

ZWX180

EVALUATION DATA

型式データ

DWG No. A234-53-01		
APPD	CHK	DWG
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<i>7/Dec/07</i>	<i>28. Nov. '07</i>	<i>27. Nov. '07</i>

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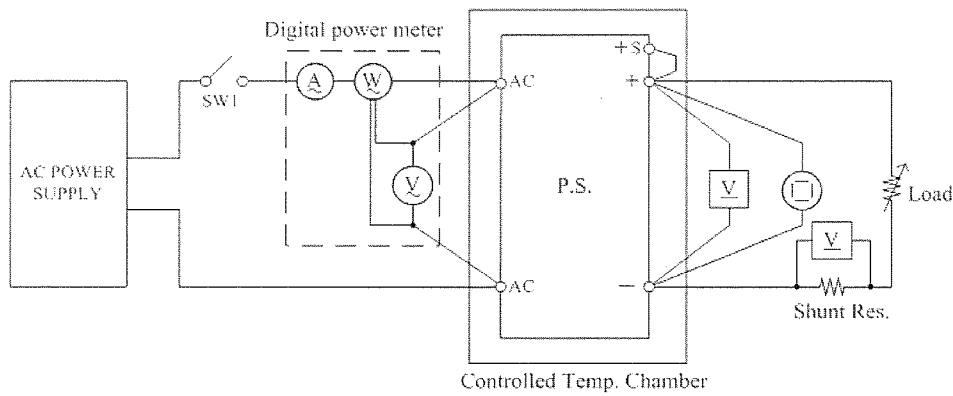
使用記号 Terminology used

	Definition	
Vin 入力電圧	Input voltage
Vout 出力電圧	Output voltage
Iin 入力電流	Input current
Iout 出力電流	Output current
Ta 周囲温度	Ambient temperature
Wout 出力電力	Output Power

1.1 測定回路 Circuit used for measurement

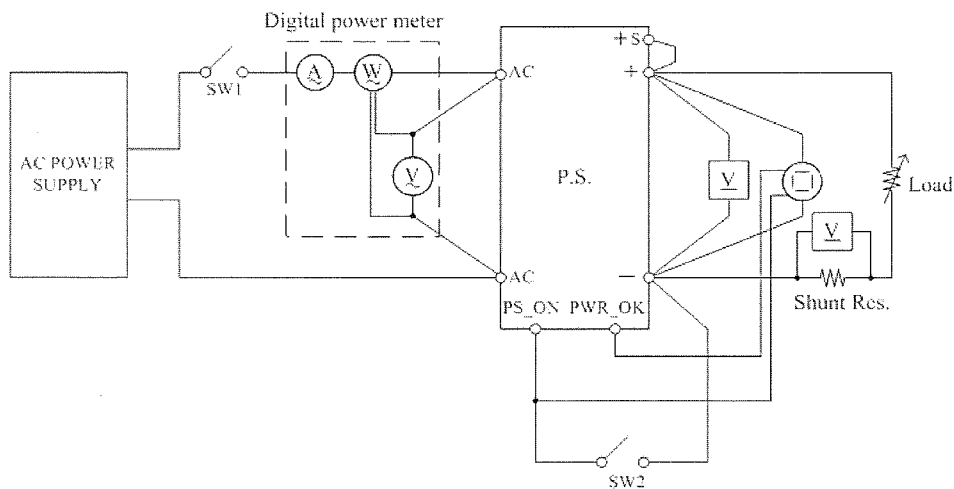
測定回路 1 Circuit 1

- | | |
|-----------------|---|
| ・静特性 | Steady state data |
| ・通電ドリフト | Warm up voltage drift characteristics |
| ・過電圧保護特性 | Over voltage protection (OVP) characteristics |
| ・過電流保護特性 | Over current protection (OCP) characteristics |
| ・出力立ち上がり特性 | Output rise characteristics |
| ・出力立ち下がり特性 | Output fall characteristics |
| ・過渡応答 (入力急変) 特性 | Dynamic line response characteristics |
| ・スタンバイ電流特性 | Stand-by current characteristics |



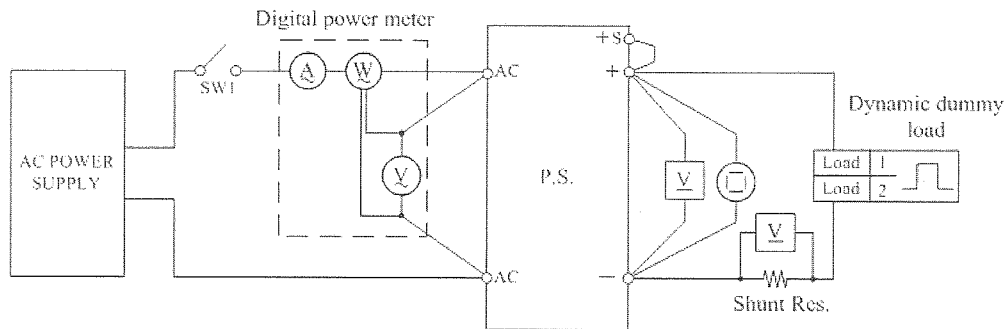
測定回路 2 Circuit 2

- ・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
- ・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

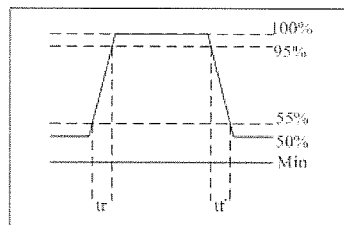


測定回路3 Circuit 3

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

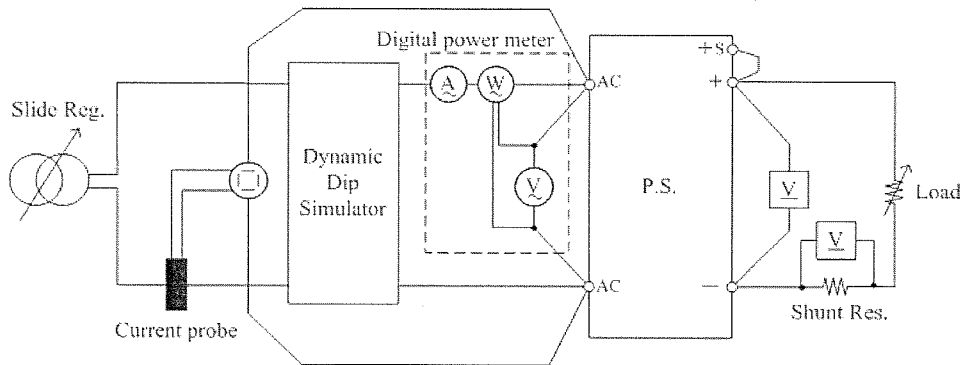


Output current waveform
I_{out} 50% ↔ 100%



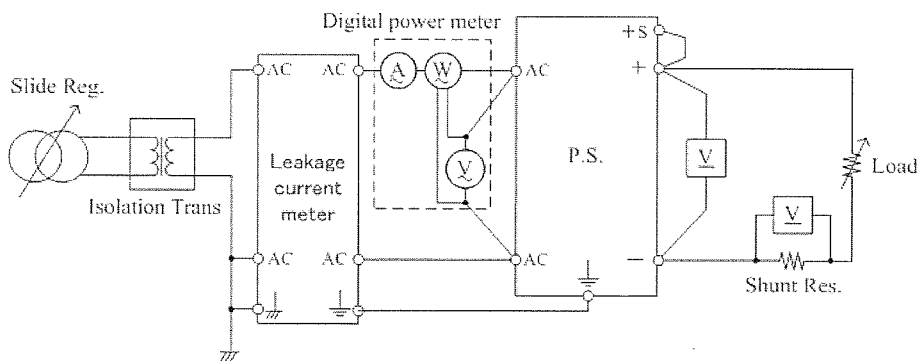
測定回路4 Circuit 4

・入力サージ電流 (突入電流) 特性 Inrush current characteristics



測定回路5 Circuit 5

・リーク電流 Leakage current characteristics

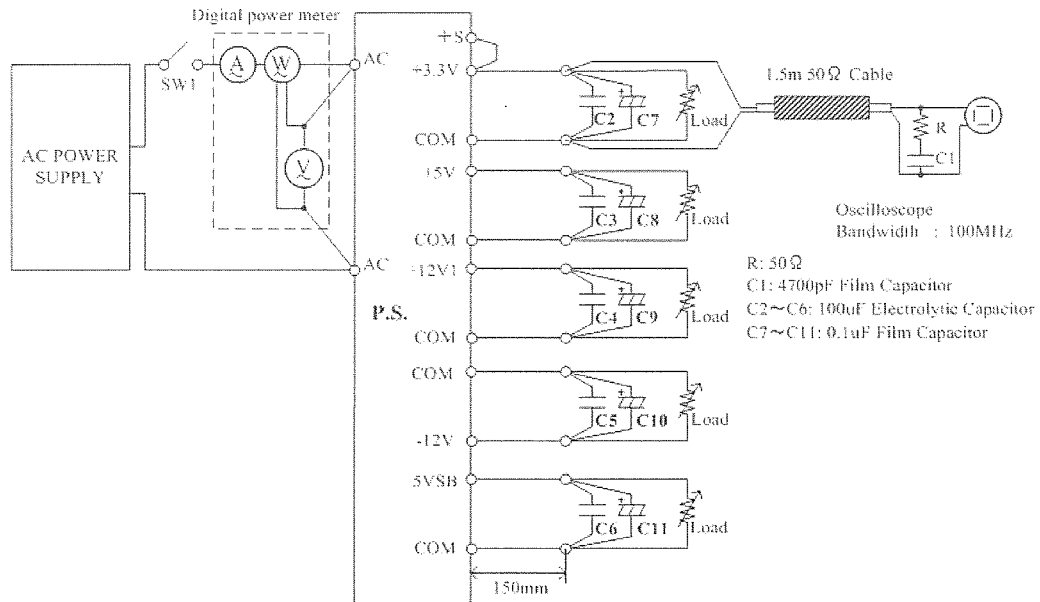


NOTE : Leakage current meter HIOKI TYPE 3155 / 3156

測定回路6 Circuit 6

・出力リップル、ノイズ
(a) Normal Mode

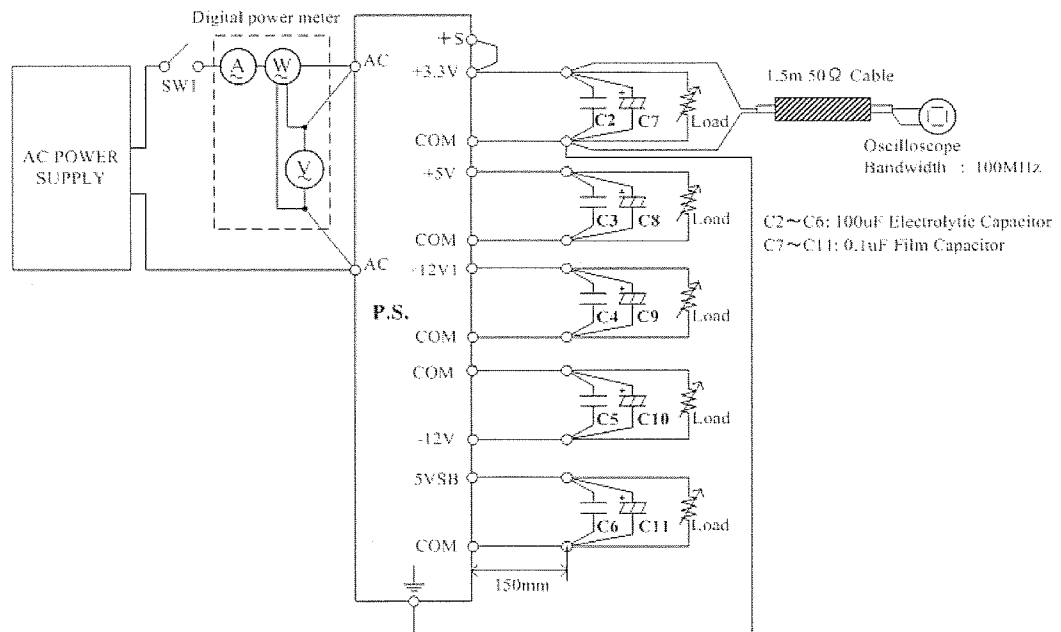
Output ripple and noise



測定回路7 Circuit 7

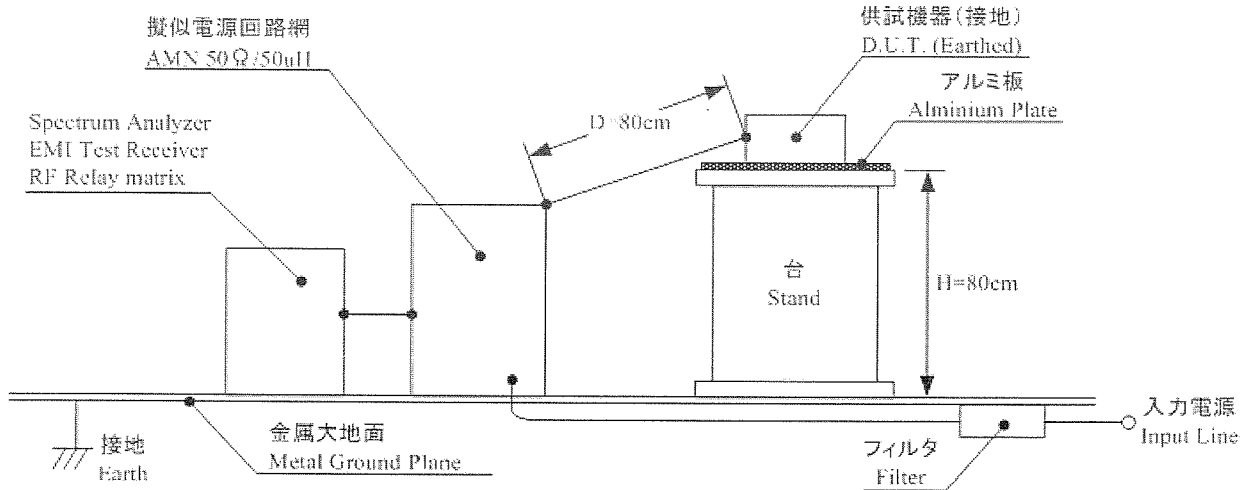
・出力リップル、ノイズ
(b) Normal + Common Mode

Output ripple and noise



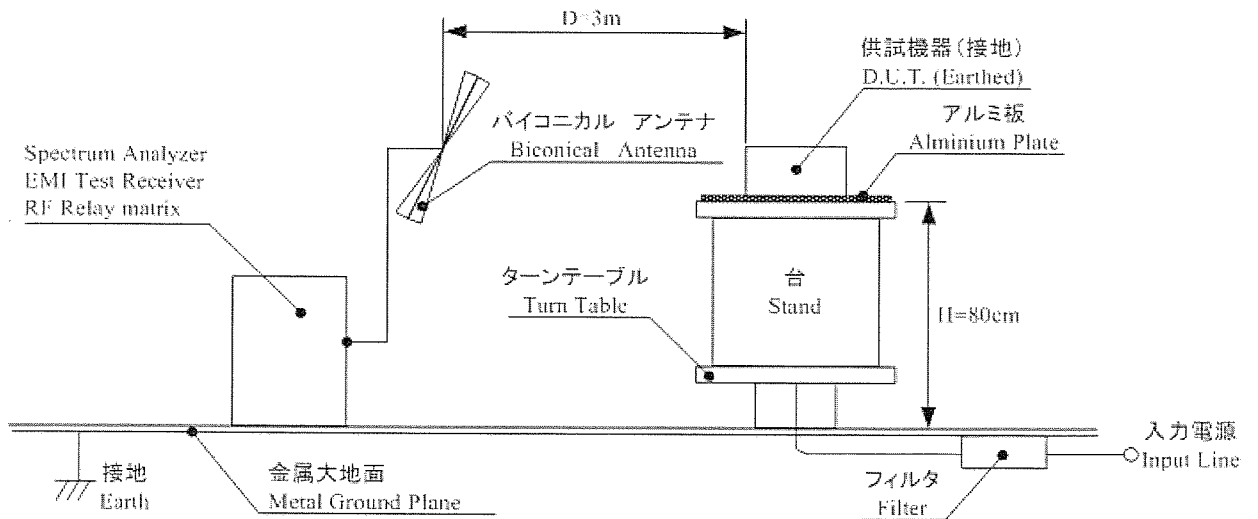
測定構成 1 Configuration 1

- EMI特性 Electro-Magnetic Interference characteristics
- (a) 雑音端子電圧 (帰還ノイズ) Conducted Emission Noise



測定構成 2 Configuration 2

- EMI特性 Electro-Magnetic Interference characteristics
- (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	V-1100A
2	OSCILLOSCOPE	YOKOGAWA ELECT.	DL1740EL
3	DIGITAL STORAGE OSCILLOSCOPE	TEKTRONIX	TDS540A
4	DIGITAL MULTIMETER	AGILENT	34970A
5	DYNAMIC DIP SIMULATOR	TAKAMISAWA	PSA-210
6	DIGITAL POWER METER	YOKOGAWA ELECT.	WT110 / WT210
7	CURRENT PROBE/AMPLIFIER	TEKTRONIX	A6303 / AM502A
8	DYNAMIC DUMMY LOAD	TAKASAGO	FK600L / 400L / 200L
9	DUMMY LOAD	PCN	RHF250 Siries
10	SLIDE REGURATOR	MATSUNAGA	SD-2450
11	AC POWER SUPPLY	KIKUSUI	PCR-4000L
12	AC POWER SUPPLY	TAKASAGO	AA2000XG
13	LEAKAGE CURRENT METER	HIOKI	3156
14	CONTROLLED TEMP. CHAMBER	TABAI ESPEC	PU-4K / SU240S1
15	SPECTRUM ANALYZER	ROHDE & SCHWARZ	ESPI3
16	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESHS10
17	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESVS10
18	RF RELAY MATRIX	ROHDE & SCHWARZ	PSU
19	AMN	KYORITU DENSHI	KNW-242
20	ANTENA(BICONICAL ANTENA)	SCHWARZBECK	BBA9106

1.3 評価負荷条件 Load condition

Output	Load conditions				
	FL1	FL2	FL3	FL4	FL5
	Io(A)				
V1: +3.3V	0	8.4	5.6	3.5	6.5
V2: +5V	0	5.2	7	4	6.5
V3: +12V	0	7.2	7.2	9	7.7
V4: -12V	0	0.3	0.3	0.3	0.2
V5: +5VSB	0	2	2	2	1

FL1 : All output CH=0A

Output	Load conditions		
	PL1	PL2	PL3
	Io(A)		
V1: +3.3V	12	4	1.1
V2: +5V	4.7	10	1.5
V3: +12V	8.7	8.6	13
V4: -12V	0.3	0.3	0.3
V5: +5VSB	2	2	2

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

V1 : +3.3V

1.Regulation - line and load

condition Ta : 25°C

Iout(100%) : PL1

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	3.302V	3.302V	3.302V	3.302V	0mV	0.00%
50%	3.293V	3.293V	3.293V	3.293V	0mV	0.00%
85%	3.290V	3.290V	3.290V	3.290V	0mV	0.00%
100%(peak)	3.288V	3.288V	3.287V	3.287V	1mV	0.03%
load	14mV	14mV	15mV	15mV		
regulation	0.42%	0.42%	0.45%	0.45%		

2. Temperature drift

condition

Vin : 100VAC

Iout : FL2

Ta	-10°C	+25°C	+50°C	temperature stability	
Vout	3.287V	3.290V	3.288V	3mV	0.09%

V2 : +5V

1.Regulation - line and load

condition

Ta : 25°C

Iout(100%) : PL2

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	4.993V	4.993V	4.993V	4.993V	0mV	0.00%
50%	4.990V	4.989V	4.989V	4.989V	1mV	0.02%
85%	4.987V	4.987V	4.987V	4.987V	0mV	0.00%
100%(peak)	4.986V	4.986V	4.986V	4.986V	0mV	0.00%
load	7mV	7mV	7mV	7mV		
regulation	0.14%	0.14%	0.14%	0.14%		

2. Temperature drift

condition

Vin : 100VAC

Iout : FL3

Ta	-10°C	+25°C	+50°C	temperature stability	
Vout	4.979V	4.987V	4.988V	9mV	0.18%

V3 : +12V

1.Regulation - line and load

condition

Ta : 25°C

Iout(100%) : PL3

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	12.017V	12.017V	12.017V	12.017V	0mV	0.00%
50%	12.012V	12.012V	12.013V	12.013V	1mV	0.01%
85%	12.010V	12.010V	12.010V	12.010V	0mV	0.00%
100%(peak)	12.008V	12.008V	12.008V	12.009V	1mV	0.01%
load	9mV	9mV	9mV	8mV		
regulation	0.08%	0.08%	0.08%	0.07%		

2. Temperature drift

condition

Vin : 100VAC

Iout : FL4

Ta	-10°C	+25°C	+50°C	temperature stability	
Vout	11.989V	12.010V	12.014V	25mV	0.21%

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

V4 : -12V

1.Regulation - line and load

condition Ta : 25°C

Iout(100%) : PL1

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	-11.972V	-11.971V	-11.970V	-11.970V	2mV	0.02%
50%	-11.958V	-11.958V	-11.958V	-11.958V	0mV	0.00%
85%	-11.955V	-11.955V	-11.955V	-11.955V	0mV	0.00%
100%(peak)	-11.955V	-11.955V	-11.955V	-11.955V	0mV	0.00%
load regulation	17mV	16mV	15mV	15mV		
	0.14%	0.13%	0.13%	0.13%		

2. Temperature drift

condition

Vin : 100VAC

Iout : FL2

Ta	-10°C	+25°C	+50°C	temperature stability	
Vout	-11.955V	-11.955V	-11.930V	25mV	0.21%

V5 : +5VSB

1.Regulation - line and load

condition

Ta : 25°C

Iout(100%) : PL1

Iout \ Vin	85VAC	100VAC	200VAC	265VAC	line regulation	
0%	4.980V	4.980V	4.980V	4.981V	1mV	0.02%
50%	4.955V	4.955V	4.955V	4.955V	0mV	0.00%
85%	4.939V	4.939V	4.939V	4.939V	0mV	0.00%
100%(peak)	4.928V	4.929V	4.929V	4.929V	1mV	0.02%
load regulation	52mV	51mV	51mV	52mV		
	1.04%	1.02%	1.02%	1.04%		

2. Temperature drift

condition

Vin : 100VAC

Iout : FL2

Ta	-10°C	+25°C	+50°C	temperature stability	
Vout	4.934V	4.929V	4.941V	12mV	0.24%

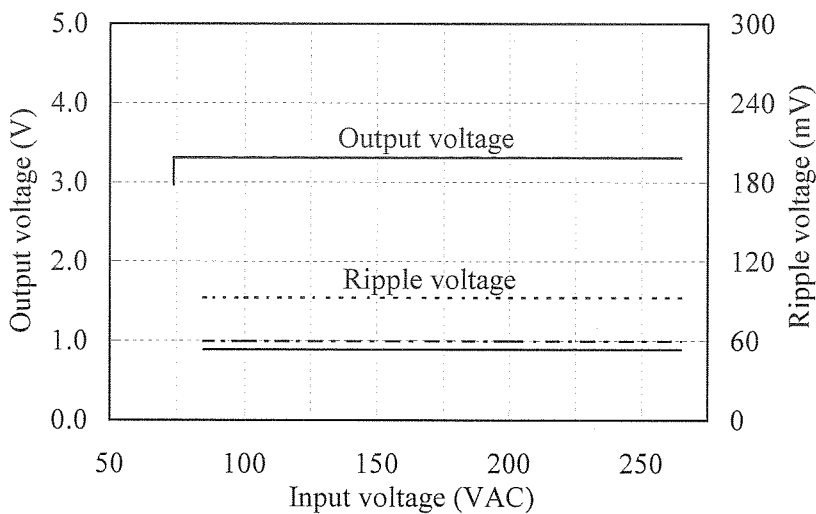
2.1 (2) 出力電圧、リップル電圧対入力電圧

Output voltage and Ripple voltage v.s. Input voltage

V1 : +3.3V

Conditions Iout : FL2

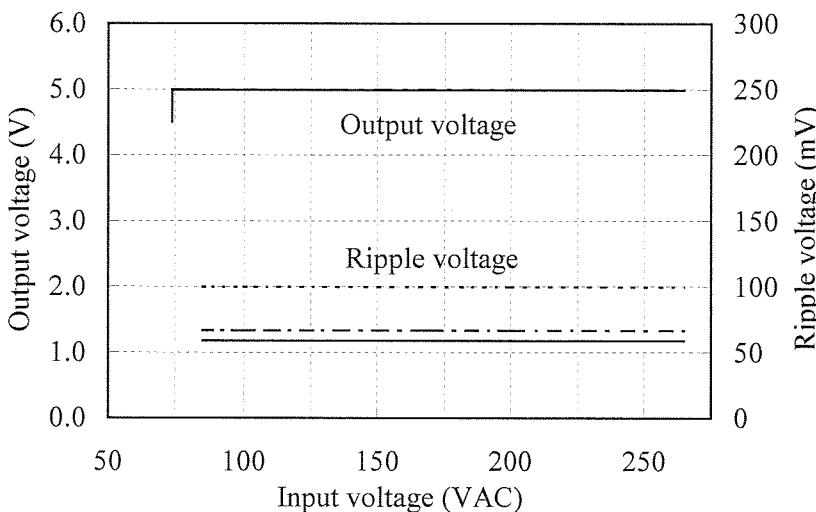
Ta : -10°C -----
 : 25°C - - - - -
 : 50°C _____



V2 : +5V

Conditions Iout : FL3

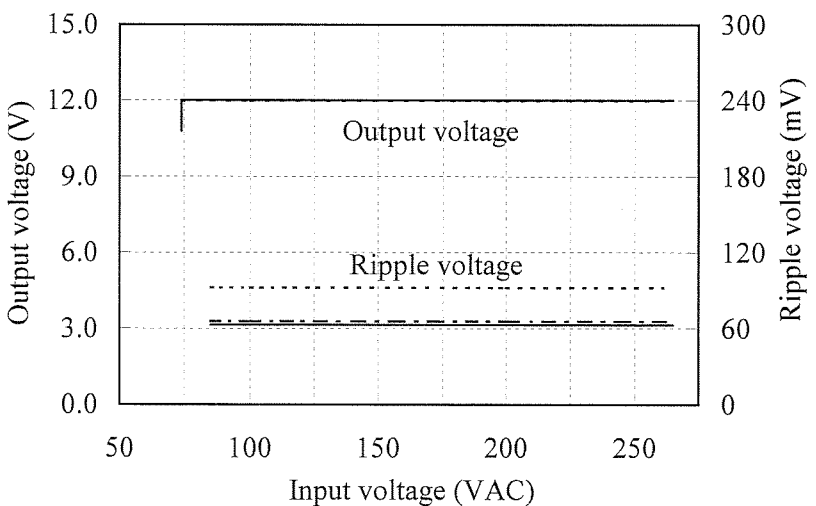
Ta : -10°C -----
 : 25°C - - - - -
 : 50°C _____



V3 : +12V

Conditions Iout : FL4

Ta : -10°C -----
 : 25°C - - - - -
 : 50°C _____



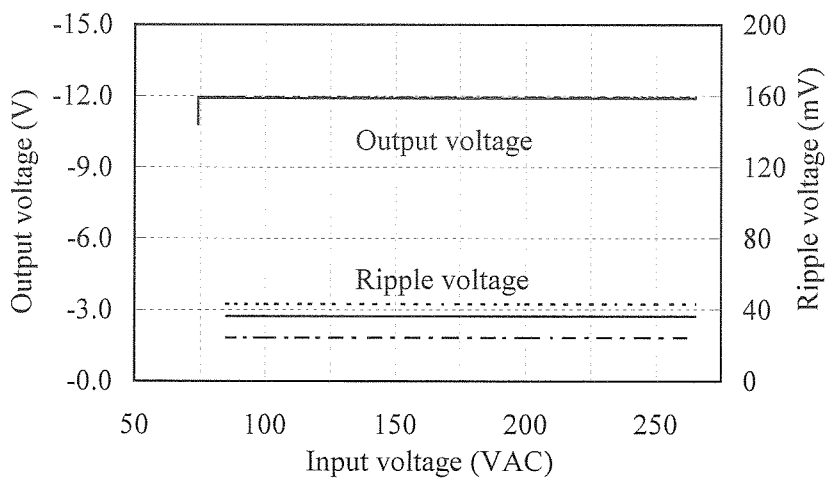
2.1 (2) 出力電圧、リップル電圧対入力電圧

Output voltage and Ripple voltage v.s. Input voltage

V4 : -12V

Conditions Iout : FL2

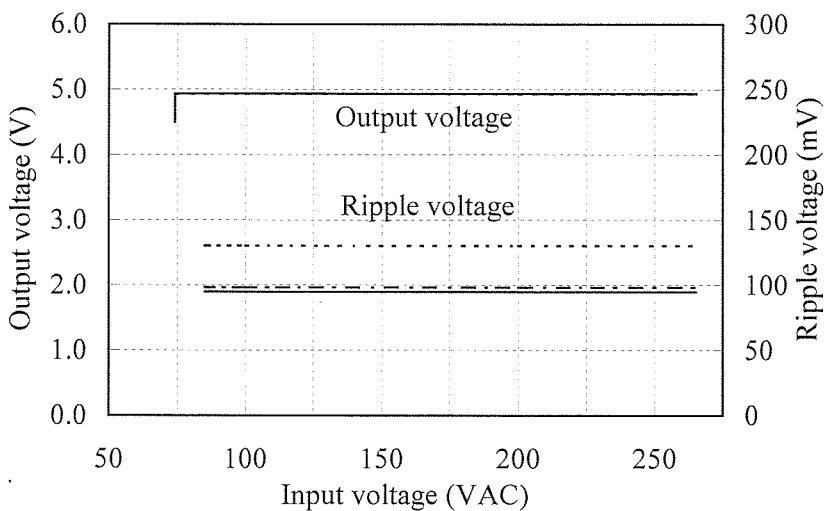
Ta : -10°C -----
 : 25°C -----
 : 50°C -----



V5 : +5VSB

Conditions Iout : FL2

Ta : -10°C -----
 : 25°C -----
 : 50°C -----



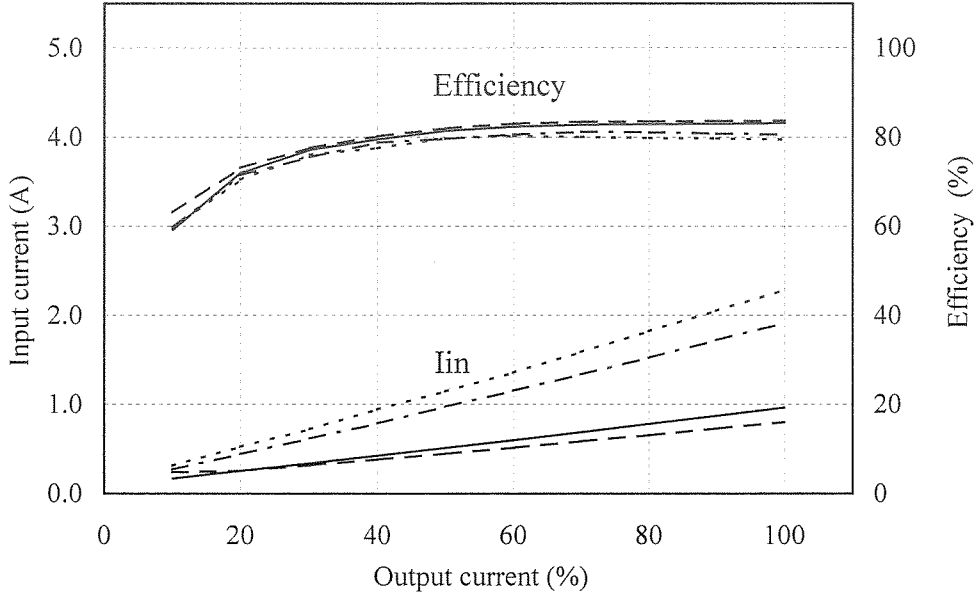
2.1 (3) 効率、入力電流対出力電流

Efficiency and Input current v.s. Output current

Conditions Vin : 85VAC -----
 : 100VAC -.-.-.-.
 : 200VAC ————
 : 265VAC -.-.-.-.

Ta : 25°C

Iout(100%) : FL5



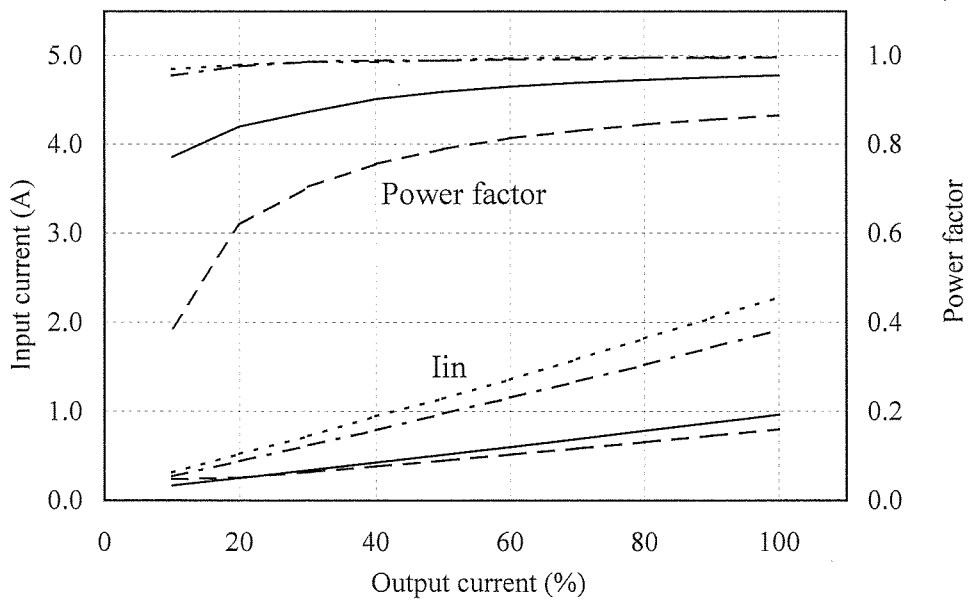
2.1 (4) 力率、入力電流対出力電流

Power factor and Input current v.s. Output current

Conditions Vin : 85VAC -----
 : 100VAC -.-.-.-.
 : 200VAC ————
 : 265VAC -.-.-.-.

Ta : 25°C

Iout(100%) : FL5



2.2 通電ドリフト特性

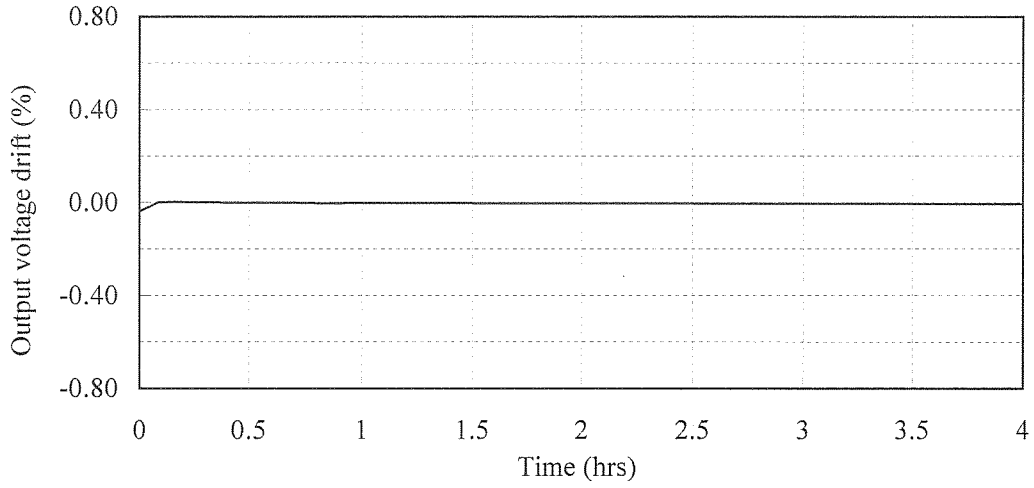
Warm up voltage drift characteristics

Conditions Vin : 100VAC

Ta : 25°C

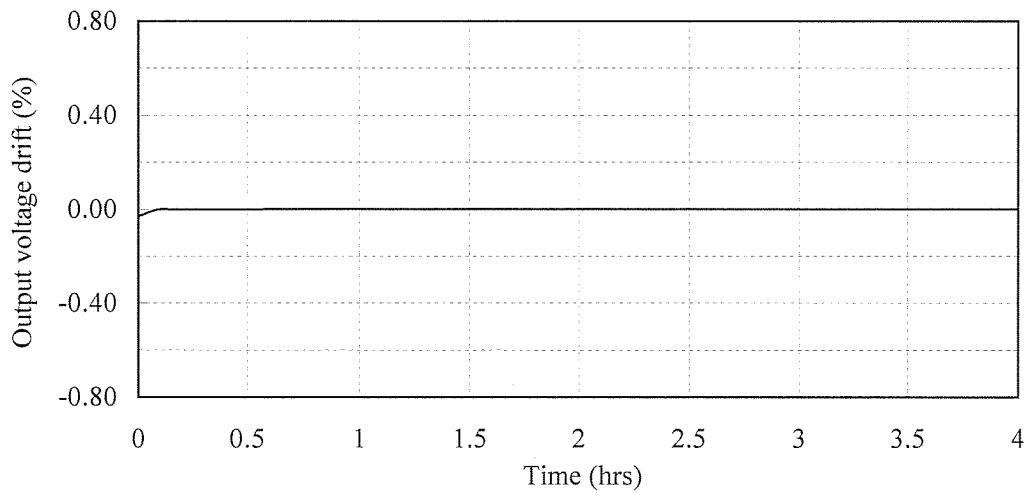
V1 : +3.3V

Iout : FL2



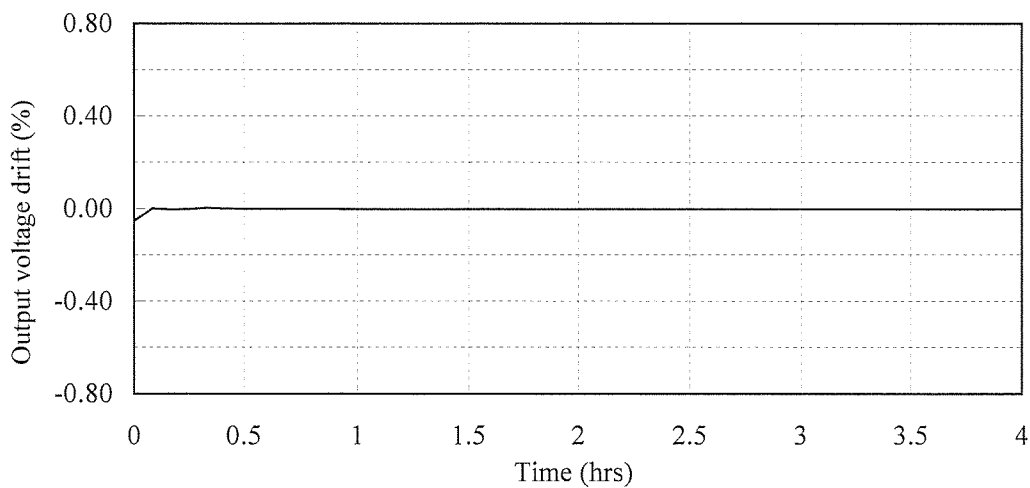
V2 : +5V

Iout : FL3



V3 : +12V

Iout : FL4



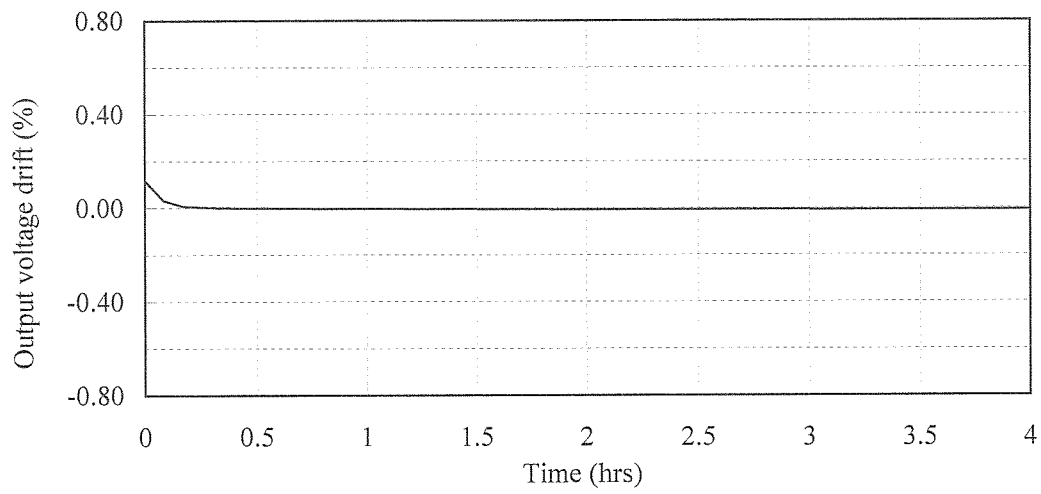
2.2 通電ドリフト特性

Warm up voltage drift characteristics

Conditions Vin : 100VAC
Ta : 25°C

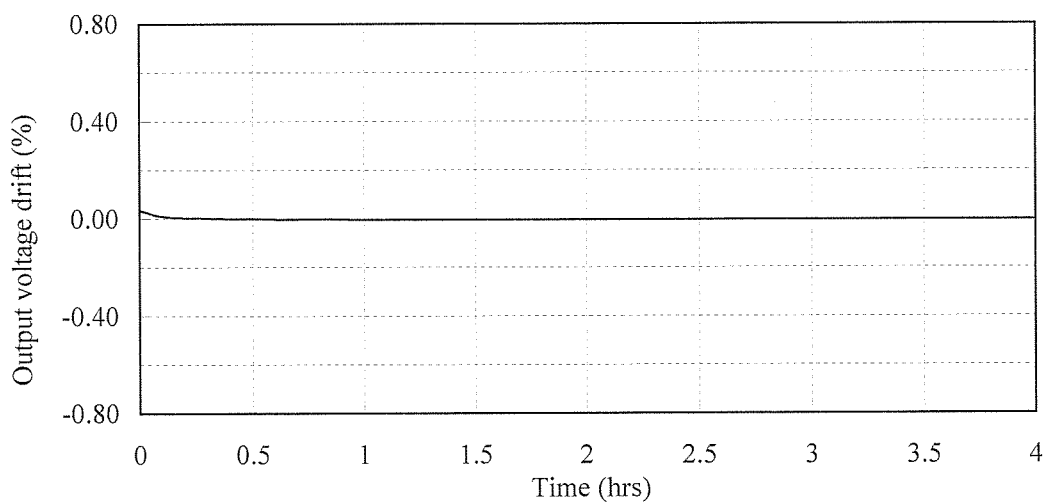
V4 : -12V

Iout : FL2



V5 : +5VSB

Iout : FL2



2.3 過電流保護特性

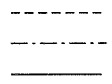
Over current protection (OCP) characteristics

Conditions V_{in} : 100VAC

T_a : -10°C

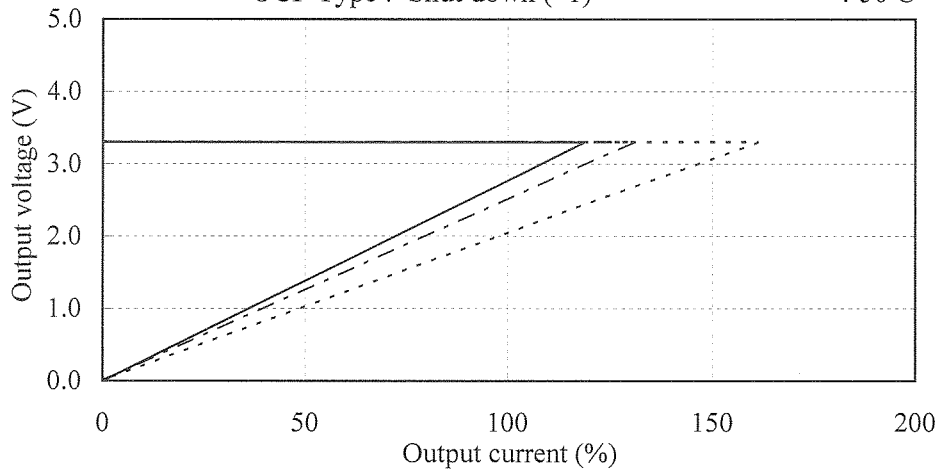
: 25°C

: 50°C



V1 : +3.3V

OCP Type : Shut down (*1)

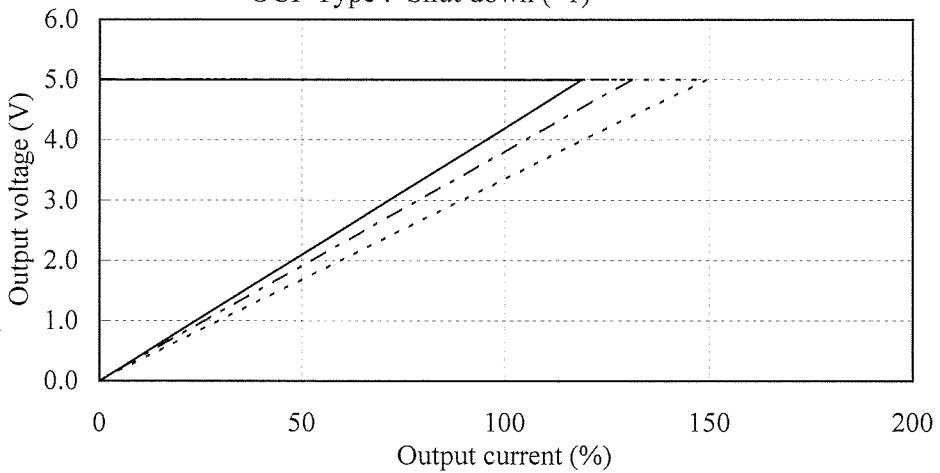


Note1: V2,V3,V4,V5 => No Load

Note2: V1 Peak Load=100%

V2 : +5V

OCP Type : Shut down (*1)

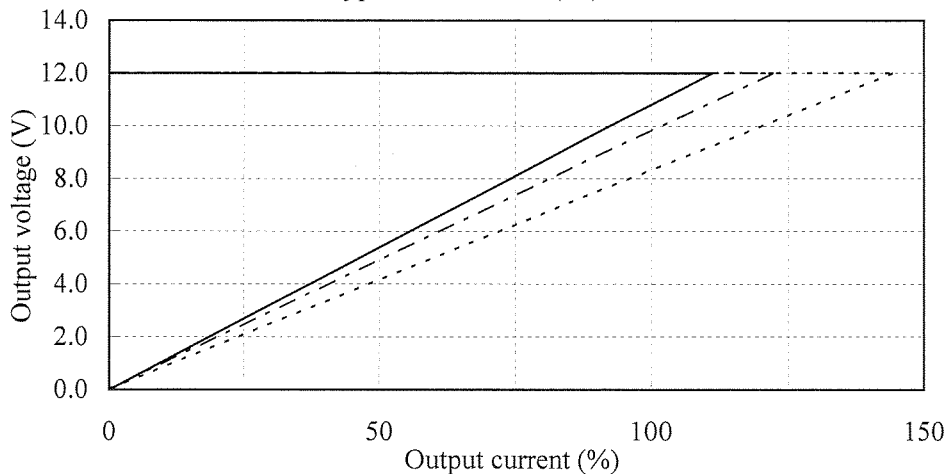


Note3: V1,V3,V4,V5 => No Load

Note4: V2 Peak Load=100%

V3 : +12V

OCP Type : Shut down (*1)



Note5: V1,V2,V4,V5 => No Load

Note6: V3 Peak Load=100%

2.3 過電流保護特性

Over current protection (OCP) characteristics

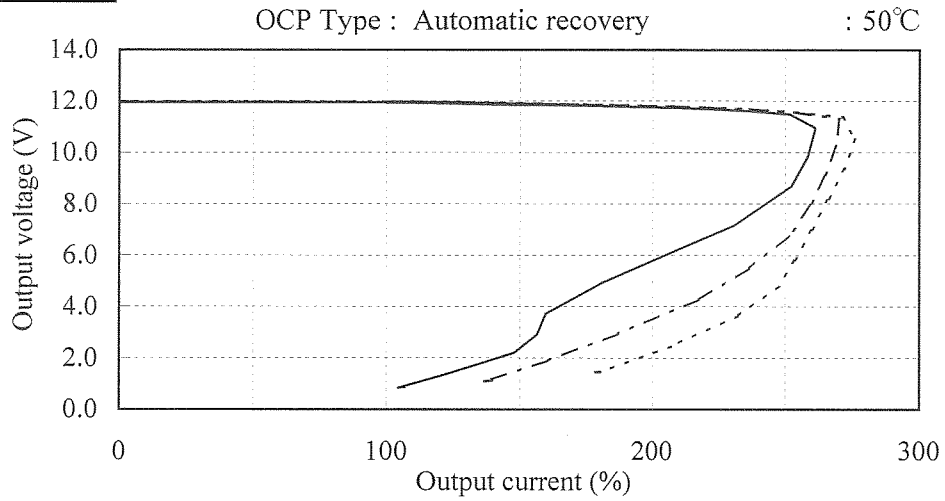
Conditions V_{in} : 100VAC

T_a : -10°C

: 25°C

: 50°C

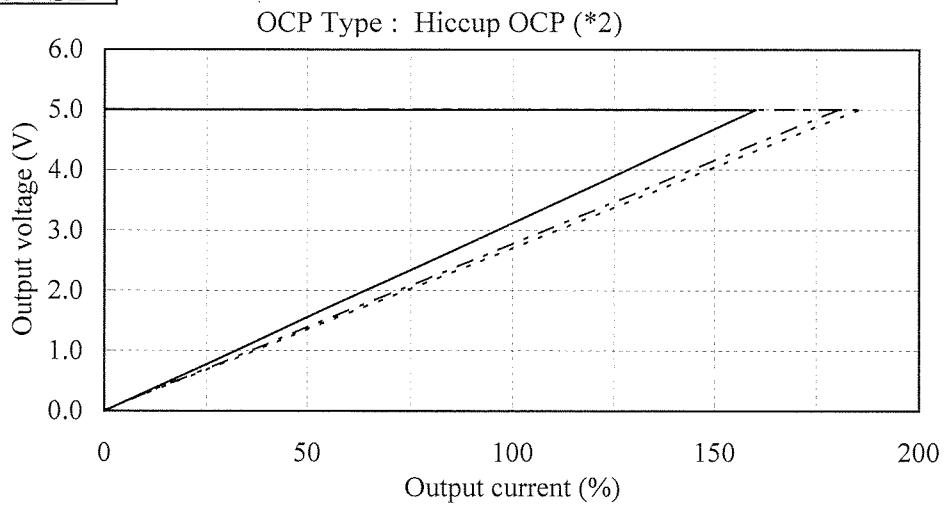
V4 : -12V



Note7: V1,V2,V3,V5 => No Load

Note8: V4 Peak Load=100%

V5 : +5VSB



Note9: V1,V2,V3,V4 => No Load

Note10: V5 Peak Load=100%

(*1) Output will be shut down after the delay time at 5 seconds.

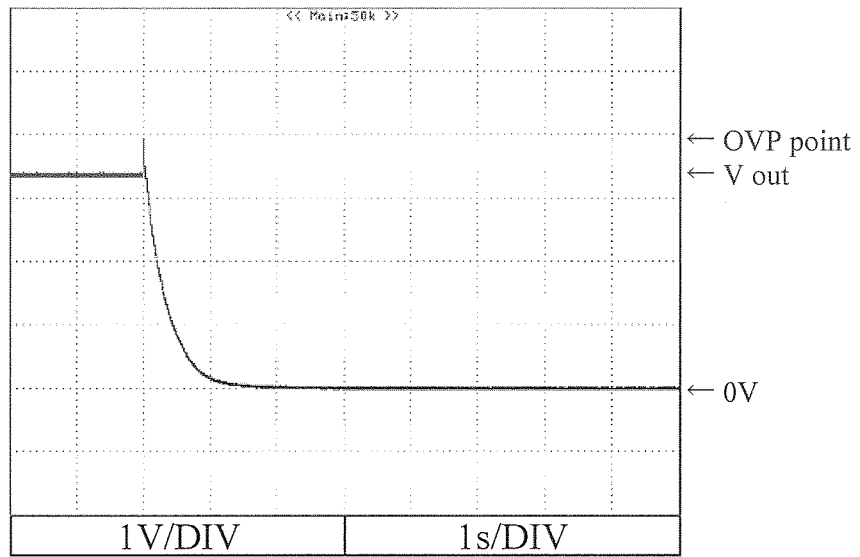
(*2) When 5V SB is shut down with over current or short, all output power will be shut down.

2.4 過電圧保護特性

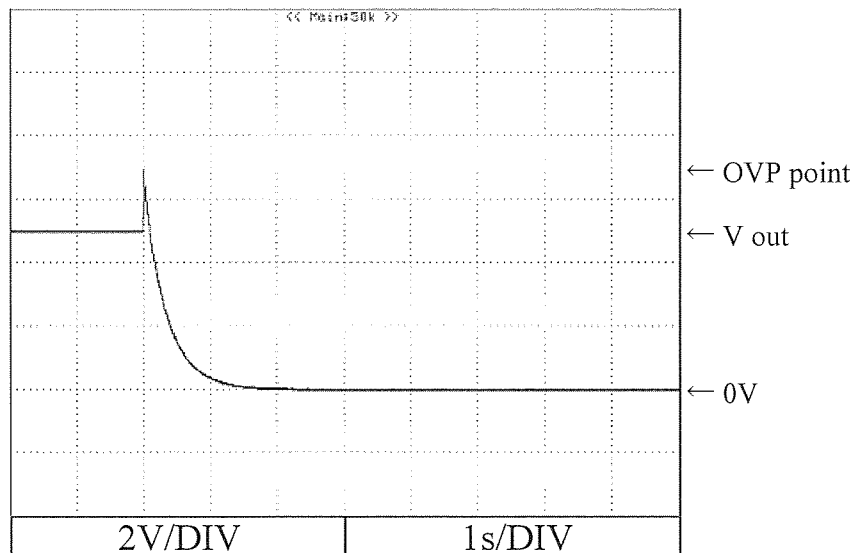
Over voltage protection (OVP) characteristics

Conditions Vin : 100VAC
Iout : 0% (FL1)
Ta : 25°C

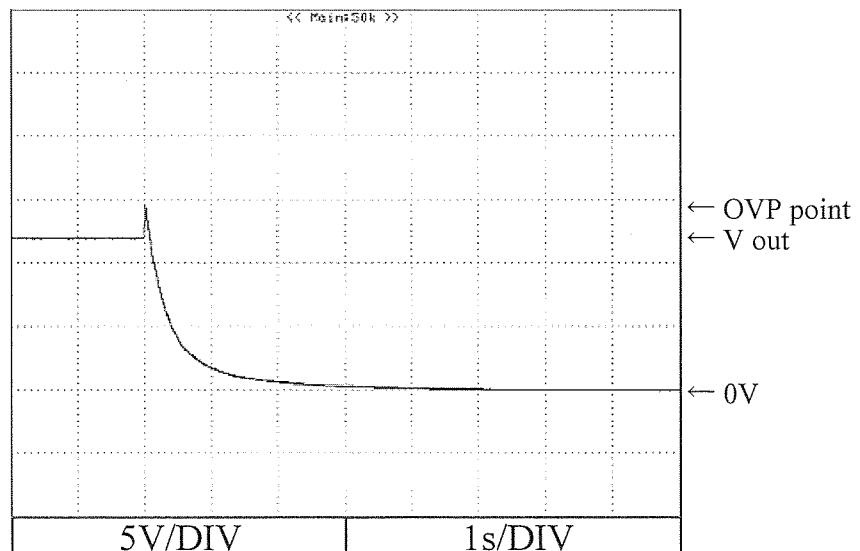
V1 : +3.3V



V2 : +5V



V3 : +12V

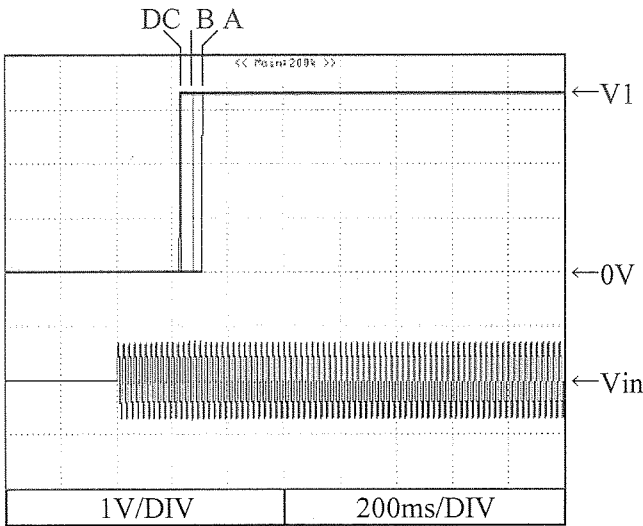


2.5 出力立ち上がり特性
Output rise characteristics

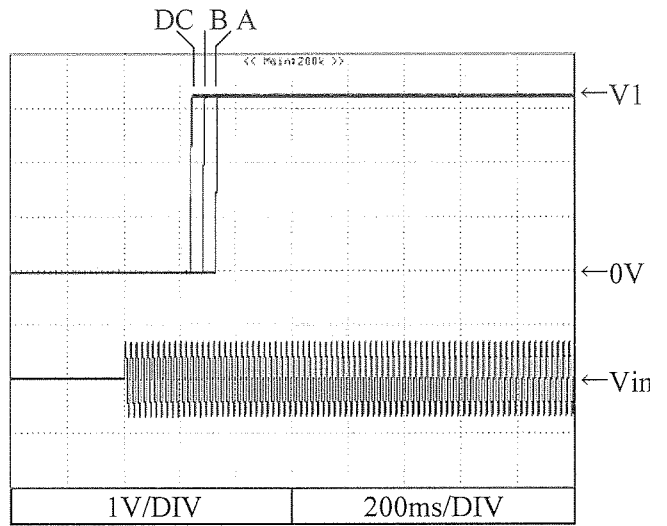
Conditions Vin : 85VAC (A)
100VAC (B)
200VAC (C)
265VAC (D)
Ta : 25°C

V1 : +3.3V

Iout : 0% (FL1)

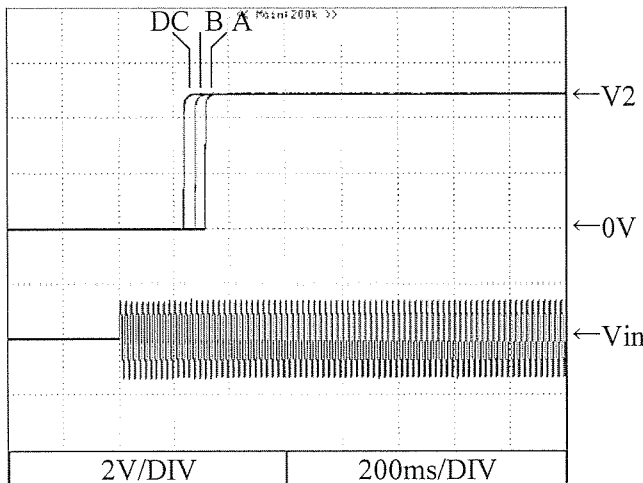


Iout : 100% (FL2)

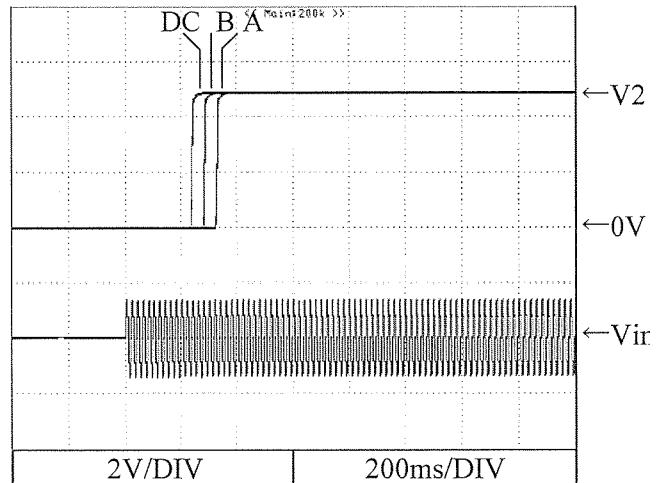


V2 : +5V

Iout : 0% (FL1)



Iout : 100% (FL3)

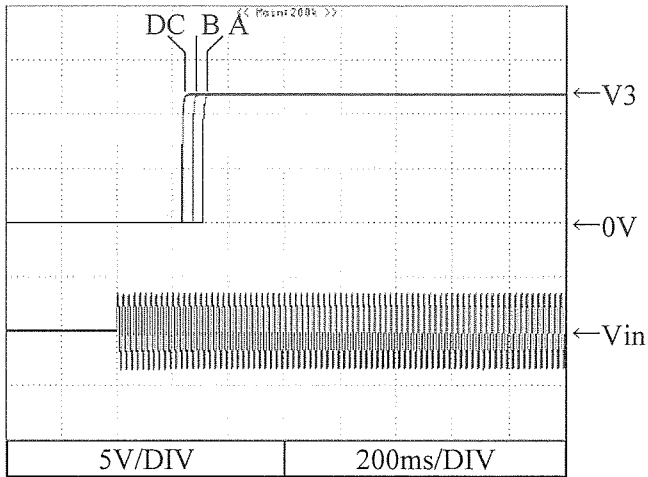


2.5 出力立ち上がり特性
Output rise characteristics

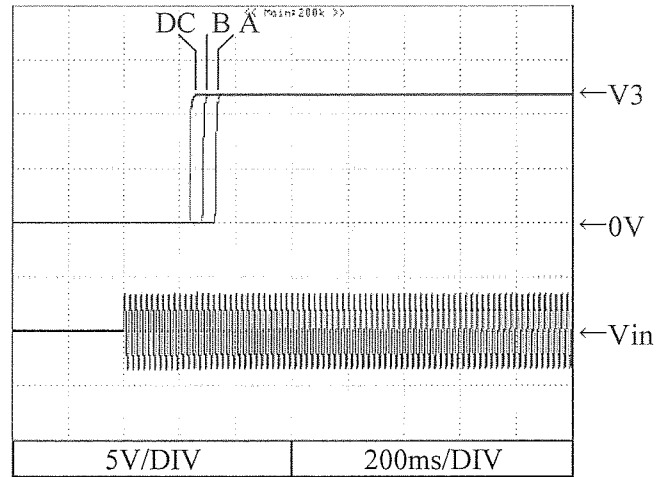
Conditions Vin : 85VAC (A)
100VAC (B)
200VAC (C)
265VAC (D)
Ta : 25°C

V3 : +12V

Iout : 0% (FL1)

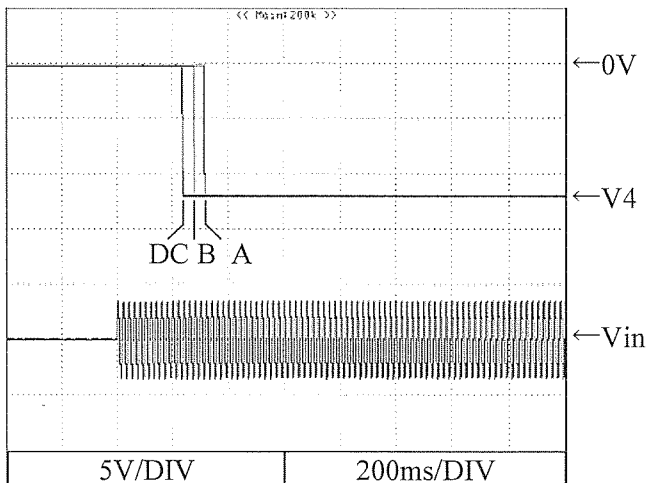


Iout : 100% (FL4)

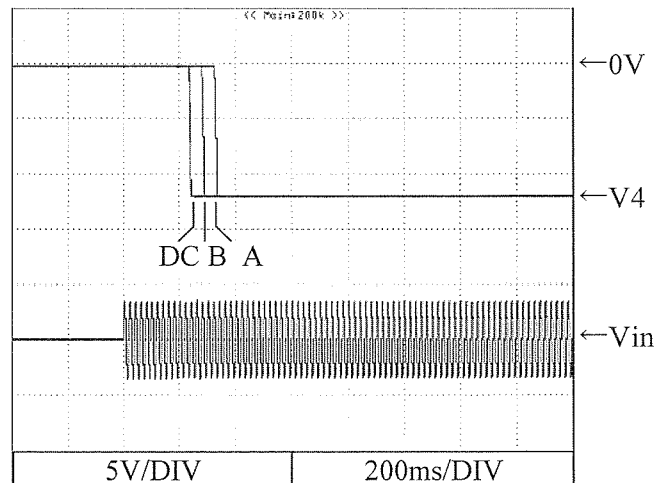


V4 : -12V

Iout : 0% (FL1)



Iout : 100% (FL2)



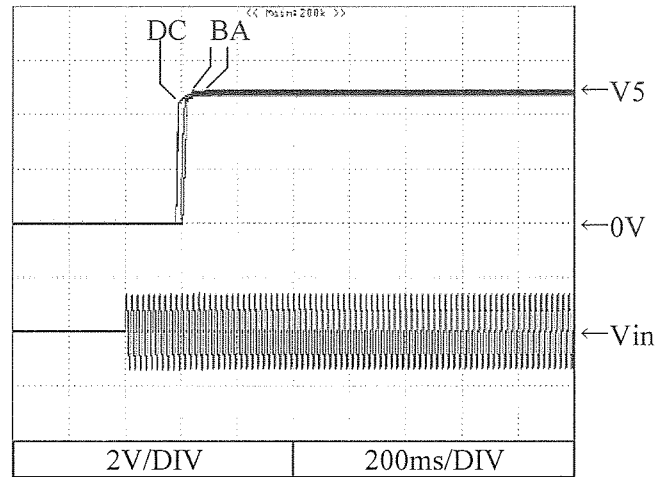
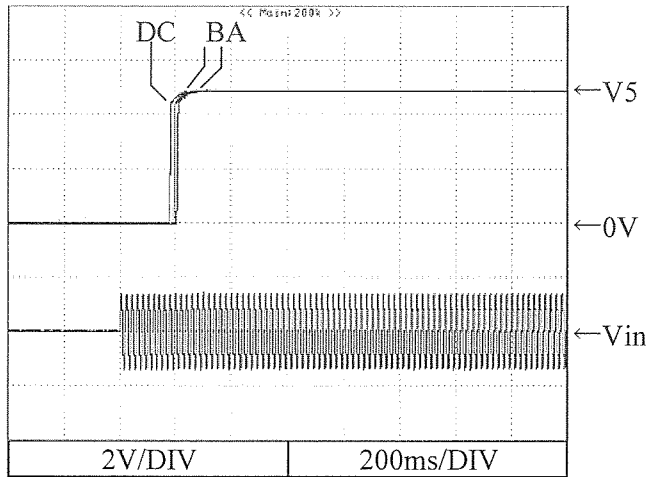
2.5 出力立ち上がり特性 Output rise characteristics

Conditions V_{in} : 85VAC (A)
 100VAC (B)
 200VAC (C)
 265VAC (D)
 T_a : 25°C

V5 : +5VSB

I_{out} : 0% (FL1)

I_{out} : 100% (FL2)

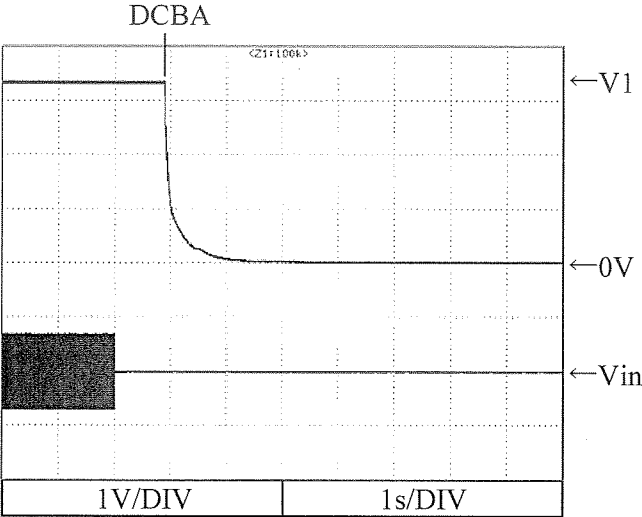


2.6 出力立ち下がり特性
Output fall characteristics

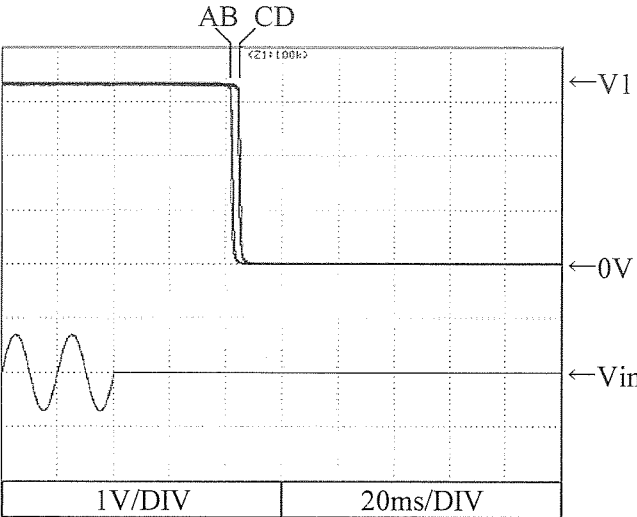
Conditions Vin : 85VAC (A)
100VAC (B)
200VAC (C)
265VAC (D)
Ta : 25°C

V1 : +3.3V

Iout : 0% (FL1)

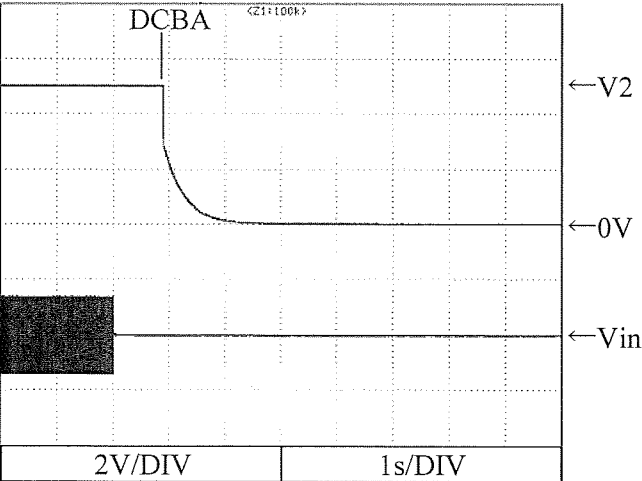


Iout : 100% (FL2)

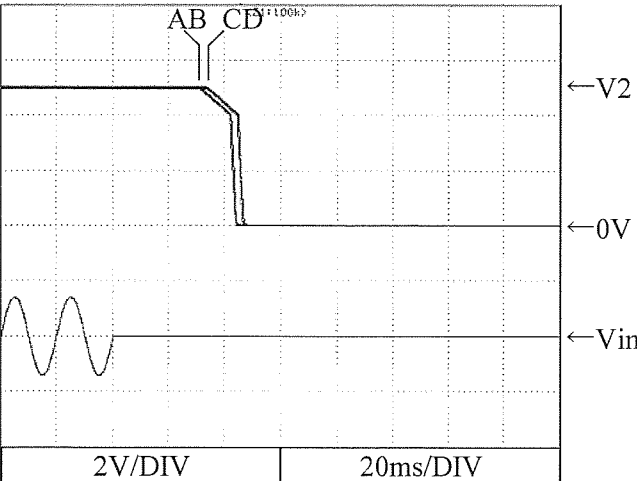


V2 : +5V

Iout : 0% (FL1)



Iout : 100% (FL3)



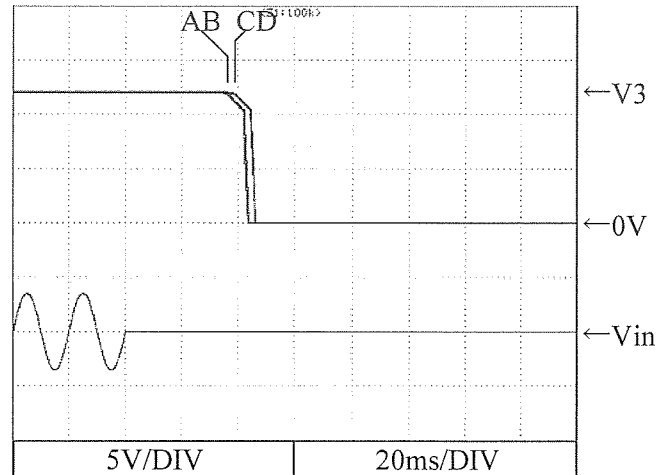
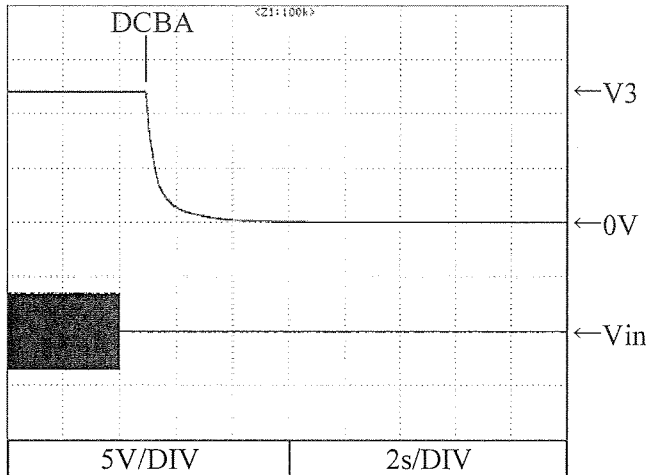
2.6 出力立ち下がり特性
Output fall characteristics

Conditions Vin : 85VAC (A)
100VAC (B)
200VAC (C)
265VAC (D)
Ta : 25°C

V3 : +12V

Iout : 0% (FL1)

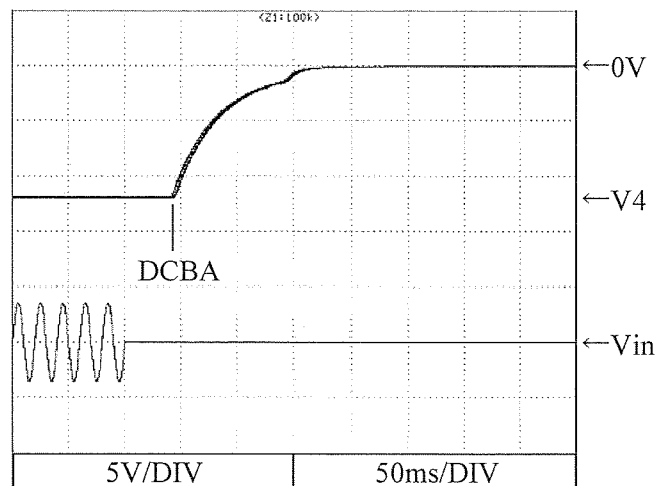
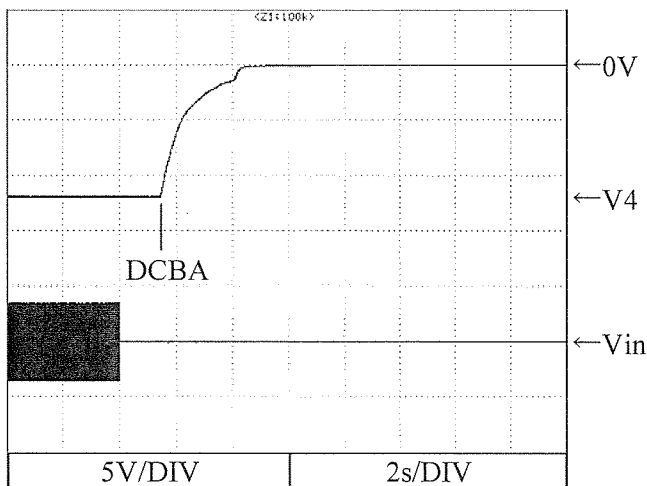
Iout : 100% (FL4)



V2 : -12V

Iout : 0% (FL1)

Iout : 100% (FL2)



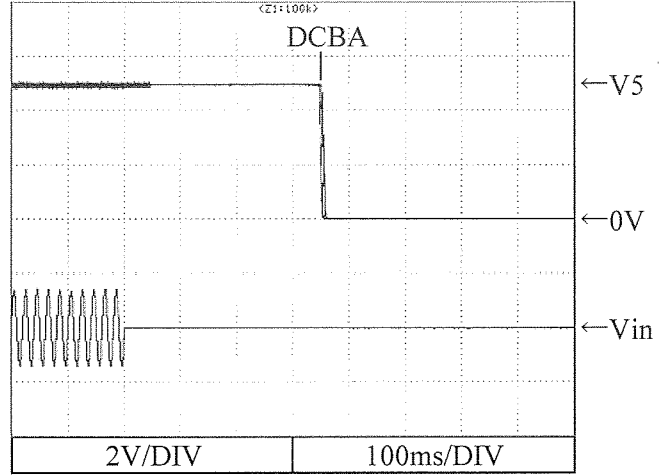
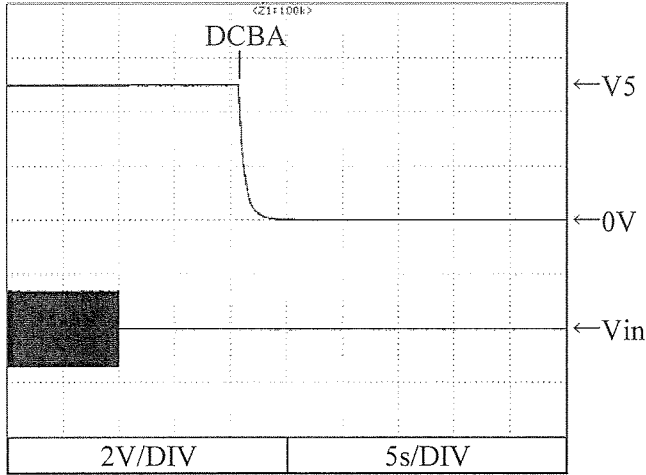
2.6 出力立ち下がり特性
Output fall characteristics

Conditions Vin : 85VAC (A)
100VAC (B)
200VAC (C)
265VAC (D)
Ta : 25°C

V5 : +5VSB

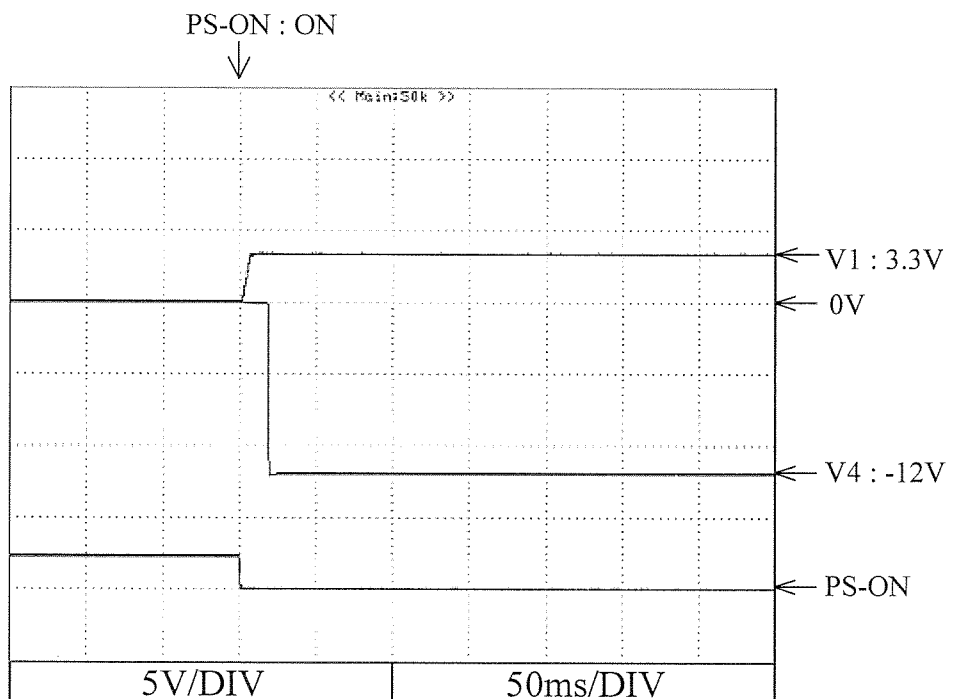
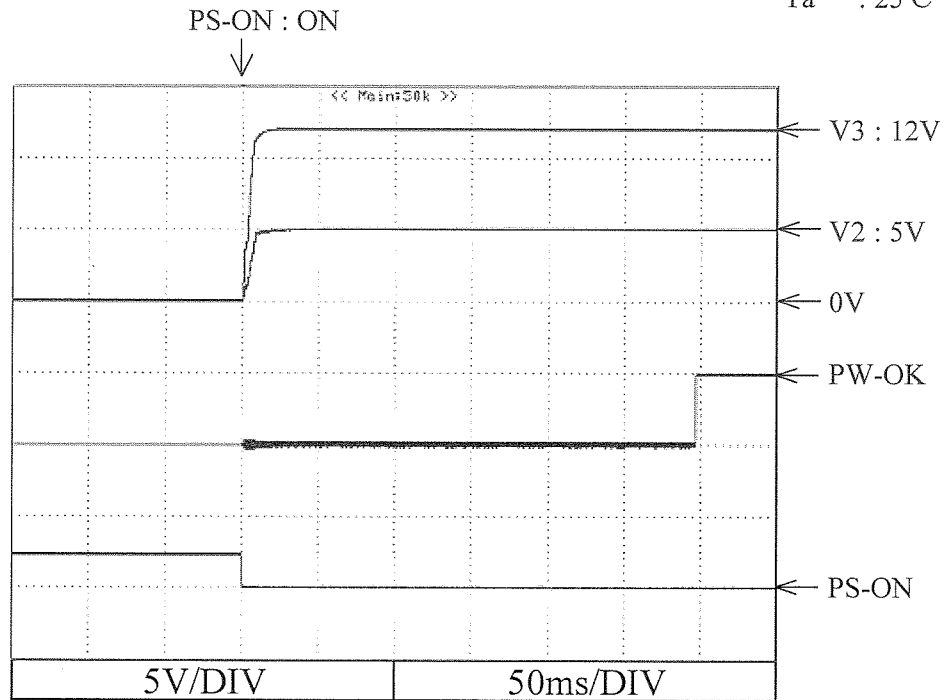
Iout : 0% (FL1)

Iout : 100% (FL2)



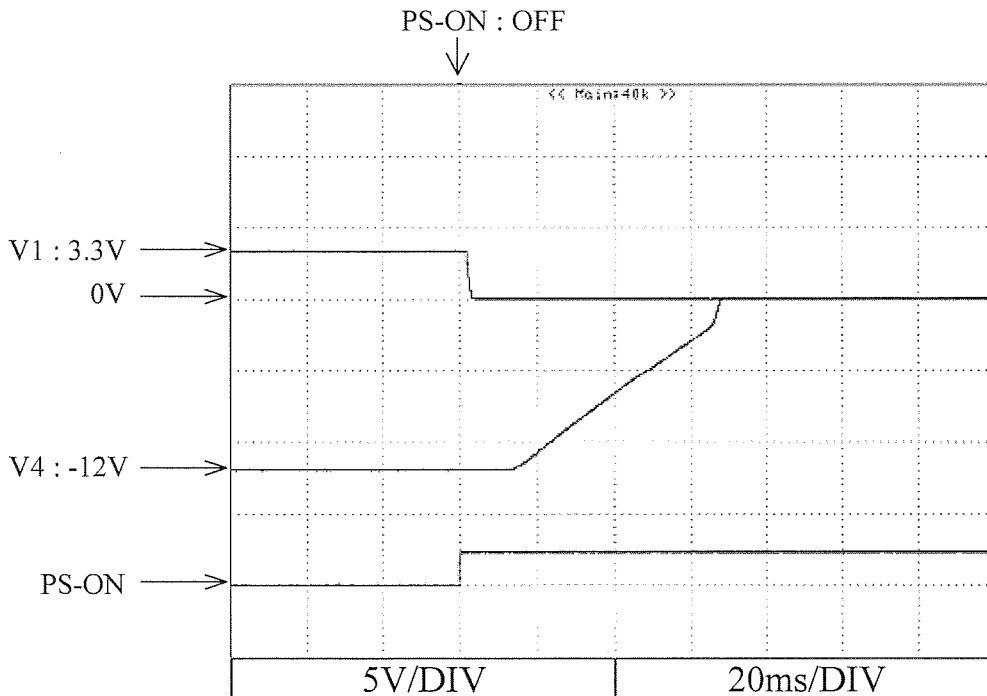
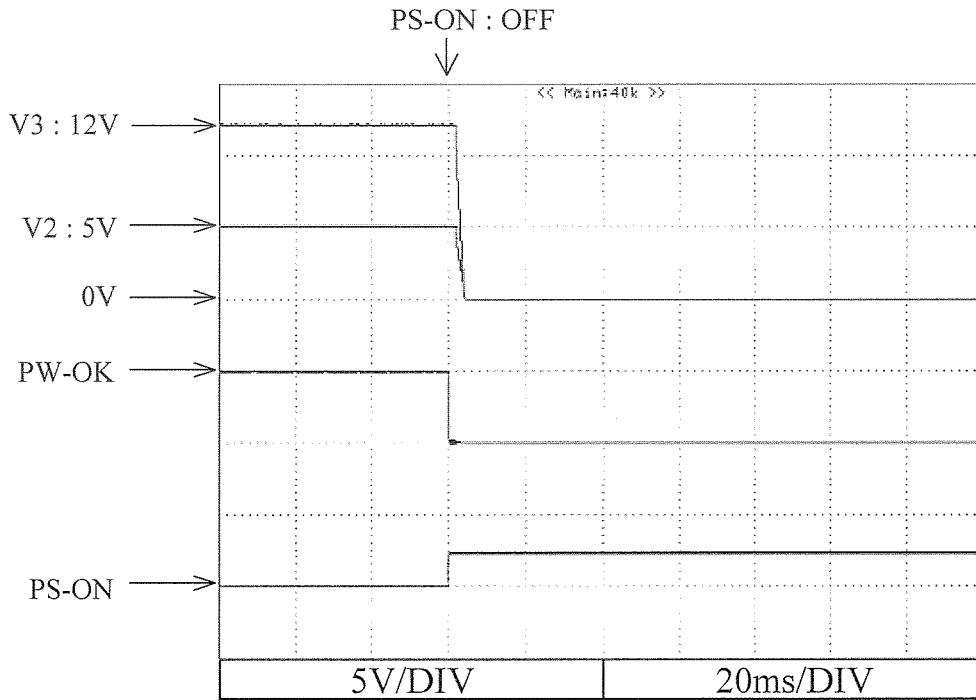
2.7 ON/OFFコントロール時出力立ち上がり特性
Output rise characteristics with ON/OFF Control

Conditions Vin : 100VAC
Iout : 100% (FL5)
Ta : 25°C



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

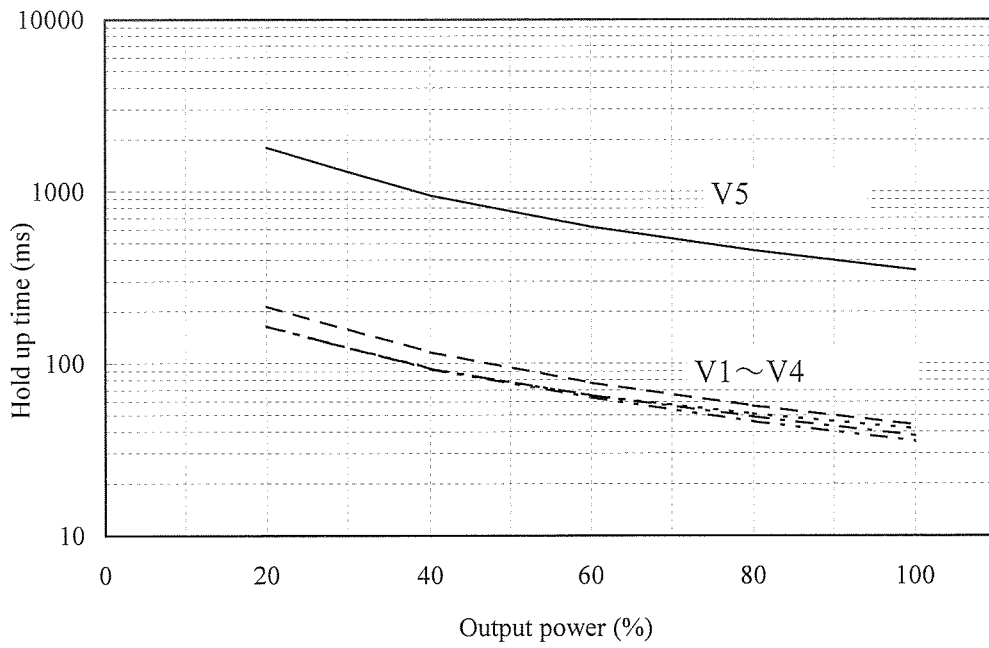
Conditions Vin : 100VAC
Iout : 100% (FL5)
Ta : 25°C



2.9 出力保持時間特性

Hold up time characteristics

Conditions V1 : 3.3V : FL2
 V2 : 5V : FL3 - - - - -
 V3 : 12V : FL4 - - - - -
 V4 : -12V : FL2 - - - - -
 V5 : 5V : FL2 ————
 Vin : 100VAC
 Ta : 25°C

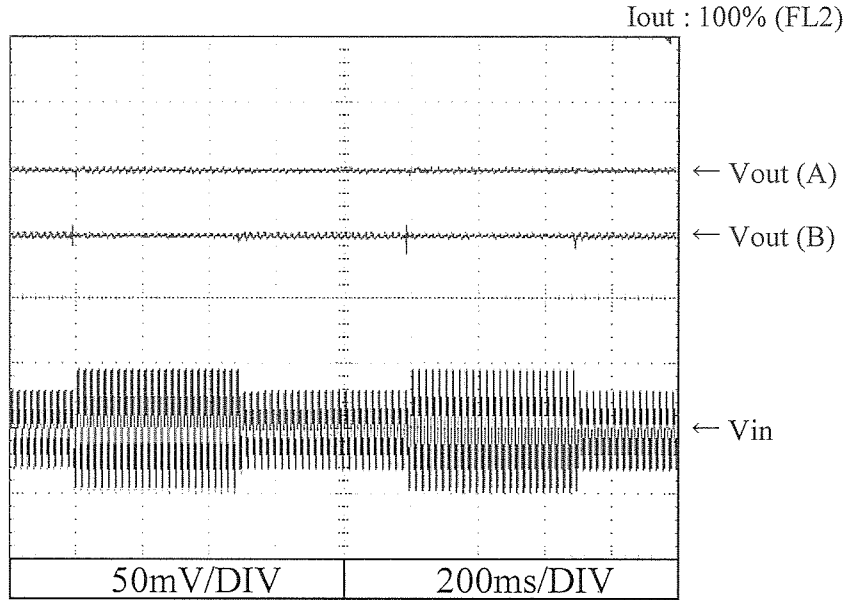


2.10 過渡応答 (入力急変) 特性

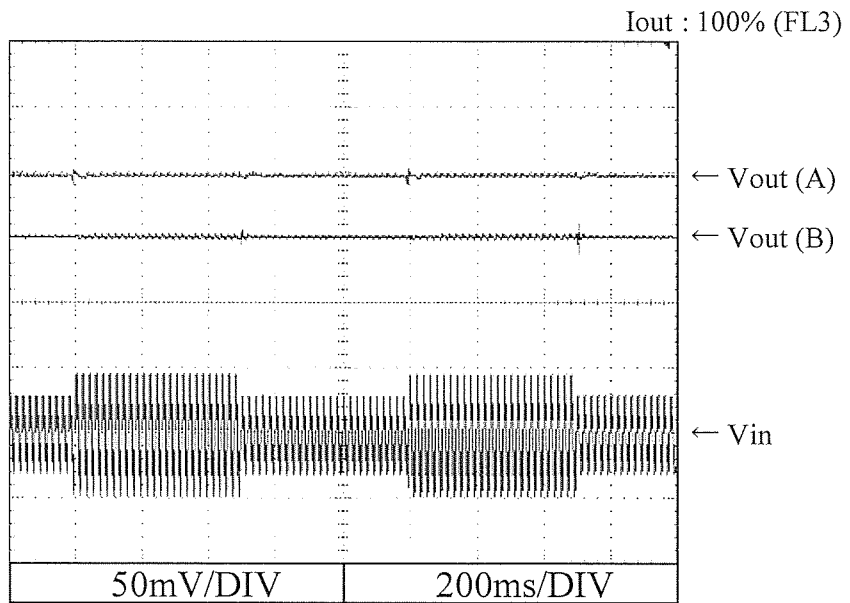
Dynamic line response characteristics

Conditions Vin : 85VAC \longleftrightarrow 132VAC (A)
170VAC \longleftrightarrow 265VAC (B)
Ta : 25°C

V1 : +3.3V



V2 : +5V

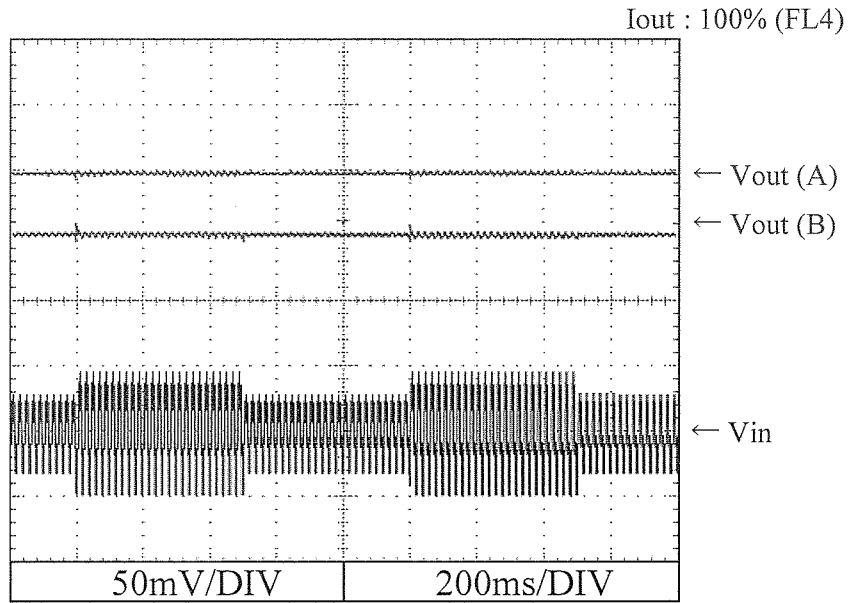


2.10 過渡応答 (入力急変) 特性

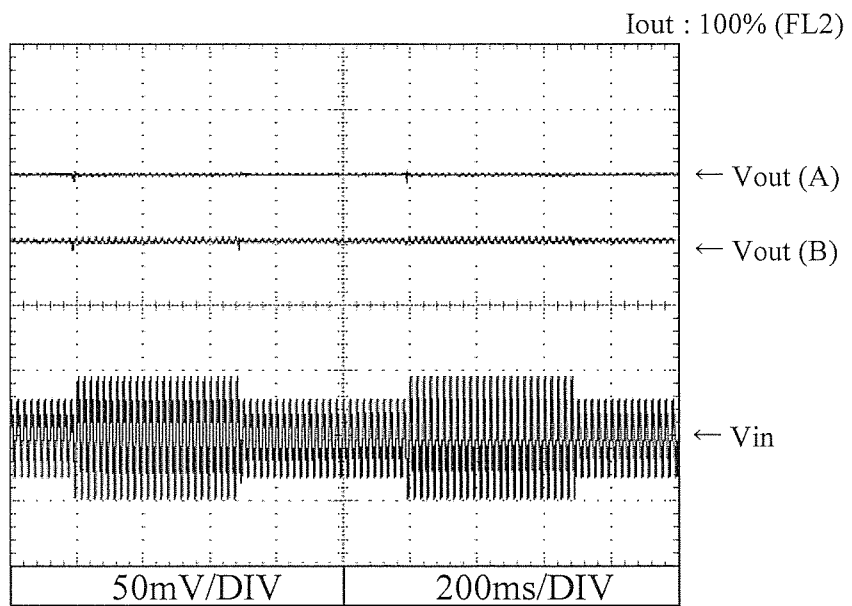
Dynamic line response characteristics

Conditions Vin : 85VAC \longleftrightarrow 132VAC (A)
 170VAC \longleftrightarrow 265VAC (B)
 Ta : 25°C

V3 : +12V



V4 : -12V



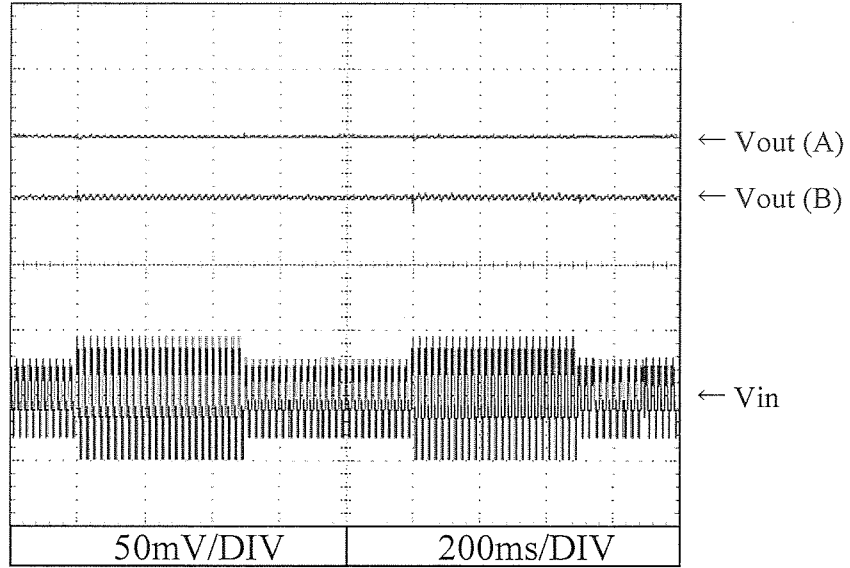
2.10 過渡応答（入力急変）特性

Dynamic line response characteristics

Conditions Vin : 85VAC \longleftrightarrow 132VAC (A)
170VAC \longleftrightarrow 265VAC (B)
Ta : 25°C

V5 : +5VSB

Iout : 100% (FL2)

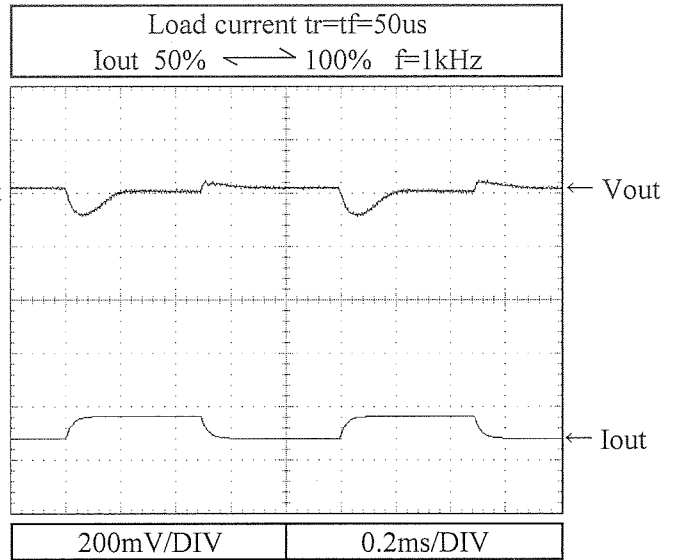
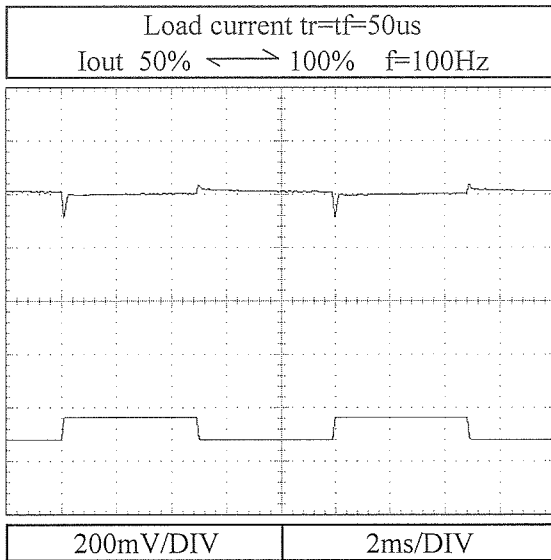


2.11 過渡応答（負荷急変）特性
Dynamic load response characteristics

Conditions Vin : 100VAC
Ta : 25°C

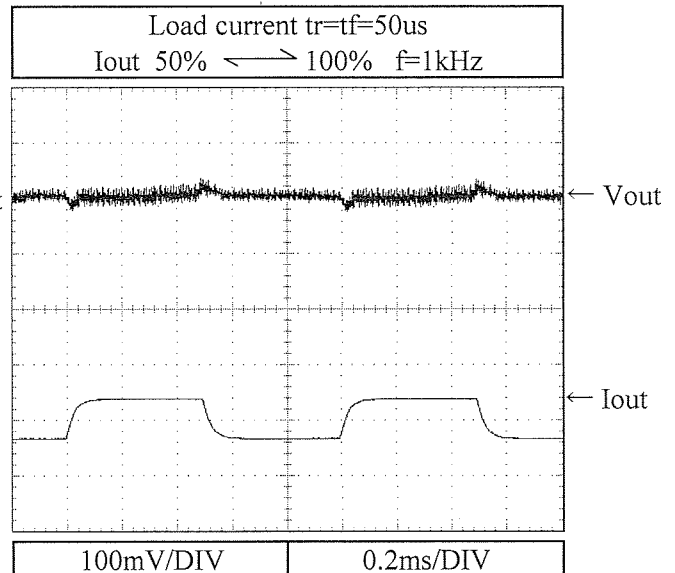
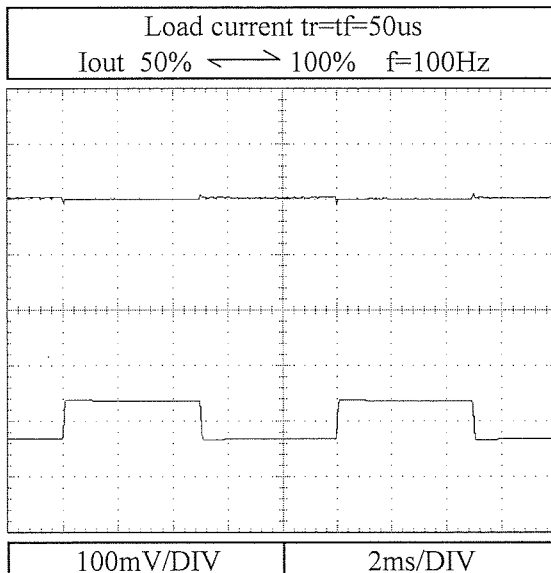
V1 : +3.3V

Iout : FL2



V2 : +5V

Iout : FL3

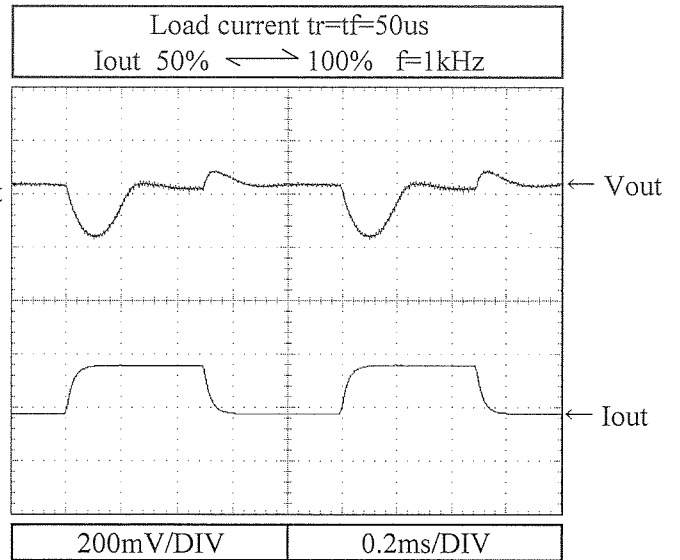
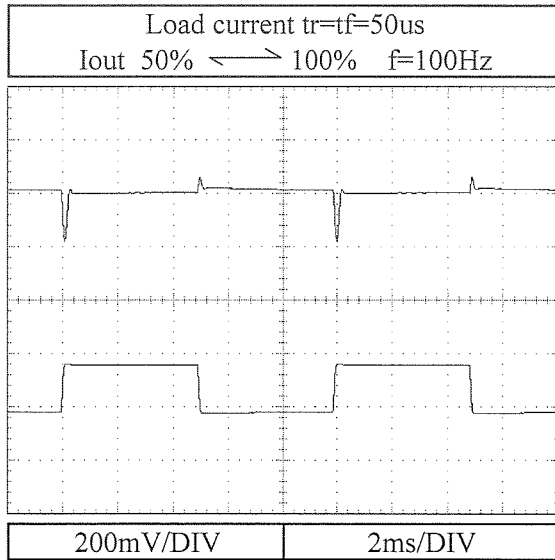


2.11 過渡応答（負荷急変）特性
Dynamic load response characteristics

Conditions Vin : 100VAC
Ta : 25°C

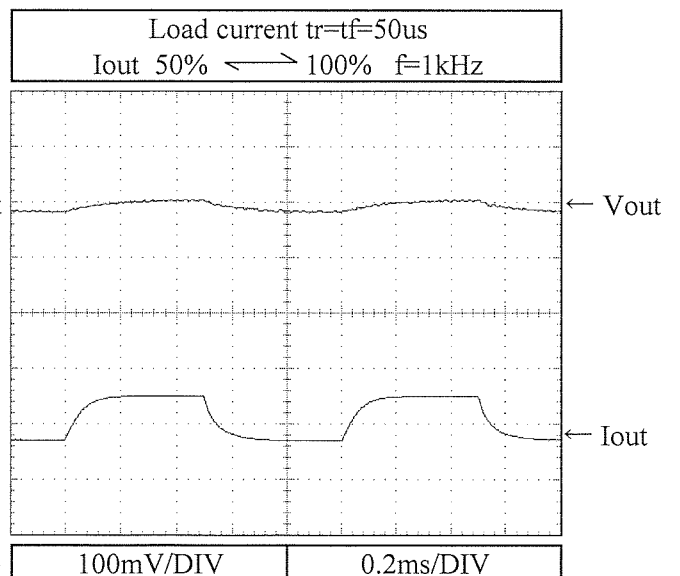
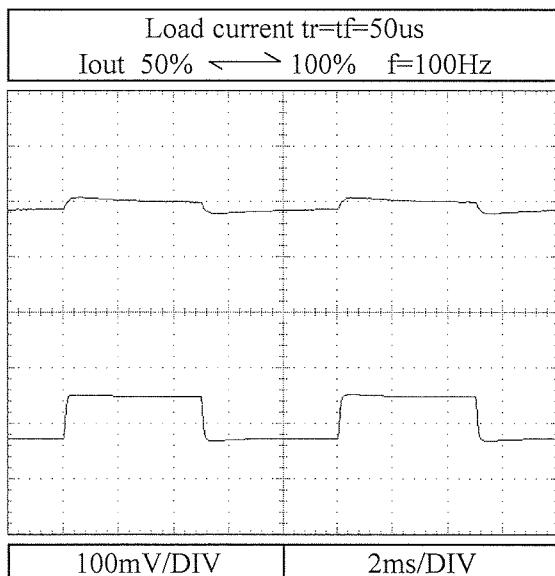
V3 : +12V

Iout : FL4



V4 : -12V

Iout : FL2

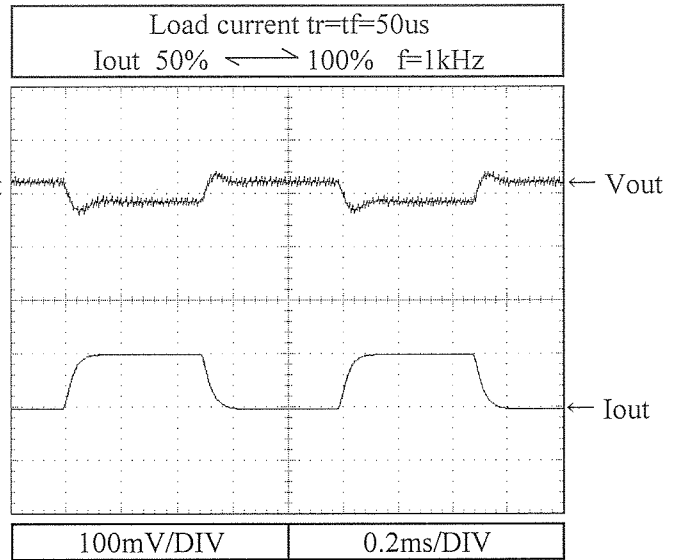
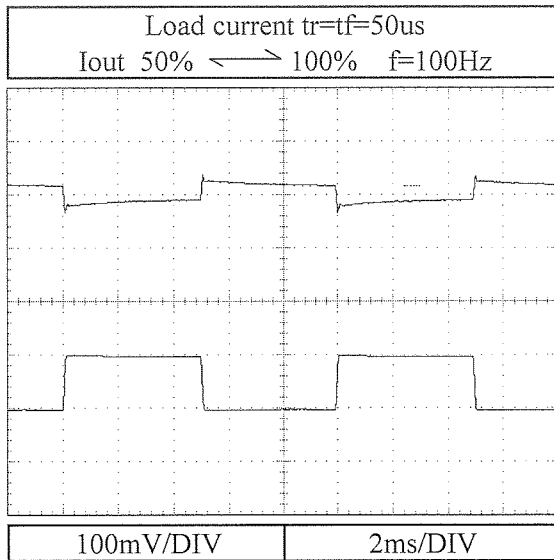


2.11 過渡応答（負荷急変）特性
Dynamic load response characteristics

Conditions Vin : 100VAC
Ta : 25°C

V5 : +5VSB

Iout : FL2



2.12 入力電圧瞬停特性

Response to brown out characteristics

Conditions

Ta : 25°C

V1 : +3.3V

Vin : 100VAC

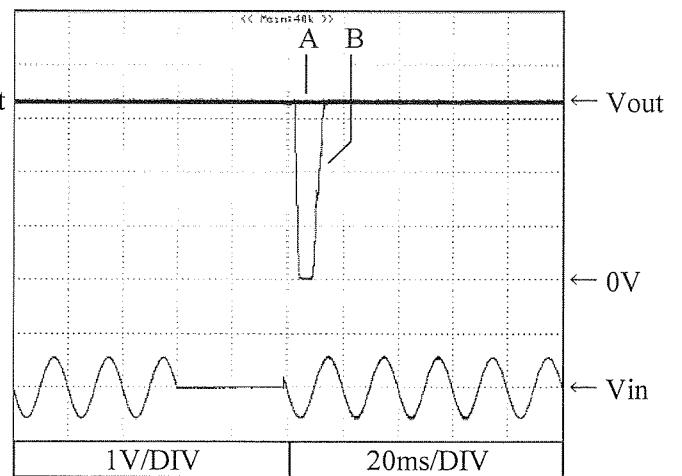
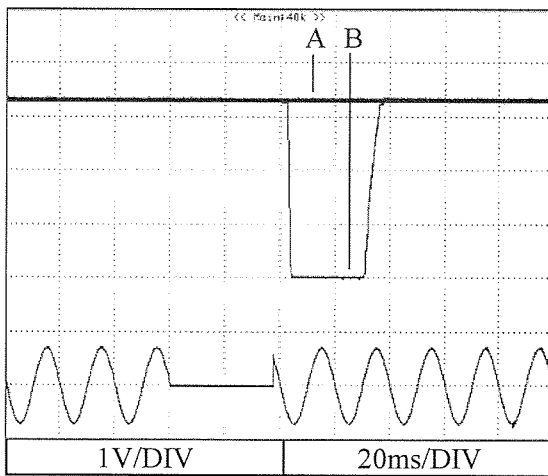
Iout : 100% (FL2)

Brown out time : A= 36ms
B= 37ms

Vin : 200VAC

Iout : 100% (FL2)

Brown out time : A= 38ms
B= 39ms



V2 : +5V

Vin : 100VAC

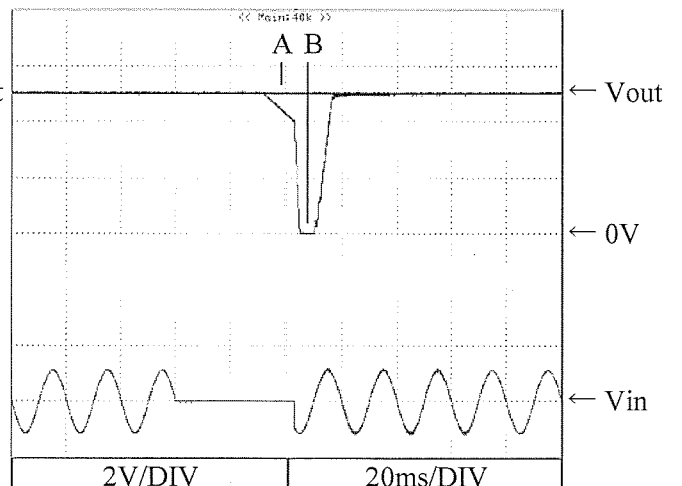
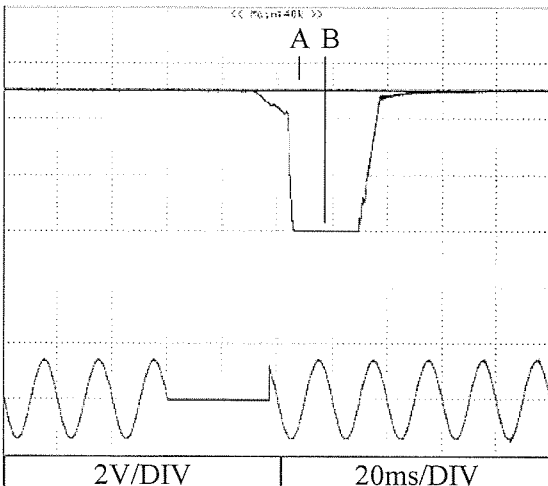
Iout : 100% (FL3)

Brown out time : A= 36ms
B= 37ms

Vin : 200VAC

Iout : 100% (FL3)

Brown out time : A= 38ms
B= 39ms



2.12 入力電圧瞬停特性

Response to brown out characteristics

Conditions

Ta : 25°C

V1 : +12V

Vin : 100VAC

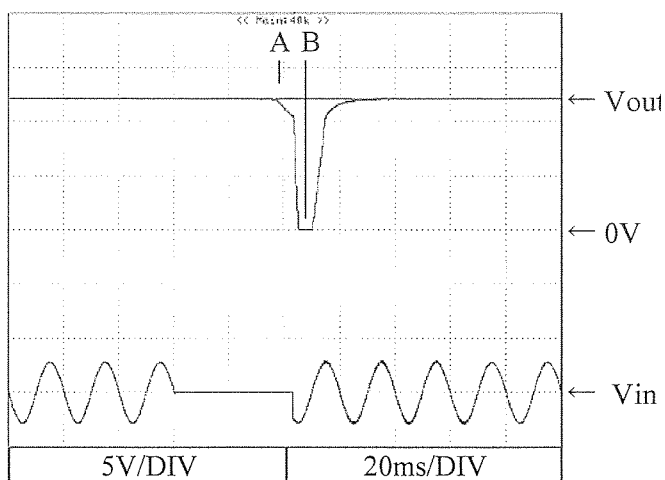
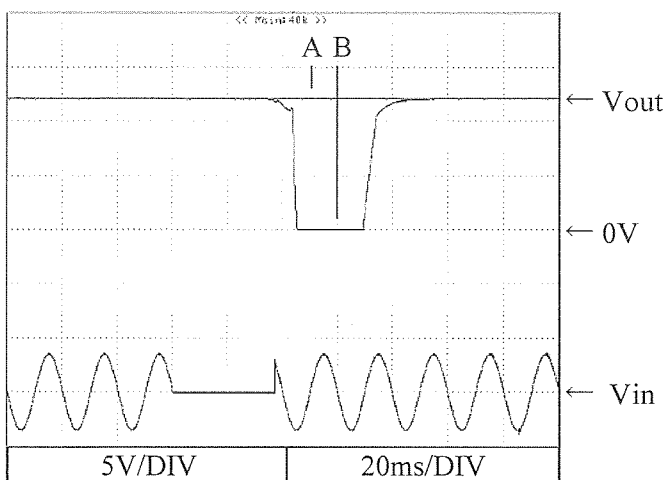
Iout : 100% (FL4)

Brown out time : A= 36ms
B= 37ms

Vin : 200VAC

Iout : 100% (FL4)

Brown out time : A= 38ms
B= 39ms



V4 : -12V

Vin : 100VAC

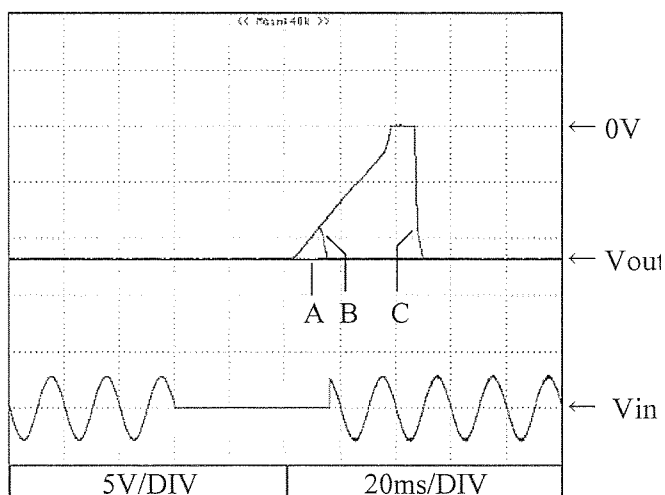
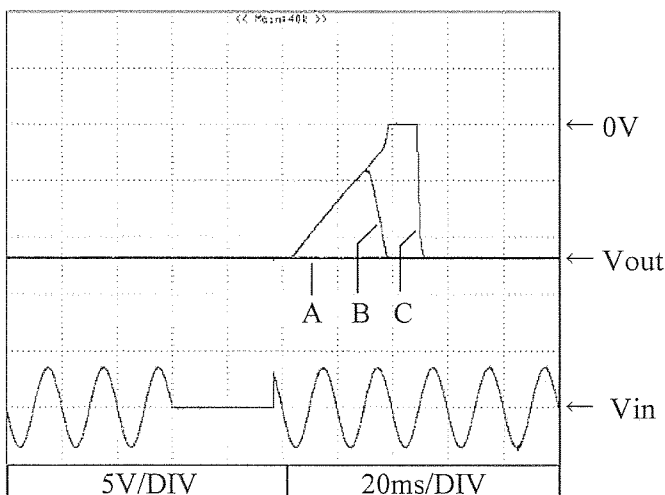
Iout : 100% (FL2)

Brown out time : A= 36ms
B= 37ms
C= 45ms

Vin : 200VAC

Iout : 100% (FL2)

Brown out time : A= 40ms
B= 41ms
C= 56ms



2.12 入力電圧瞬停特性

Response to brown out characteristics

Conditions

Ta : 25°C

V5 : +5VSB

Vin : 100VAC

Iout : 100% (FL2)

Brown out time : A= 346ms

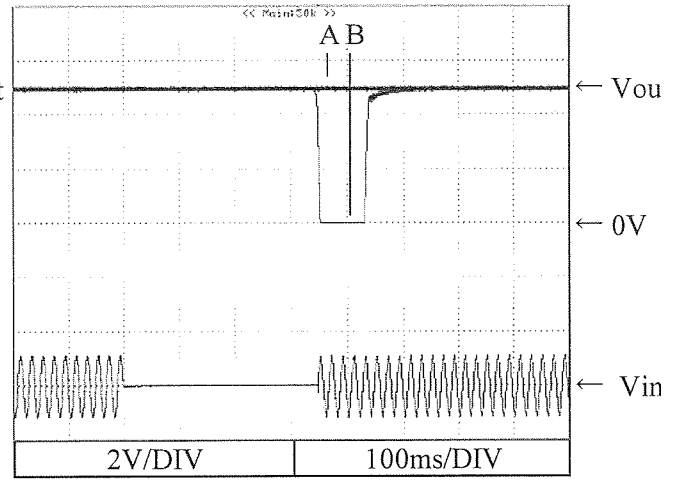
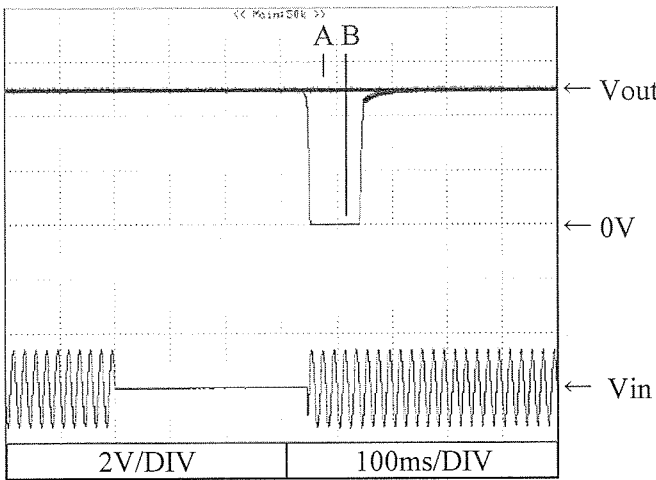
B= 347ms

Vin : 200VAC

Iout : 100% (FL2)

Brown out time : A= 348ms

B= 349ms



2.13 入力サージ電流（突入電流）特性

Inrush current waveform

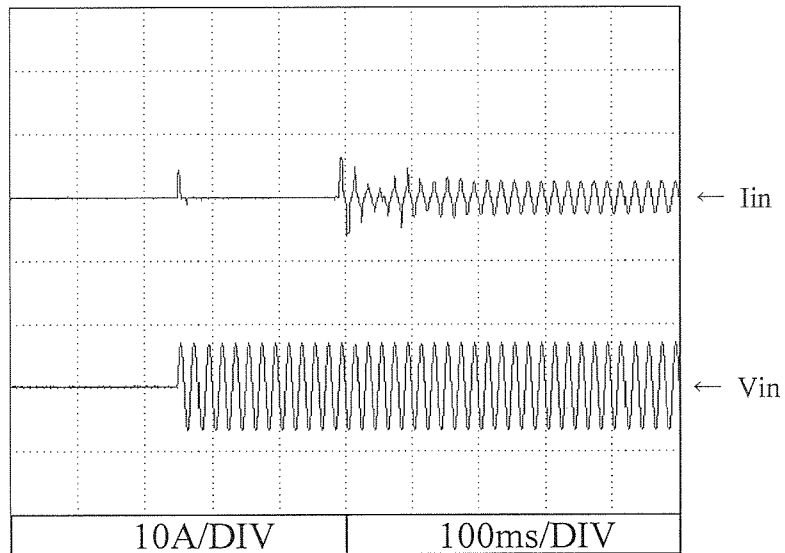
Conditions

Vin : 100VAC

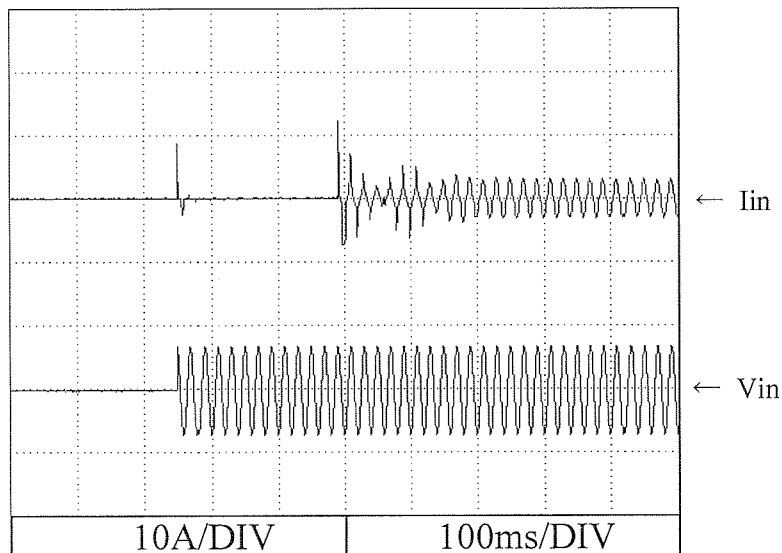
Iout : 100% (FL5)

Ta : 25°C

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

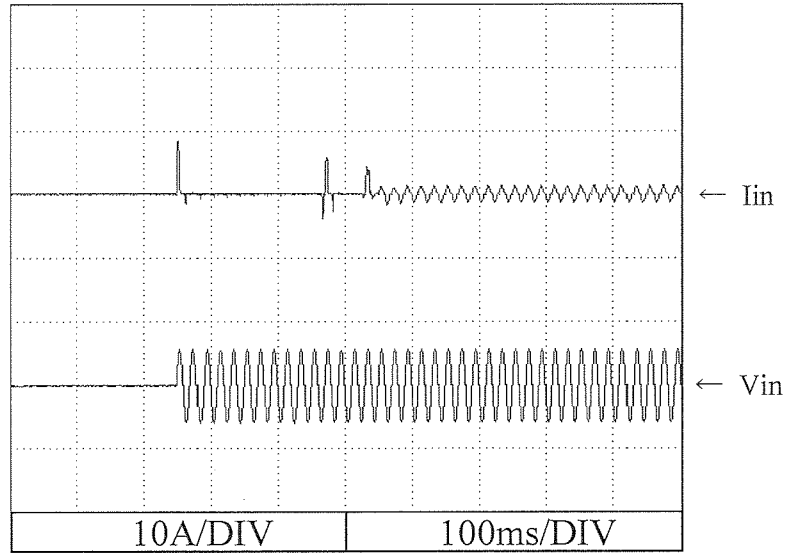
Conditions

Vin : 200VAC

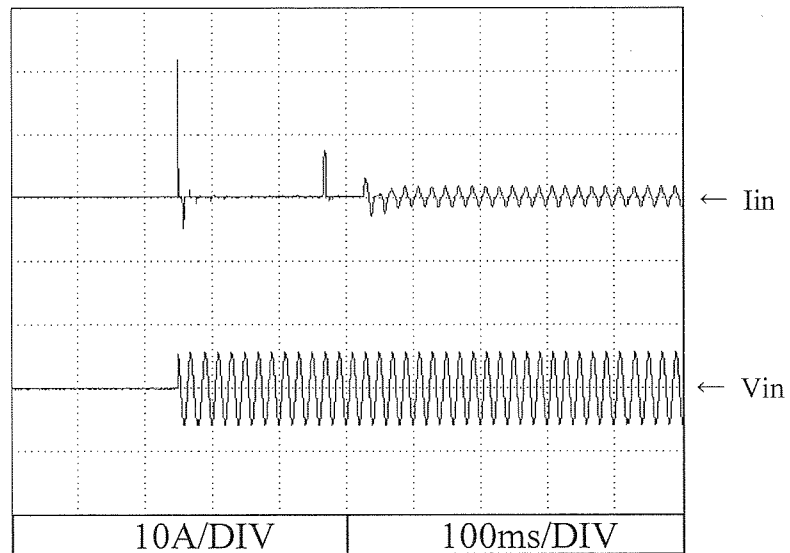
Iout : 100% (FL5)

Ta : 25°C

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



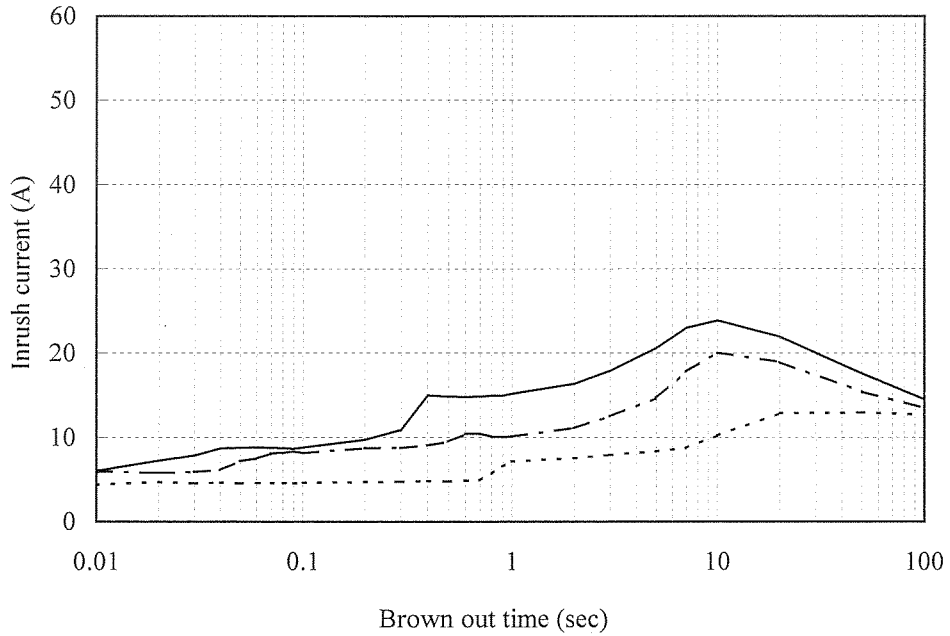
Switch on phase angle
of input AC voltage
 $\phi = 90^\circ$



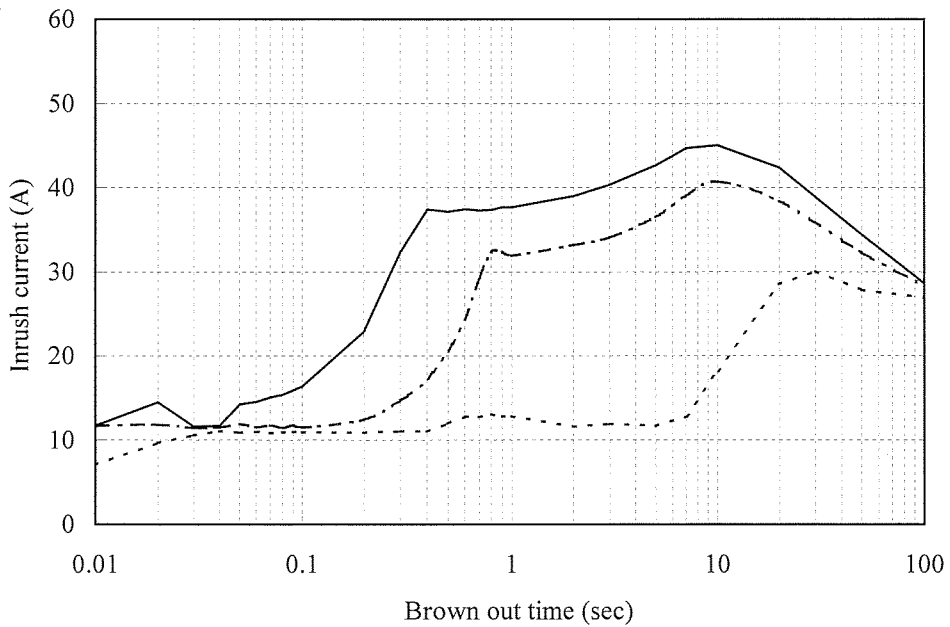
2.14 瞬停時突入電流特性
Inrush current characteristics

Conditions Iout : 0 % -----
50 % - - - - -
100 % ————
Iout(100%)=FL5
Ta : 25 °C

Vin : 100 VAC



Vin : 200 VAC



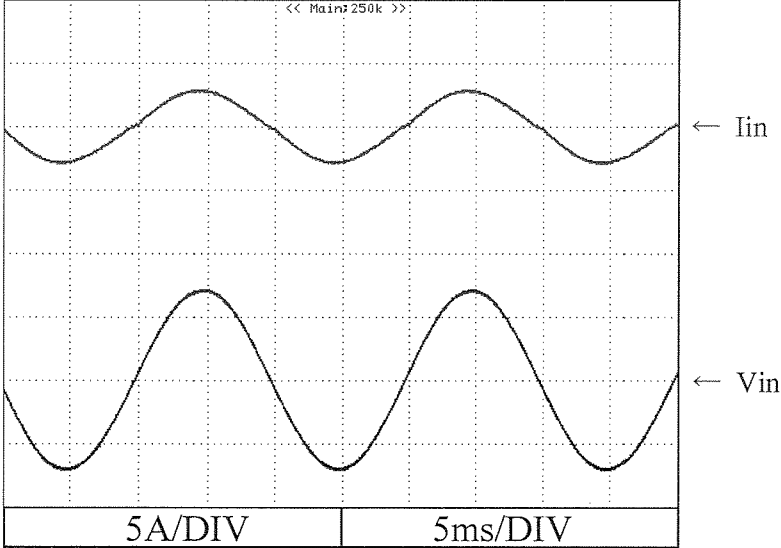
※ 上記値は、2次突入電流を含んだ値である。
Above data includes secondary inrush current.

2.15 入力電流波形

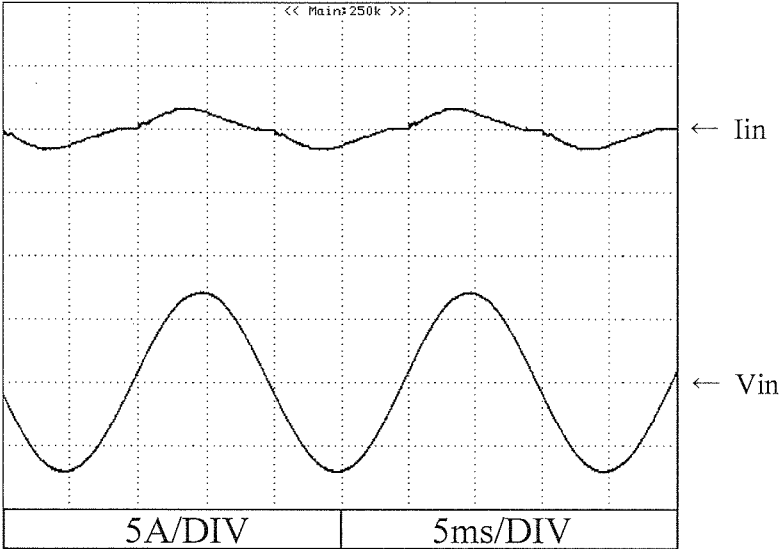
Input current waveform

Conditions Iout : 100% (FL5)
Ta : 25°C

Vin : 100 VAC



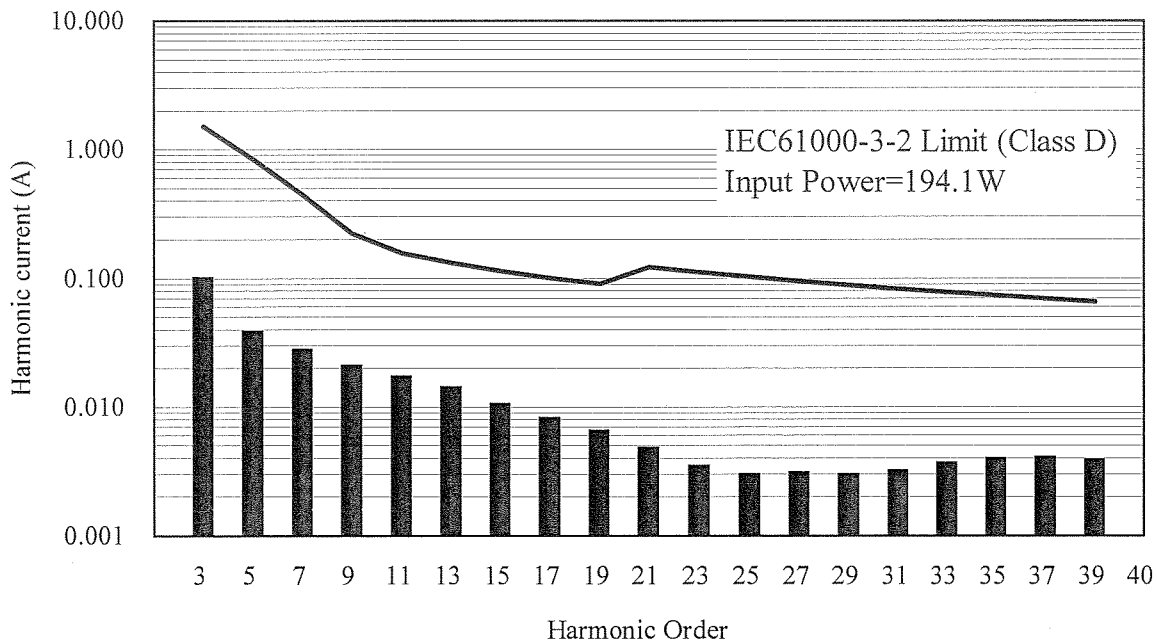
Vin : 200 VAC



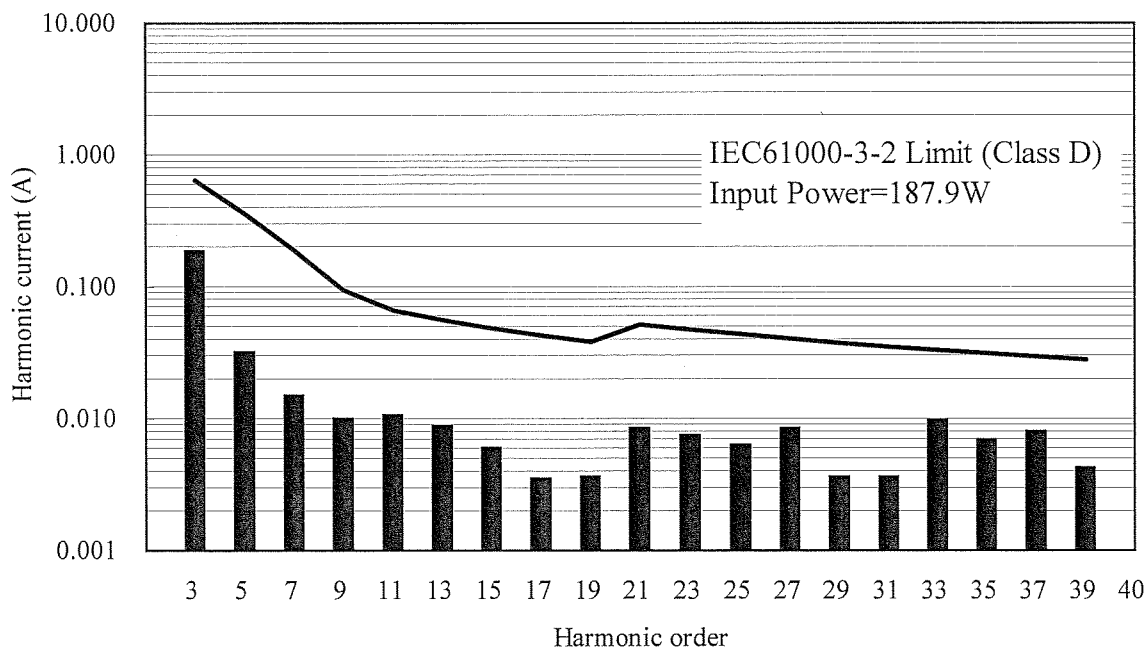
2.16 高調波成分

Input current harmonics

Conditions Vin : 100VAC
 Iout : 100% (FL2)
 Ta : 25°C

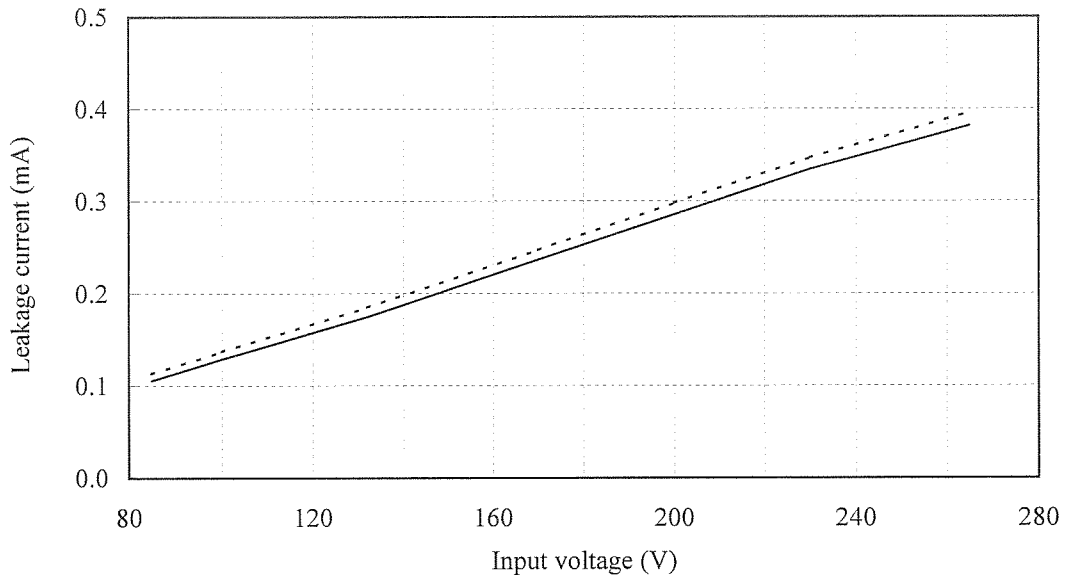


Conditions Vin : 230VAC
 Iout : 100% (FL2)
 Ta : 25°C

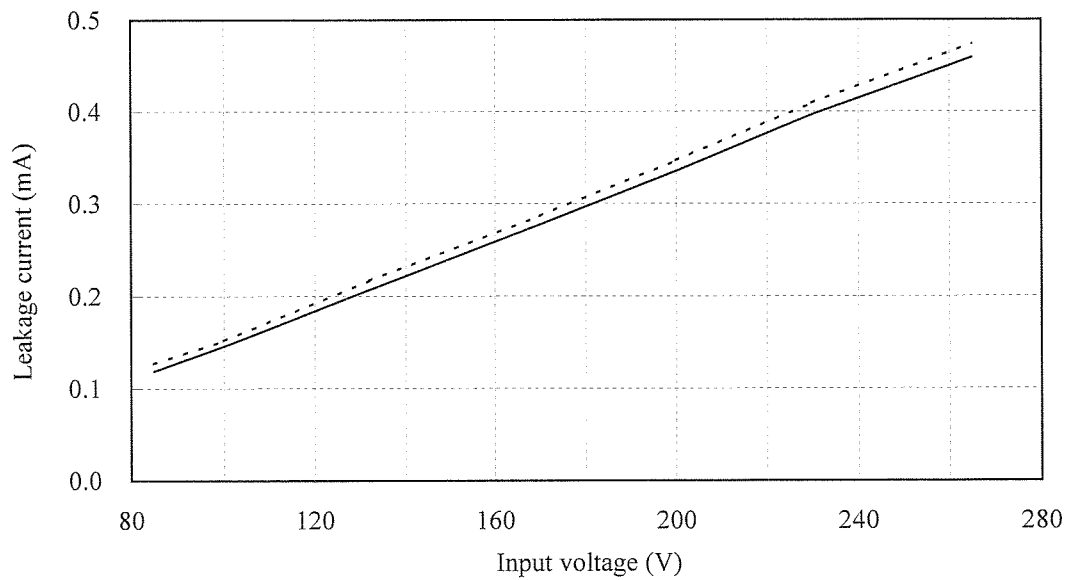


2.17 リーク電流特性
Leakage current characteristics

Conditions f : 50Hz
 Iout : 0% -----
 : 100% -----
 : Iout(100%)=FL2
 Ta : 25°C
Equipment used : MODEL 3156 (HIOKI)
 (IEC60950)



Conditions f : 60Hz
 Iout : 0% -----
 : 100% -----
 : Iout(100%)=FL2
 Ta : 25°C
Equipment used : MODEL 3156 (HIOKI)
 (IEC60950)



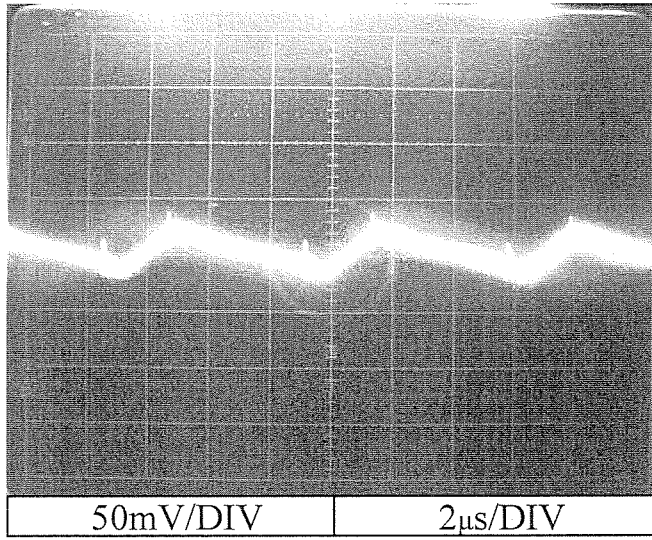
2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

Conditions V_{in} : 100VAC
 T_a : 25 °C

NORMAL MODE

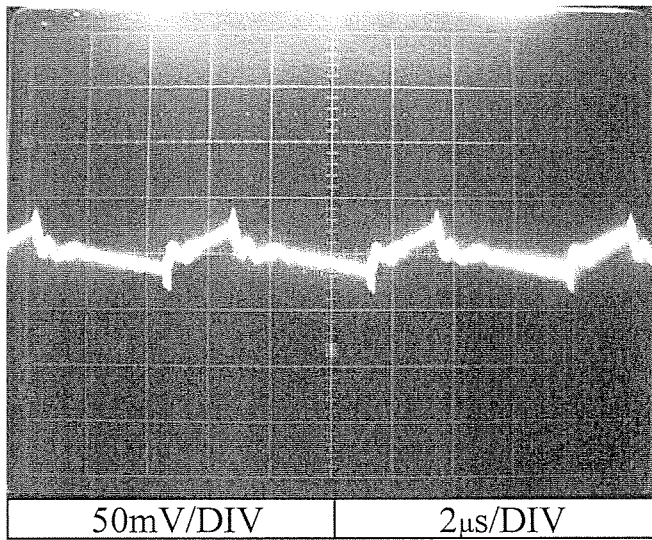
V1 : +3.3V

I_{out} : 100 % (FL2)



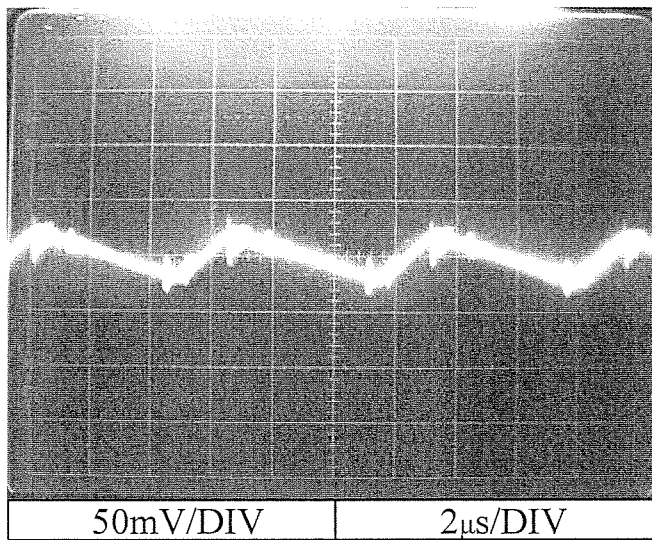
V2 : +5V

I_{out} : 100 % (FL3)



V3 : +12V

I_{out} : 100 % (FL4)



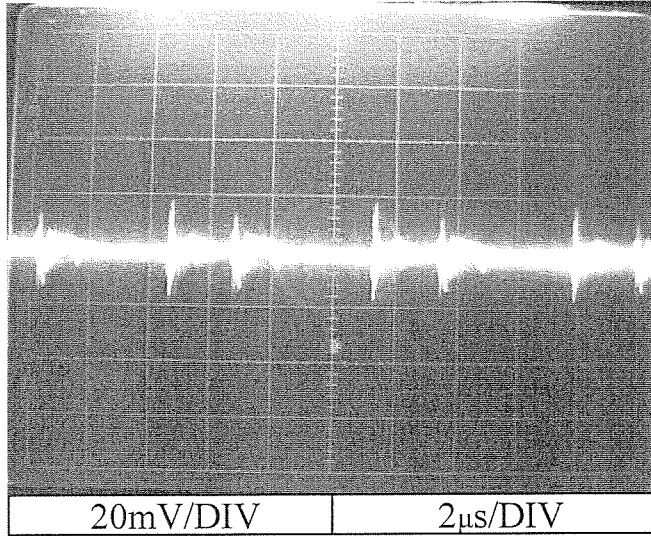
2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

Conditions V_{in} : 100VAC
 T_a : 25 °C

NORMAL MODE

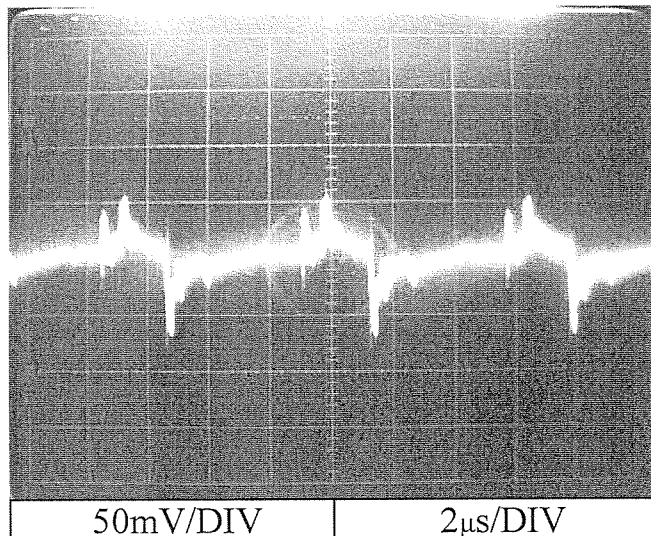
V4 : -12V

I_{out} : 100 % (FL2)



V5 : +5VSB

I_{out} : 100 % (FL2)



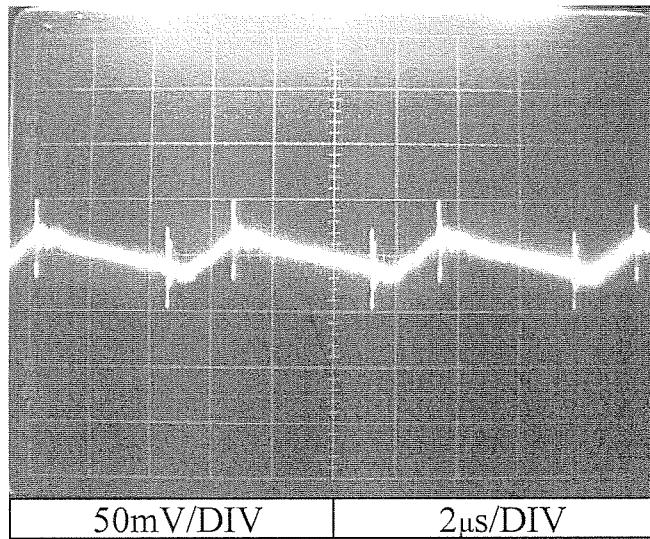
2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

Conditions V_{in} : 100VAC
 T_a : 25 °C

NORMAL + COMMON MODE

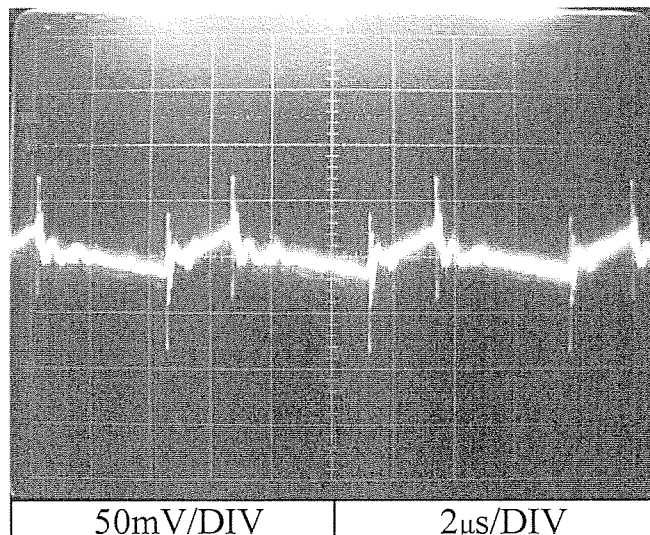
V1 : +3.3V

I_{out} : 100 % (FL2)



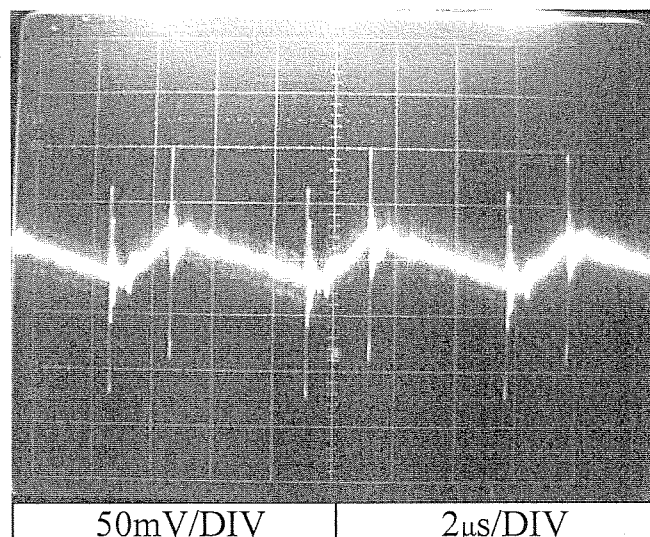
V2 : +5V

I_{out} : 100 % (FL3)



V3 : +12V

I_{out} : 100 % (FL4)



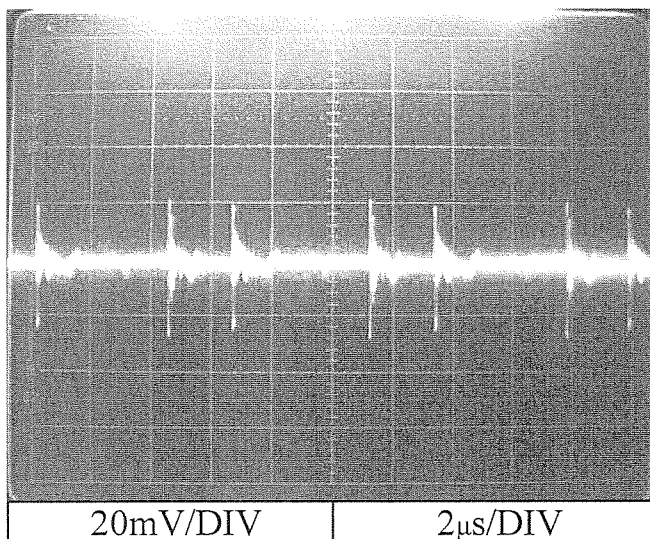
2.18 出力リップル、ノイズ波形
Output ripple and noise waveform

Conditions V_{in} : 100VAC
 T_a : 25 °C

NORMAL + COMMON MODE

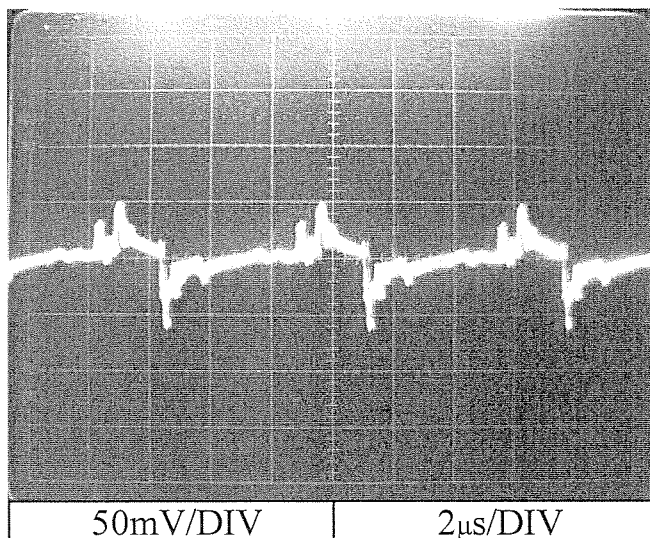
V4 : -12V

I_{out} : 100 % (FL2)



V5 : +5VSB

I_{out} : 100 % (FL2)

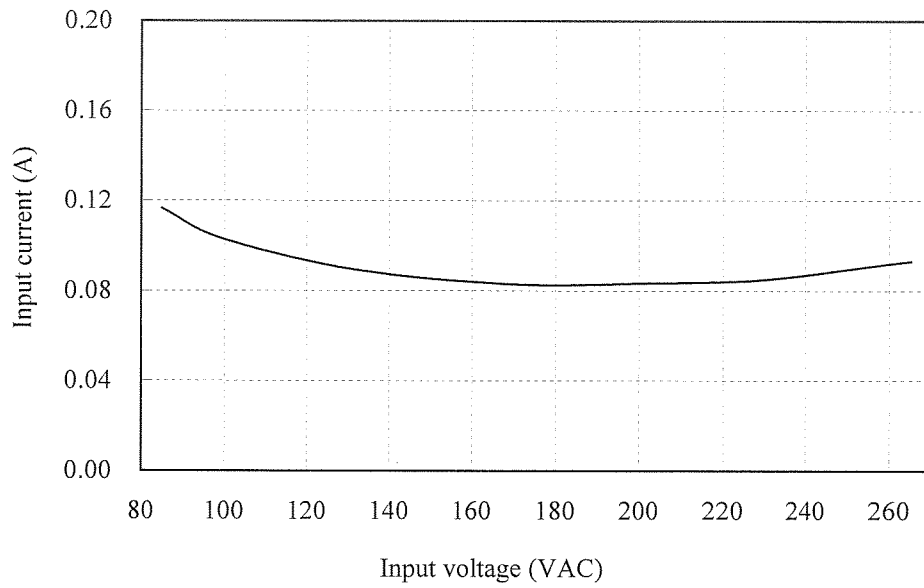


2.19 スタンバイ電流特性

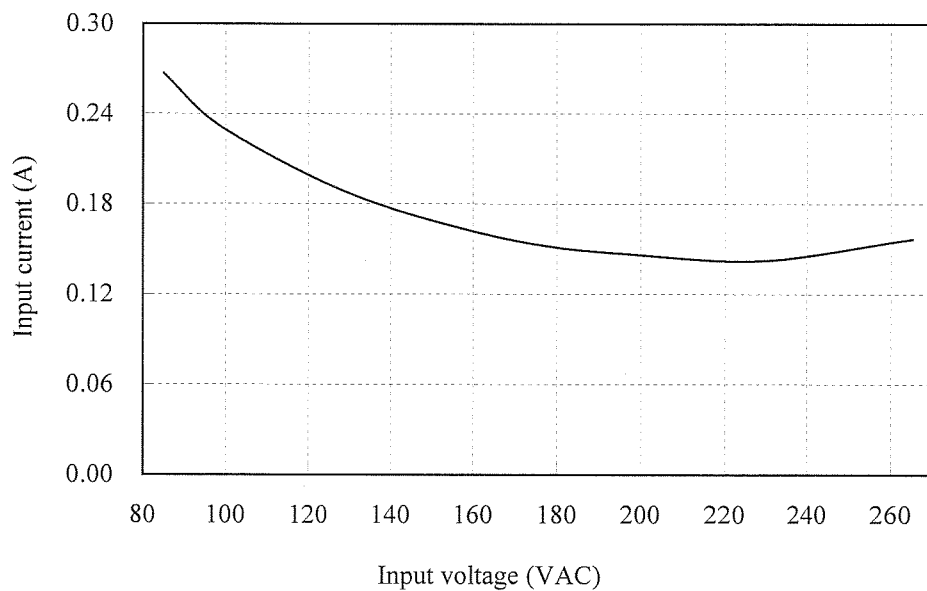
Stand by current characteristics

Condition Ta: 25 °C

Control ON
Io = FL1 (All output CH=0A)



Control ON
Io =FL1 : Only V5 Output 2A

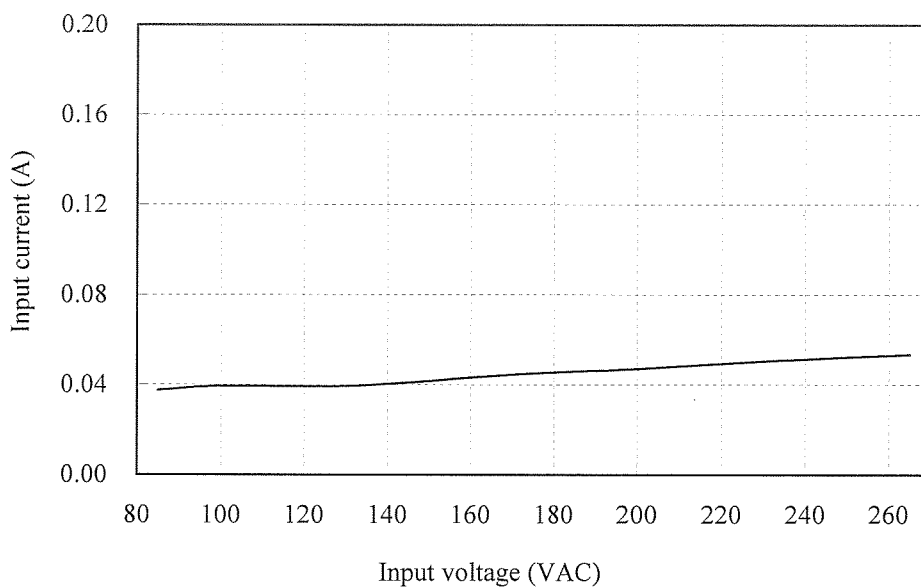


2.19 スタンバイ電流特性

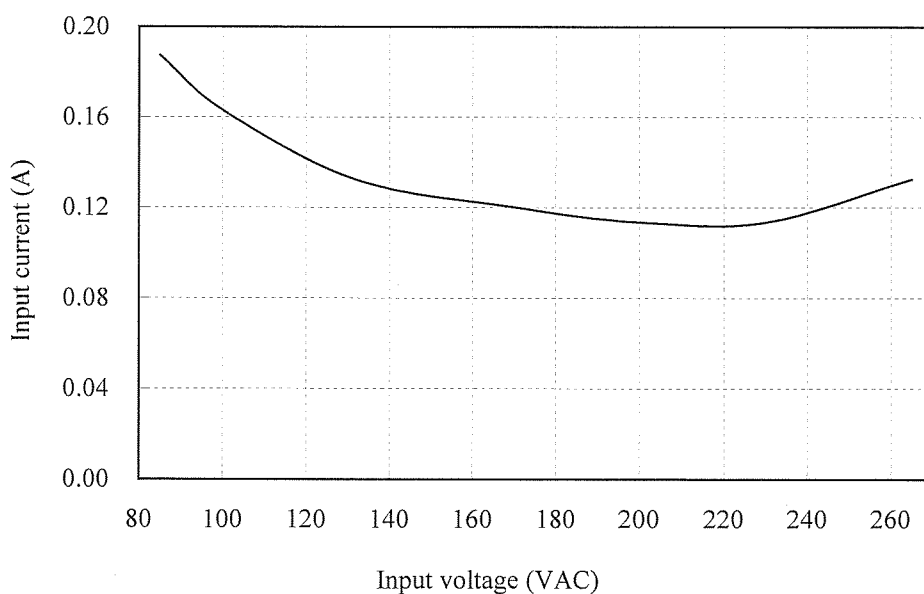
Stand by current characteristics

Condition Ta: 25 °C

Control OFF (No output except V5)
Io = FL1 (All output CH=0A)



Control OFF (No output except V5)
Io =FL1 : Only V5 Output 2A



2.20 EMI特性

Electro-Magnetic Interference characteristics

Conditions Vin : 100VAC
Iout : 100% (FL4)
Ta : 25°C

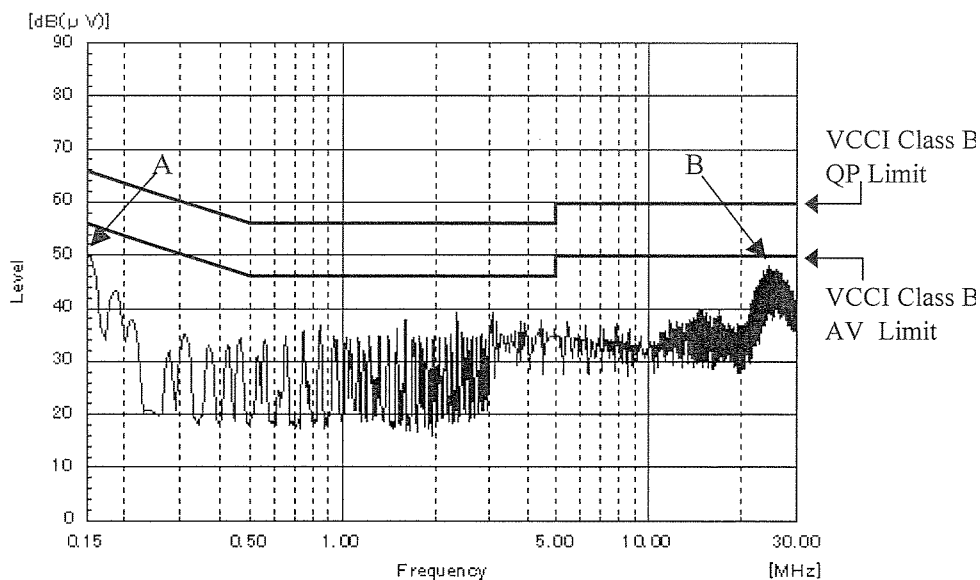
雑音端子電圧

Conducted Emission

Phase : L

Point A (155.0kHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	65.7	49.6
AV	55.7	48.7

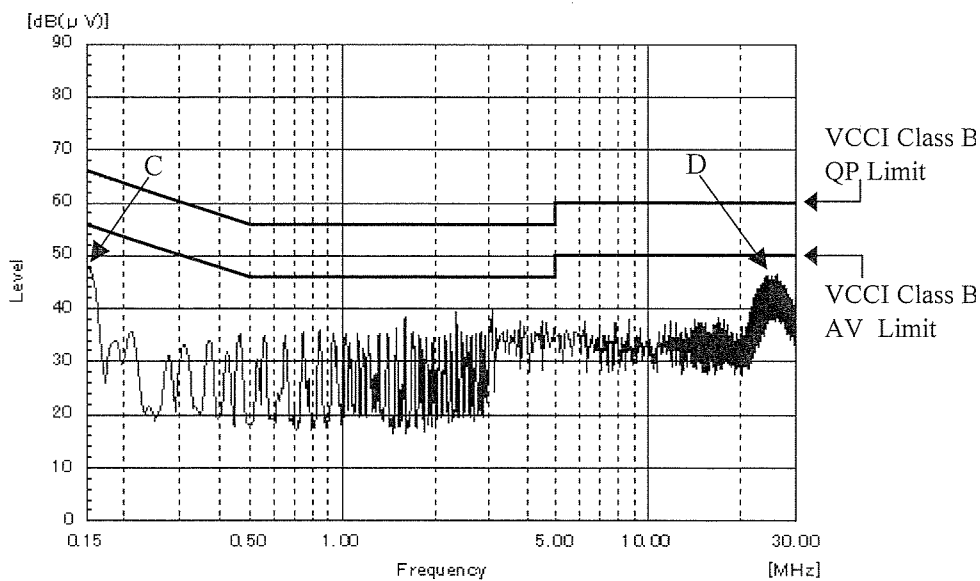
Point B (24.7MHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	60.0	45.6
AV	50.0	43.8



Phase : N

Point C (155.0kHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	65.7	47.5
AV	55.7	47.3

Point D (26.1MHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
QP	60.0	43.5
AV	50.0	42.0



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 the same as VCCI Class B.

2.20 EMI特性

Electro-Magnetic Interference characteristics

Conditions Vin : 230VAC
Iout : 100% (FL4)
Ta : 25°C

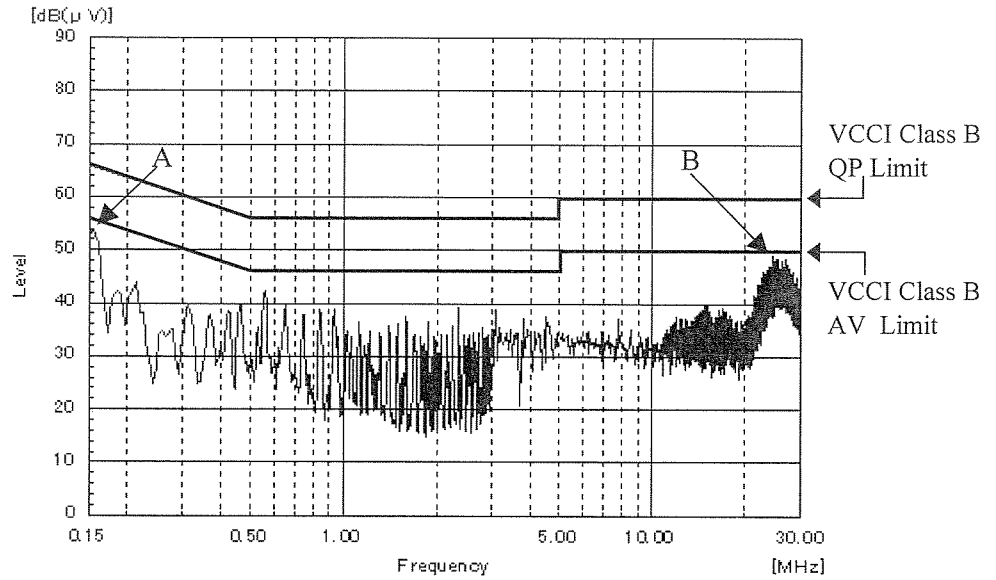
雑音端子電圧

Conducted Emission

Phase : L

Point A (155.0kHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
Data		
QP	65.7	50.4
AV	55.7	48.0

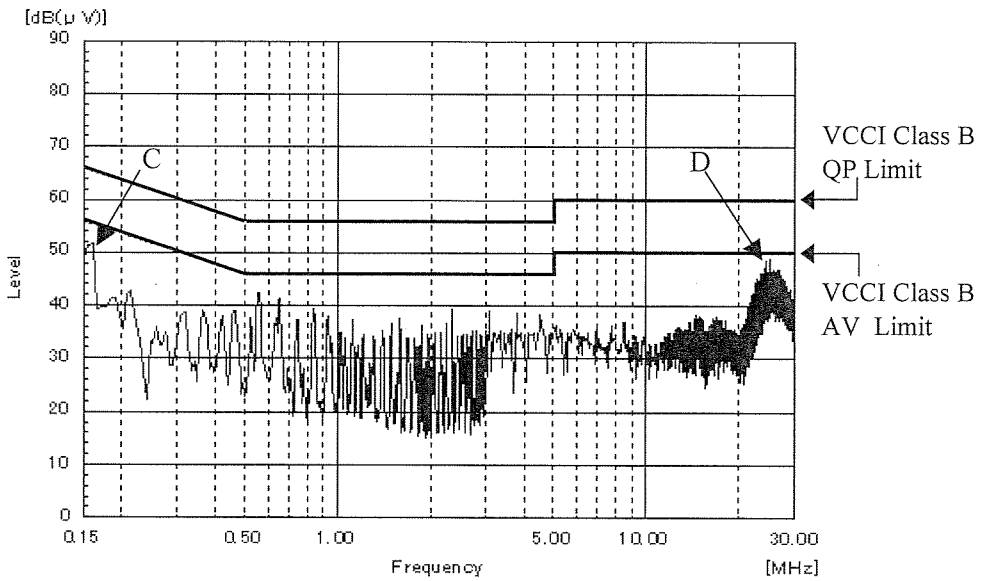
Point B (24.7MHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
Data		
QP	60.0	45.9
AV	50.0	43.6



Phase : N

Point C (155.0kHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
Data		
QP	65.7	49.5
AV	55.7	46.1

Point D (25.1MHz)		
Ref.	Limit (dBuV)	Measure (dBuV)
Data		
QP	60.0	44.7
AV	50.0	41.8



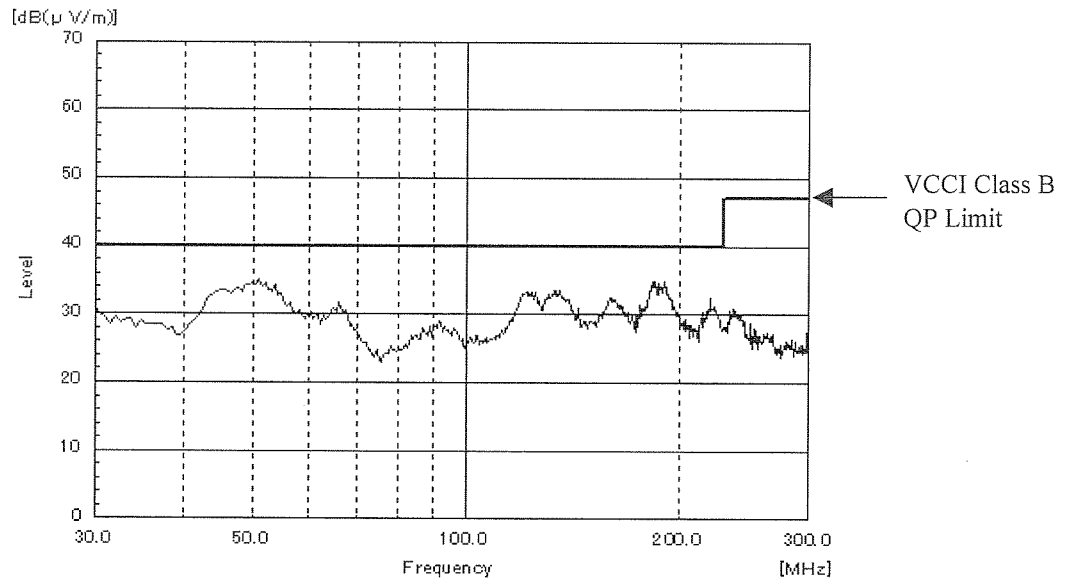
EN55011-B, EN55022-Bの限度値はVCCI Class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are the same as VCCI Class B.

2.20 EMI特性
Electro-Magnetic Interference characteristics

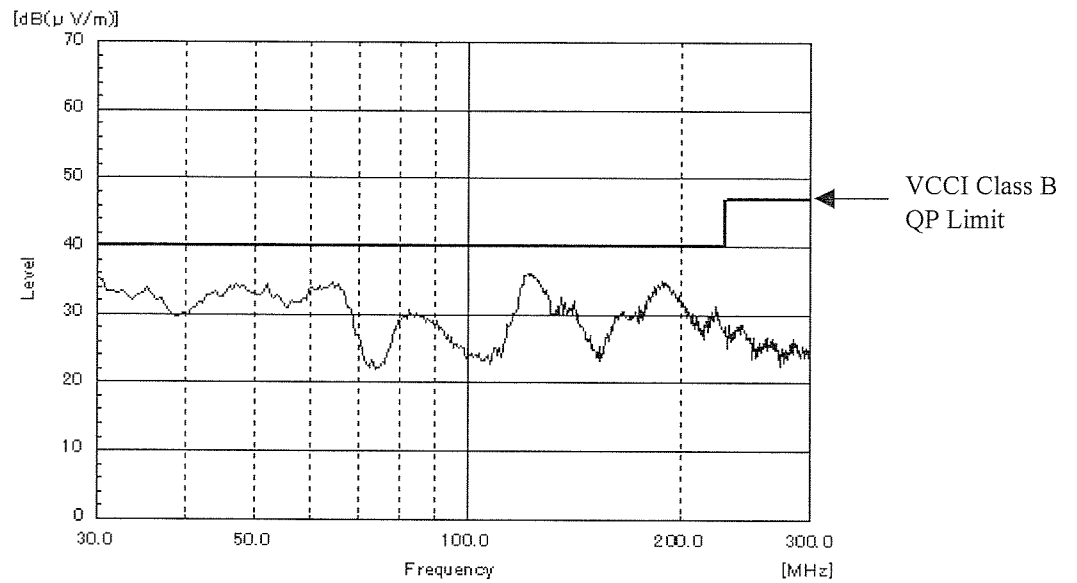
Conditions Vin : 100VAC
Iout : 100% (FL4)
Ta : 25°C

雑音電界強度
Radiated Emission

HORIZONTAL:



VERTICAL:



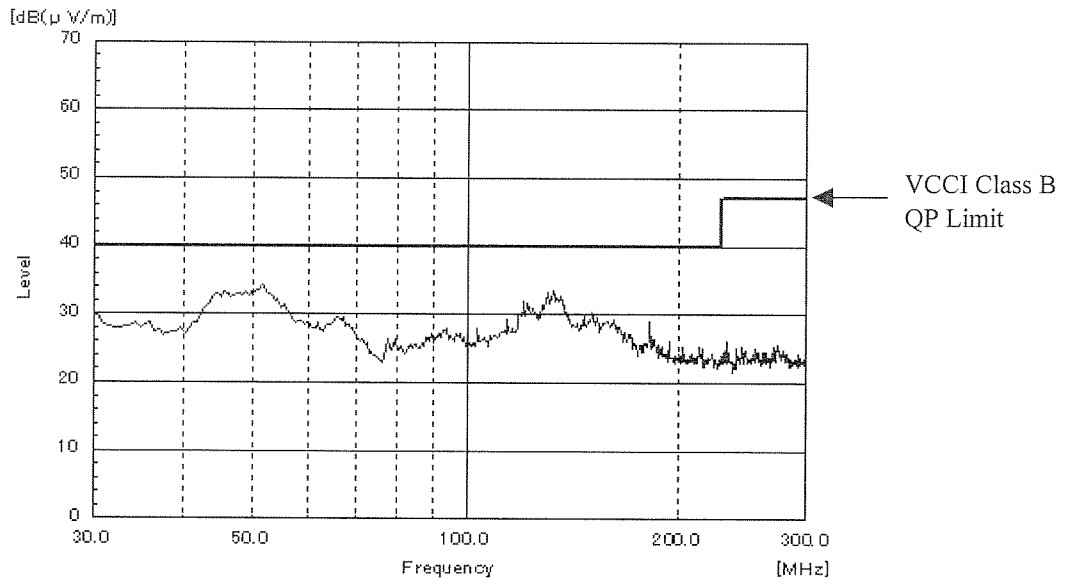
EN55011-B, EN55022-Bの限度値はVCCI Class Bの限度値と同じ
Limits of EN55011-B and EN55022-B are the same as VCCI Class B.

2.20 EMI特性
Electro-Magnetic Interference characteristics

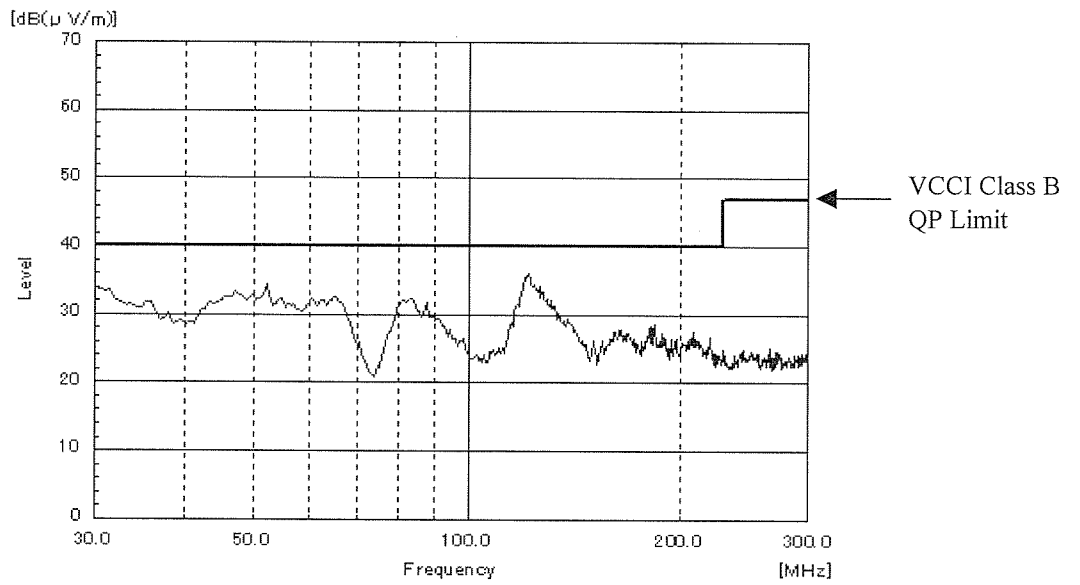
Conditions Vin : 230VAC
Iout : 100% (FL4)
Ta : 25°C

雑音電界強度
Radiated Emission

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 the same as VCCI Class B.