A)
: 200VAC (B)
: 265VAC (C)
Iout : 100%
Ta : 25°C

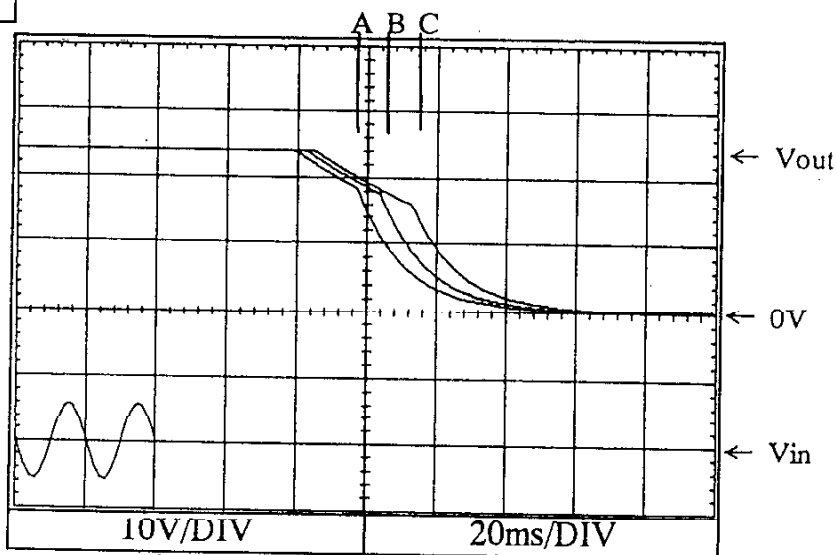
5V



12V



24V



2.7 ON/OFFコントロール時出力立ち上がり特性

Output rise characteristics with ON/OFF CONTROL

標準品 JWS50-*/R にて対応

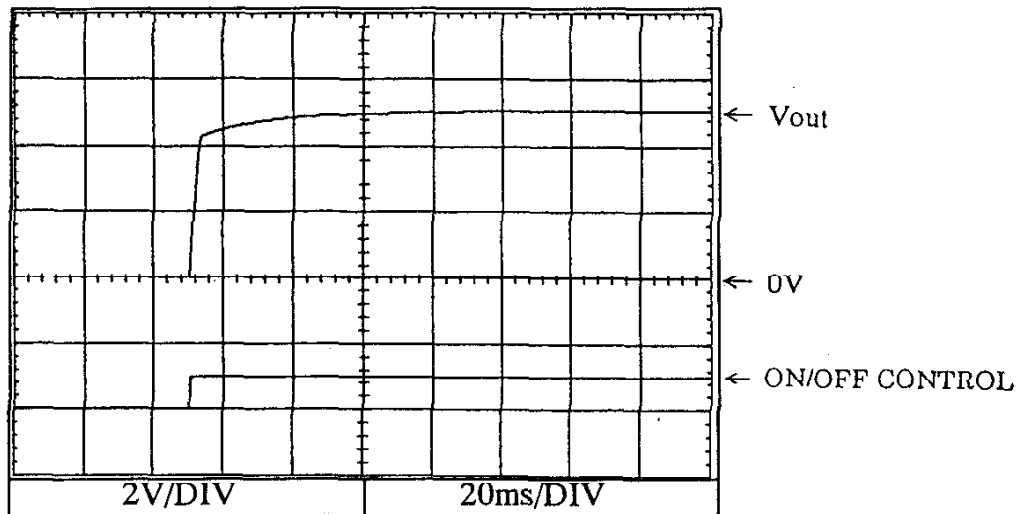
For alternative standard model JWS50-*/R

Conditions Vin : 100VAC

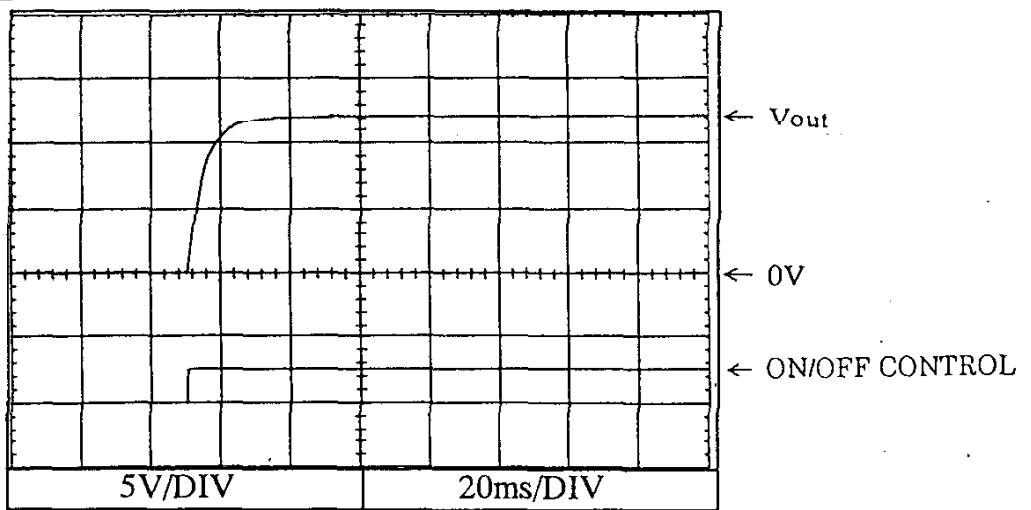
Iout : 100%

Ta : 25°C

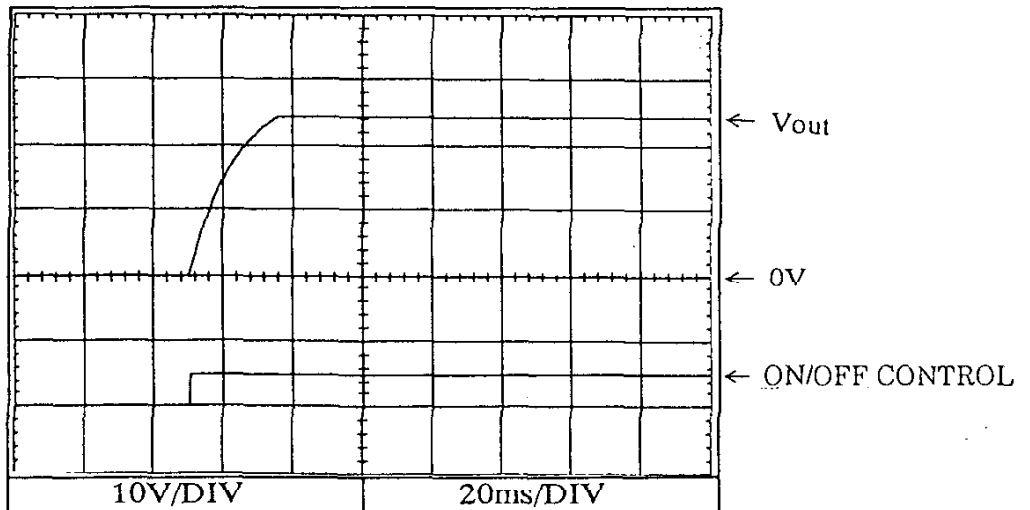
5V



12V



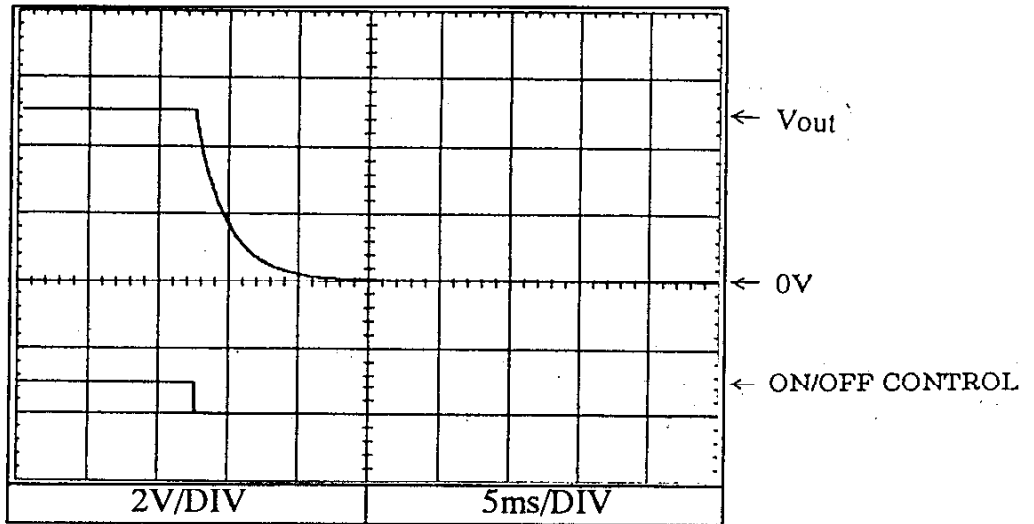
24V



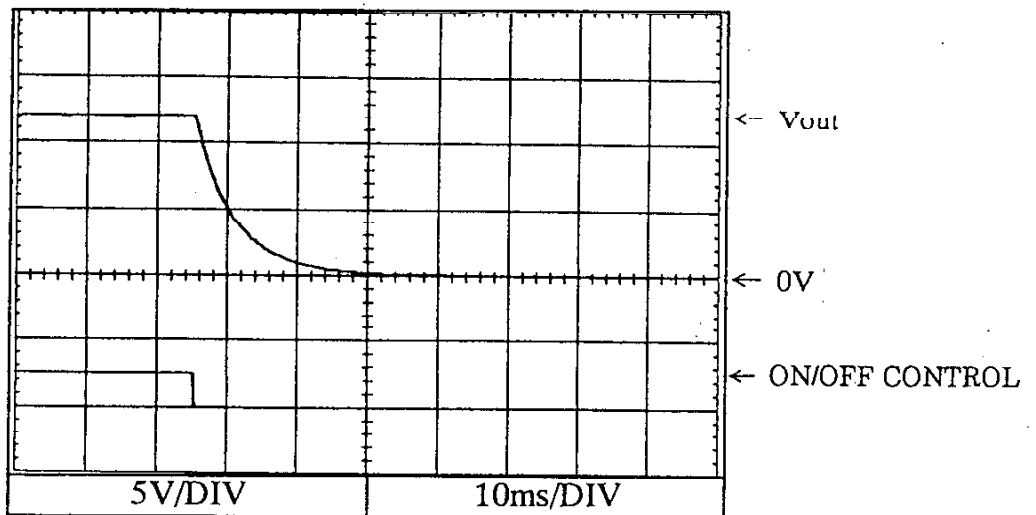
2.8 ON/OFFコントロール時出力立ち下がり特性
Output fall characteristics with ON/OFF CONTROL
標準品 JWS50-*/R にて対応
For alternative standard model JWS50-*/R

Conditions Vin : 100VAC
Iout : 100%
Ta : 25°C

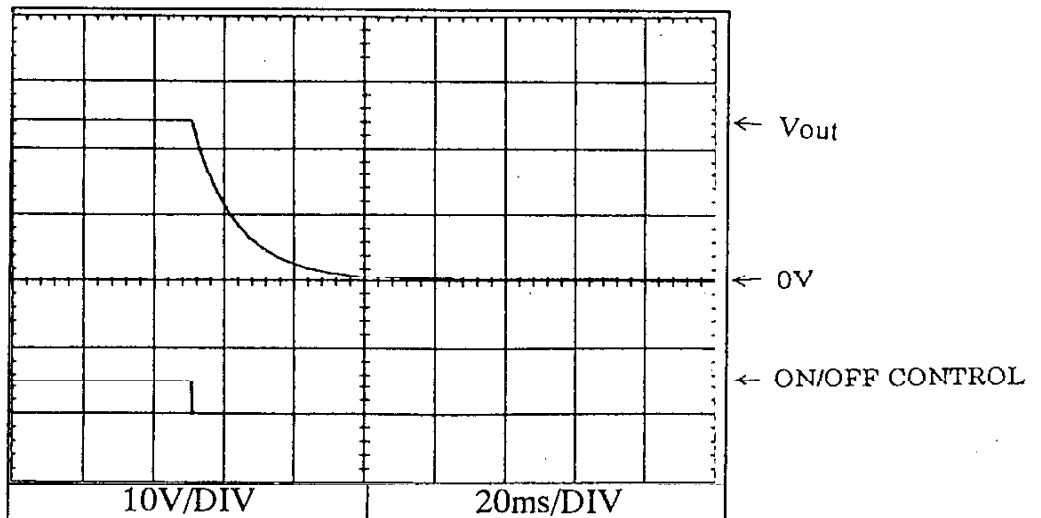
5V



12V



24V



2.9. 出力保持時間特性

Hold up time characteristics

Conditions Vin : 100VAC

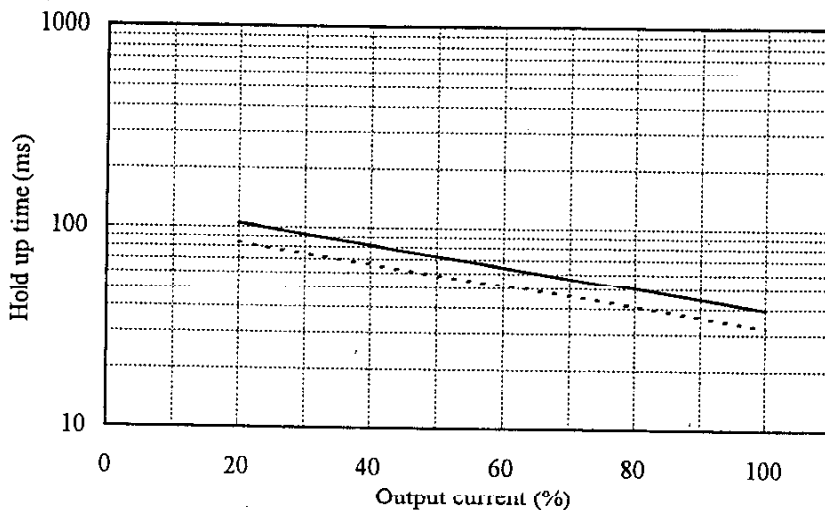
: 200VAC

Ta : 25°C

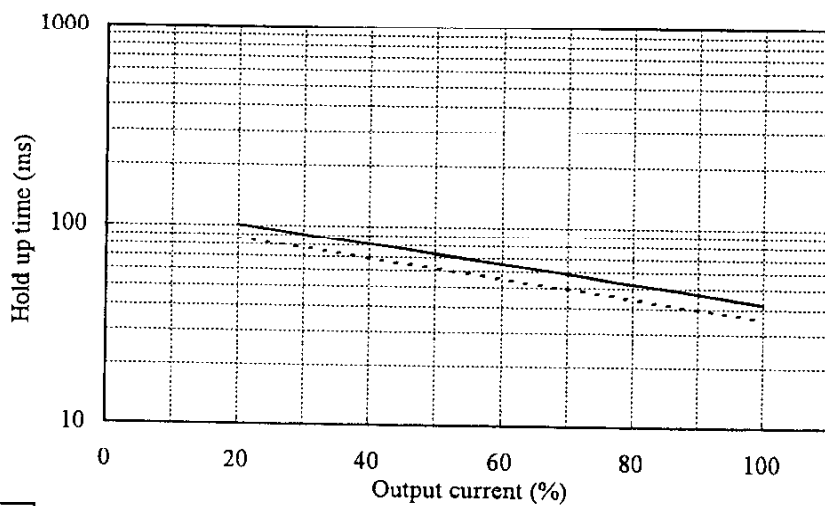
.....

————

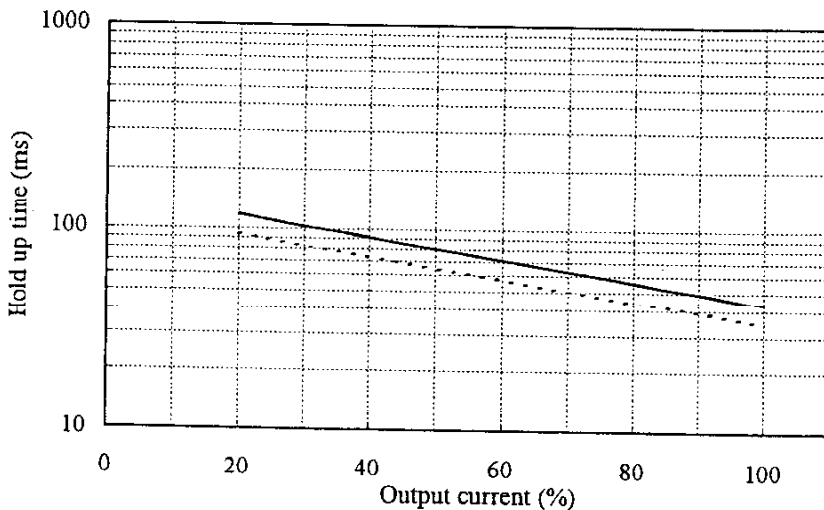
5V



12V



24V



2.10 過渡応答 (入力急変) 特性

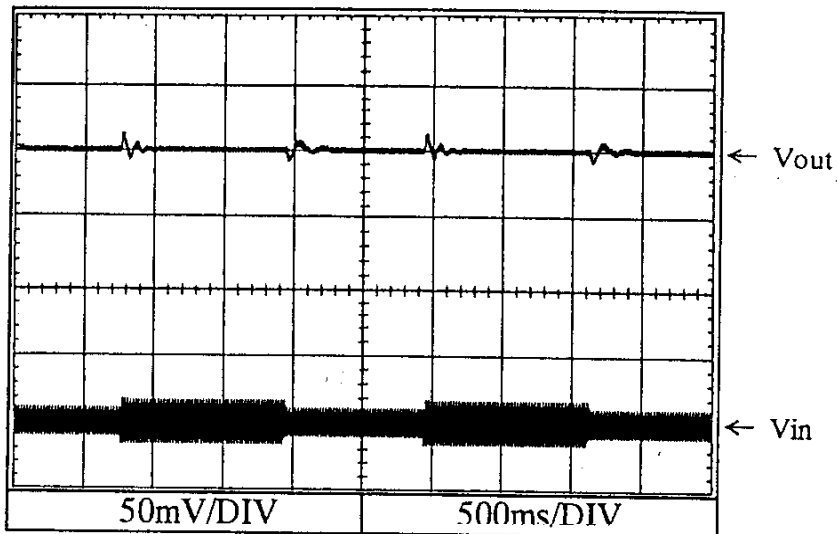
Dynamic line response characteristics

Conditions V_{in} : 85VAC \leftrightarrow 132VAC

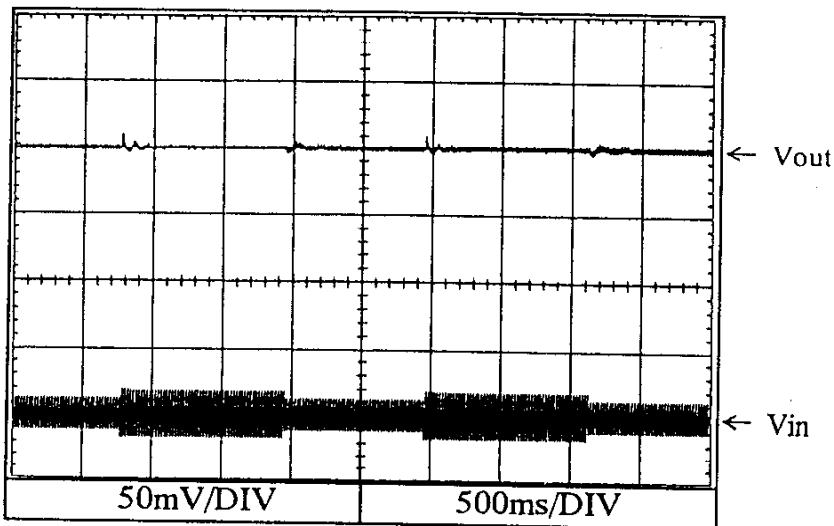
I_{out} : 100%

T_a : 25°C

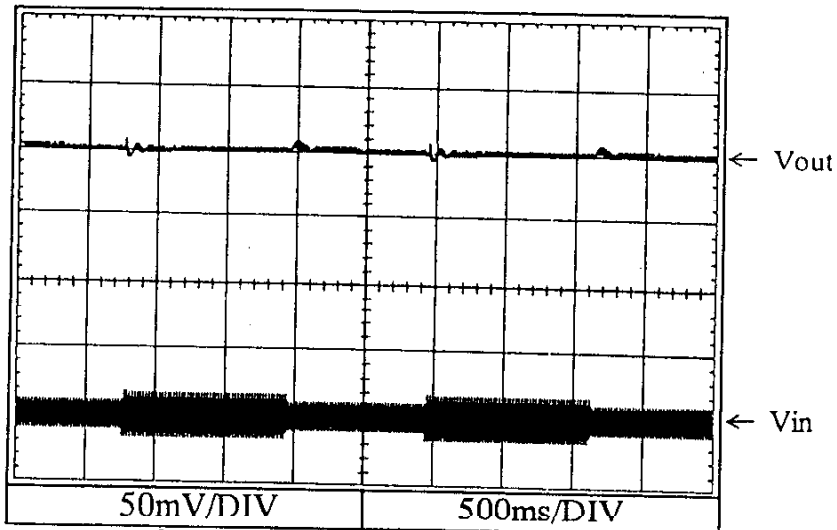
5V



12V



24V



2.10 過渡応答 (入力急変) 特性

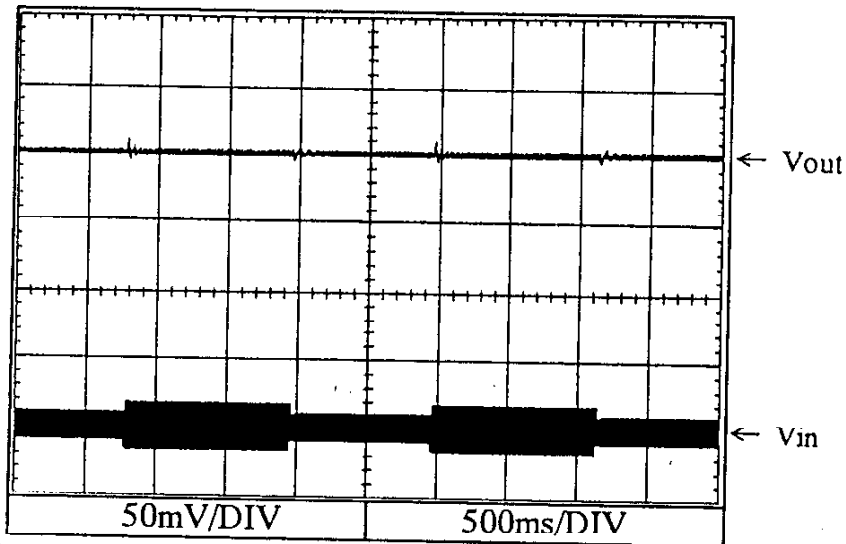
Dynamic line response characteristics

Conditions V_{in} : 170VAC \leftrightarrow 265VAC

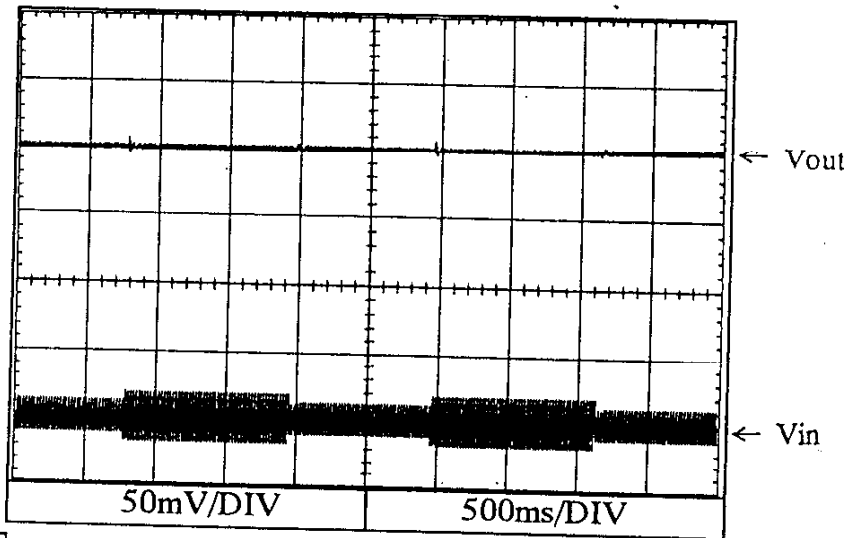
I_{out} : 100%

T_a : 25°C

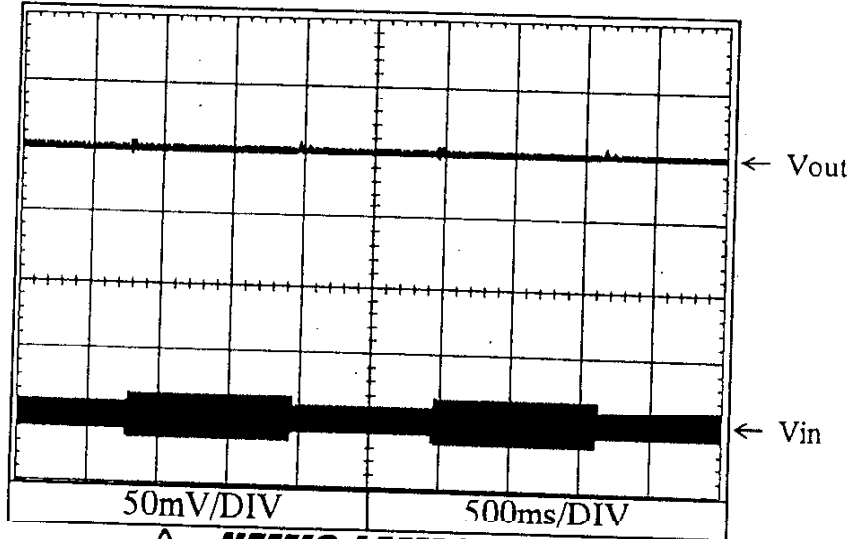
5V



12V



24V



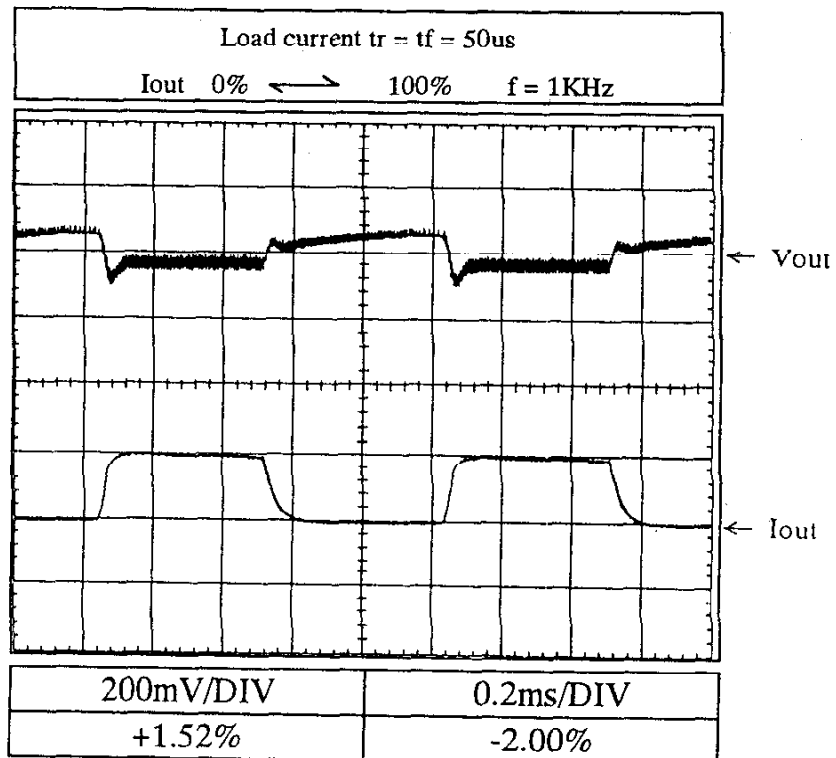
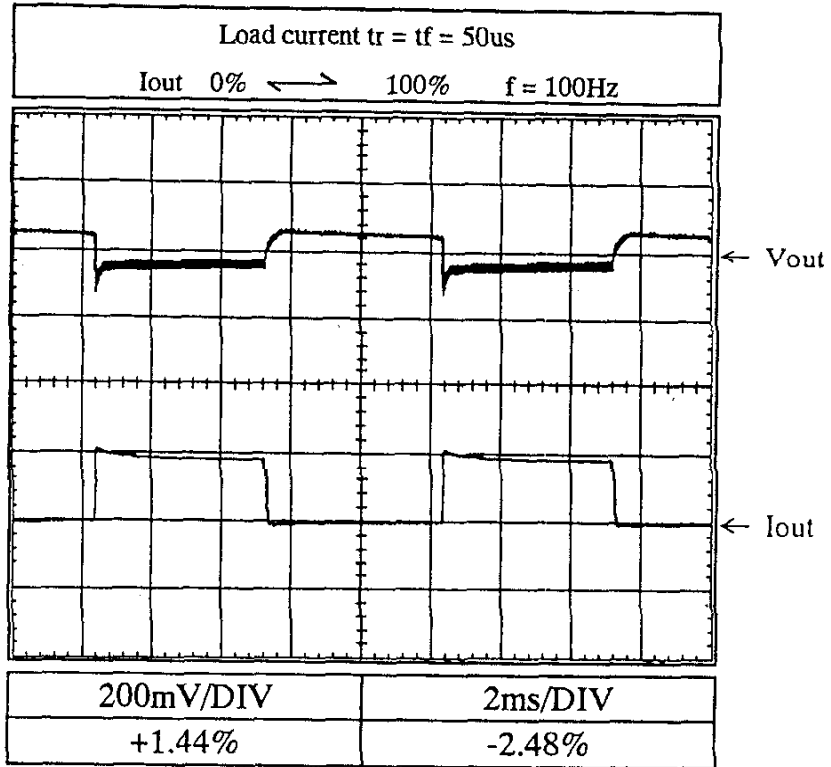
2.11 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions V_{in} : 100VAC

T_a : 25°C

5V



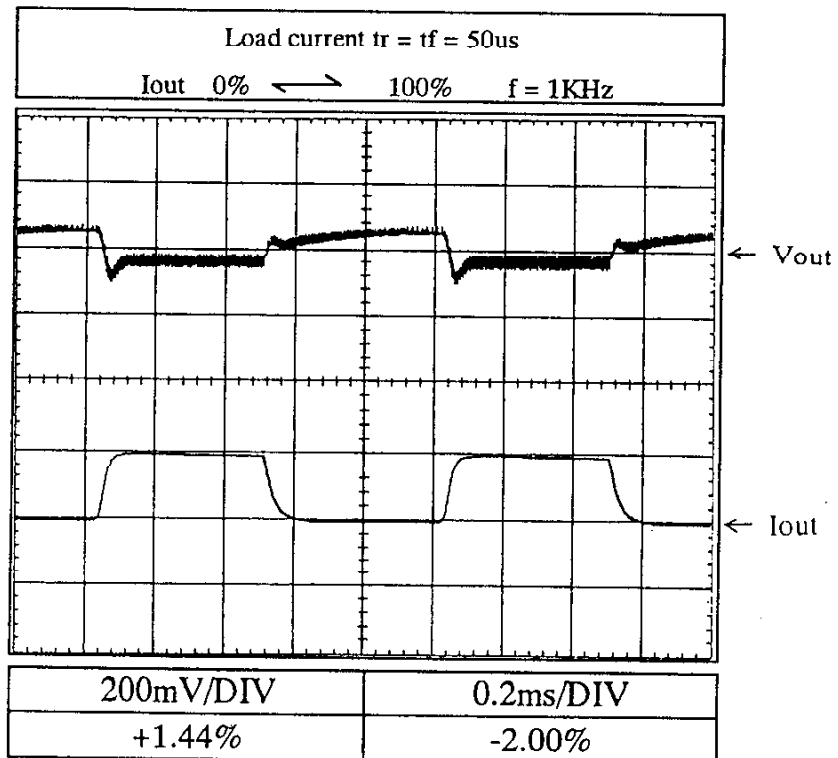
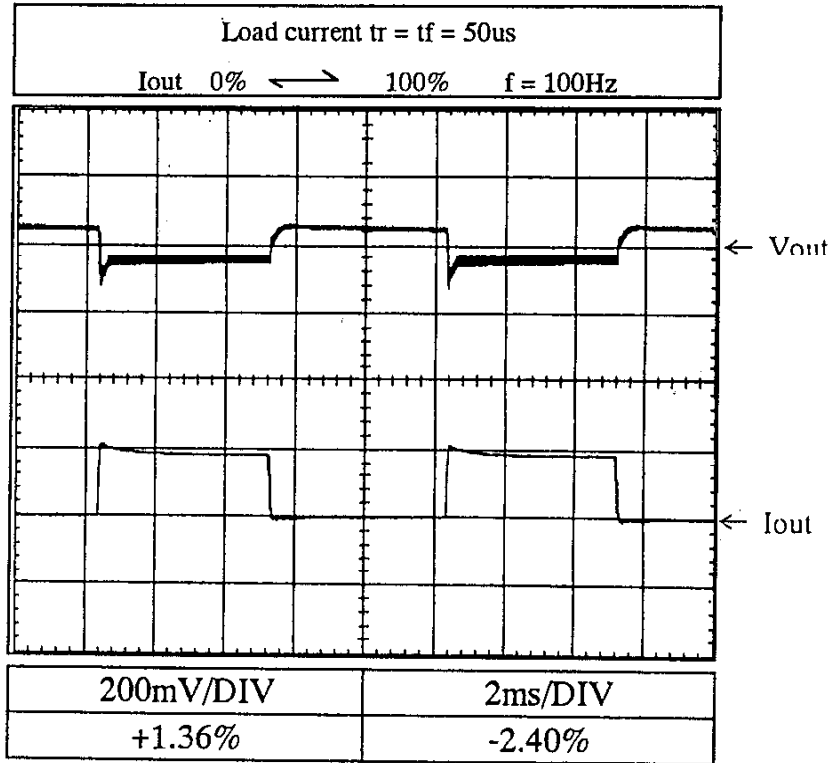
2.11 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions Vin : 200VAC

Ta : 25°C

5V

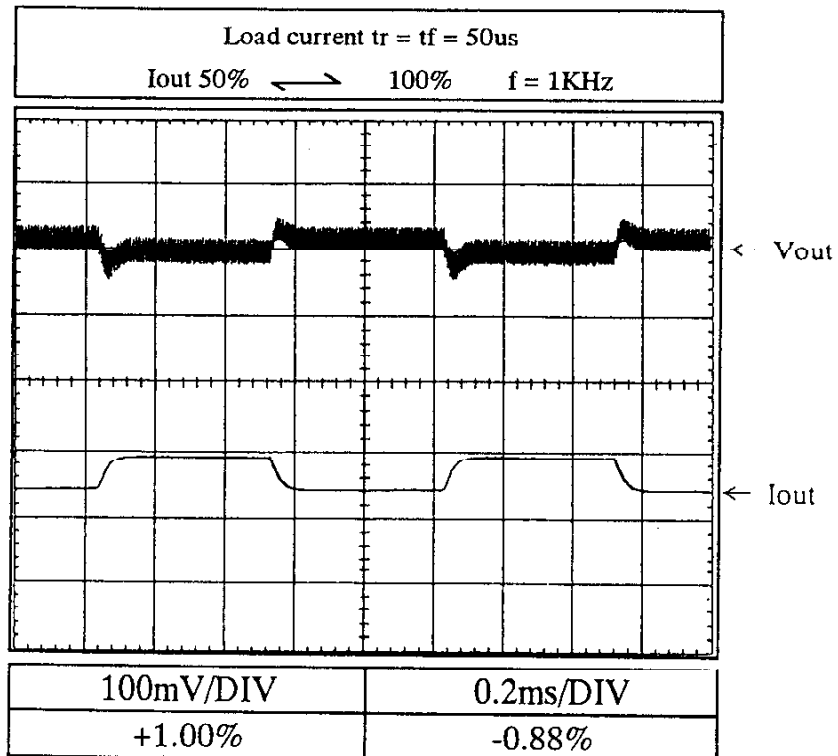
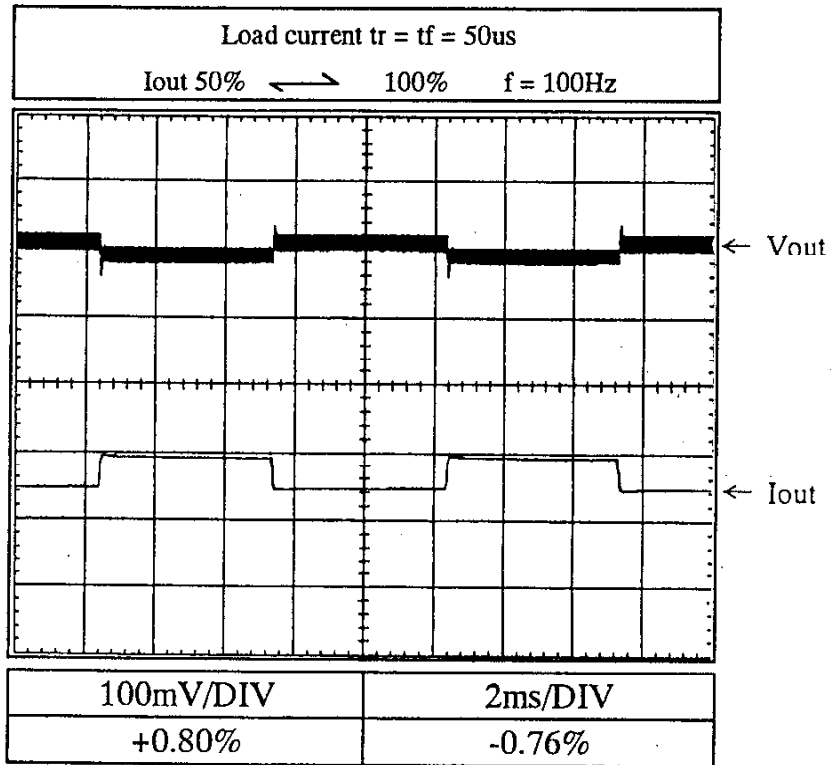


2.11: 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions Vin : 100VAC
Ia : 25°C

5V

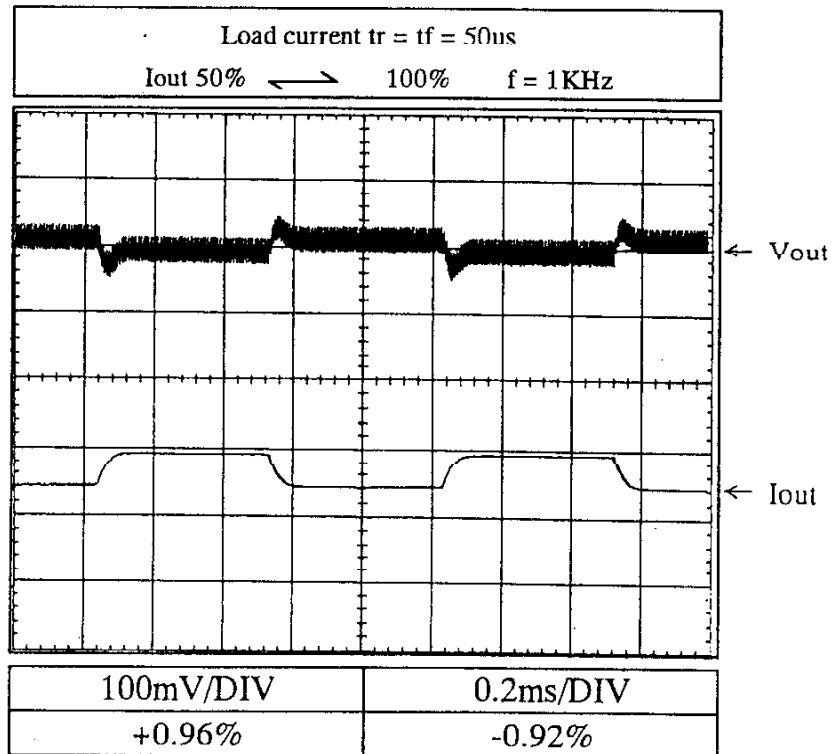
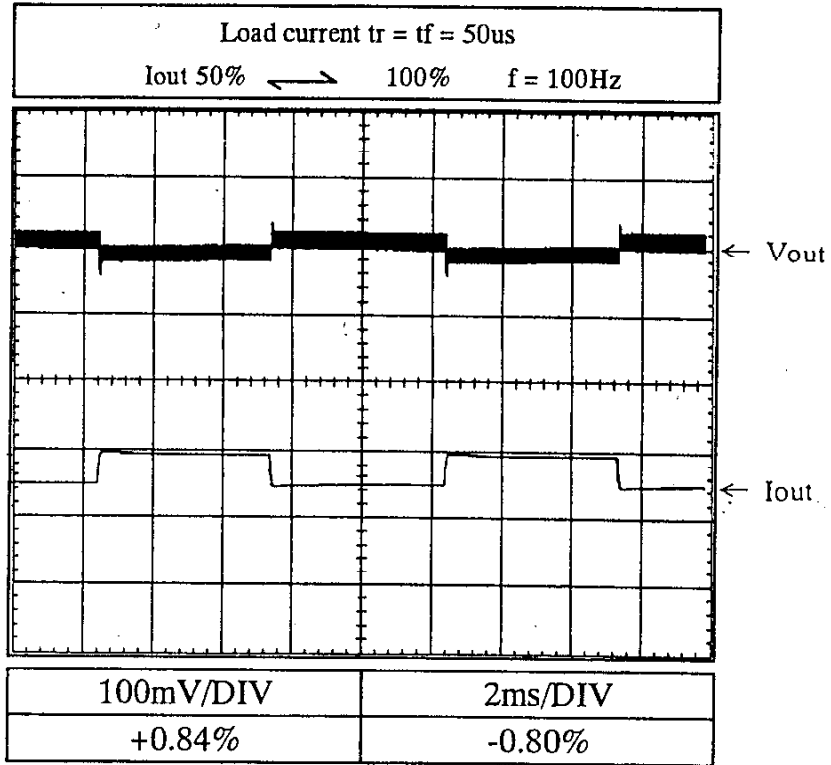


2.11 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions Vin : 200VAC
Ta : 25°C

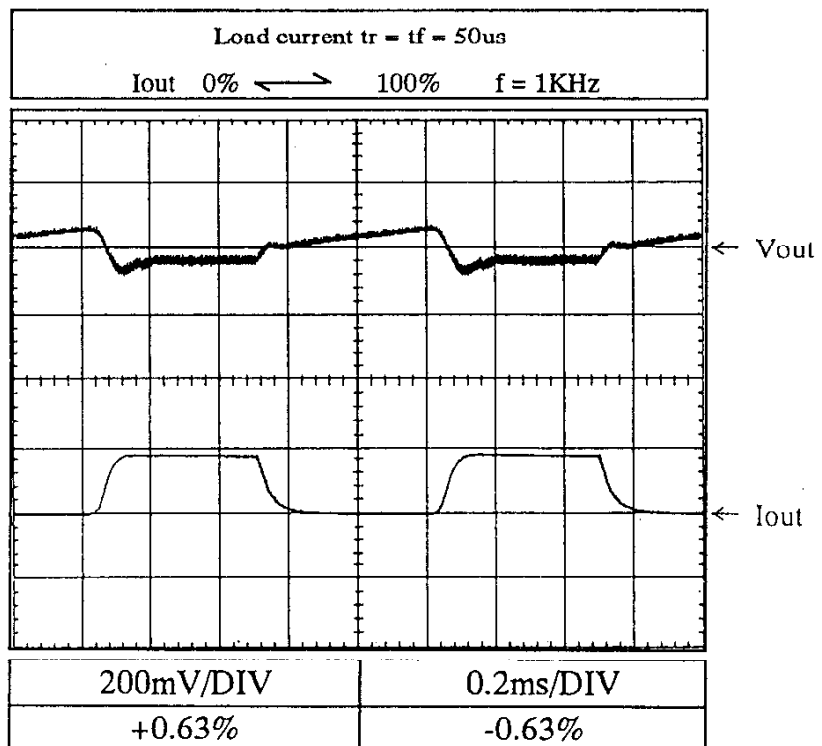
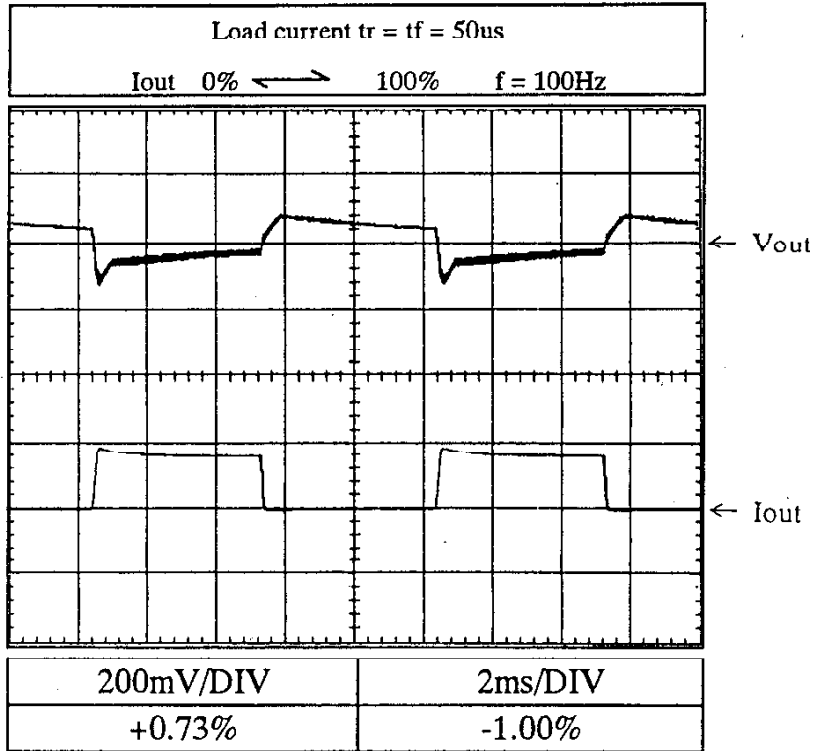
5V



2.11 過渡応答 (負荷急変) 特性
 Dynamic load response characteristics

Conditions Vin : 100VAC
 Ta : 25°C

12V



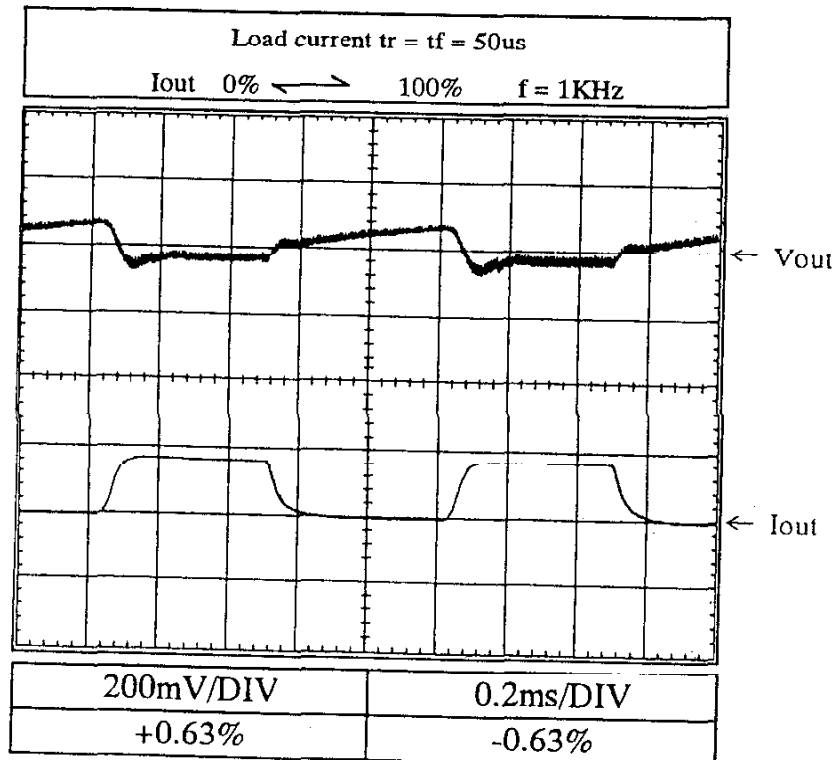
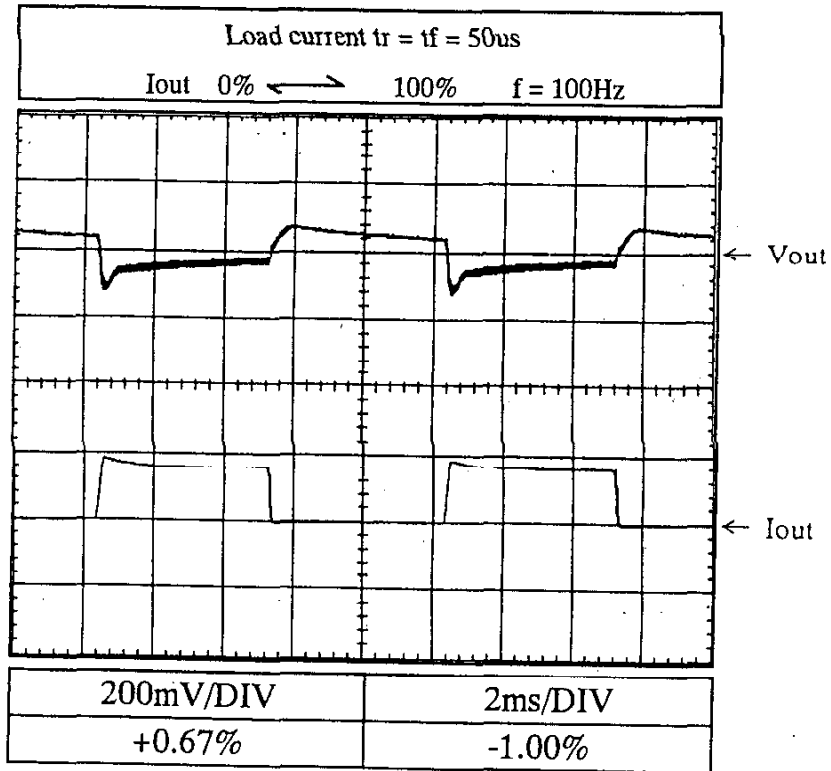
2.11 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions Vin : 200VAC

Ta : 25°C

12V



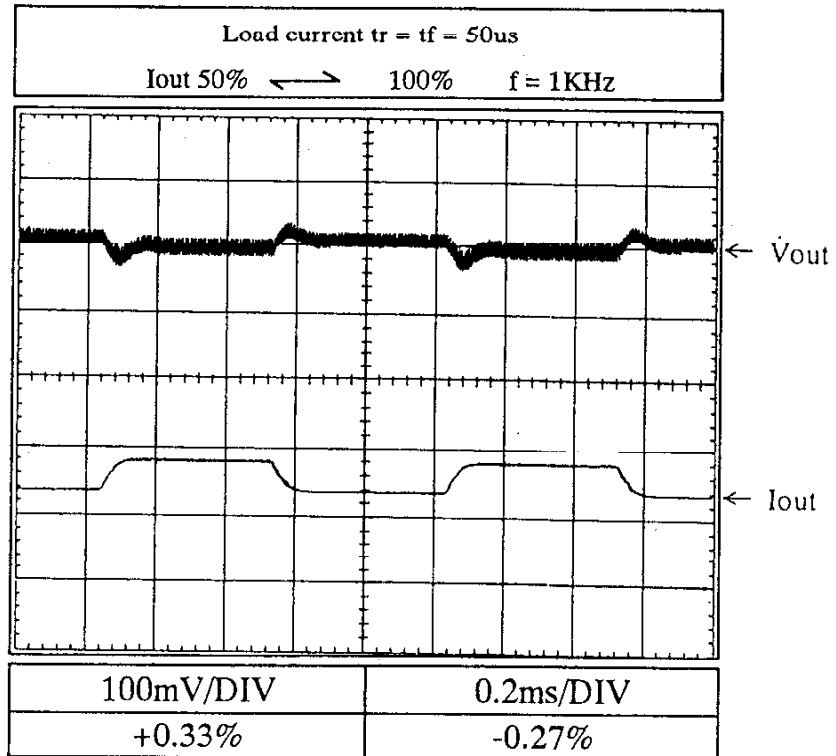
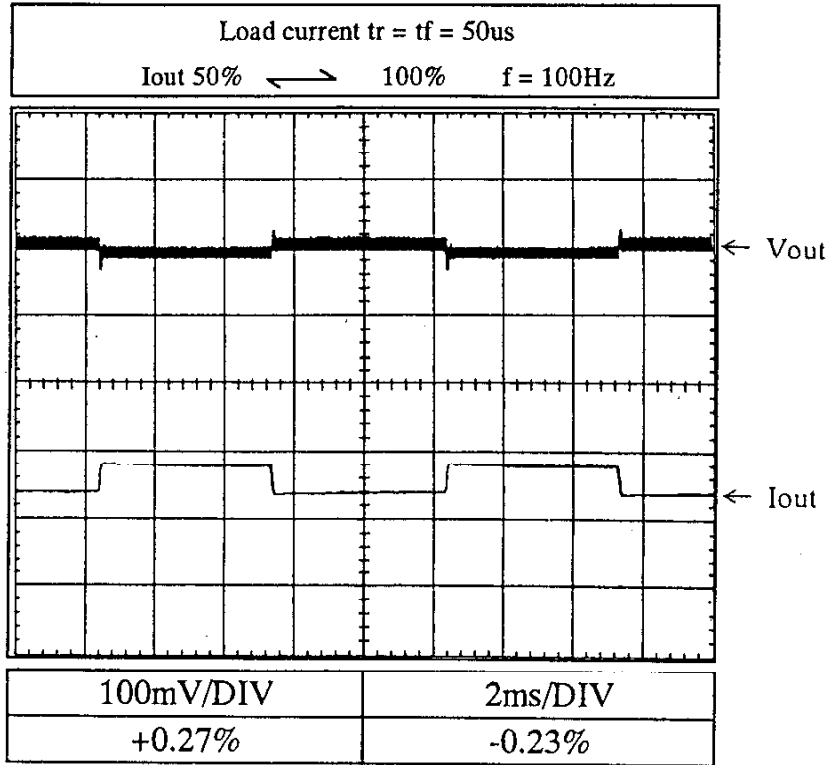
2.11 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions Vin : 100VAC

Ta : 25°C

12V



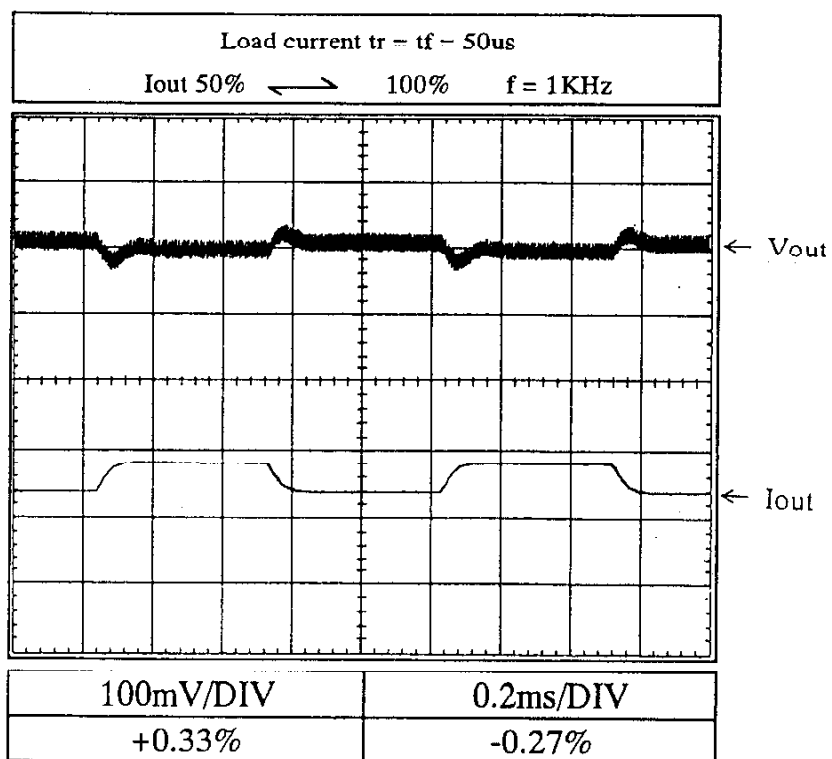
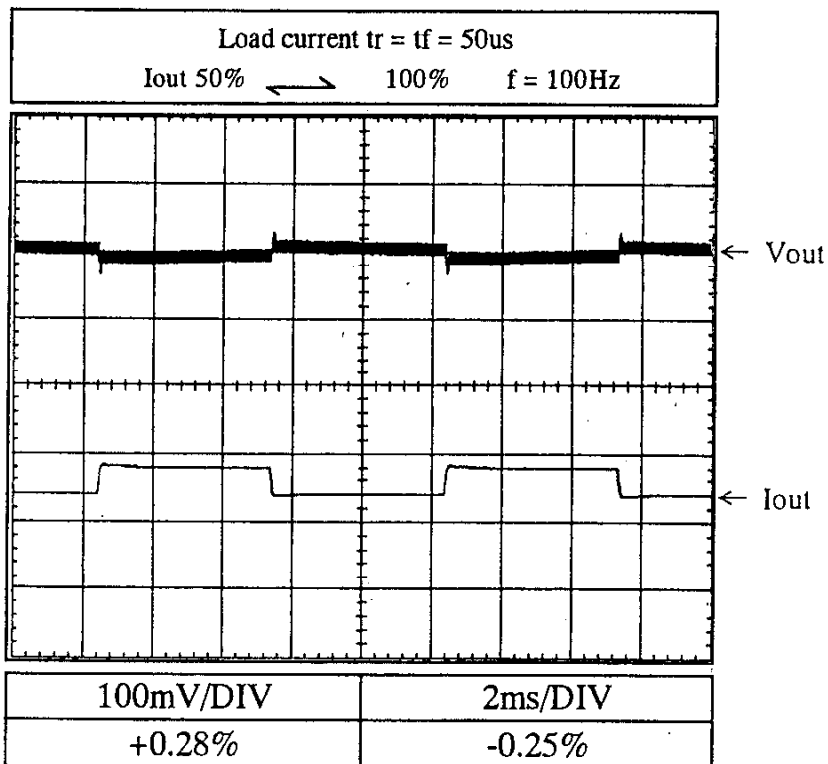
2.11. 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions Vin : 200VAC

Ta : 25°C

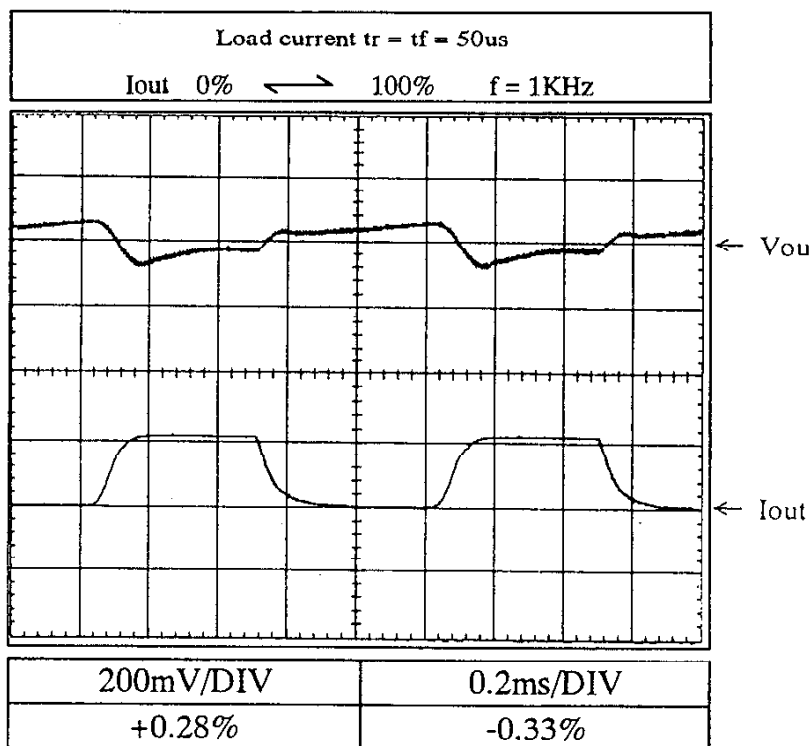
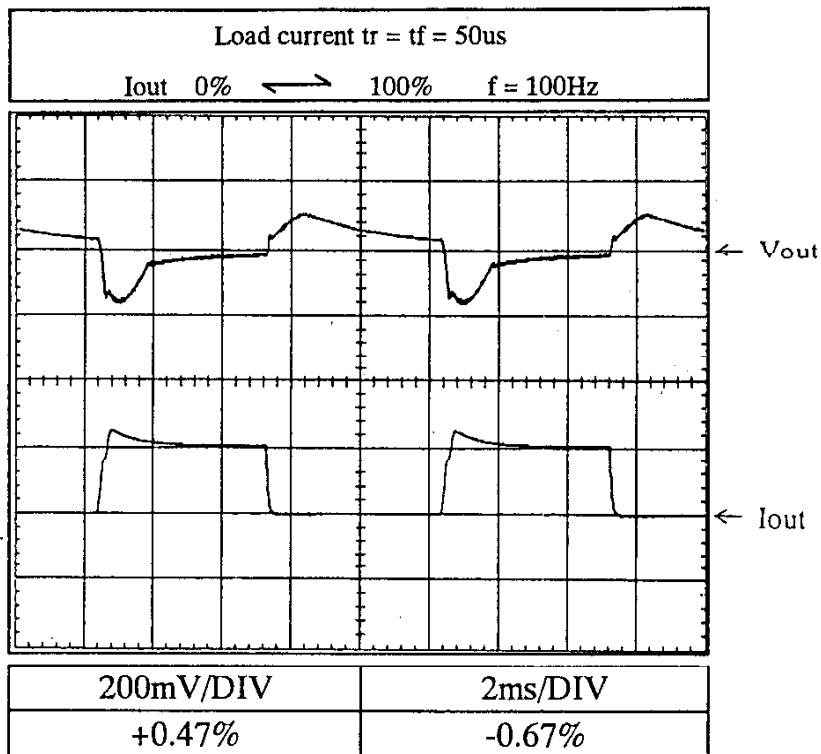
12V



2.11 過渡応答（負荷急変）特性
Dynamic load response characteristics

Conditions Vin : 100VAC
Ta : 25°C

24V



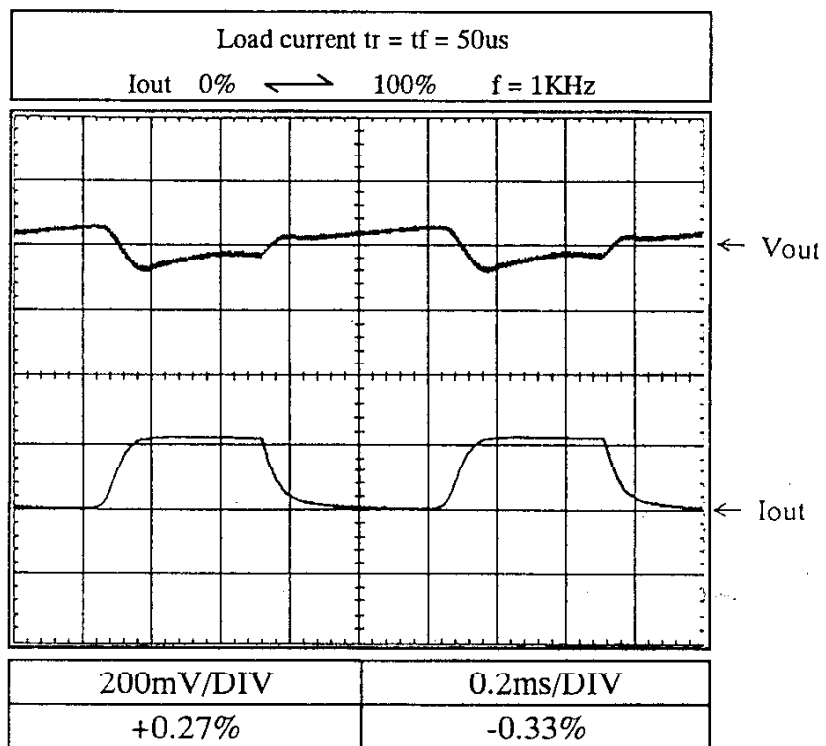
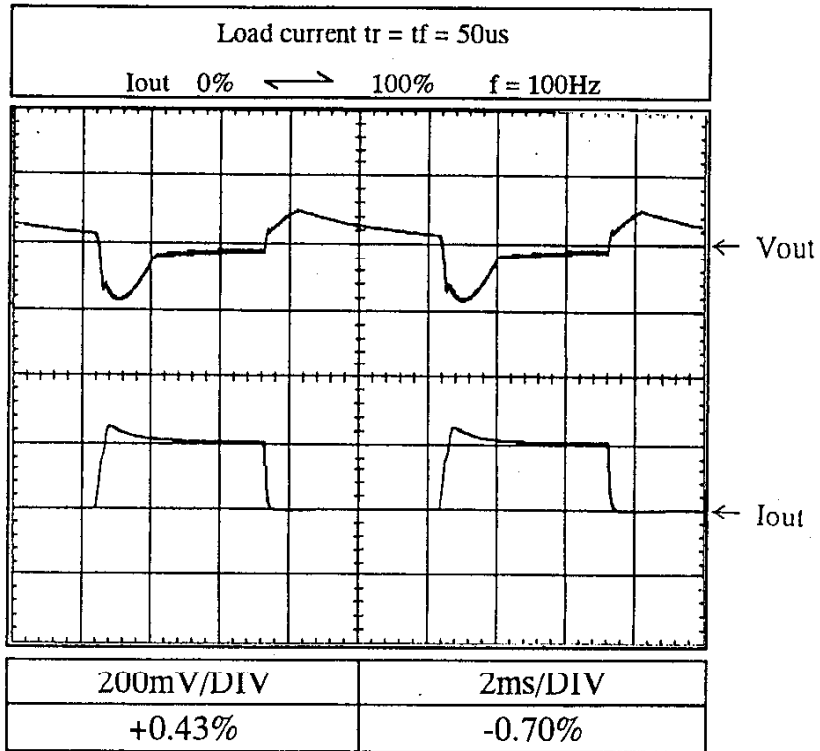
2.11 過渡応答 (負荷急変) 特性

Dynamic load response characteristics

Conditions V_{in} : 200VAC

T_a : 25°C

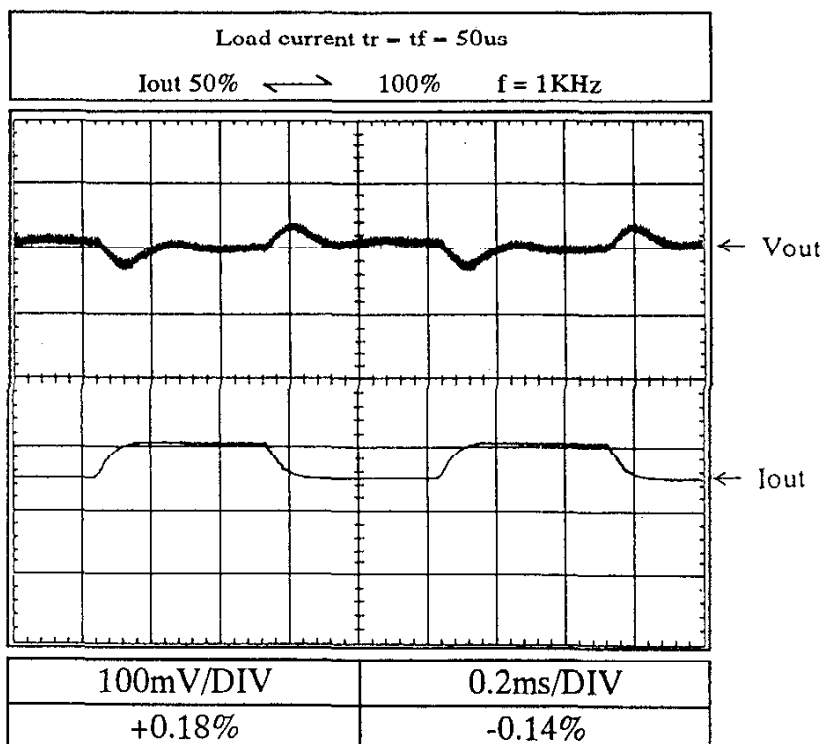
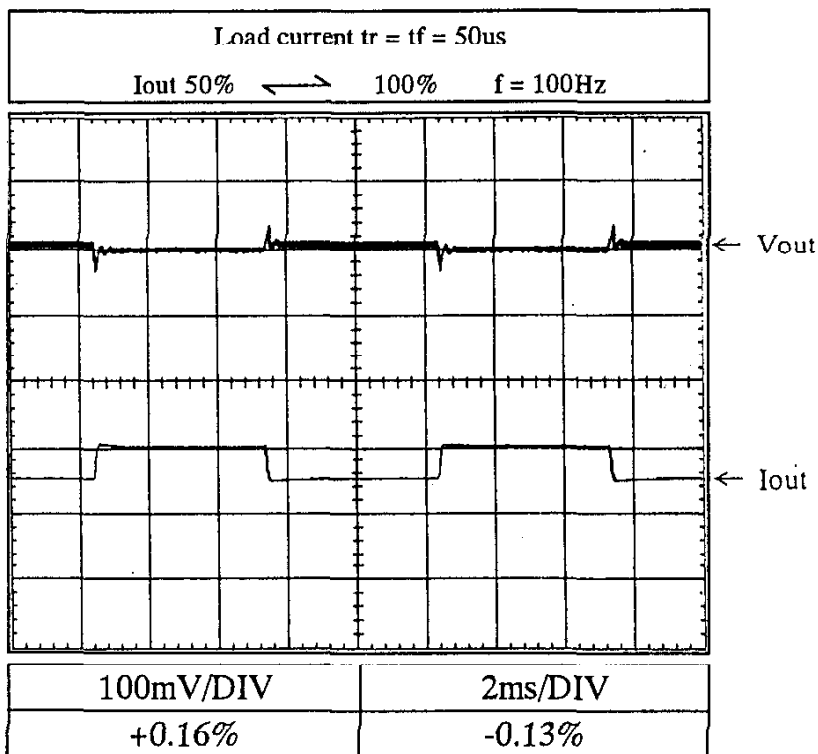
24V



2.11 過渡応答 (負荷急変) 特性
Dynamic load response characteristics

Conditions Vin : 100VAC
Ta : 25°C

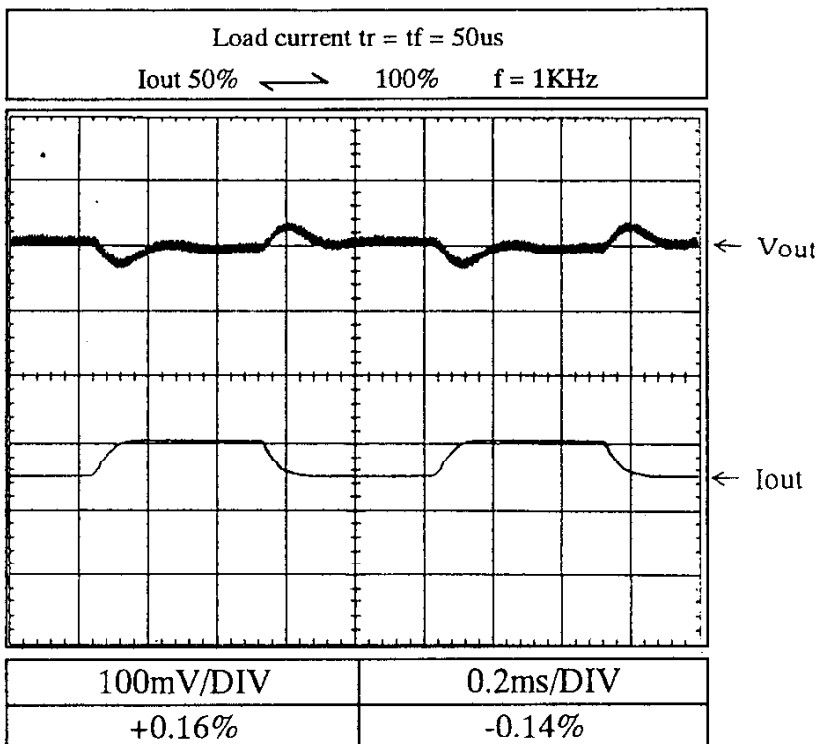
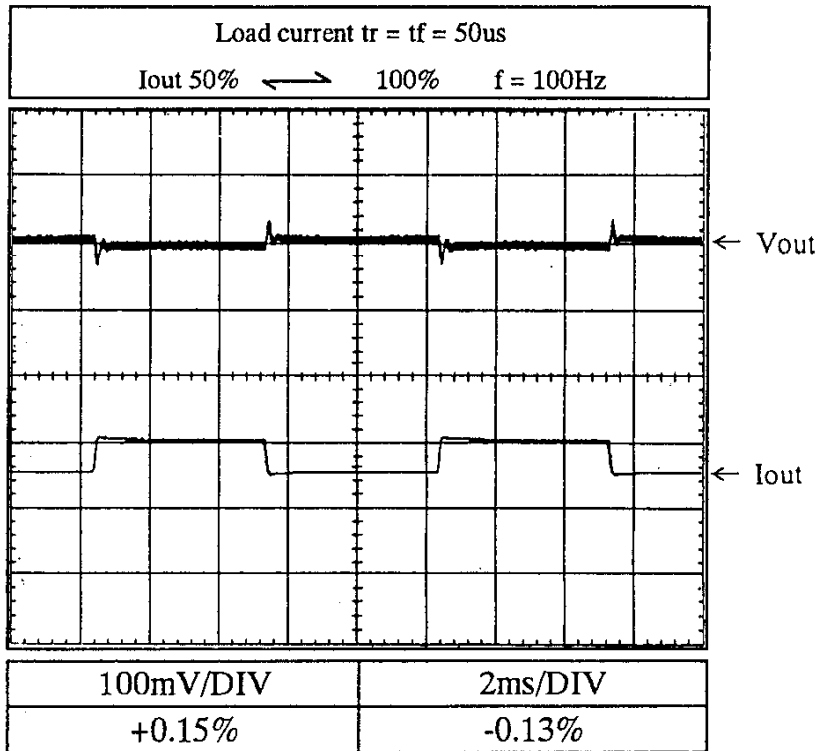
24V



2.11 過渡応答 (負荷急変) 特性
 Dynamic load response characteristics

Conditions Vin : 200VAC
 Ta : 25°C

24V



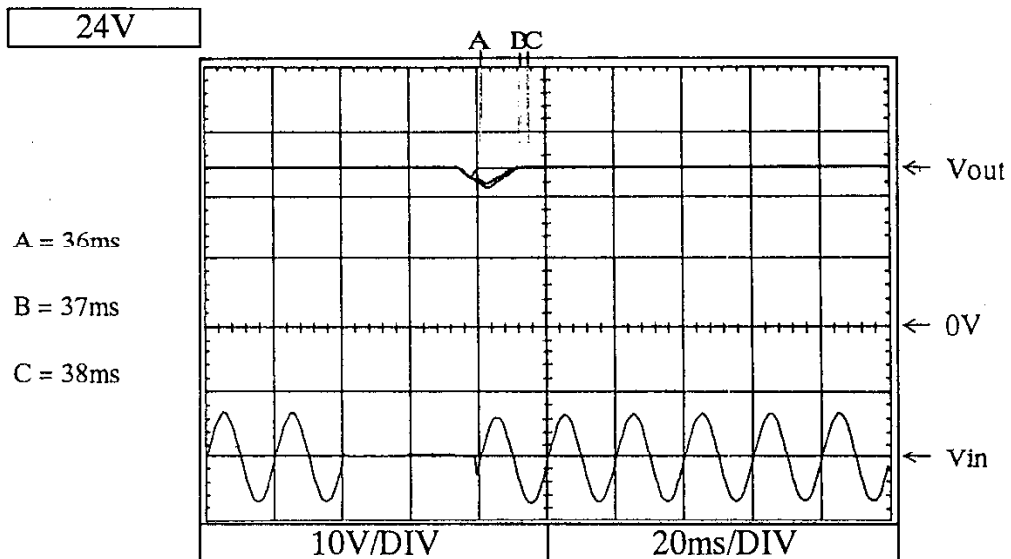
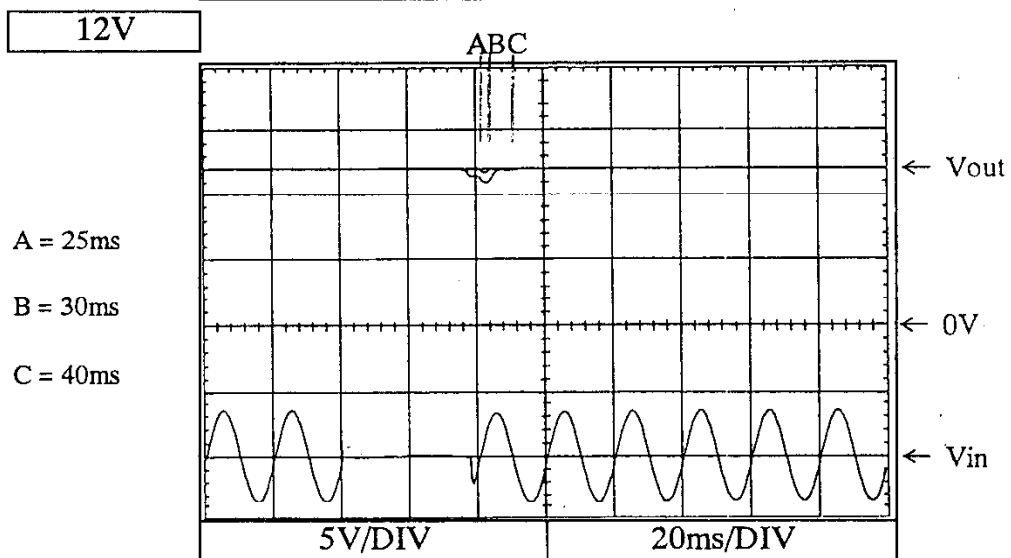
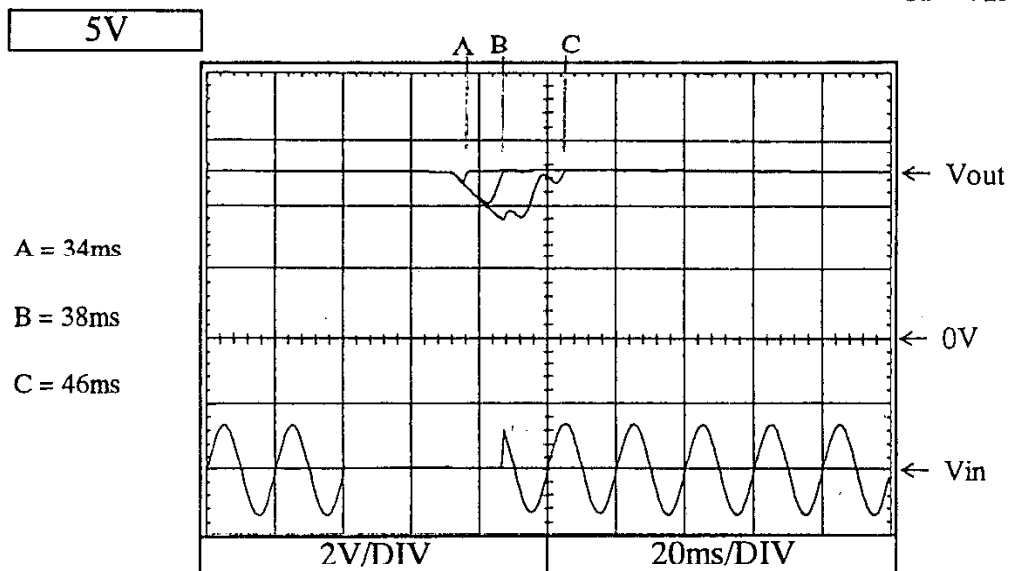
2.12 入力電圧瞬停特性

Response to brown out characteristics

Conditions V_{in} : 100VAC

I_{out} : 100%

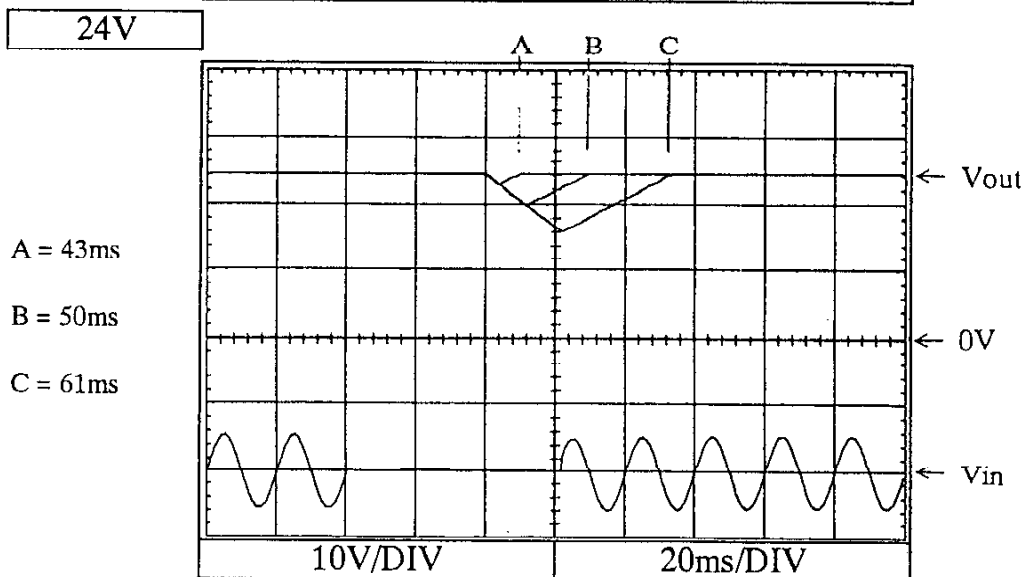
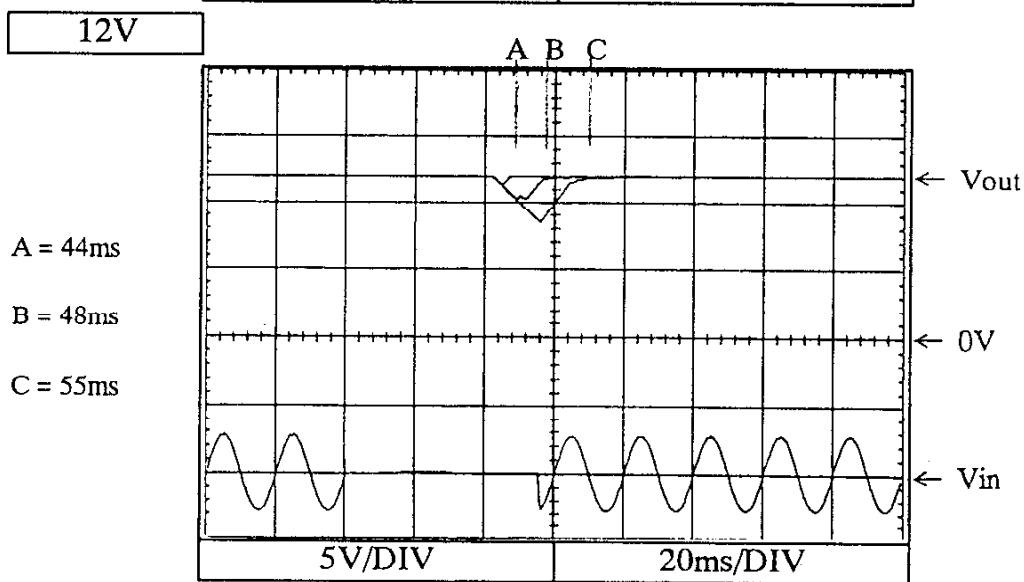
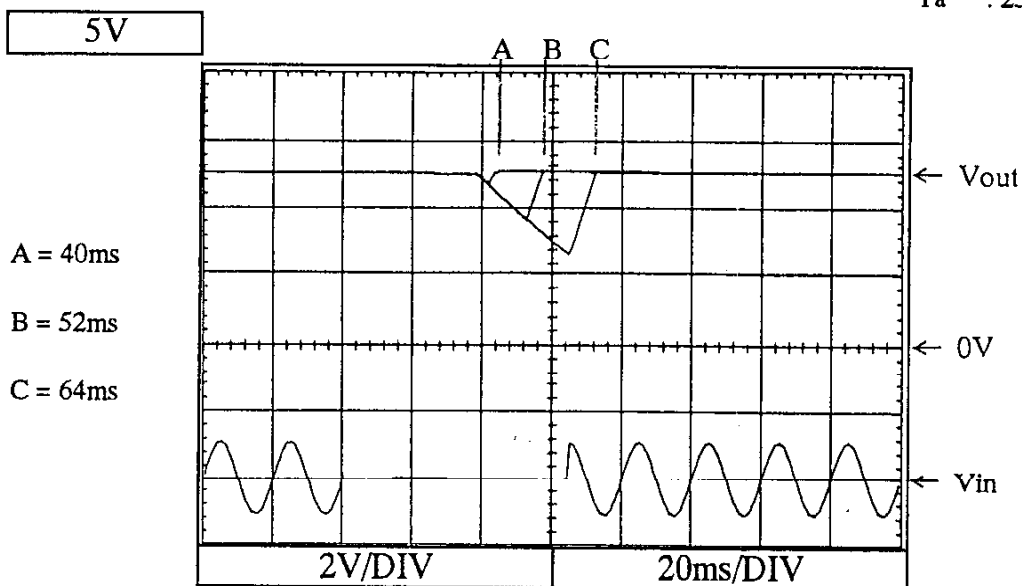
T_a : 25°C



2.12 入力電圧瞬停特性

Response to brown out characteristics

Conditions V_{in} : 200VAC
 I_{out} : 100%
 T_a : 25°C



2.13 入力サージ電流 (突入電流) 特性

Inrush current waveform

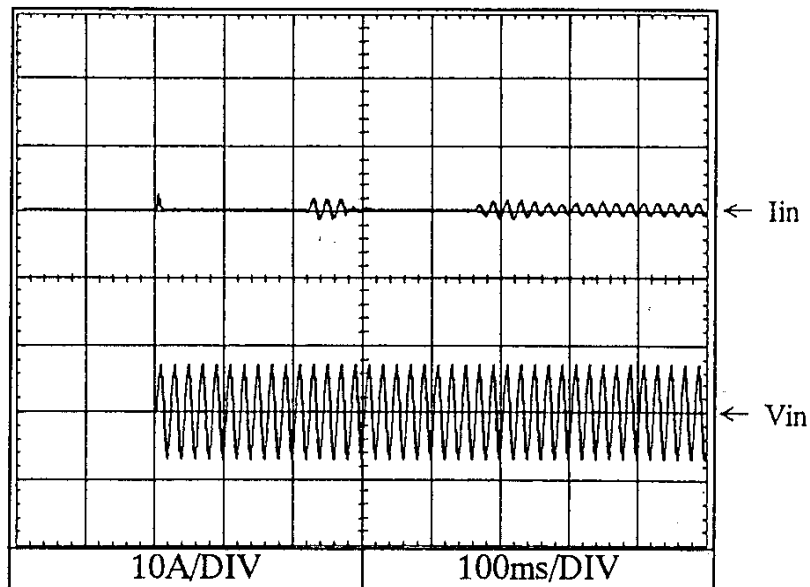
Conditions V_{in} : 100VAC

I_{out} : 100%

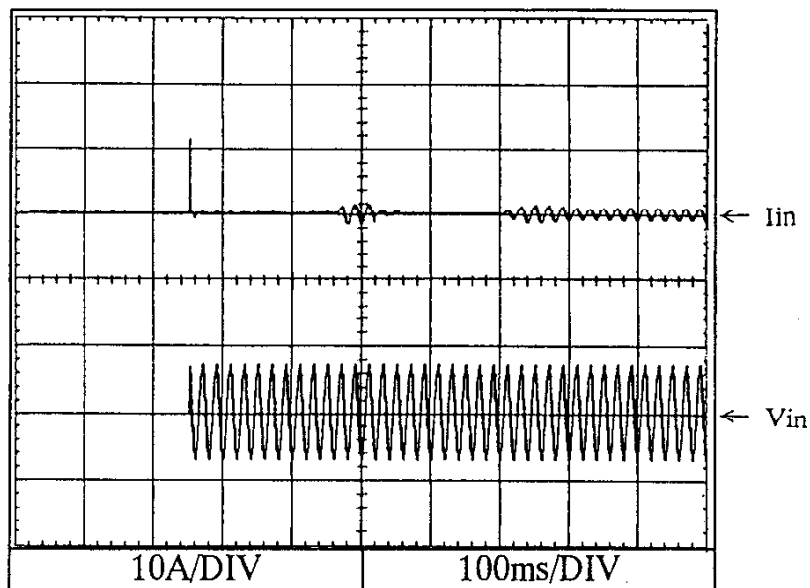
T_a : 25°C

5V

Switch on phase angle
of input AC voltage
 $\phi = 0^\circ$



Switch on phase angle
of input AC voltage
 $\phi = 90^\circ$

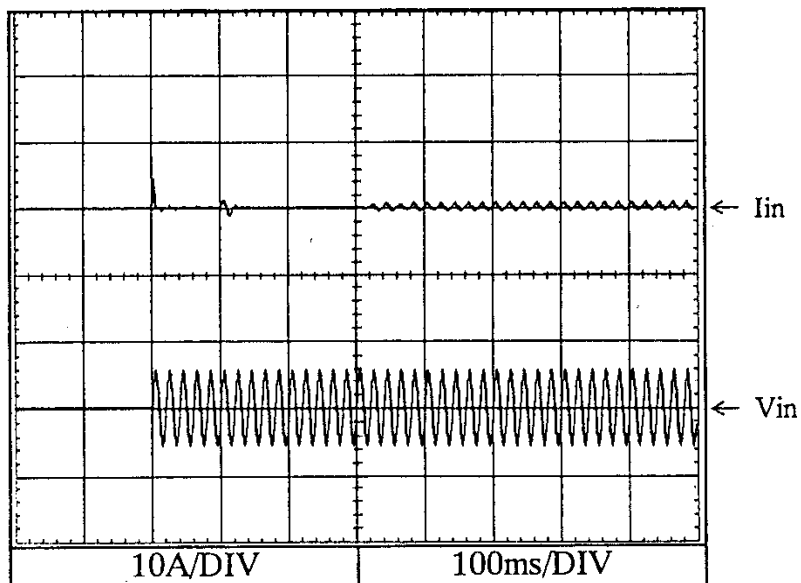


2.13 入力サージ電流 (突入電流) 特性
Inrush current waveform

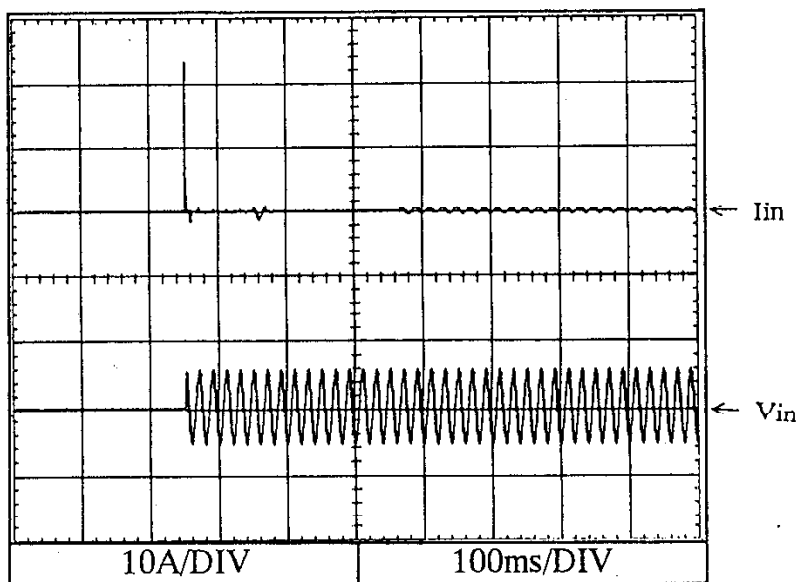
Conditions Vin : 200VAC
Iout : 100%
Ta : 25°C

5V

Switch on phase angle
of input AC voltage
 $\phi = 0^\circ$



Switch on phase angle
of input AC voltage
 $\phi = 90^\circ$



2.14 瞬停時突入電流特性

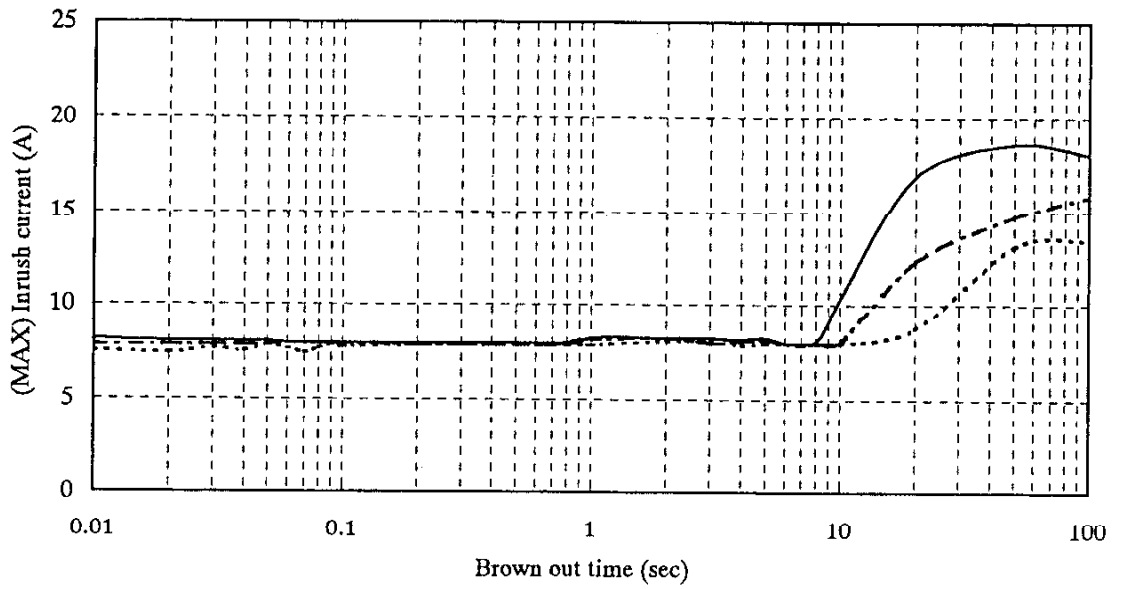
Inrush current characteristics

Conditions V_{in} : 100VAC

I_{out} : 0%
: 50% ---
: 100% ———

T_a : 25°C

5V



2.14 瞬停時突入電流特性

Inrush current characteristics

Conditions V_{in} : 200VAC

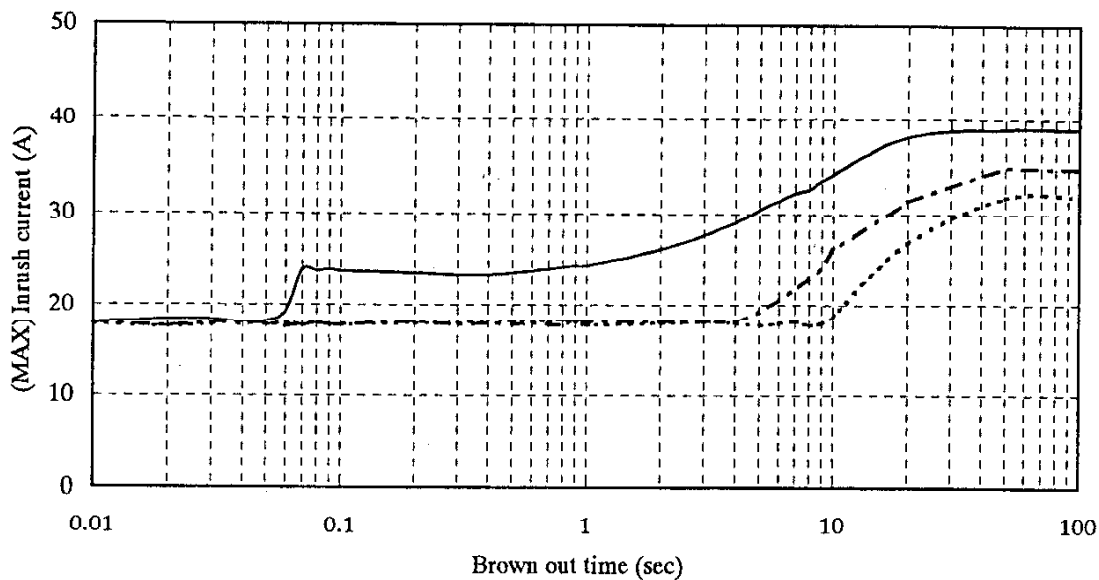
I_{out} : 0% - - - -

: 50% - - -

: 100% - - - -

T_a : 25°C

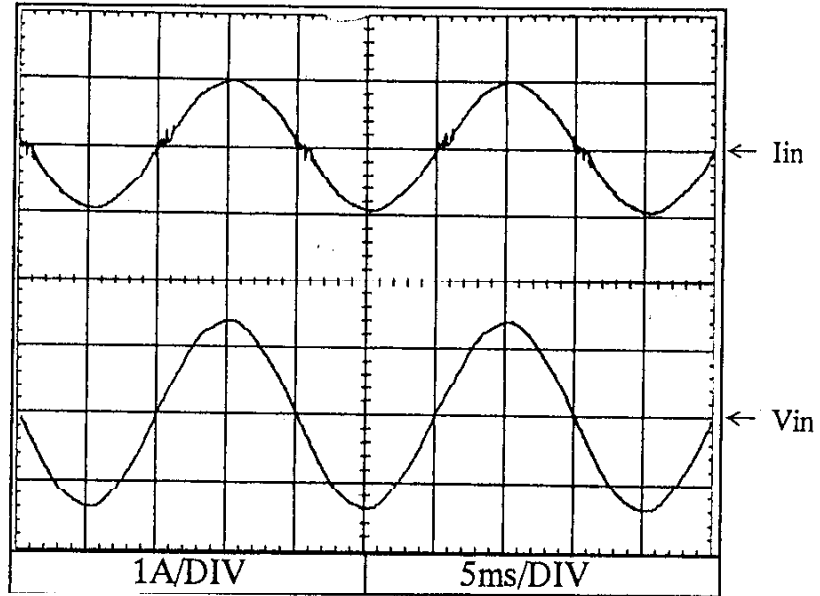
5V



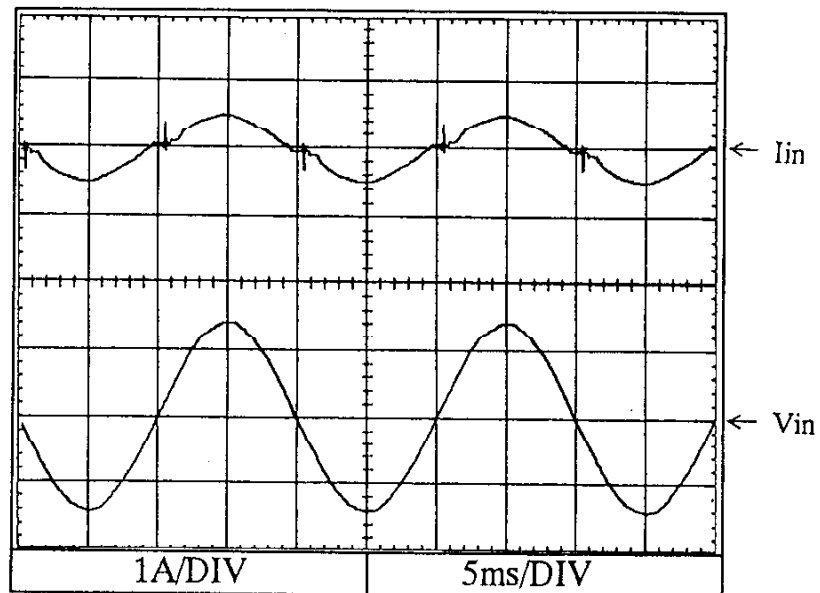
2.15 入力電流波形
Input current waveform

5V

Conditions Vin : 100VAC
Iout : 100%
Ta : 25°C



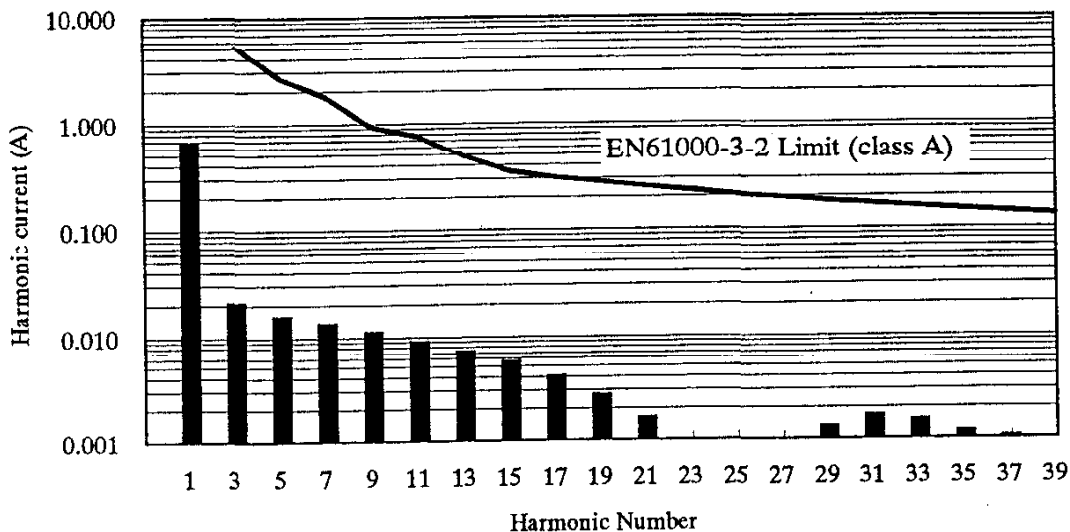
Conditions Vin : 200VAC
Iout : 100%
Ta : 25°C



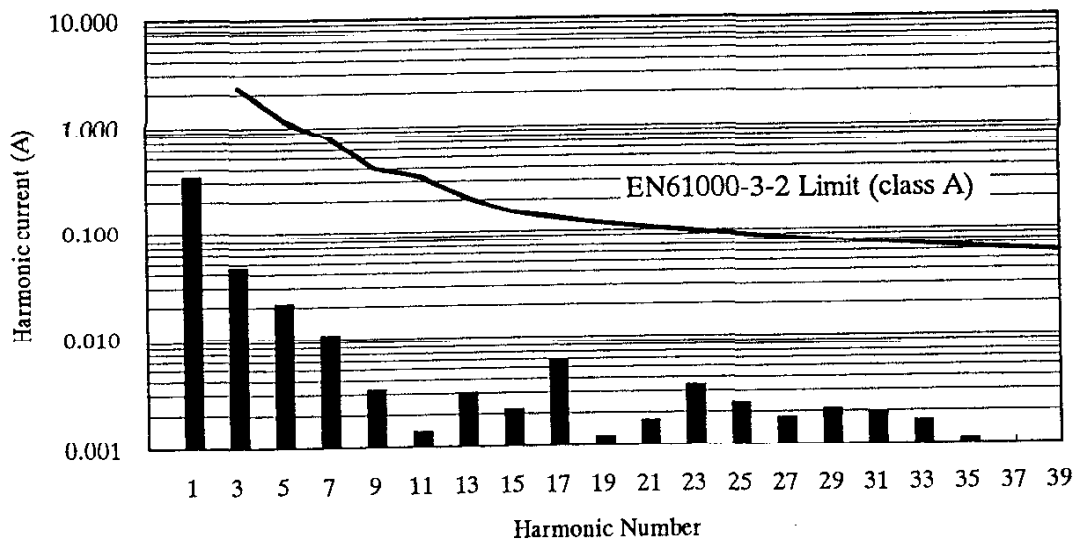
2.16 高調波成分
Input current harmonics

5V

Conditions Vin : 100VAC
Iout : 100%
Ta : 25°C



Conditions Vin : 230VAC
Iout : 100%
Ta : 25°C



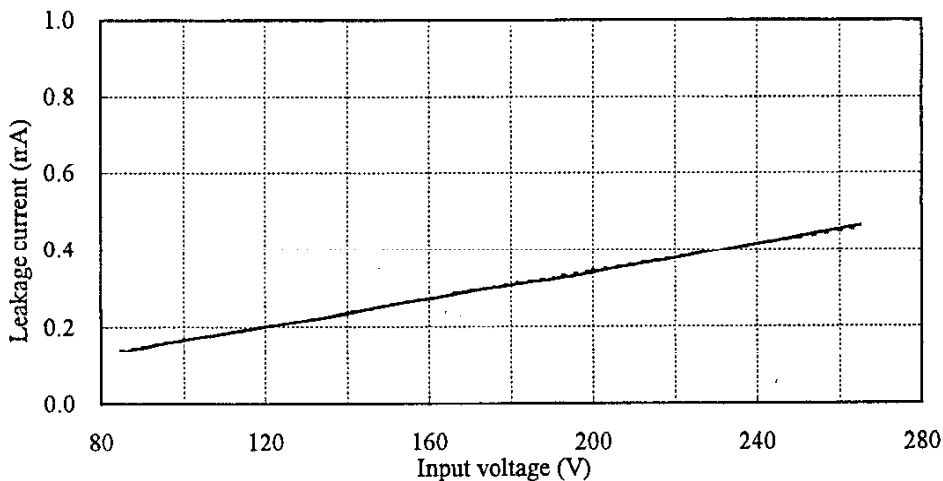
2.17 リーク電流特性

Leakage current characteristics

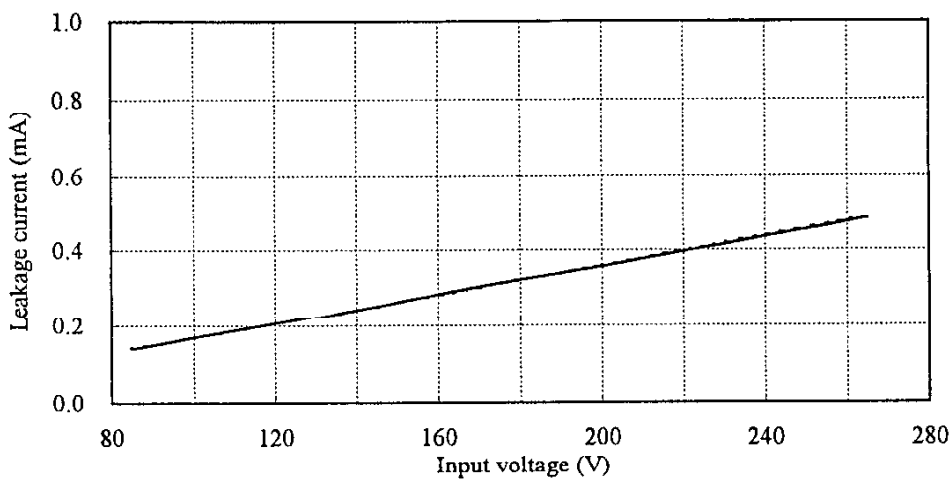
Conditions Iout : 0%
 : 100% —————
 Ta : 25°C
 f : 50Hz

Equipment used : MODEL 229-2 (Simpson)

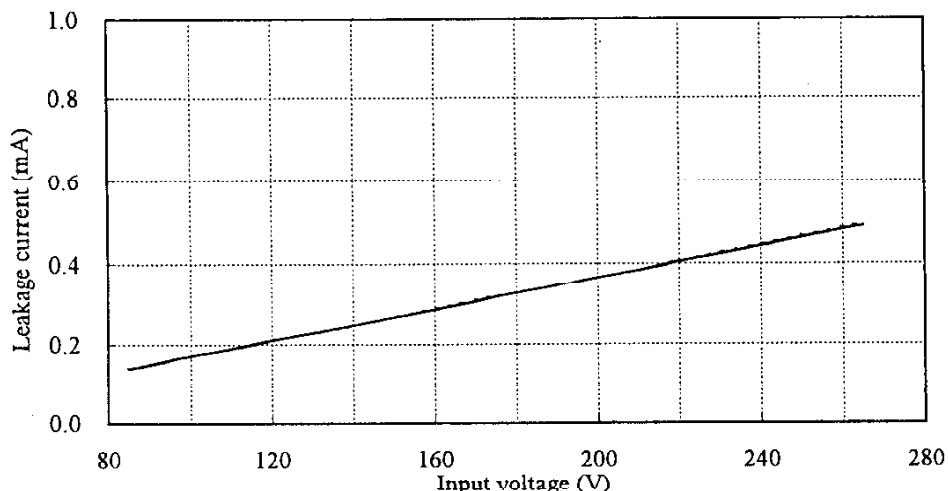
5V



12V



24V



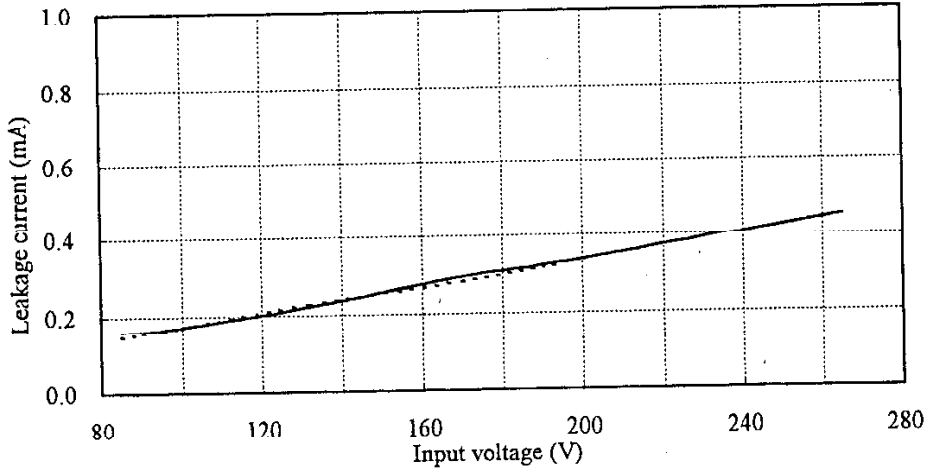
2.17 リーク電流特性

Leakage current characteristics

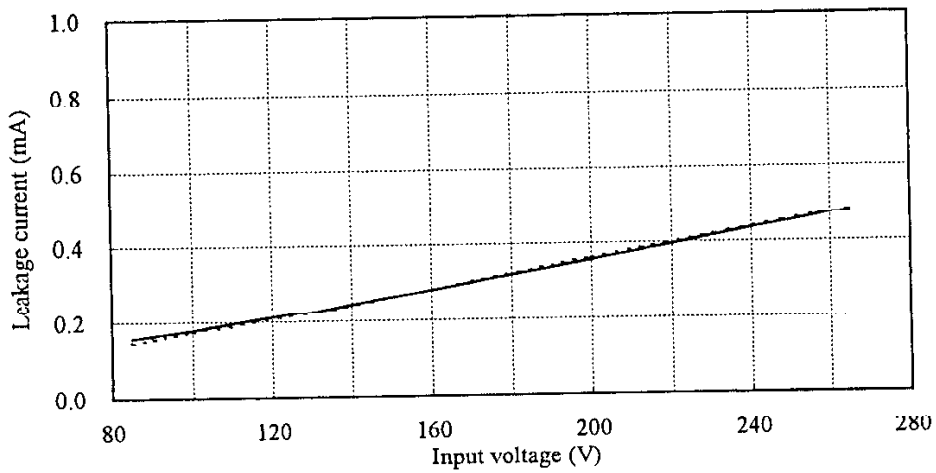
Conditions Iout : 0%
 : 100% ————
 Ta : 25°C
 f : 50Hz

Equipment used : TYPE3226 (YOKOGAWA)

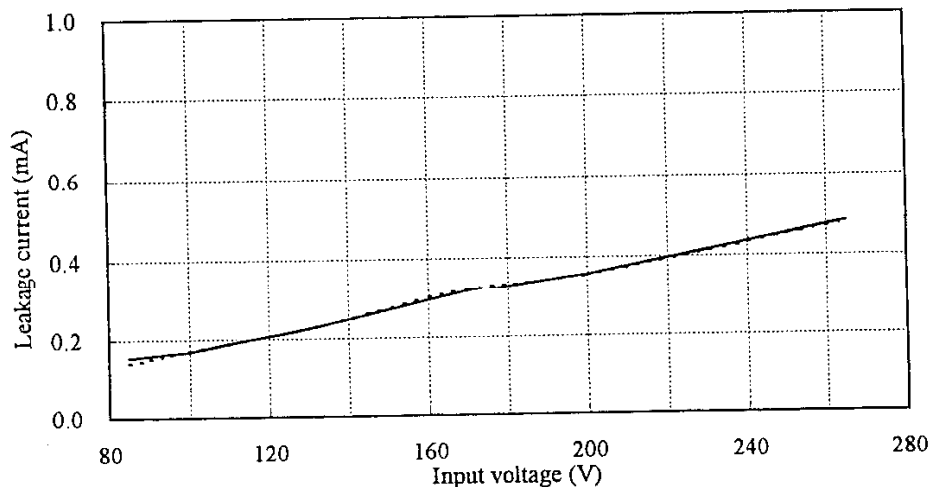
5V



12V



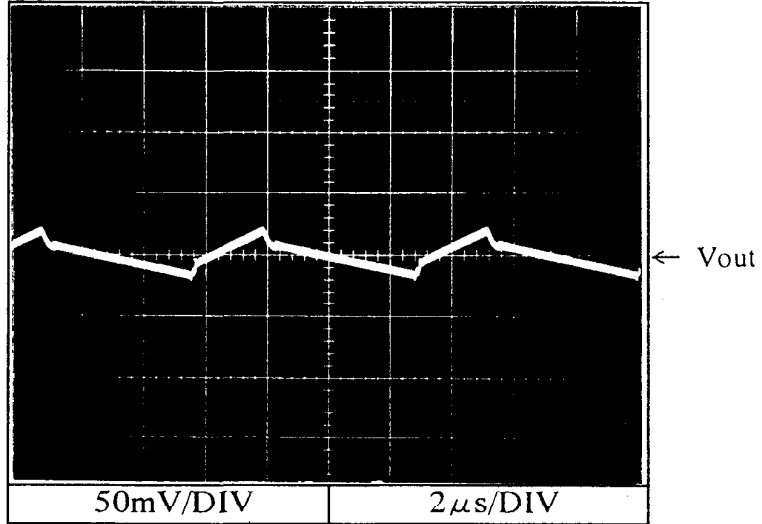
24V



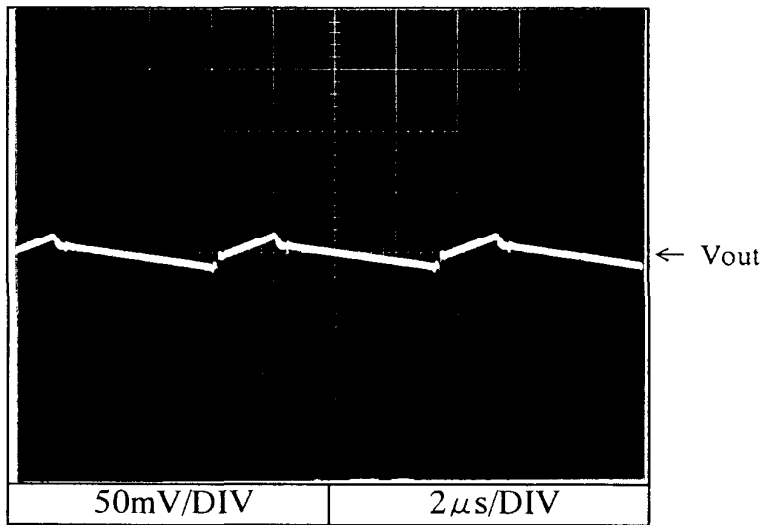
2.18 出力リップル、ノイズ波形
Output ripple and noise waveform
NORMAL MODE

Conditions Vin : 100VAC
Iout : 100%
Ta : 25°C

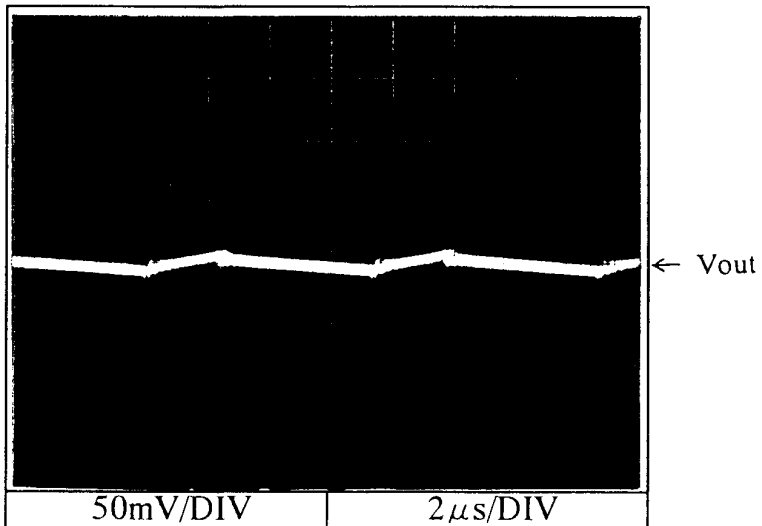
5V



12V



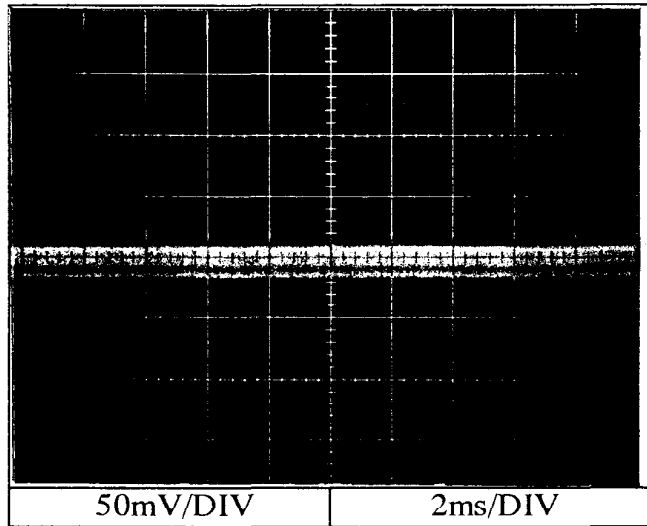
24V



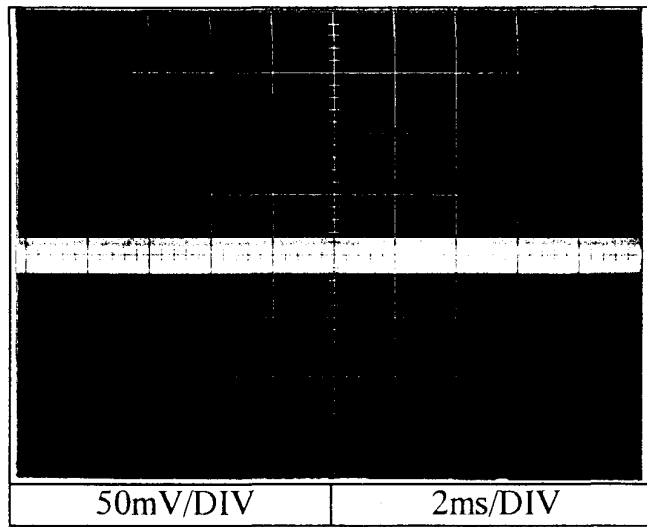
2.18 出力リップル、ノイズ波形
Output ripple and noise waveform
NORMAL MODE

Conditions Vin : 100VAC
Iout : 100%
Ta : 25°C

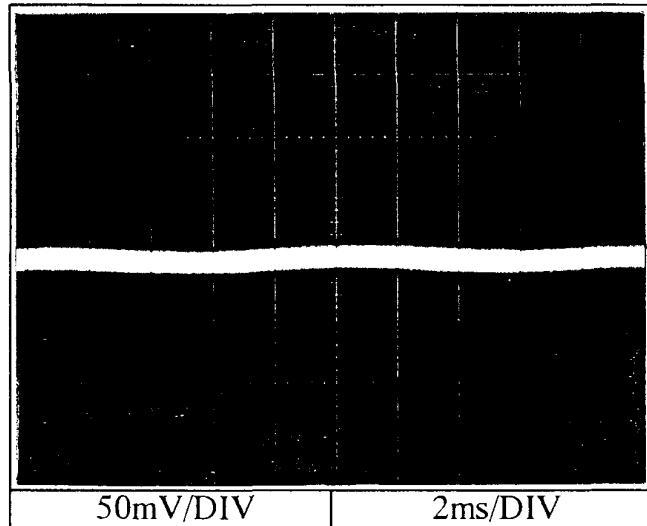
5V



12V



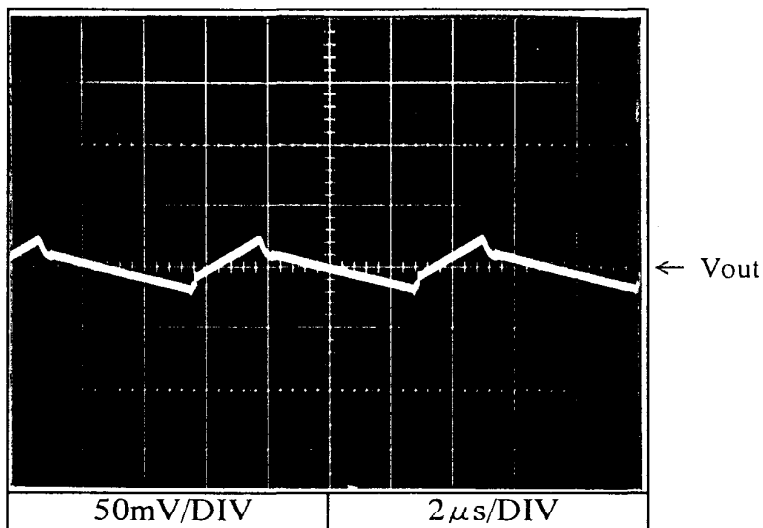
24V



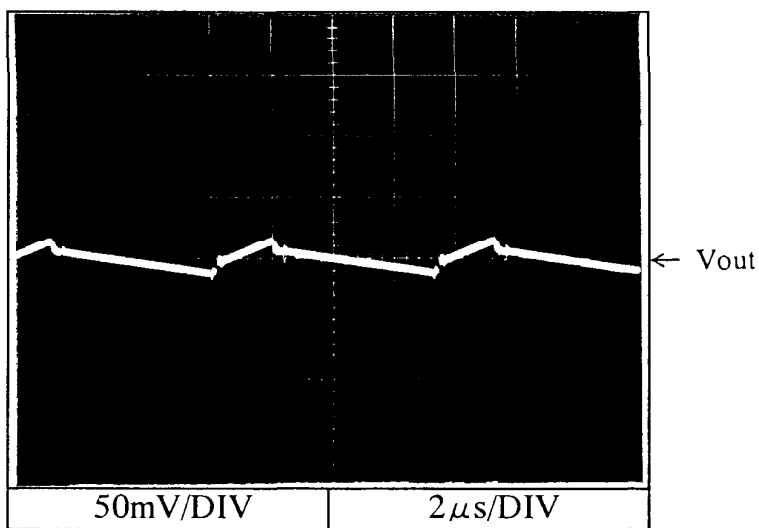
2.18 出カリップル、ノイズ波形
Output ripple and noise waveform
NORMAL MODE

Conditions Vin : 200VAC
Iout : 100%
Ta : 25°C

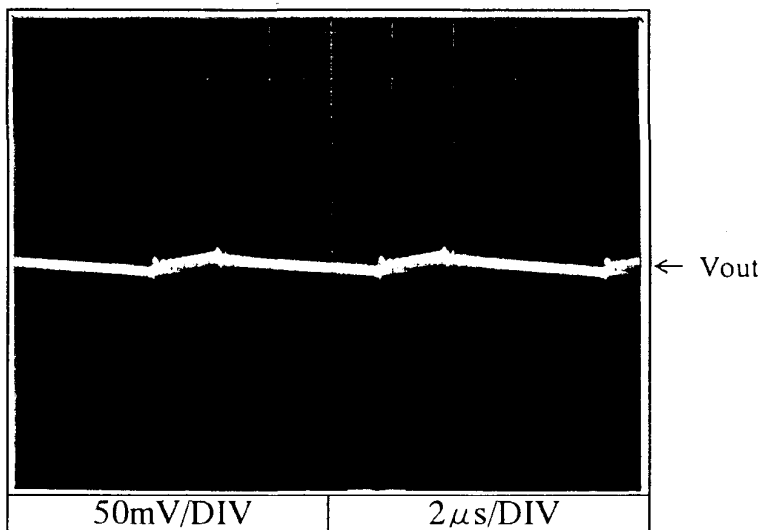
5V



12V



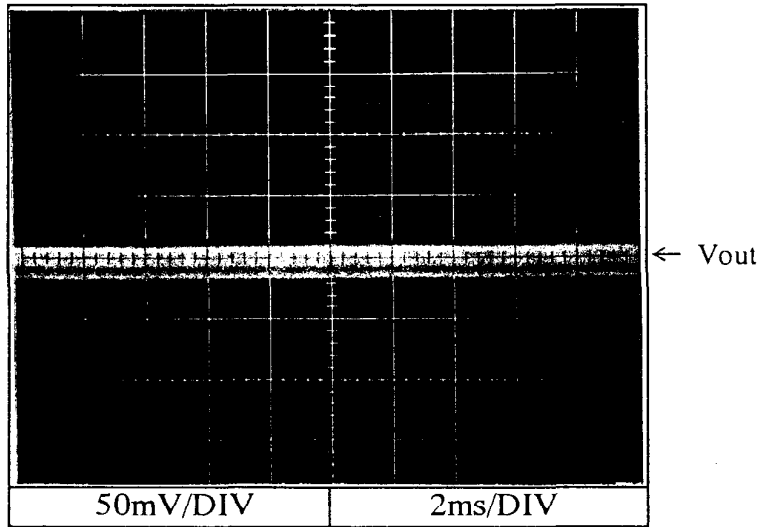
24V



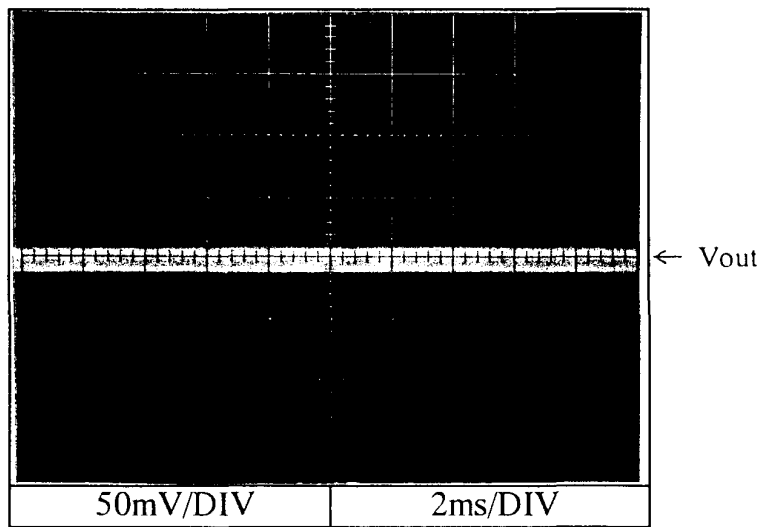
2.18 出力リップル、ノイズ波形
Output ripple and noise waveform
NORMAL MODE

Conditions Vin : 200VAC
Iout : 100%
Ta : 25°C

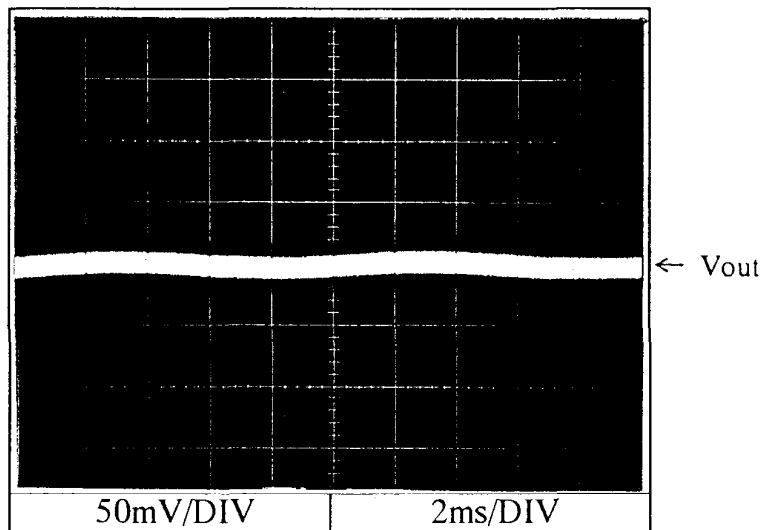
5V



12V



24V

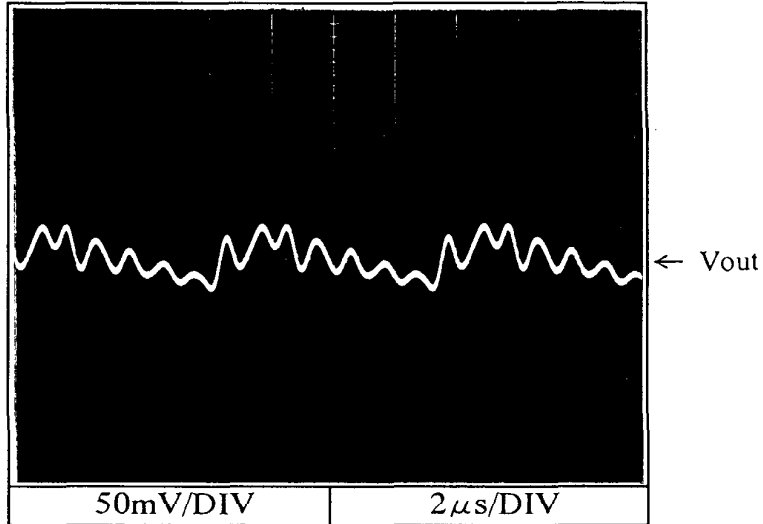


2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

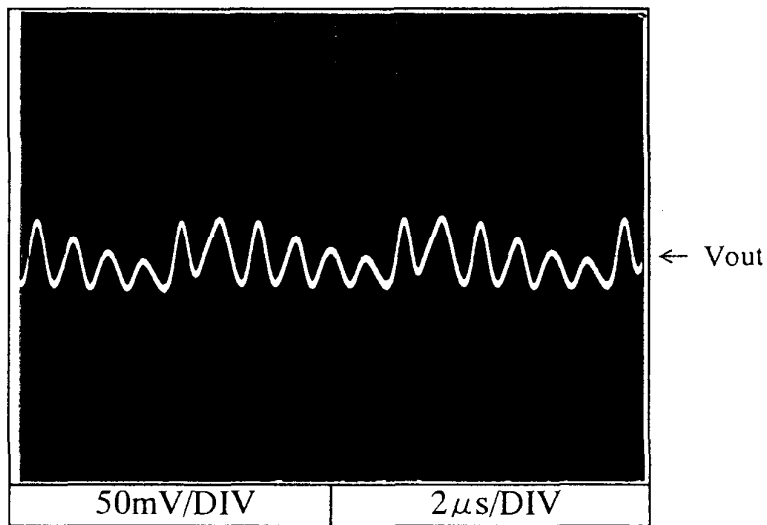
Conditions Vin : 100VAC
Iout : 100%
Ta : 25°C

NORMAL + COMMON MODE

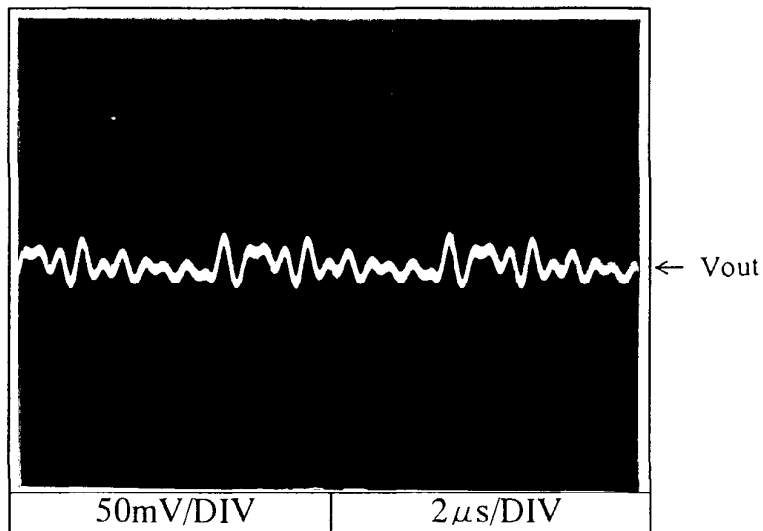
5V



12V



24V

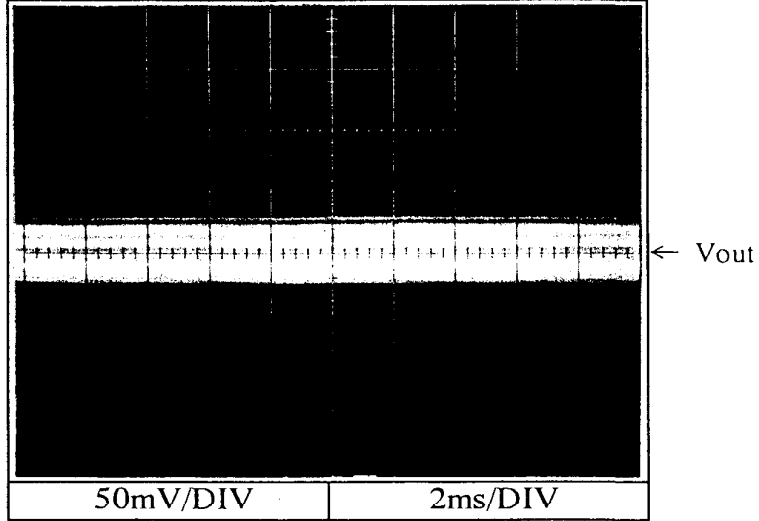


2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

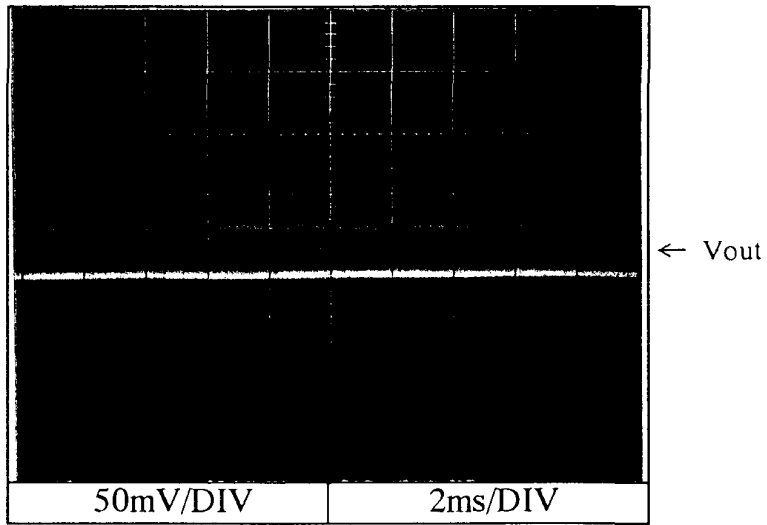
Conditions Vin : 100VAC
Iout : 100%
Ta : 25°C

NORMAL + COMMON MODE

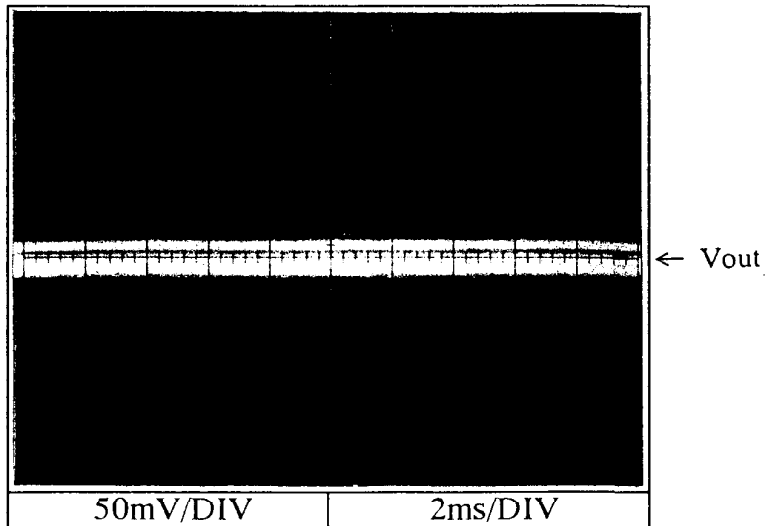
5V



12V



24V

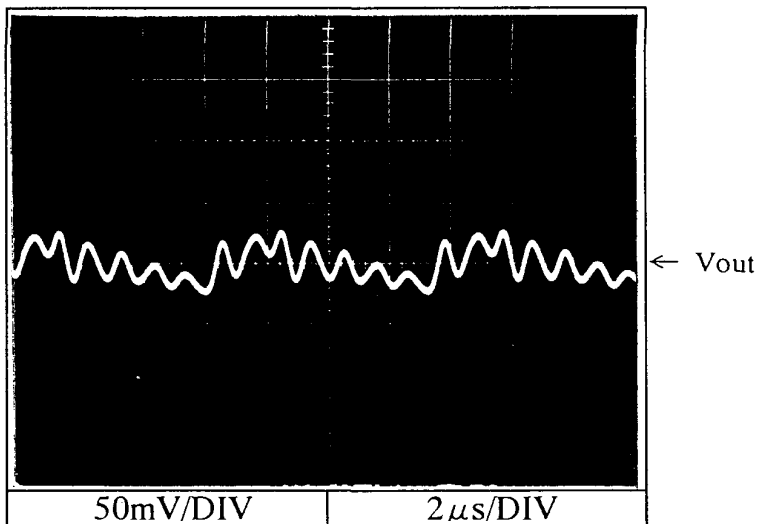


2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

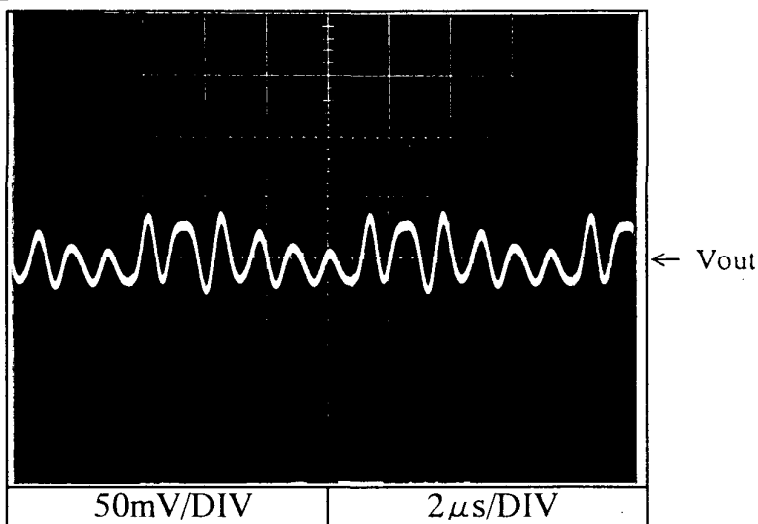
Conditions Vin : 200VAC
Iout : 100%
Ta : 25°C

NORMAL + COMMON MODE

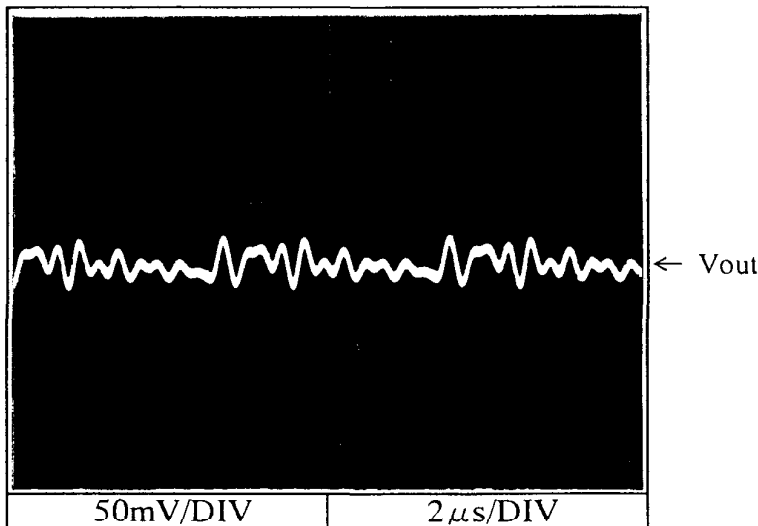
5V



12V



24V

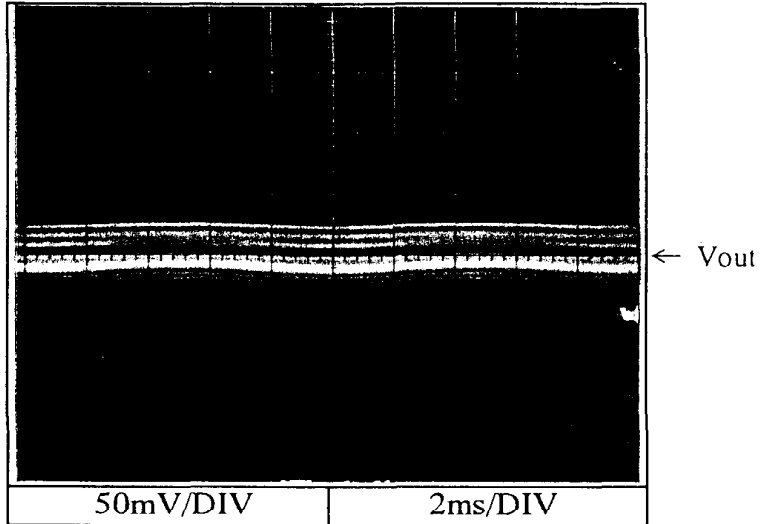


2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

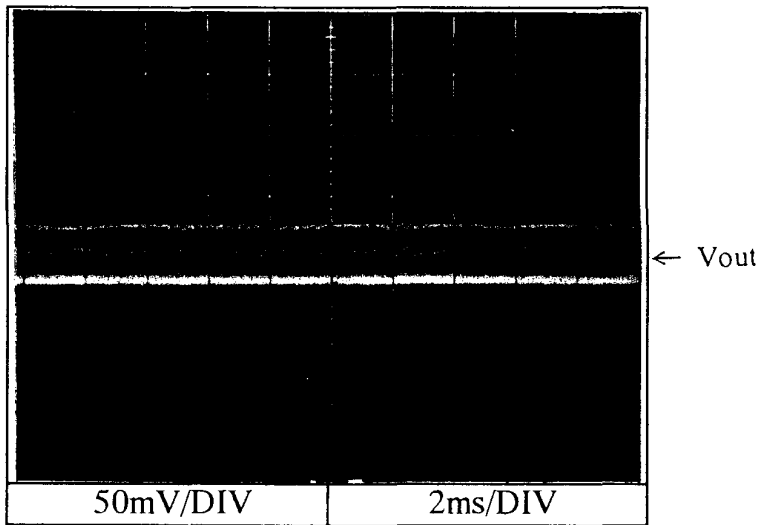
Conditions Vin : 200VAC
Iout : 100%
Ta : 25°C

NORMAL + COMMON MODE

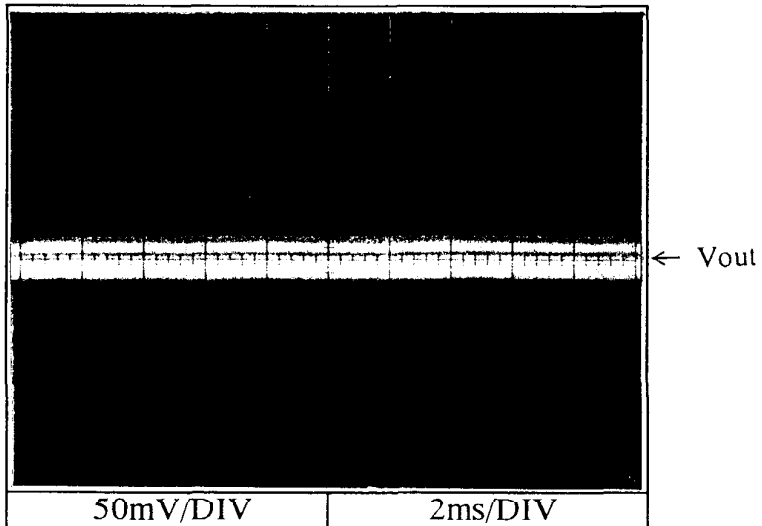
5V



12V



24V



2.19 EMI 特性

Electro-Magnetic Interference characteristics

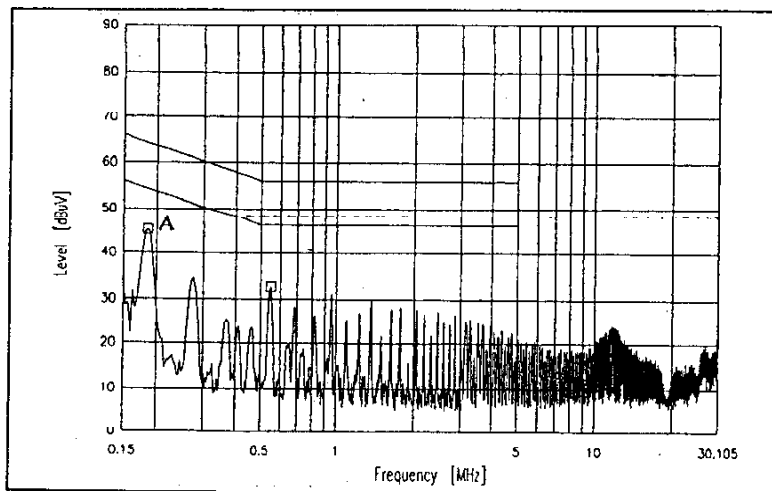
Conditions Vin : 100VAC
Iout : 100%
Phase : L

雑音端子電圧

Conducted Emission

5 V

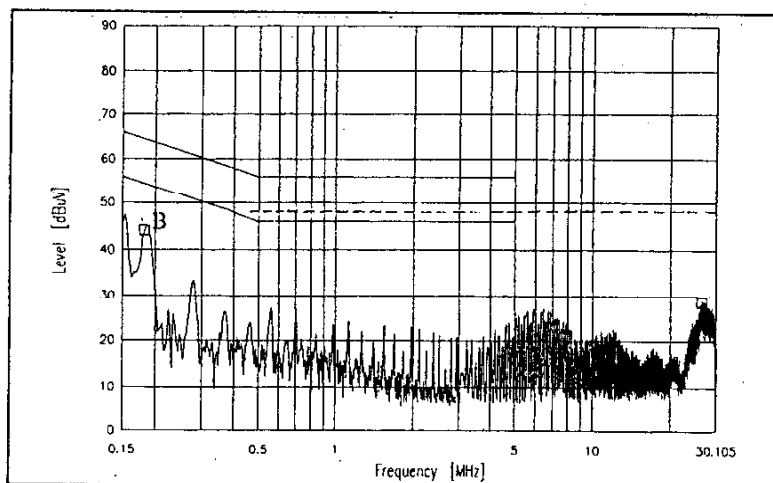
Point A (184.0 KHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	64.3	44.2
AV	54.3	39.5



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

12V

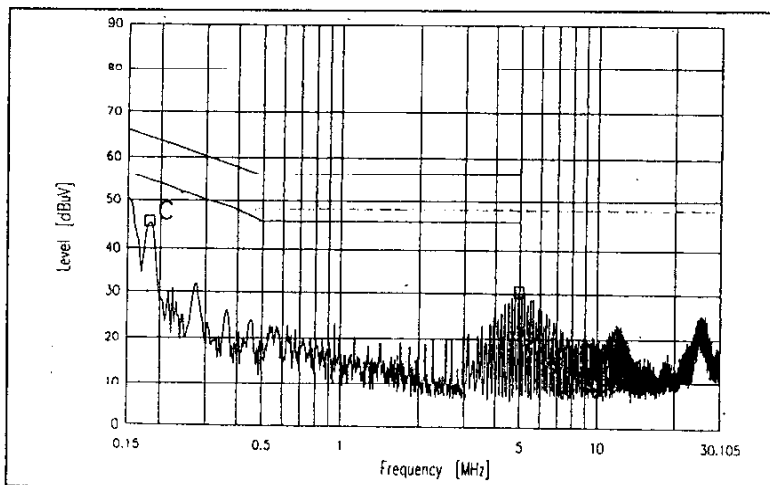
Point B (185.0 KHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	64.3	44.1
AV	54.3	39.0



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

24V

Point C (181.0 KHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	64.4	44.6
AV	54.4	40.3



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI 特性

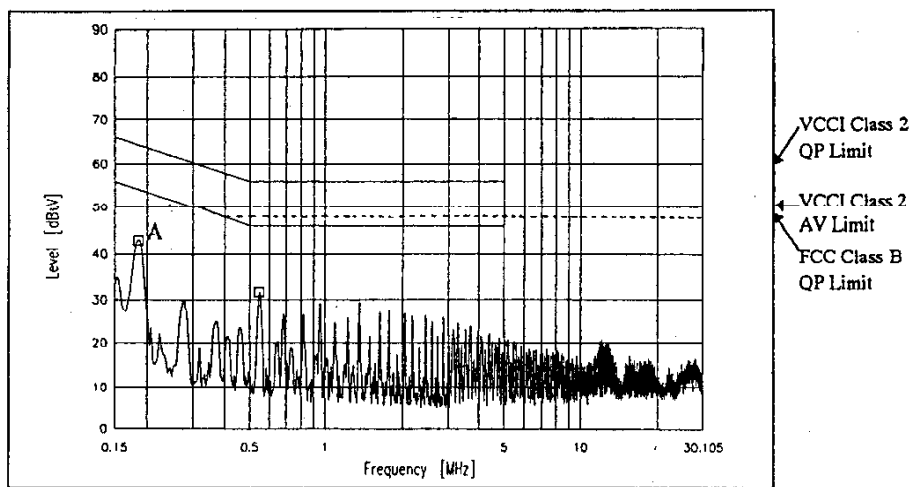
Electro-Magnetic Interference characteristics

Conditions Vin : 100VAC
Iout : 100%
Phase : N

雑音端子電圧
Conducted Emission

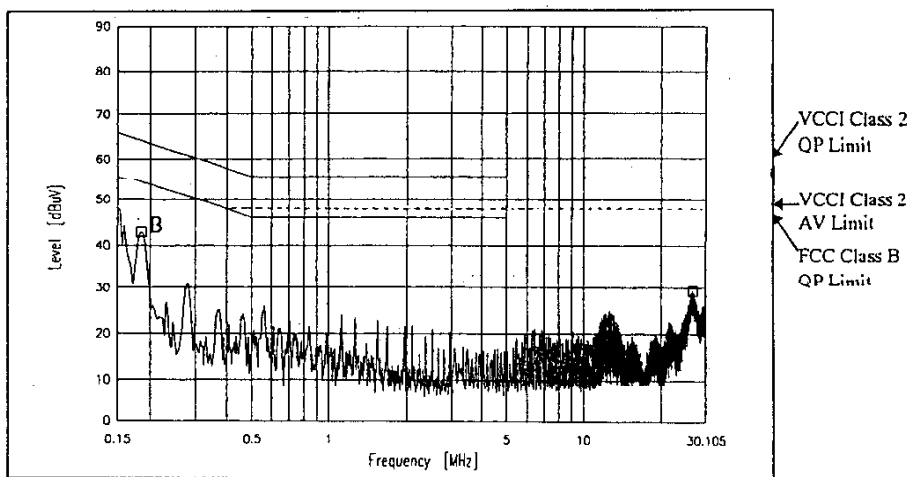
5 V

Ref.	Point A (184.0 KHz)	
	Limit (dBuV)	Measure (dBuV)
QP	64.3	42.2
AV	54.3	39.6



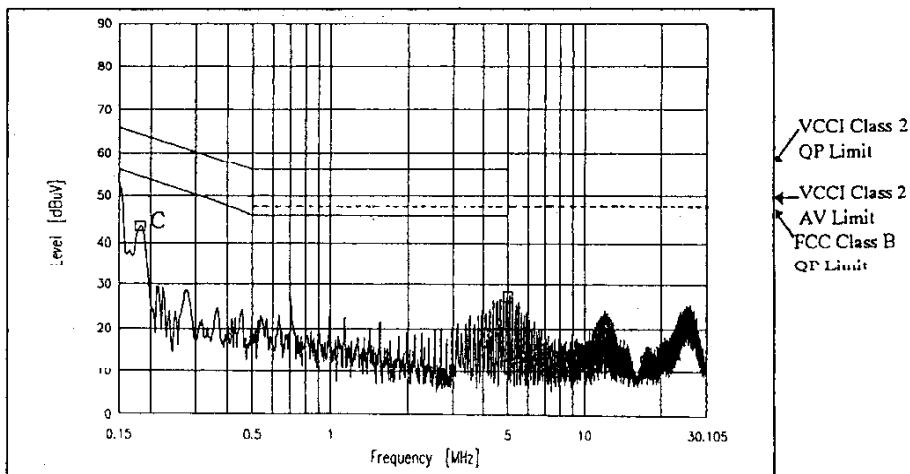
12V

Ref.	Point B (185.0 KHz)	
	Limit (dBuV)	Measure (dBuV)
QP	64.3	41.8
AV	54.3	39.1



24V

Ref.	Point C (182.0 KHz)	
	Limit (dBuV)	Measure (dBuV)
QP	64.4	42.3
AV	54.4	40.2



EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI 特性

Electro-Magnetic Interference characteristics

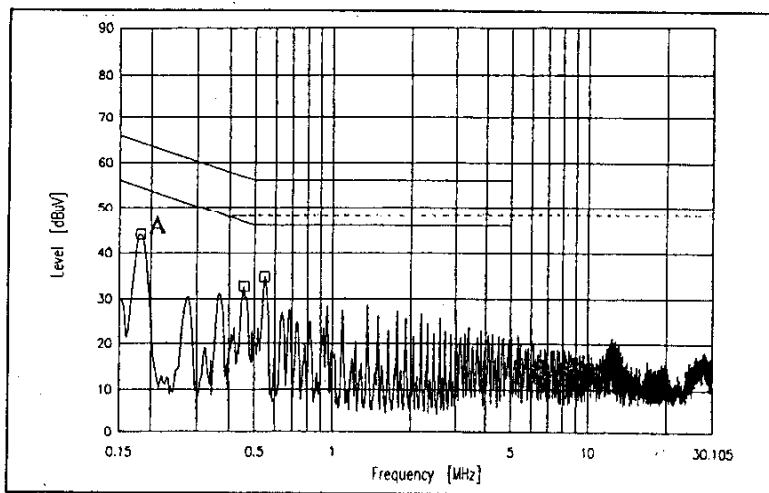
Conditions Vin : 230VAC
Iout : 100%
Phase : L

雑音端子電圧

Conducted Emission

5 V

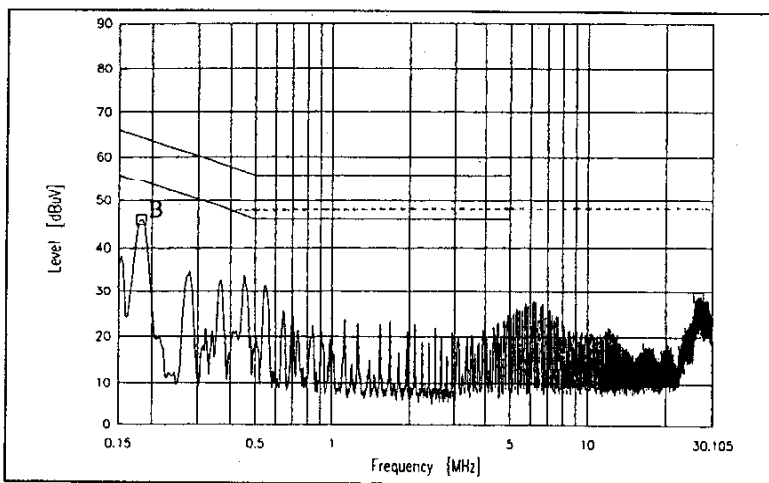
Point A (182.0 KHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	64.4	44.7
AV	54.4	38.3



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

12V

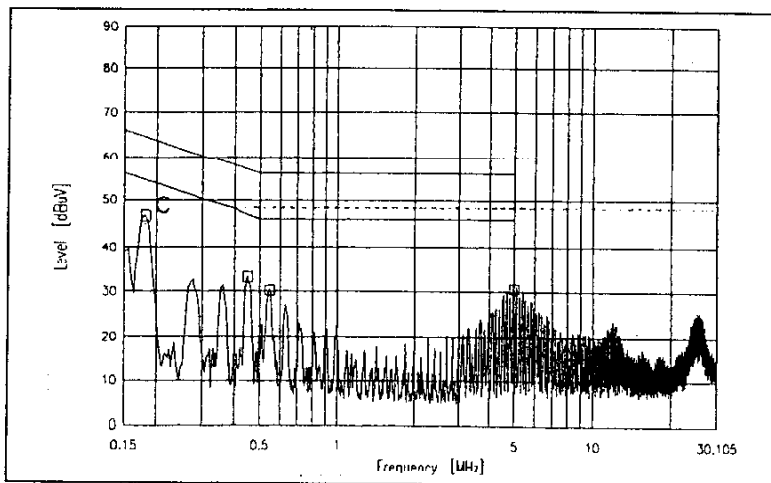
Point B (182.0 KHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	64.4	44.9
AV	54.4	38.6



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

24V

Point C (180.0 KHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	64.5	45.0
AV	54.5	39.4



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI 特性

Electro-Magnetic Interference characteristics

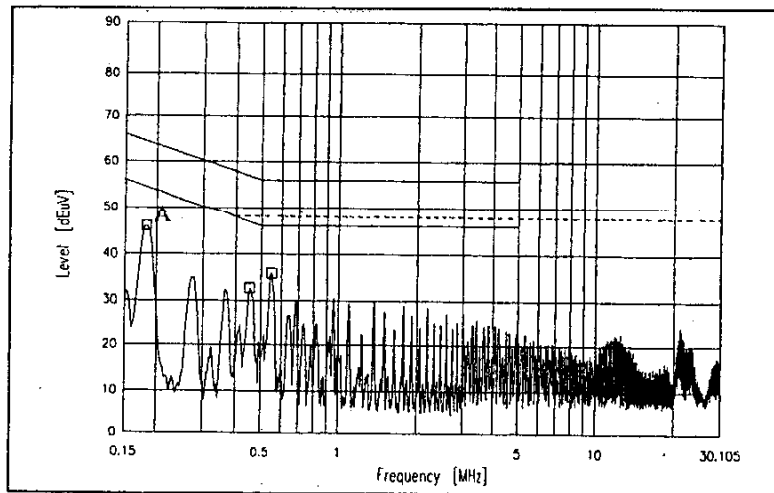
Conditions Vin : 230VAC
Iout : 100%
Phase : N

雑音端子電圧

Conducted Emission

5 V

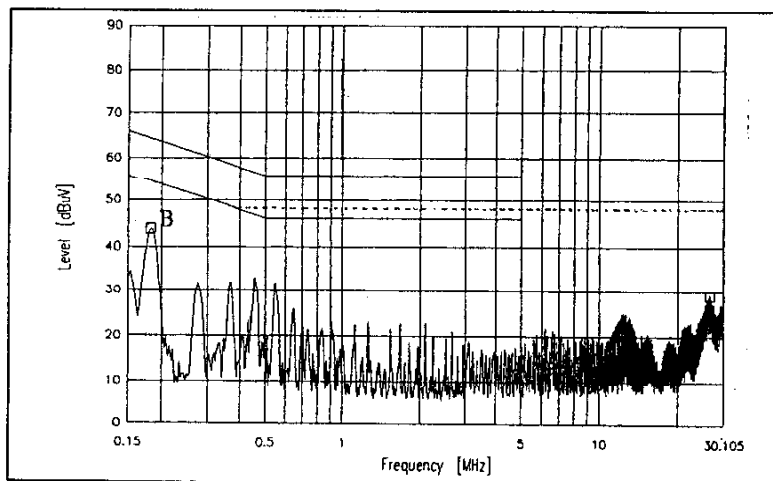
Ref.	Point A (182.0 KHz)	
	Limit (dBuV)	Measure (dBuV)
QP	64.4	42.9
AV	54.4	38.4



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

12V

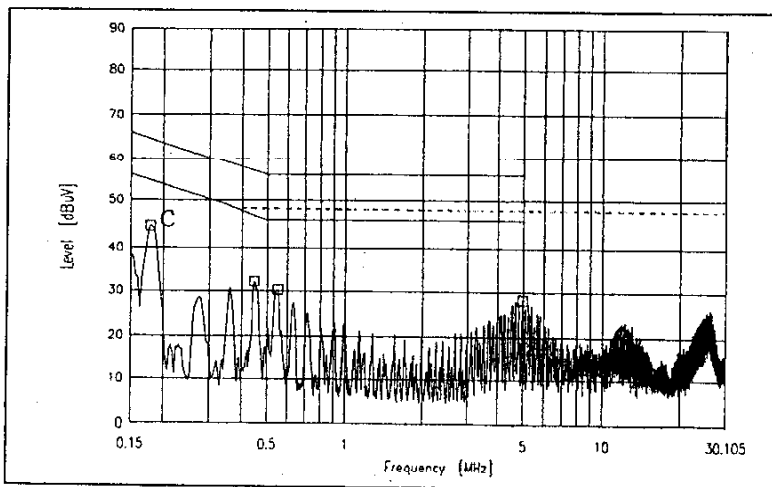
Ref.	Point B (182.0 KHz)	
	Limit (dBuV)	Measure (dBuV)
QP	64.4	42.7
AV	54.4	38.6



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

24V

Ref.	Point C (180.0 KHz)	
	Limit (dBuV)	Measure (dBuV)
QP	64.5	43.2
AV	54.5	39.4



VCCI Class 2
QP Limit
VCCI Class 2
AV Limit
FCC Class B
QP Limit

EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI 特性

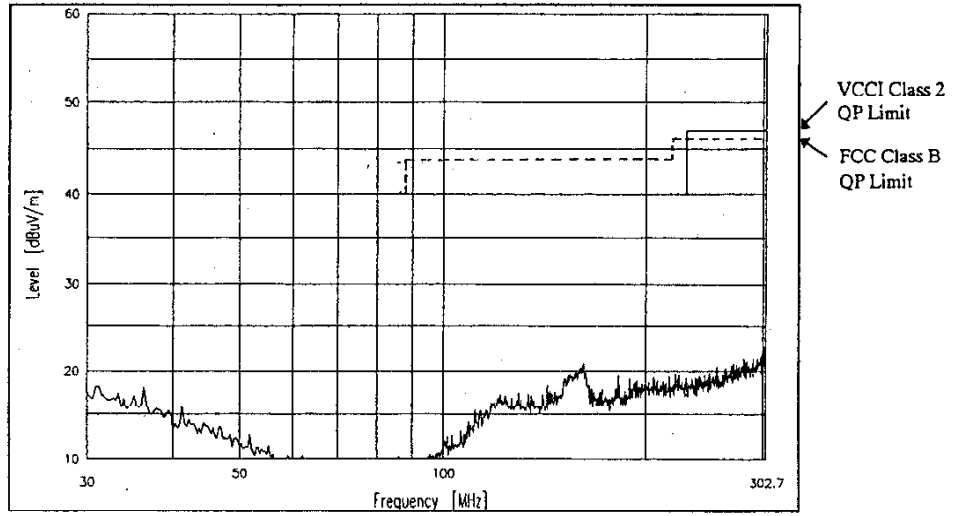
Electro-Magnetic Interference characteristics

Conditions Vin : 100VAC
Iout : 100%

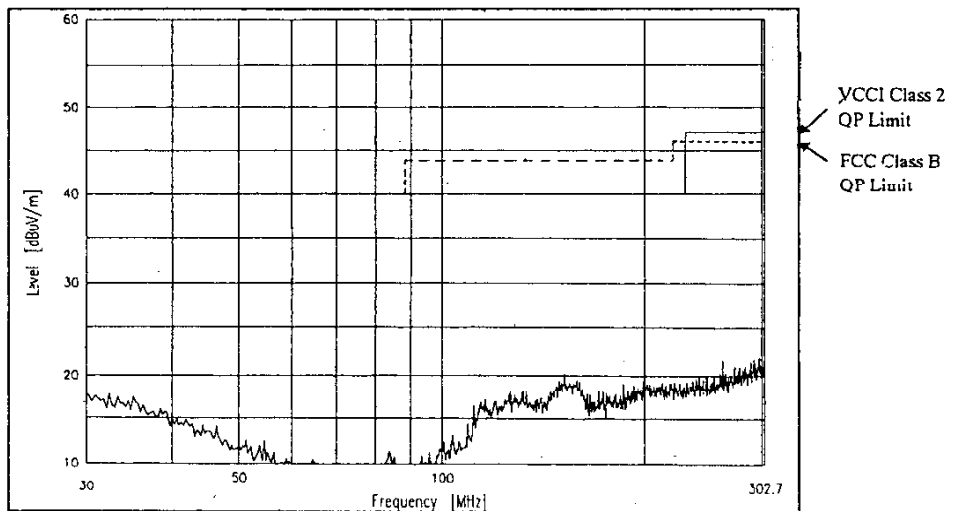
雑音電界強度
Radiated Emission

5 V

HORIZONTAL:



VERTICAL:



EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI 特性

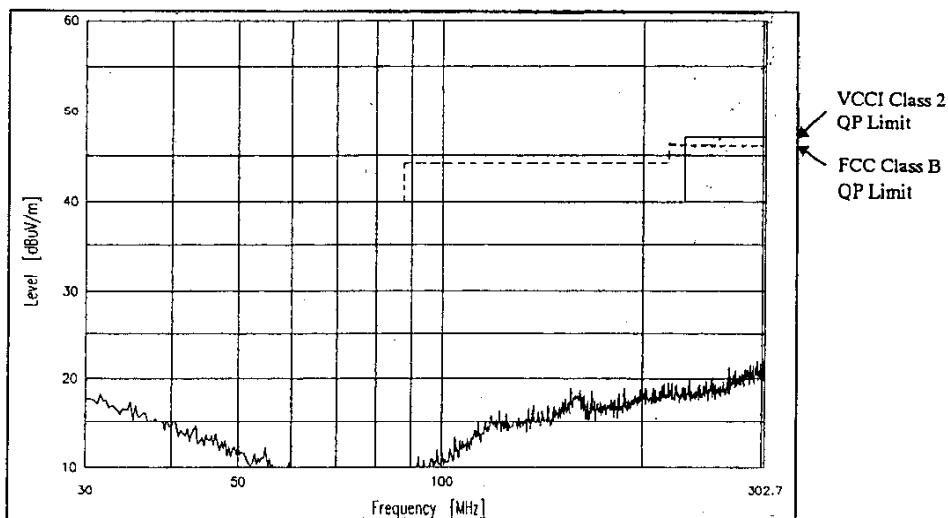
Electro-Magnetic Interference characteristics

Conditions Vin : 230VAC
Iout : 100%

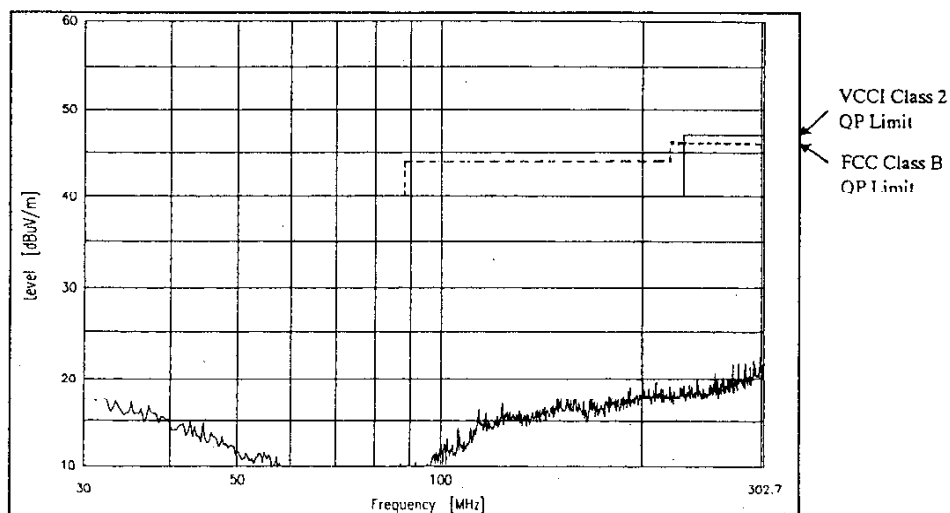
雑音電界強度
Radiated Emission

5 V

HORIZONTAL:



VERTICAL:



EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI 特性

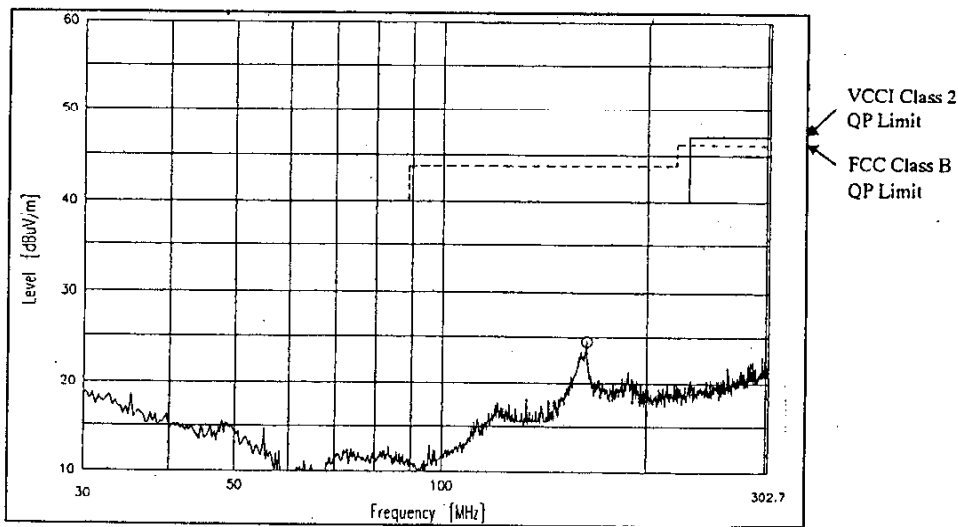
Electro-Magnetic Interference characteristics

Conditions Vin : 100VAC
Iout : 100%

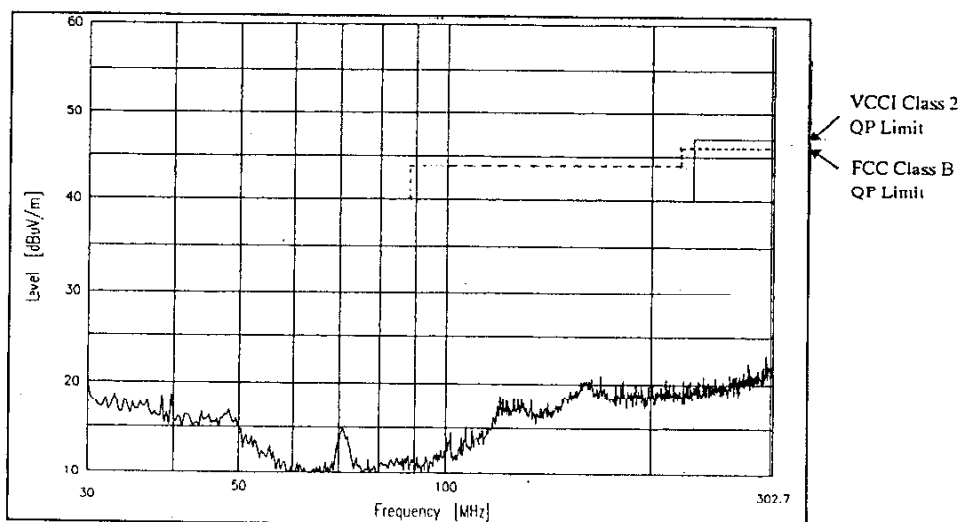
雑音電界強度
Radiated Emission

12 V

HORIZONTAL:



VERTICAL:



EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI 特性

Electro-Magnetic Interference characteristics

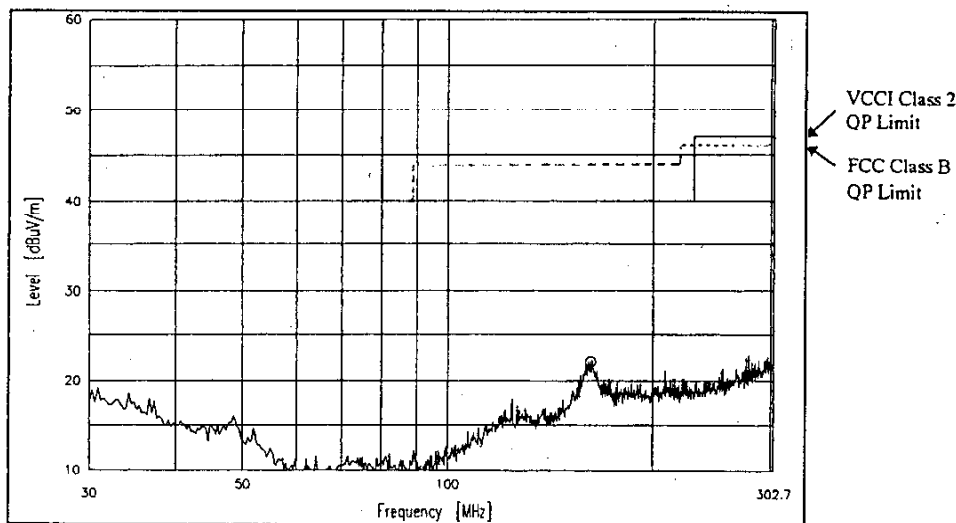
Conditions Vin : 230VAC
Iout : 100%

雑音電界強度

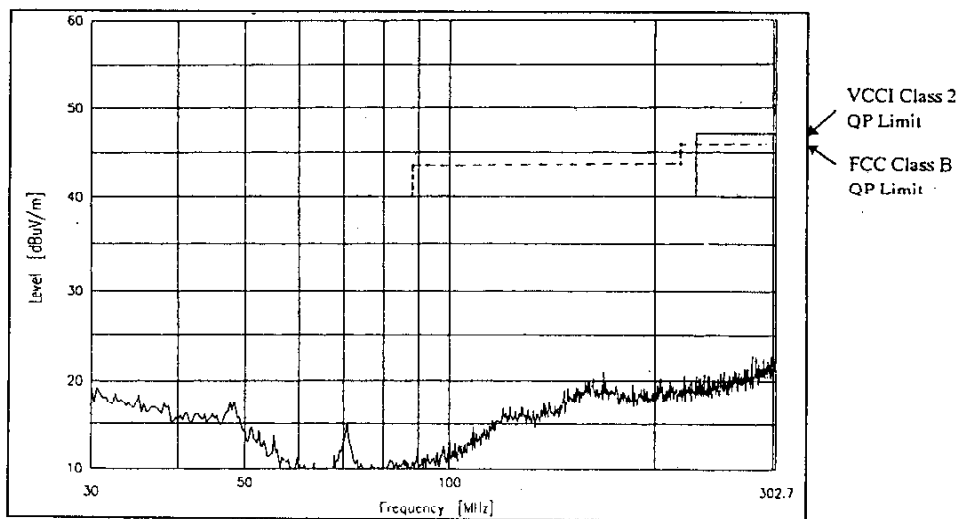
Radiated Emission

12 V

HORIZONTAL:



VERTICAL:



EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI特性

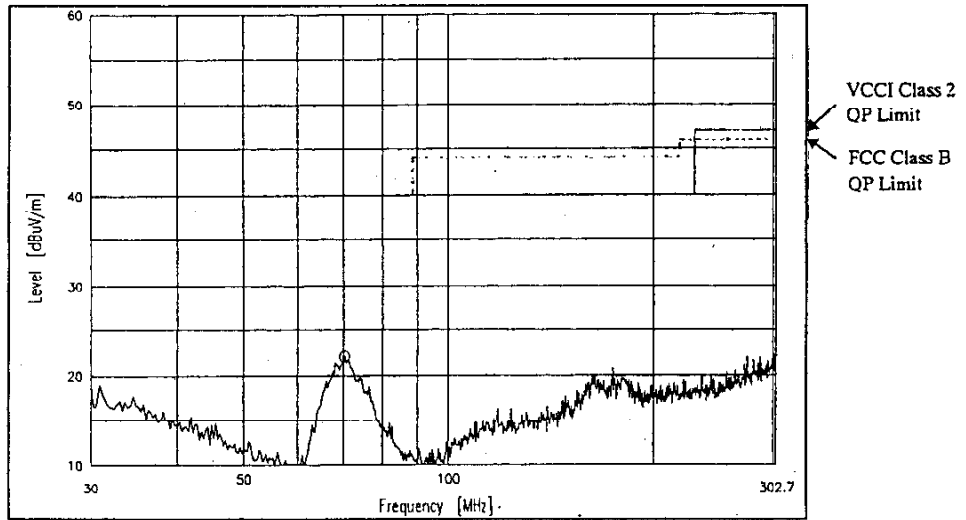
Electro-Magnetic Interference characteristics

Conditions Vin : 100VAC
Iout : 100%

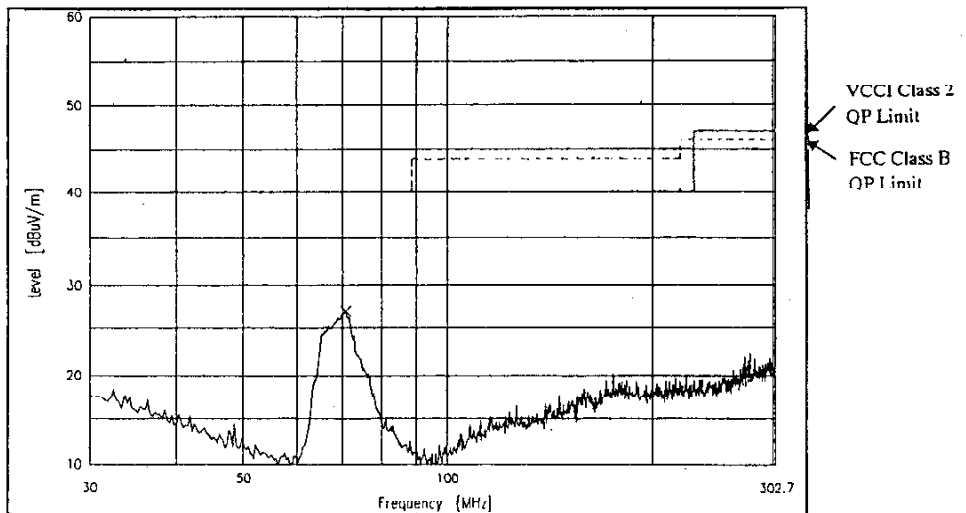
雑音電界強度
Radiated Emission

24 V

HORIZONTAL:



VERTICAL:



EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.

2.19 EMI特性

Electro-Magnetic Interference characteristics

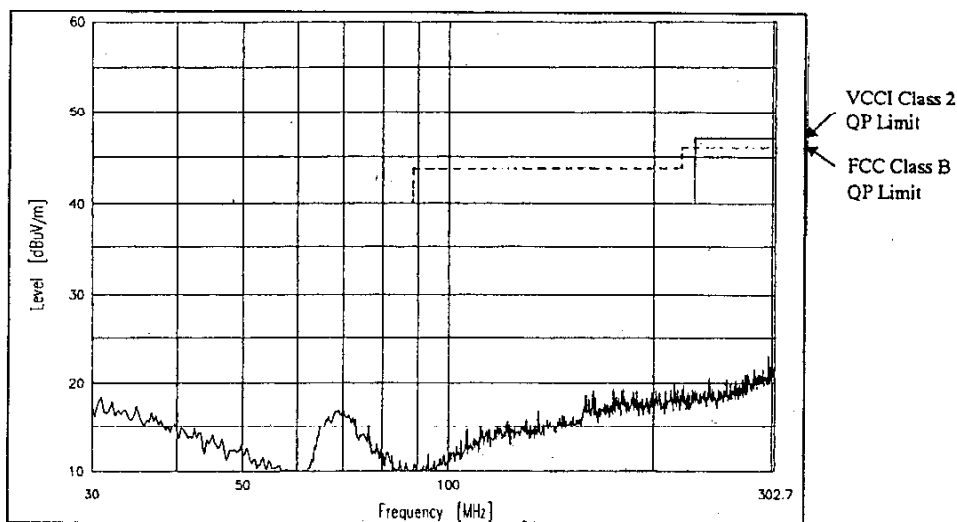
Conditions Vin : 230VAC
Iout : 100%

雑音電界強度

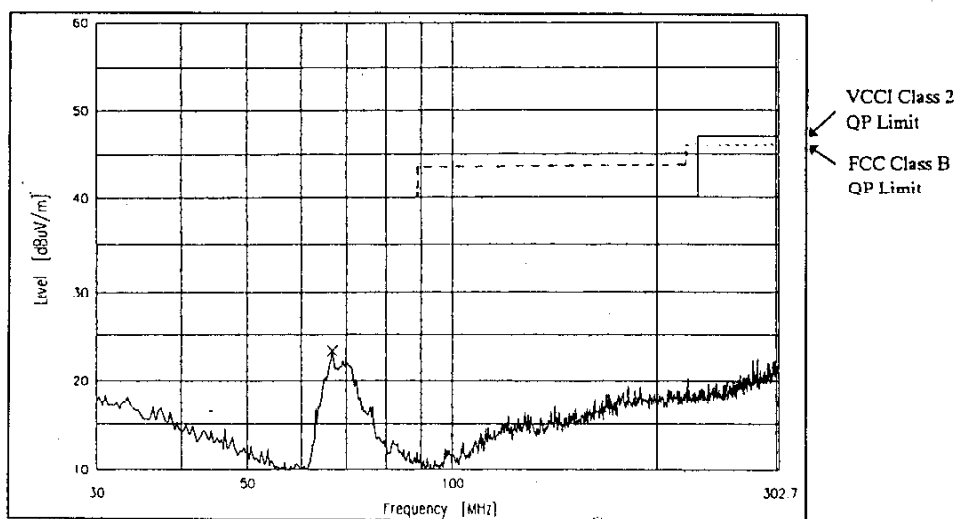
Radiated Emission

24 V

HORIZONTAL:



VERTICAL:



EN55011-B, EN55022-Bの限度値はVCCI class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are same as its VCCI class B.