DRB50-1

EVALUATION DATA

型式データ

DWG No. CA800-53-01		
APPD	CHK	DWG
	Zhou Xin	

INDEX

使用記号 Terminology used

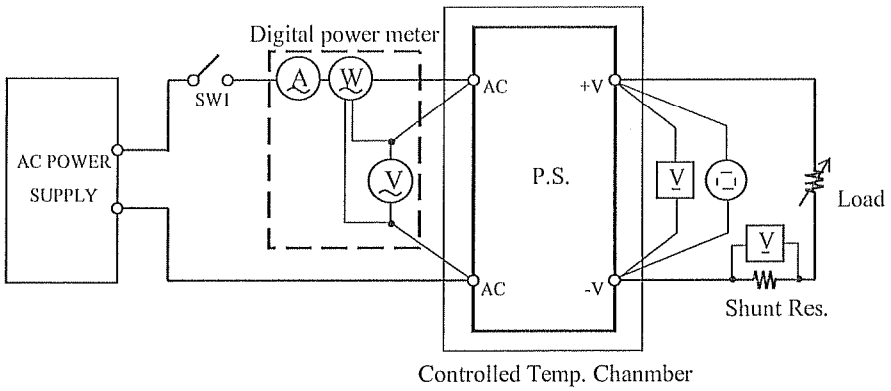
	定義 Definition	
Vin	..... 入力電圧	Input voltage
Vout	..... 出力電圧	Output voltage
Iin	..... 入力電流	Input current
Iout	..... 出力電流	Output current
Ta	..... 周囲温度	Ambient temperature
f	..... 周波数	Frequency

1. 測定方法　　**Evaluation Method**

1.1 測定回路　　Circuit used for determination

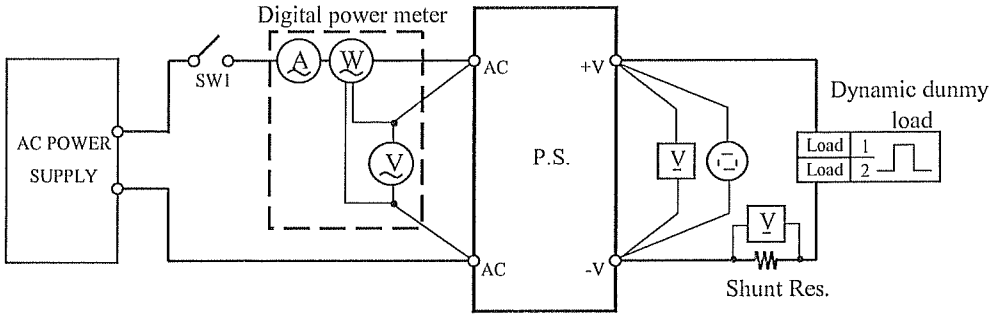
測定回路1 Circuit 1 used for determination

- 静特性　　Steady state data
- 過電流保護特性　　Over current protection (OCP) characteristics
- 過電圧保護特性　　Over voltage protection (OVP) 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
- 出力保持時間特性　　Hold up time characteristics



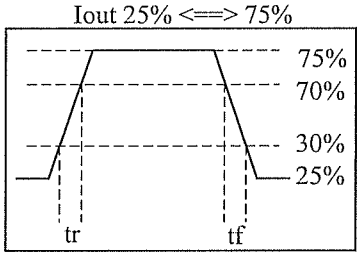
測定回路2 Circuit 2 used for determination

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



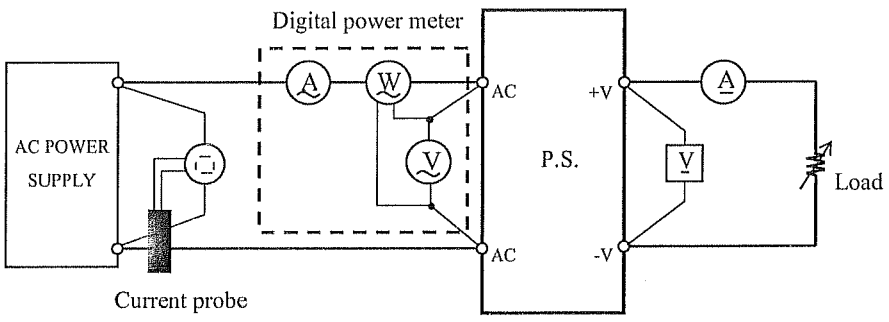
Output current waveform

Iout 25% <==> 75%



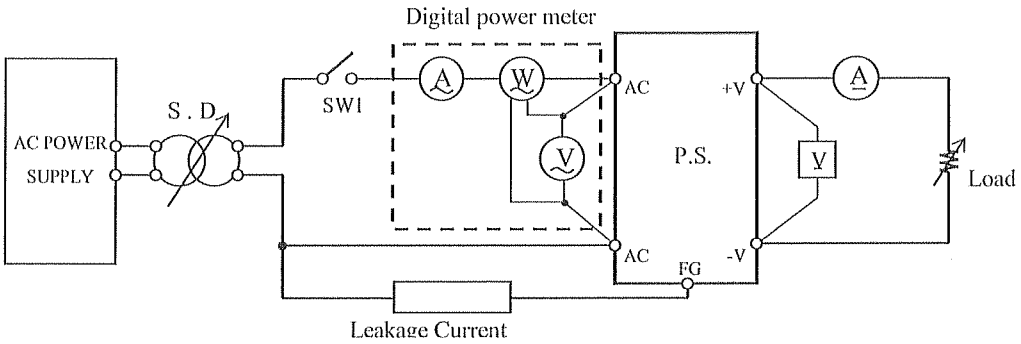
測定回路3 Circuit 3 used for determination

- 入力サージ電流(突入電流)波形　　Inrush current waveform



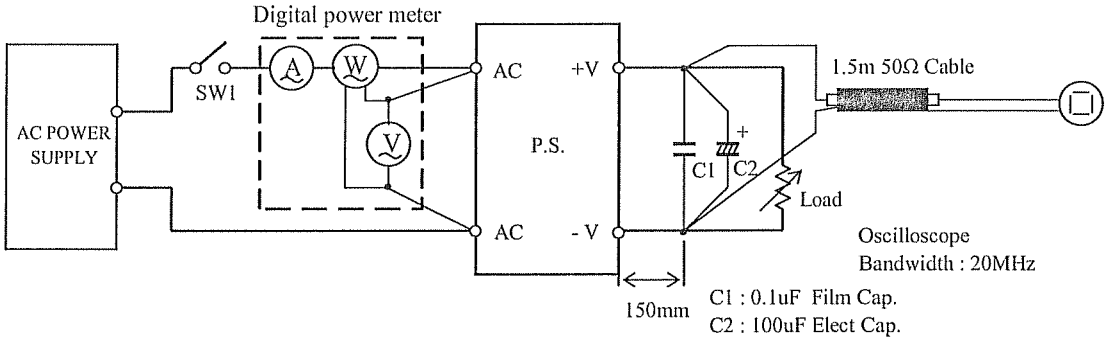
測定回路4 Circuit 4 used for determination

・リーク電流特性　　Leakage current characteristics



測定回路5 Circuit 5 used for determination

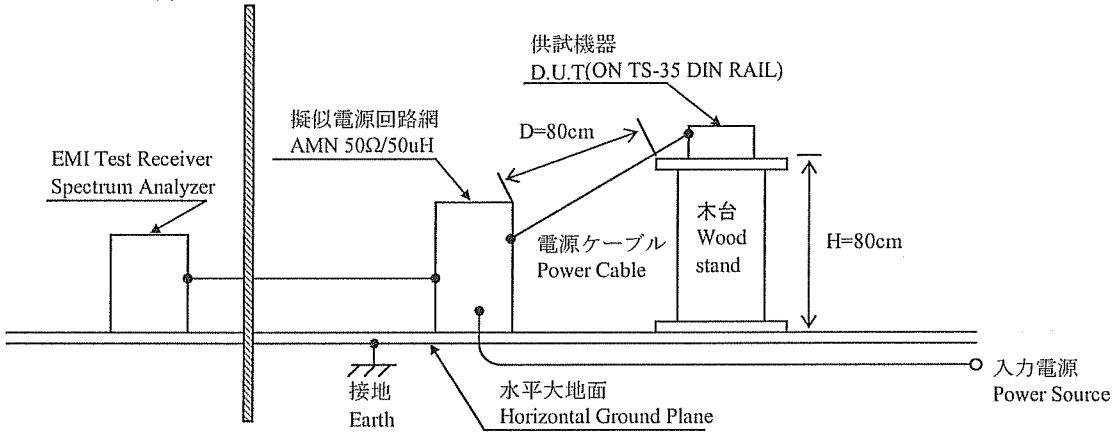
・出力リップル、ノイズ波形　　Output ripple and noise waveform



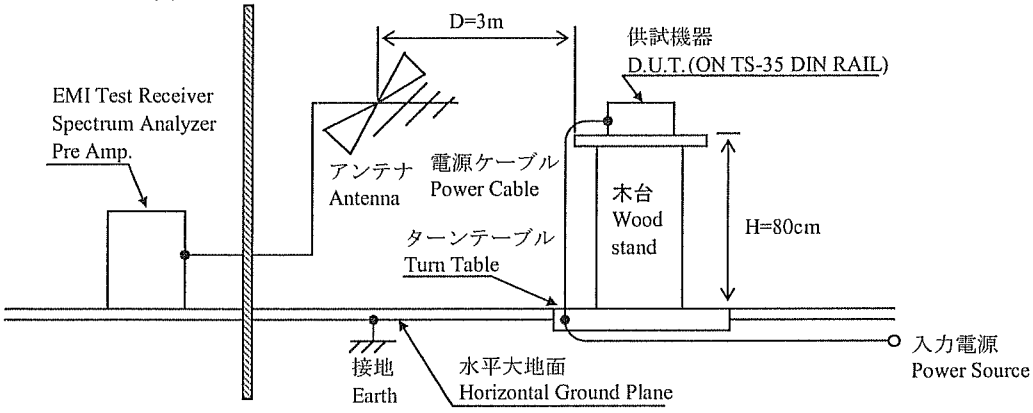
測定構成　Configuration used for determination

・ＥＭＩ特性　　Electro-Magnetic Interference characteristics

(a) 雑音端子電圧（帰還ノイズ）　　Conducted Emission



(b) 雑音電界強度（放射ノイズ）　　Radiated Emission



1.2 使用測定機器　　List of equipment used

	EQUIPMENT USED	MANUFACTURER	MODEL NO.
1	DIGITAL STORAGE OSCILLOSCOPE	YOKOGAWA ELECT.	DL2054/DL9040
2	DIGITAL MULTIMETER	AGILENT	34970A
3	DIGITAL POWER METER	YOKOGAWA ELECT.	WT210
4	CURRENT PROBE	TEKTRONIX	63202
5	DC AMPERE METER	TEKTRONIX	P5100
6	DYNAMIC DUMMY LOAD	CHROMA	63030/63610
7	AC SOURCE	KIKUSUI	PCR2000L
8	AC SOURCE	CHROMA	61605
9	LEAKAGE CURRENT METER	SIMPSON	228
10	CONTROLLED TEMP. CHAMBER	TABAI-ESPEC	63203
11	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCI-03
12	LISN	ROHDE & SCHWARZ	ENV216
13	BICONICAL ANTENNA	EMCO	63208

2. 1 静特性　Steady state data

(1) 入力・負荷・温度変動／出力起動・遮断電圧

Regulation - line and load, Temperature drift / Start up voltage and Drop out voltage

5V

(DRB50-5-1)

1. Regulation - line and load　Condition　Ta : 25 ℃

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	5.013V	5.009V	5.008V	5.008V	5mV	0.100%
50%	5.011V	5.006V	5.005V	5.005V	6mV	0.120%
100%	5.008V	5.003V	5.002V	5.003V	6mV	0.120%
load regulation	5mV	6mV	6mV	5mV		
	0.100%	0.120%	0.120%	0.100%		

2. Temperature drift　Conditions　Vin : 115 VAC
Iout : 100 %

Ta	-10℃	+25℃	+55℃	temperature stability	
Vout	5.003V	5.003V	4.995V	8mV	0.160%

3. Start up voltage and Drop out voltage　Conditions　Ta : 25 ℃
Iout : 100 %

Start up voltage (Vin)	52.0VAC
Drop out voltage (Vin)	57.0VAC

15V

(DRB50-12-1)

1. Regulation - line and load　Condition　Ta : 25 ℃

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	15.063V	15.057V	15.060V	15.062V	6mV	0.040%
50%	15.052V	15.045V	15.049V	15.051V	7mV	0.047%
100%	15.041V	15.034V	15.037V	15.040V	7mV	0.047%
load regulation	22mV	23mV	23mV	22mV		
	0.147%	0.153%	0.153%	0.147%		

2. Temperature drift　Conditions　Vin : 115 VAC
Iout : 100 %

Ta	-10℃	+25℃	+55℃	temperature stability	
Vout	15.026V	15.034V	15.016V	18mV	0.120%

3. Start up voltage and Drop out voltage　Conditions　Ta : 25 ℃
Iout : 100 %

Start up voltage (Vin)	67.0VAC
Drop out voltage (Vin)	63.7VAC

2. 1 静特性　Steady state data

(1) 入力・負荷・温度変動／出力起動・遮断電圧

Regulation - line and load, Temperature drift / Start up voltage and Drop out voltage

24V

(DRB50-24-1)

1. Regulation - line and load　Condition　Ta : 25 ℃

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	24.069V	24.066V	24.070V	24.073V	7mV	0.029%
50%	24.063V	24.059V	24.062V	24.066V	7mV	0.029%
100%	24.057V	24.052V	24.055V	24.058V	6mV	0.025%
load regulation	12mV	14mV	15mV	15mV		
	0.050%	0.058%	0.063%	0.063%		

2. Temperature drift　Conditions　Vin : 115 VAC
Iout : 100 %

Ta	-10℃	+25℃	+55℃	temperature stability	
Vout	24.084V	24.052V	23.998V	86mV	0.358%

3. Start up voltage and Drop out voltage　Conditions　Ta : 25 ℃
Iout : 100 %

Start up voltage (Vin)	65.3VAC
Drop out voltage (Vin)	64.4VAC

48V

(DRB50-48-1)

1. Regulation - line and load　Condition　Ta : 25 ℃

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	48.100V	48.094V	48.093V	48.093V	7mV	0.015%
50%	48.098V	48.091V	48.089V	48.090V	9mV	0.019%
100%	48.095V	48.089V	48.085V	48.086V	10mV	0.021%
load regulation	5mV	5mV	8mV	7mV		
	0.010%	0.010%	0.017%	0.015%		

2. Temperature drift　Conditions　Vin : 115 VAC
Iout : 100 %

Ta	-10℃	+25℃	+55℃	temperature stability	
Vout	48.126V	48.089V	48.014V	112mV	0.233%

3. Start up voltage and Drop out voltage　Conditions　Ta : 25 ℃
Iout : 100 %

Start up voltage (Vin)	66.0VAC
Drop out voltage (Vin)	61.6VAC

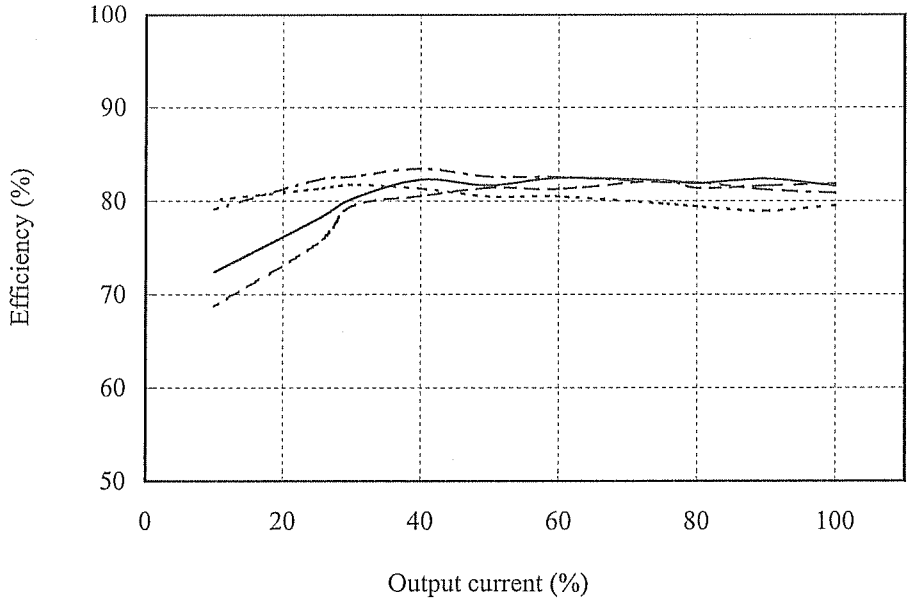
(2) 効率対出力電流

Efficiency vs. Output current

Conditions Vin : 85 VAC ------
: 115 VAC -·-·-
: 230 VAC ———
: 265 VAC - - - -
Ta : 25 ℃

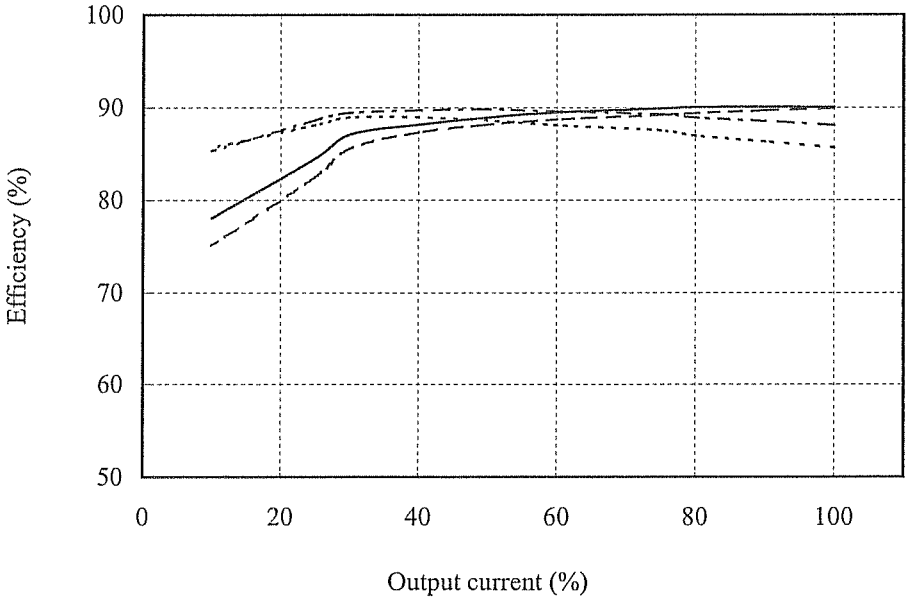
5V

(DRB50-5-1)



15V

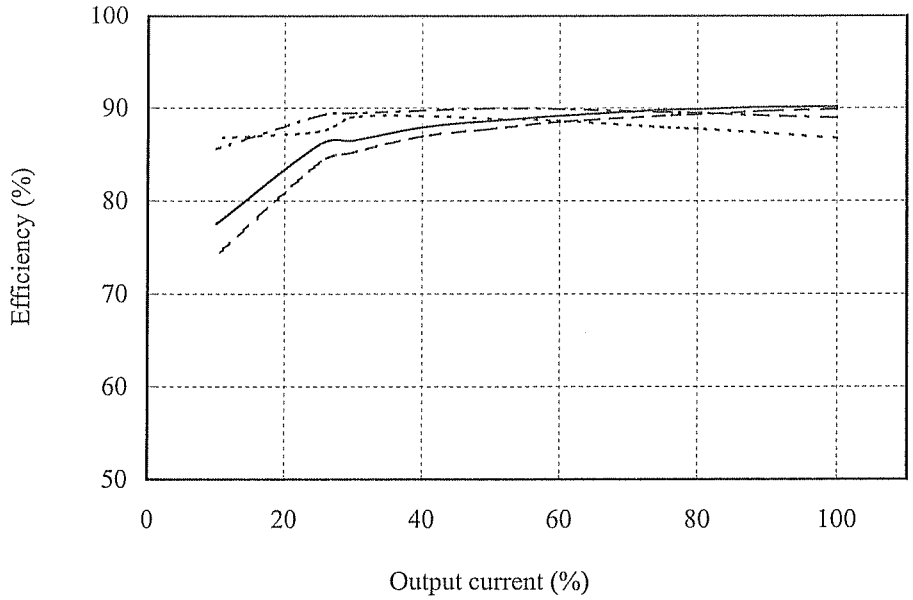
(DRB50-12-1)



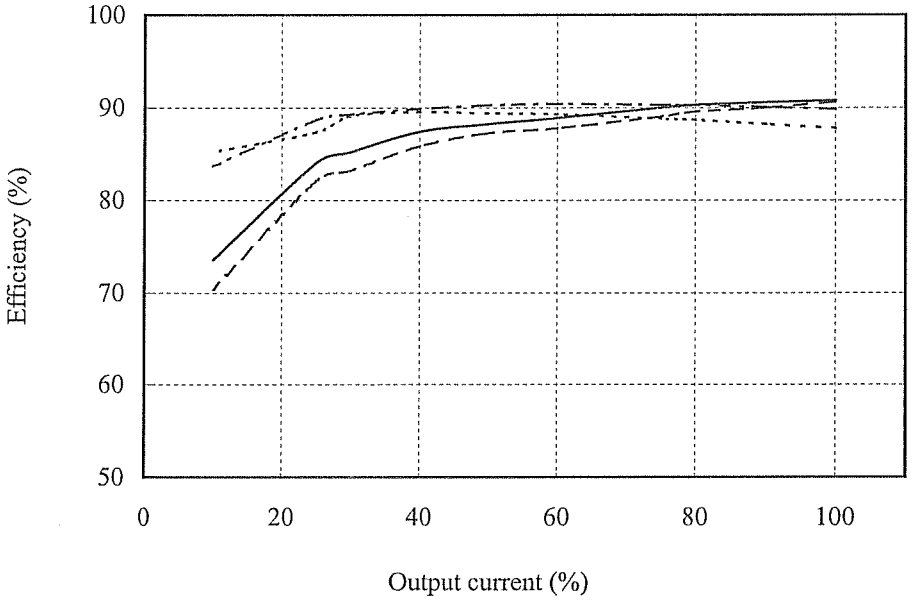
(2) 効率対出力電流
Efficiency vs. Output current

Conditions Vin : 85 VAC ------
: 115 VAC -·-·-·-
: 230 VAC ———
: 265 VAC – – – –
Ta : 25 ℃

24V
(DRB50-24-1)



48V
(DRB50-48-1)



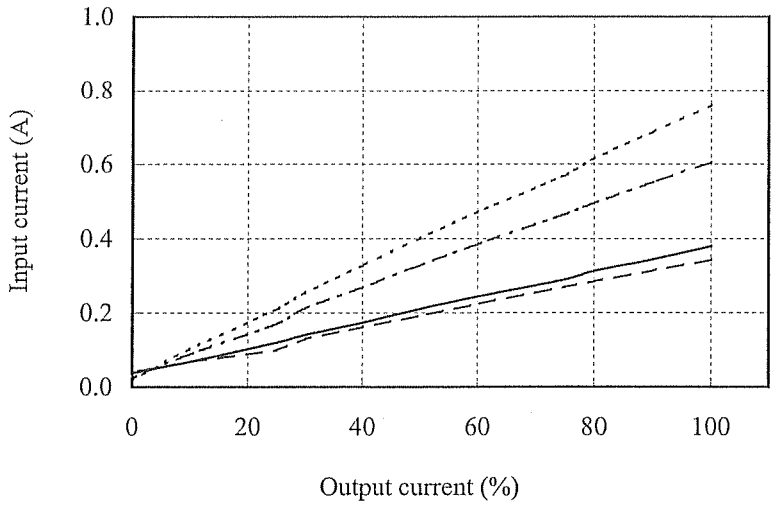
(3) 入力電流対出力電流
Input current vs. Output current

Conditions Vin : 85 VAC ------
: 115 VAC -·-·-·-
: 230 VAC ——————
: 265 VAC – – – –
Ta : 25 ℃

5V
(DRB50-5-1)

Io: 100%

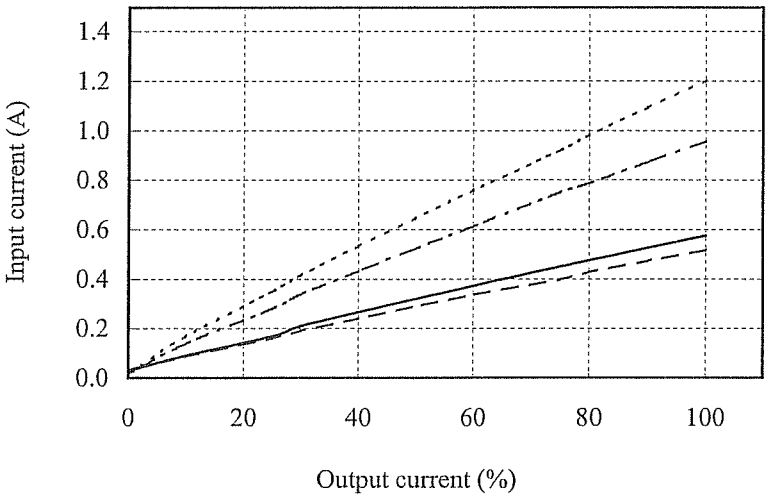
Vin	Input current
85VAC	0.759A
115VAC	0.606A
230VAC	0.380A
265VAC	0.342A



15V
(DRB50-12-1)

Io: 100%

Vin	Input current
85VAC	1.203A
115VAC	0.957A
230VAC	0.576A
265VAC	0.517A



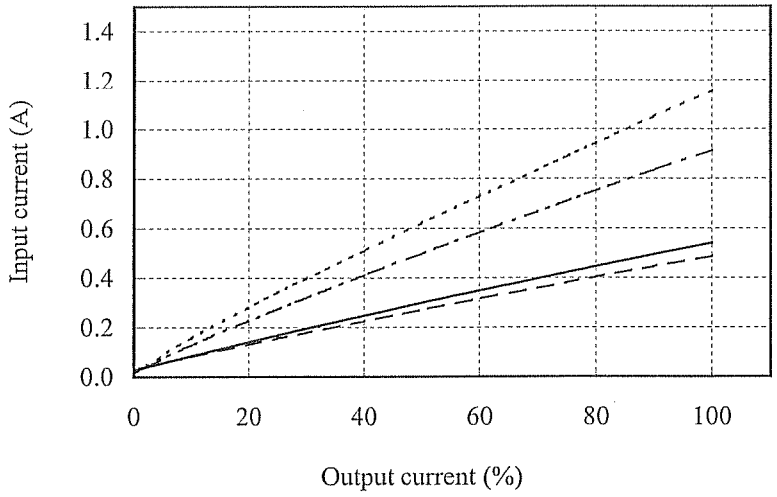
(3) 入力電流対出力電流
Input current vs. Output current

Conditions Vin : 85 VAC ------
: 115 VAC -·-·-·-
: 230 VAC ——————
: 265 VAC – – – –
Ta : 25 ℃

24V
(DRB50-24-1)

Io: 100%

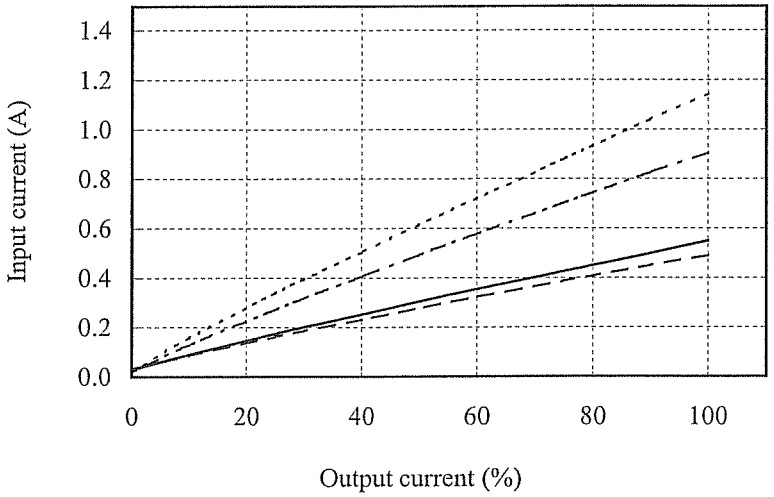
Vin	Input current
85VAC	1.157A
115VAC	0.915A
230VAC	0.542A
265VAC	0.487A



48V
(DRB50-48-1)

Io: 100%

Vin	Input current
85VAC	1.143A
115VAC	0.905A
230VAC	0.550A
265VAC	0.491A



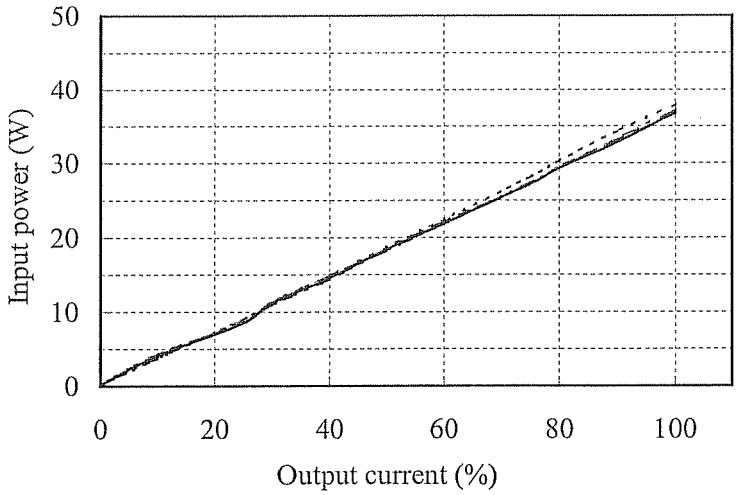
(4) 入力電力対出力電流
Input power vs. Output current

Conditions Vin : 85 VAC - - - - -
: 115 VAC —·—·—
: 230 VAC ——
: 265 VAC — — —
Ta : 25 ℃

5V
(DRB50-5-1)

Io: 0%

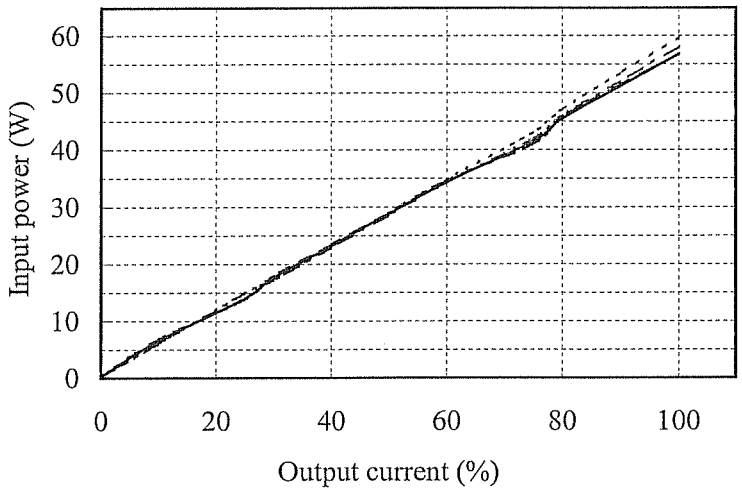
Vin	Input power
115VAC	0.20W
230VAC	0.22W



15V
(DRB50-12-1)

Io: 0%

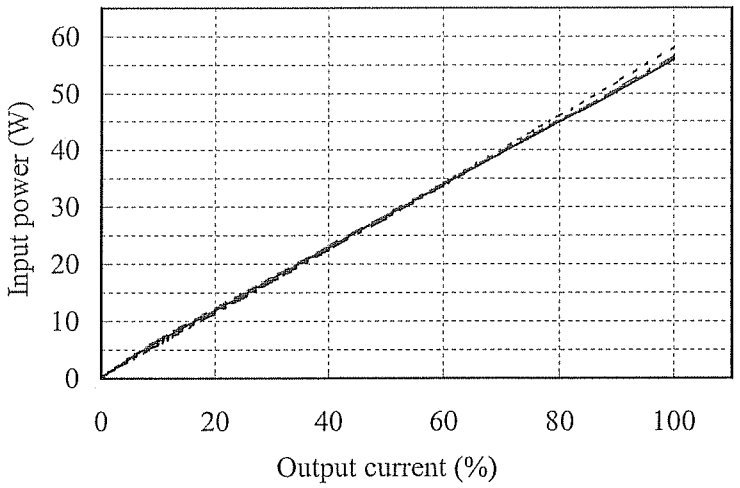
Vin	Input power
115VAC	0.26W
230VAC	0.26W



(4) 入力電力対出力電流
Input power vs. Output current

Conditions Vin : 85 VAC - - - - -
: 115 VAC —·—·
: 230 VAC ——
: 265 VAC – – –
Ta : 25 ℃

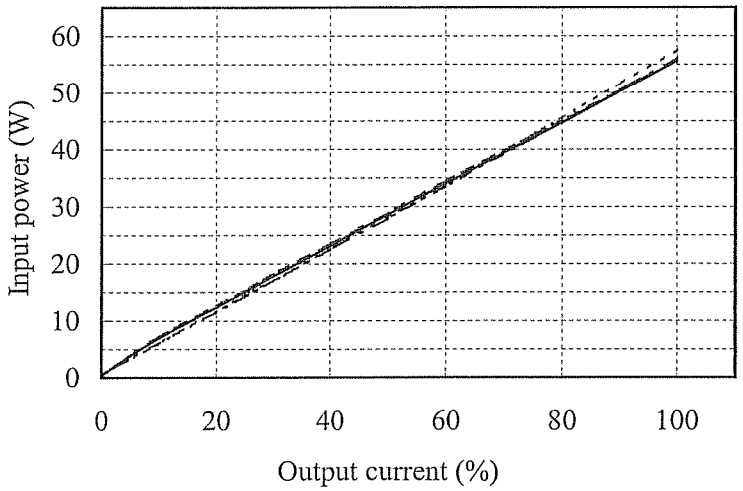
24V
(DRB50-24-1)



Io: 0%

Vin	Input power
115VAC	0.23W
230VAC	0.24W

48V
(DRB50-48-1)



Io: 0%

Vin	Input power
115VAC	0.44W
230VAC	0.44W

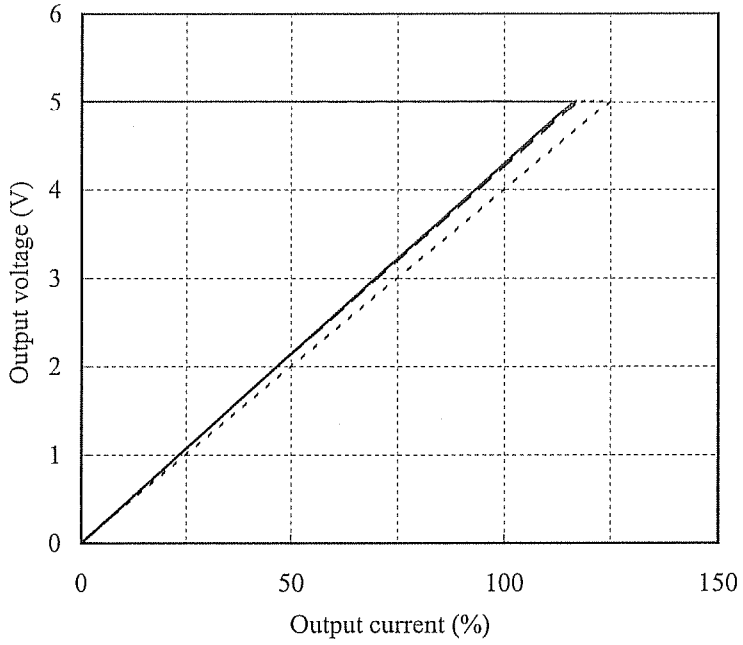
2. 2 過電流保護特性

Over current protection (OCP) characteristics

Conditions Vin : 85 VAC ------
115 VAC -·-·-·-
230 VAC ——
265 VAC – – – –
Ta : 25 ℃

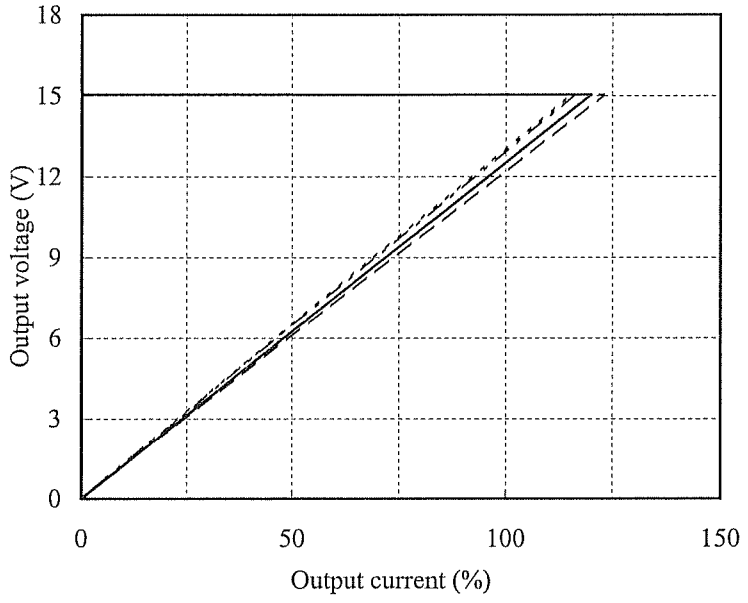
5V

(DRB50-5-1)



15V

(DRB50-12-1)



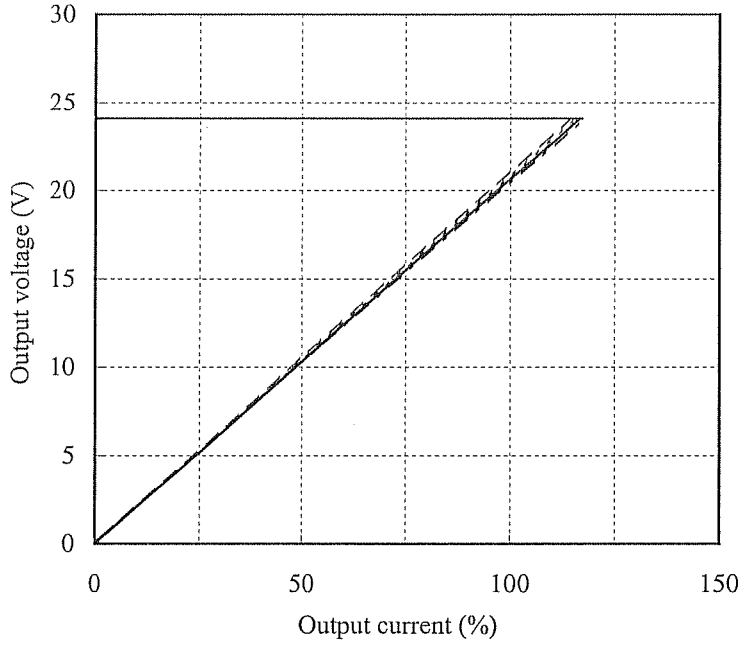
2. 2 過電流保護特性

Over current protection (OCP) characteristics

Conditions Vin : 85 VAC ------
115 VAC -·-·-·-
230 VAC ——
265 VAC – – – –
Ta : 25 ℃

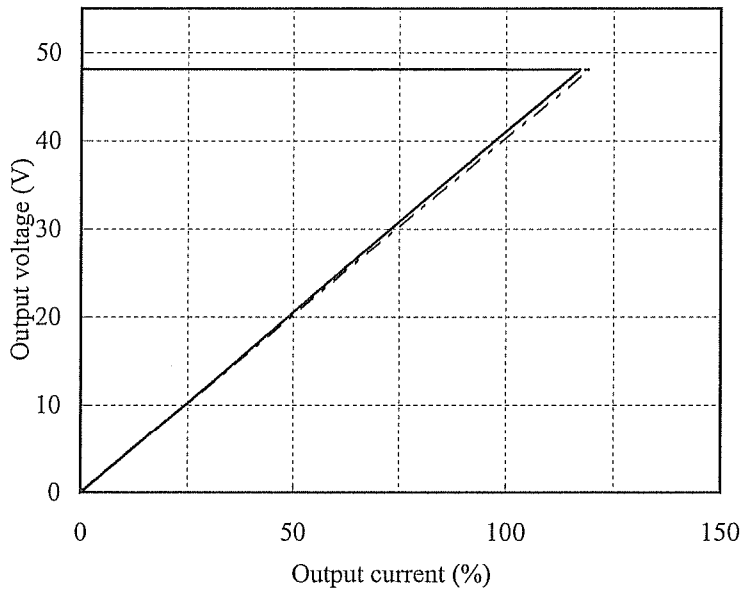
24V

(DRB50-24-1)



48V

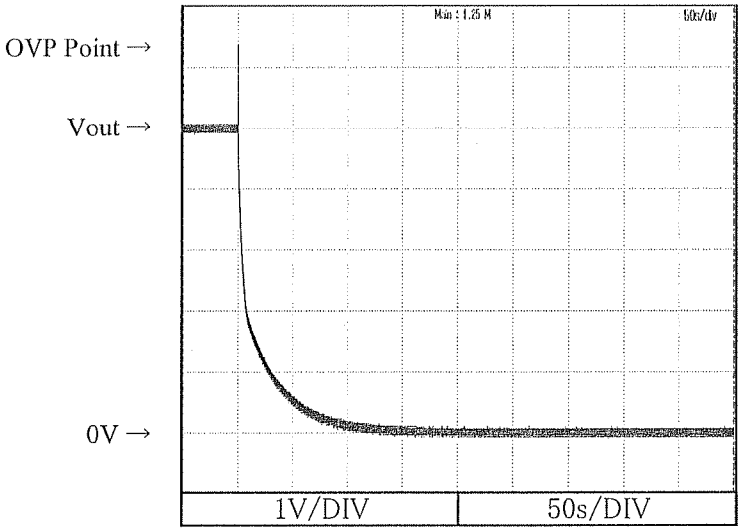
(DRB50-48-1)



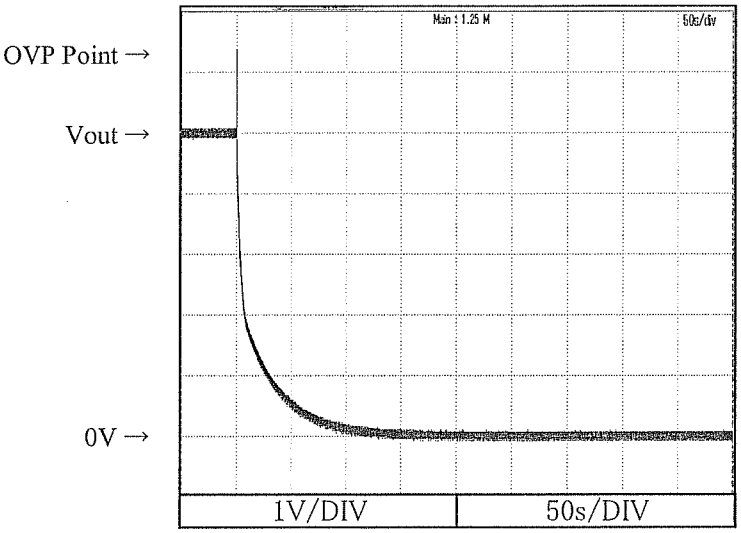
2. 3 過電圧保護特性
Over voltage protection (OVP) characteristics

Conditions Vin : 115 VAC
Iout : 0 %
Ta : 25 ℃

5V
(DRB50-5-1)



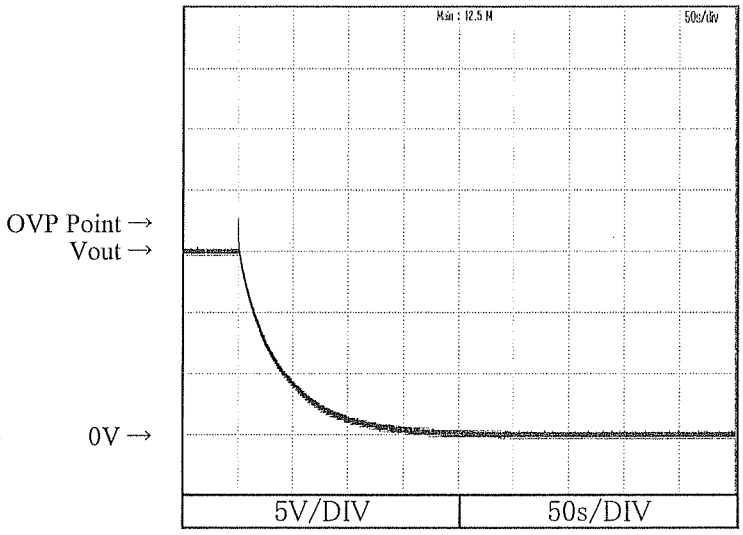
Conditions Vin : 230 VAC
Iout : 0 %
Ta : 25 ℃



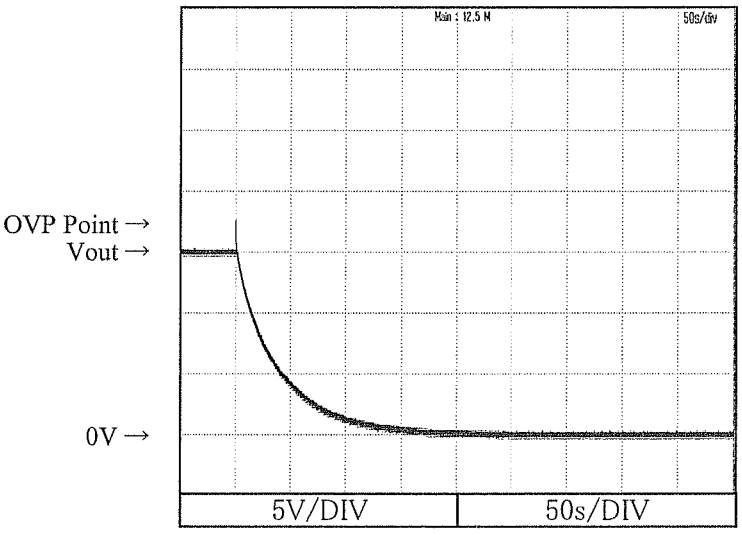
2. 3 過電圧保護特性
Over voltage protection (OVP) characteristics

Conditions Vin : 115 VAC
Iout : 0 %
Ta : 25 ℃

15V
(DRB50-12-1)



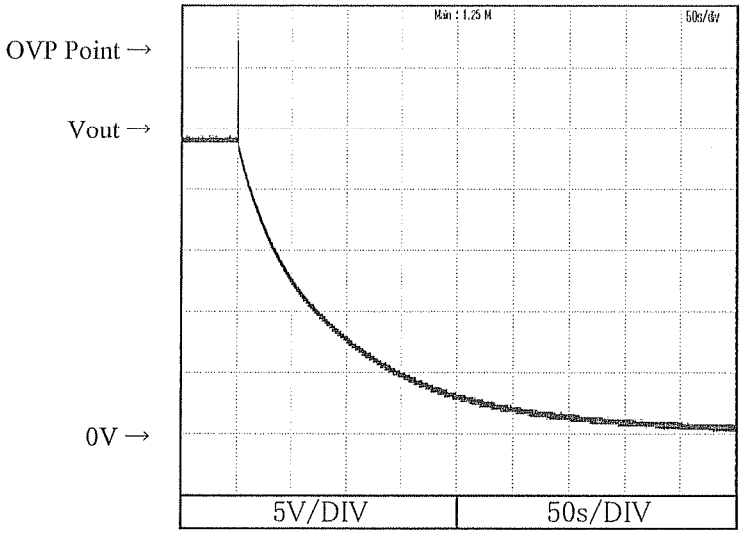
Conditions Vin : 230 VAC
Iout : 0 %
Ta : 25 ℃



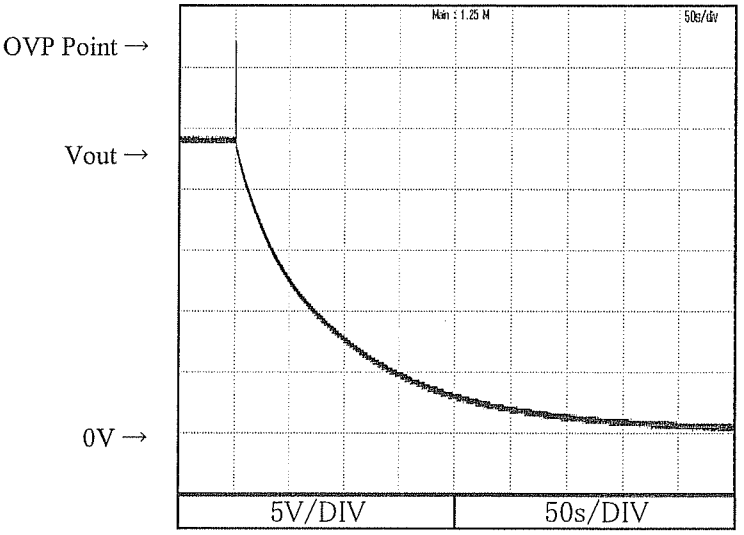
2. 3 過電圧保護特性
Over voltage protection (OVP) characteristics

Conditions Vin : 115 VAC
Iout : 0 %
Ta : 25 ℃

24V
(DRB50-24-1)



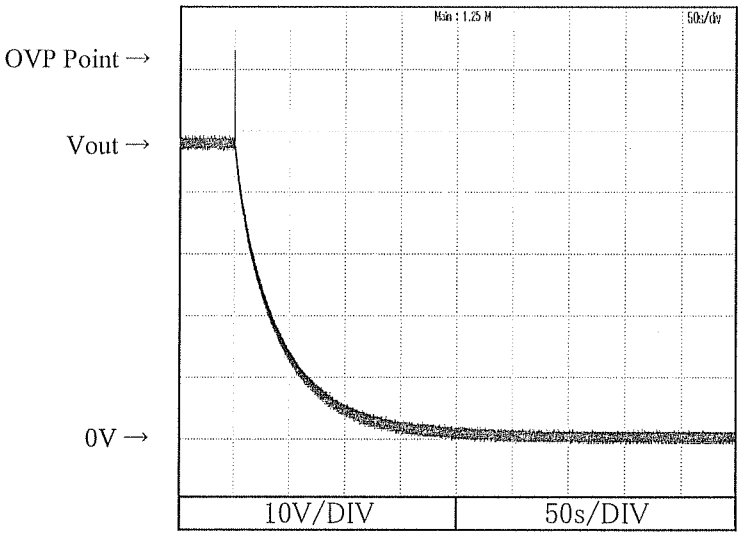
Conditions Vin : 230 VAC
Iout : 0 %
Ta : 25 ℃



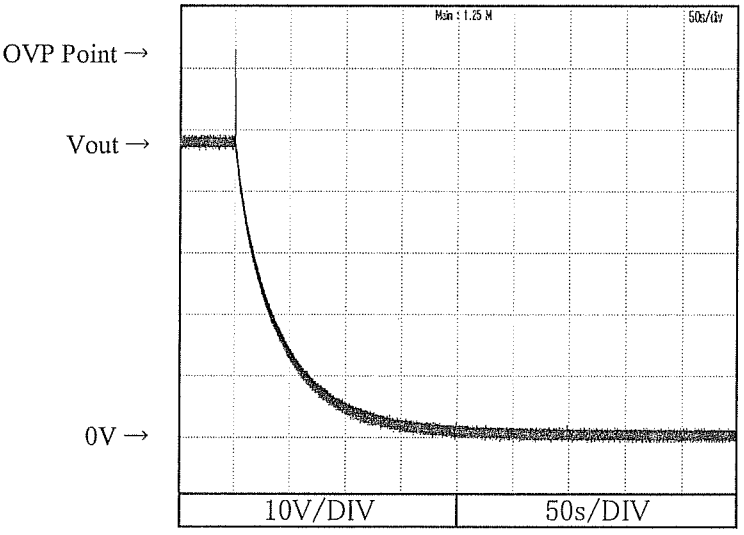
2. 3 過電圧保護特性
Over voltage protection (OVP) characteristics

Conditions Vin : 115 VAC
Iout : 0 %
Ta : 25 ℃

48V
(DRB50-48-1)



Conditions Vin : 230 VAC
Iout : 0 %
Ta : 25 ℃

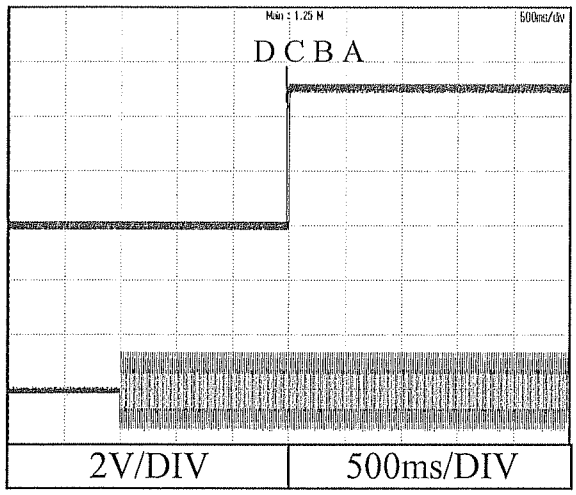


2.4 出力立ち上がり特性
Output rise characteristics

Conditions Vin : 85 VAC (A)
115 VAC (B)
230 VAC (C)
265 VAC (D)
Ta : 25 ℃

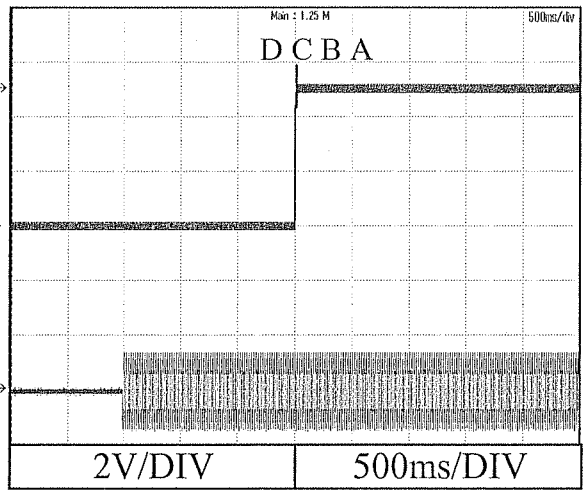
5V
(DRB50-5-1)

Iout : 0%



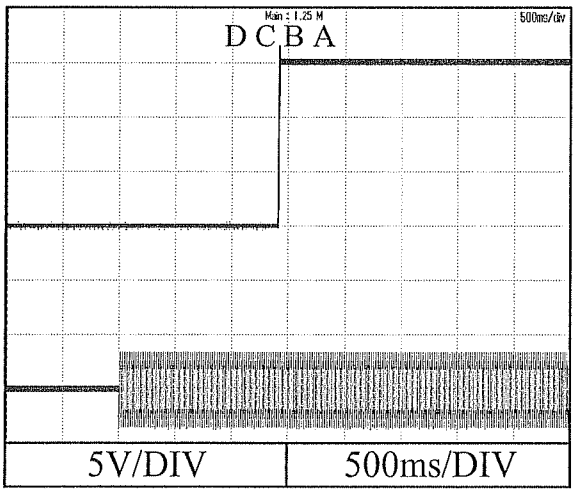
← Vout →
← 0V →
← Vin →

Iout : 100%



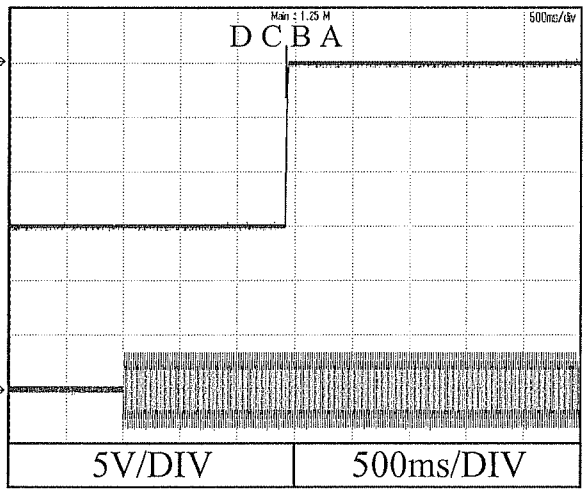
15V
(DRB50-12-1)

Iout : 0%



← Vout →
← 0V →
← Vin →

Iout : 100%

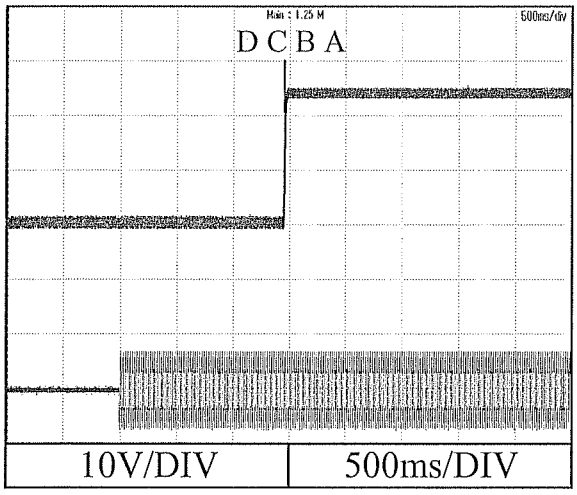


2.4 出力立ち上がり特性
Output rise characteristics

Conditions Vin : 85 VAC (A)
115 VAC (B)
230 VAC (C)
265 VAC (D)
Ta : 25 ℃

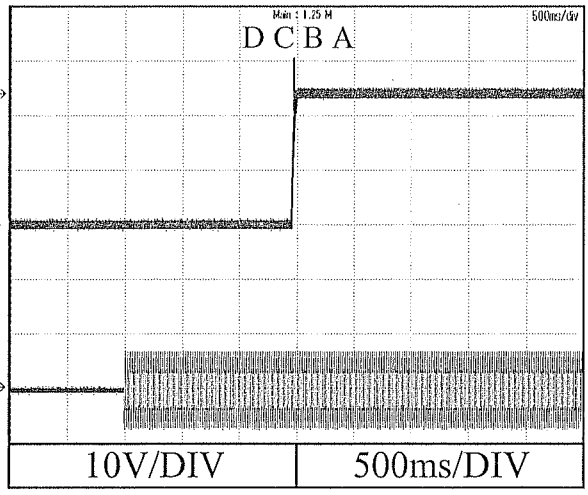
24V
(DRB50-24-1)

Iout : 0%



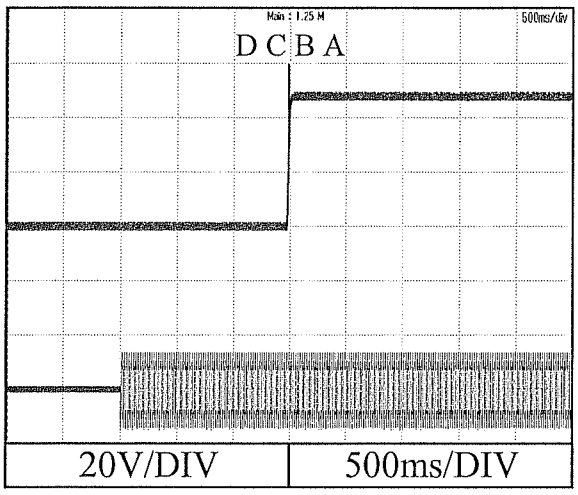
← Vout →
← 0V →
← Vin →

Iout : 100%



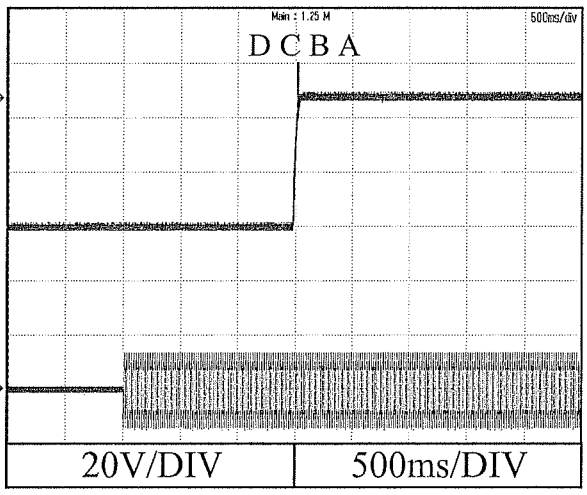
48V
(DRB50-48-1)

Iout : 0%



← Vout →
← 0V →
← Vin →

Iout : 100%



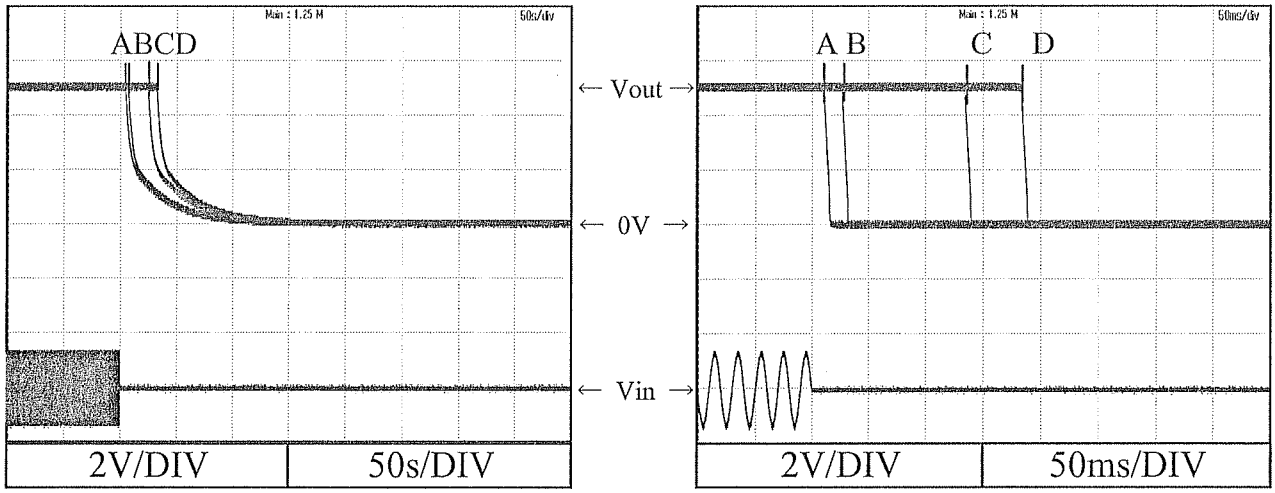
2.5 出力立ち下がり特性
Output fall characteristics

Conditions Vin : 85 VAC (A)
115 VAC (B)
230 VAC (C)
265 VAC (D)
Ta : 25 ℃

5V
(DRB50-5-1)

Iout : 0%

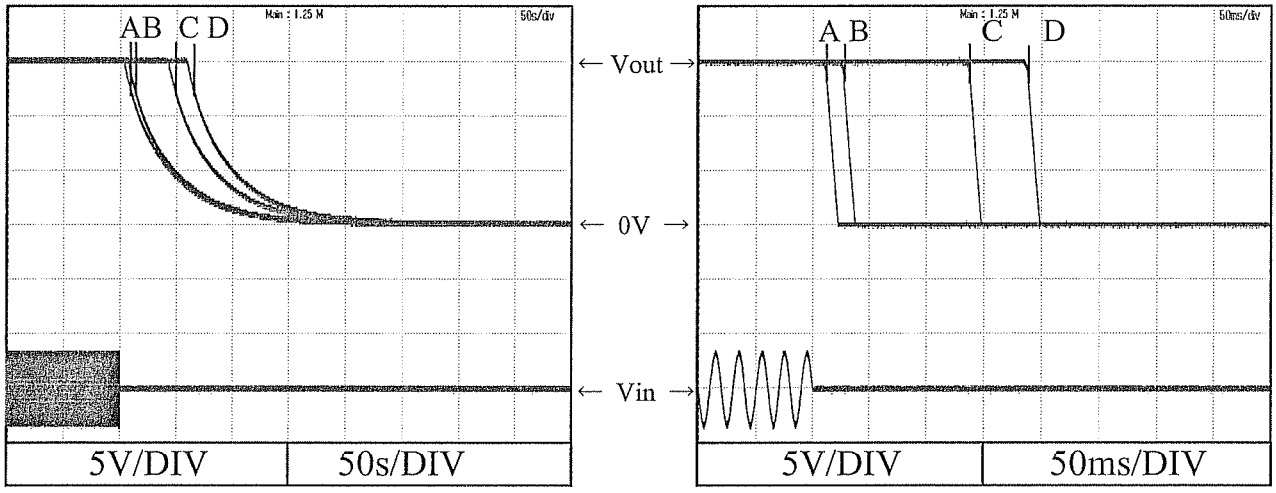
Iout : 100%



15V
(DRB50-12-1)

Iout : 0%

Iout : 100%

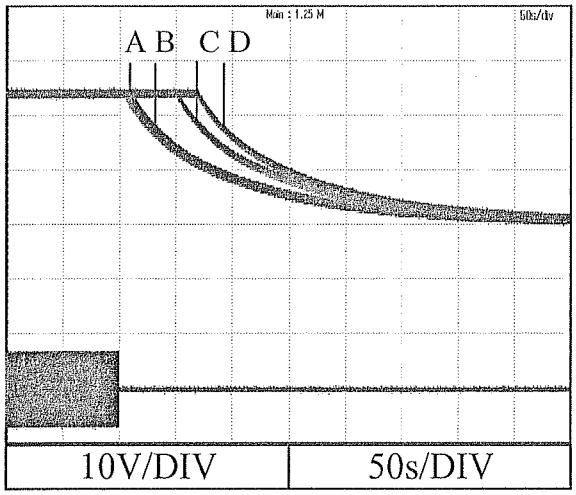


2.5 出力立ち下がり特性
Output fall characteristics

Conditions Vin : 85 VAC (A)
115 VAC (B)
230 VAC (C)
265 VAC (D)
Ta : 25 ℃

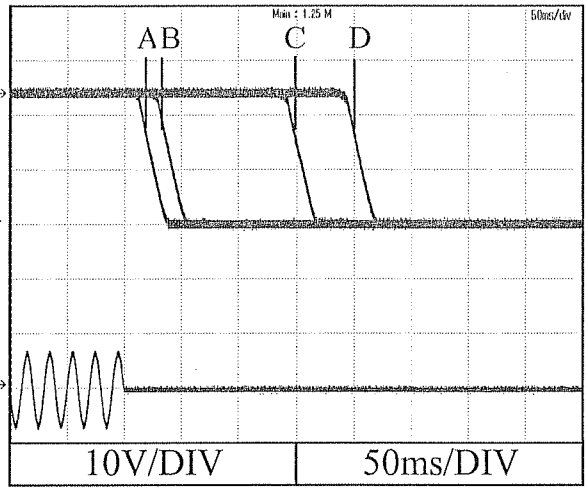
24V
(DRB50-24-1)

Iout : 0%



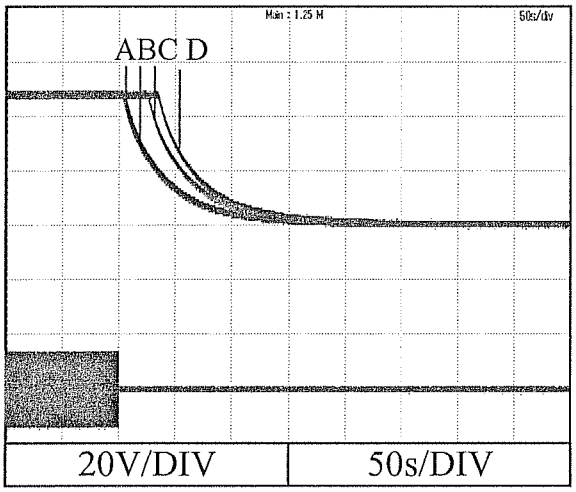
← Vout →
← 0V →
← Vin →

Iout : 100%



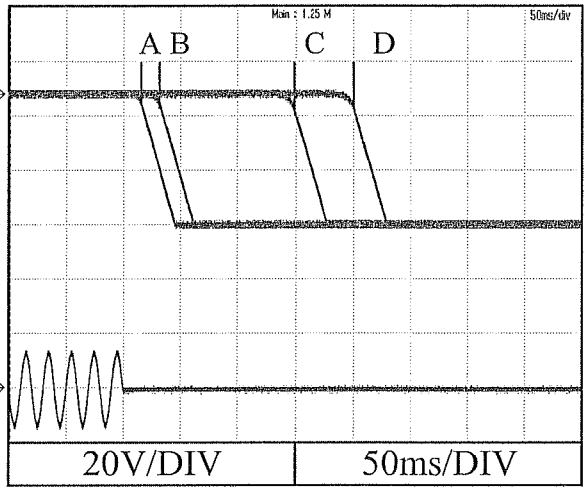
48V
(DRB50-48-1)

Iout : 0%



← Vout →
← 0V →
← Vin →

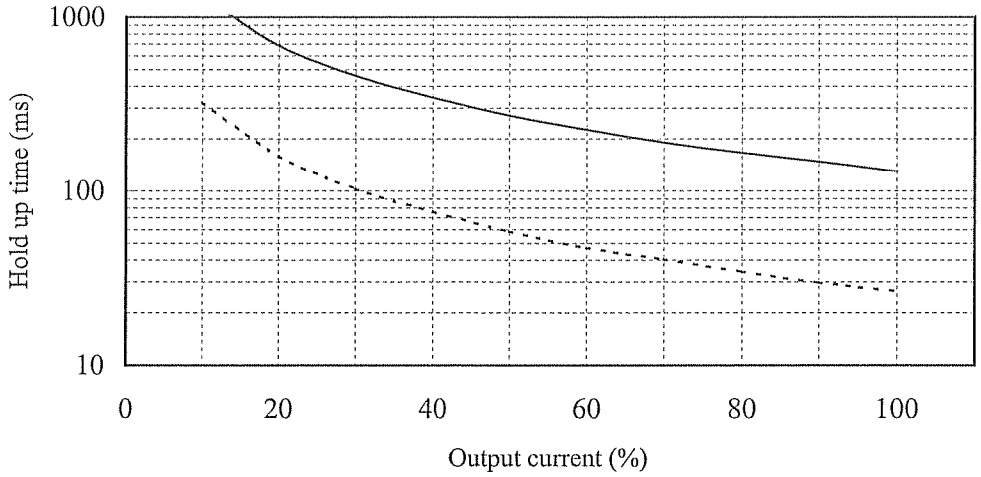
Iout : 100%



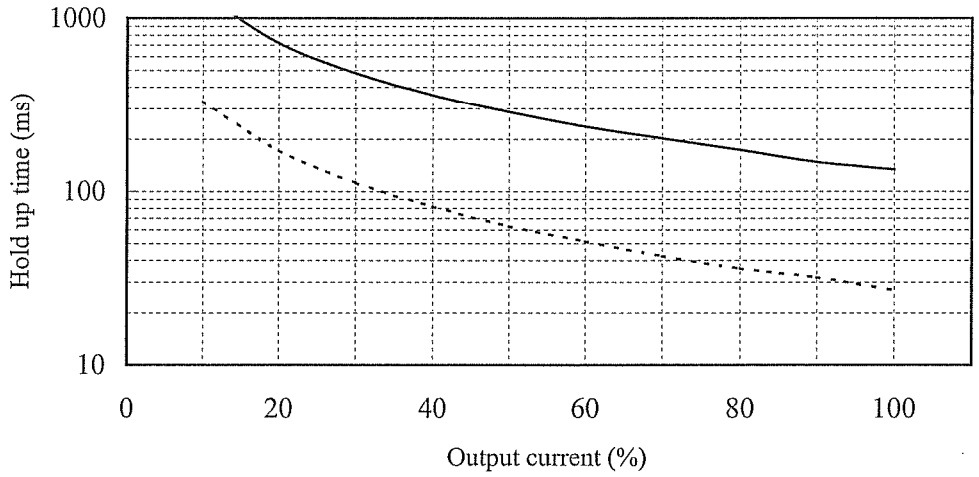
2.6 出力保持時間特性
Hold up time characteristics

Conditions Vin : 115 VAC ------
230 VAC ———
Ta : 25 ℃

5V
(DRB50-5-1)



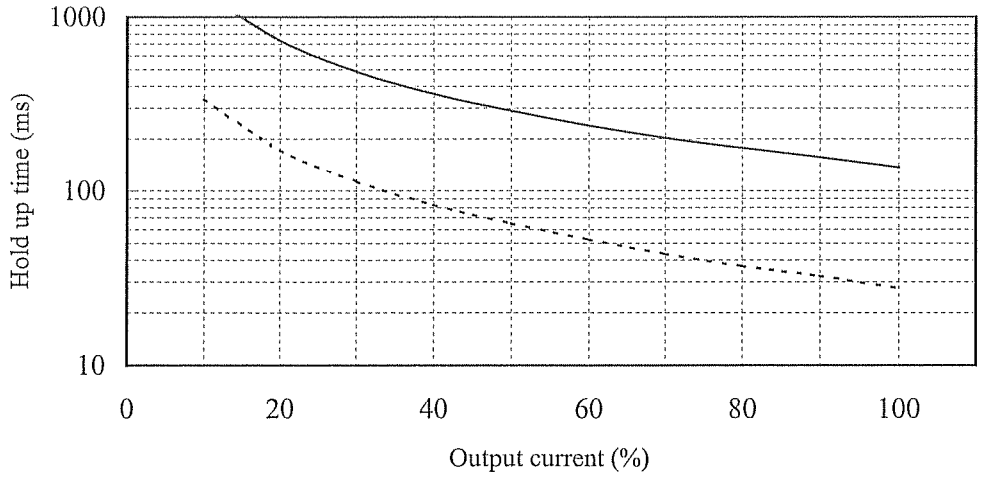
15V
(DRB50-12-1)



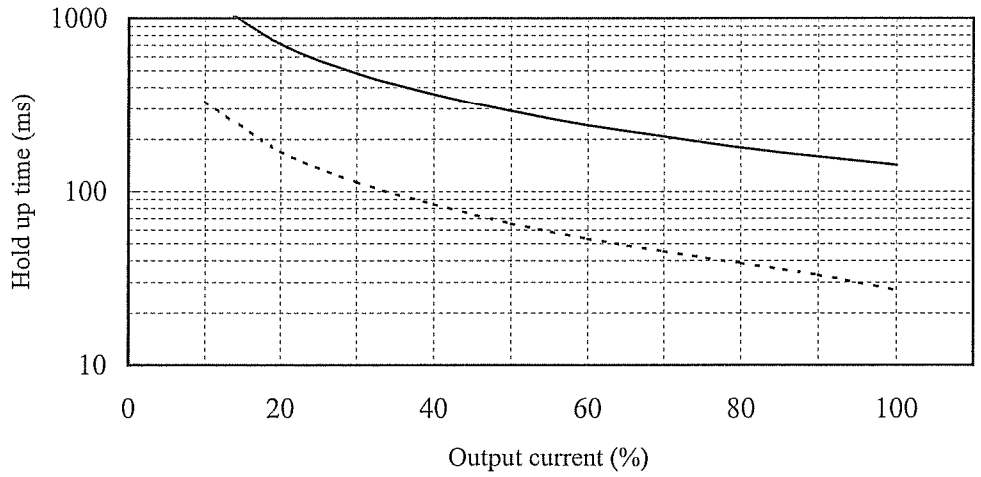
2.6 出力保持時間特性
Hold up time characteristics

Conditions Vin : 115 VAC ------
230 VAC ———
Ta : 25 ℃

24V
(DRB50-24-1)



48V
(DRB50-48-1)

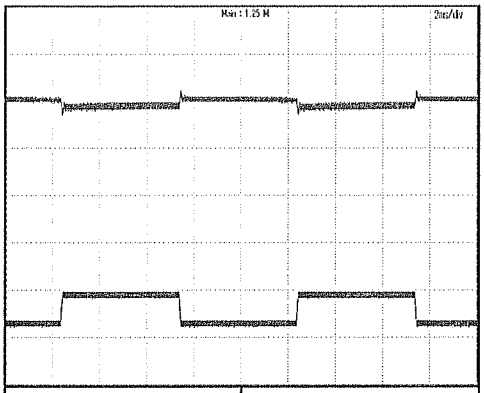


2.7 過渡応答（負荷急変）特性
Dynamic load response characteristics

Conditions　Vin : 115 VAC
Iout : 25 % ↔ 75 %
(tr = tf = 75us)
Ta : 25 ℃

5V
(DRB50-5-1)

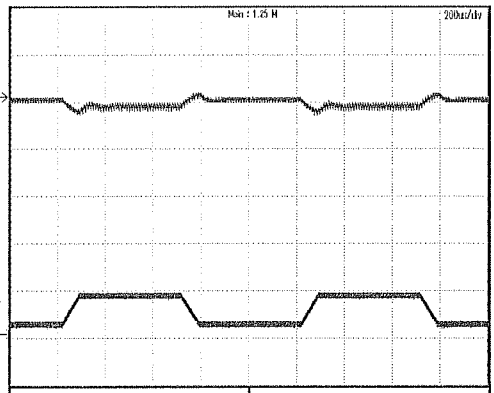
f = 100Hz



500mV/DIV	2ms/DIV
+2.40%	-2.80%

← Vout →
← Iout →
← Iout:0% →

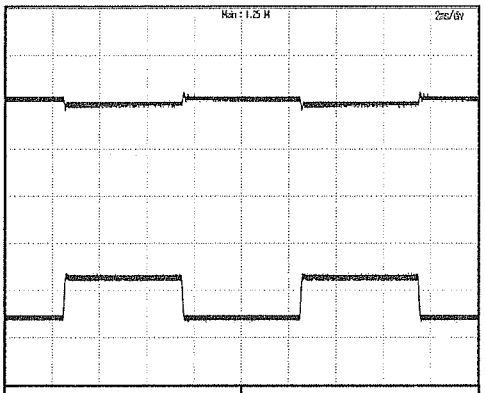
f = 1kHz



500mV/DIV	200 μ s/DIV
+2.20%	-2.80%

15V
(DRB50-12-1)

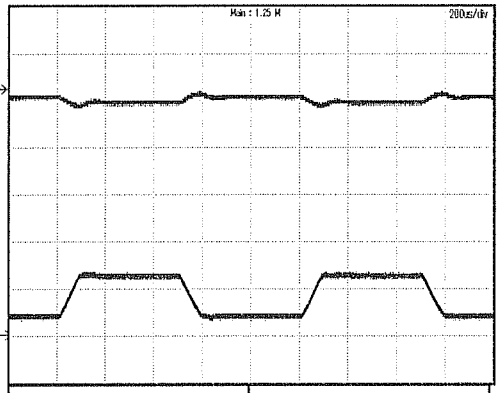
f = 100Hz



500mV/DIV	2ms/DIV
+0.53%	-0.60%

← Vout →
← Iout →
← Iout:0% →

f = 1kHz



500mV/DIV	200 μ s/DIV
+0.53%	-0.67%

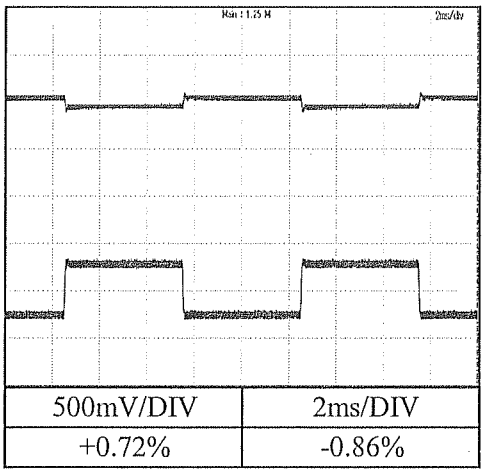
2.7 過渡応答（負荷急変）特性

Dynamic load response characteristics

Conditions Vin : 115 VAC
Iout : 25 % ↔ 75 %
(tr = tf = 75us)
Ta : 25 ℃

24V
(DRB50-24-1)

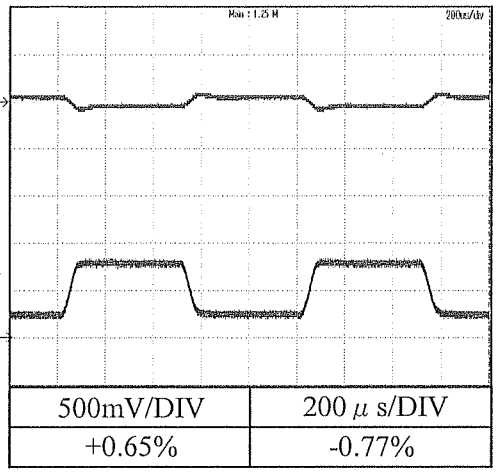
f = 100Hz



500mV/DIV	2ms/DIV
+0.72%	-0.86%

← Vout →
← Iout →
← Iout:0% →

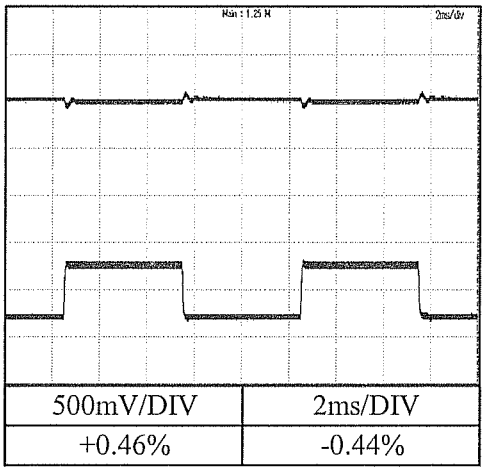
f = 1kHz



500mV/DIV	200 μ s/DIV
+0.65%	-0.77%

48V
(DRB50-48-1)

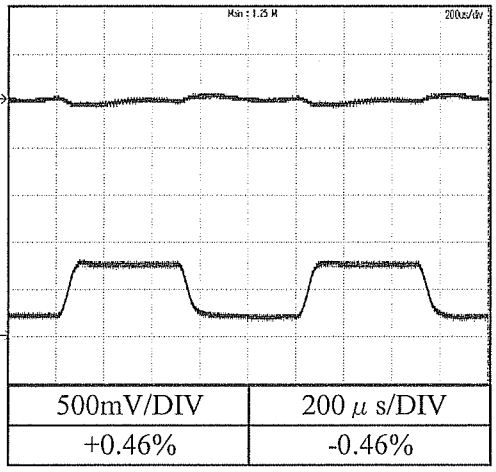
f = 100Hz



500mV/DIV	2ms/DIV
+0.46%	-0.44%

← Vout →
← Iout →
← Iout:0% →

f = 1kHz



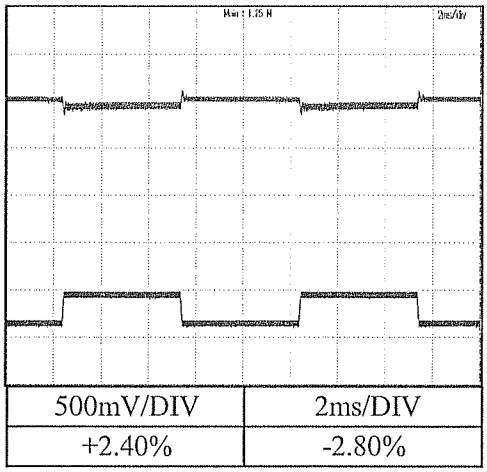
500mV/DIV	200 μ s/DIV
+0.46%	-0.46%

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

Conditions Vin : 230 VAC
Iout : 25 % ⇔ 75 %
(tr = tf = 75us)
Ta : 25 ℃

5V
(DRB50-5-1)

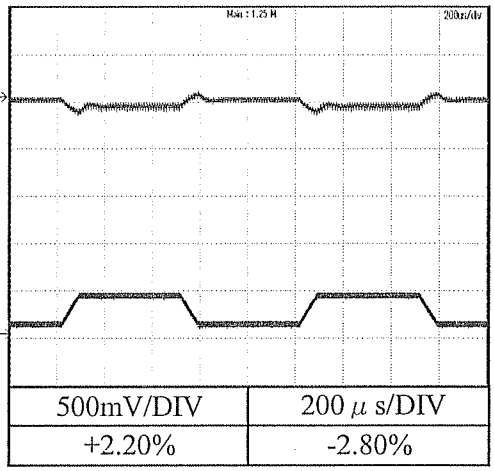
f = 100Hz



500mV/DIV	2ms/DIV
+2.40%	-2.80%

← Vout →
← Iout →
← Iout:0% →

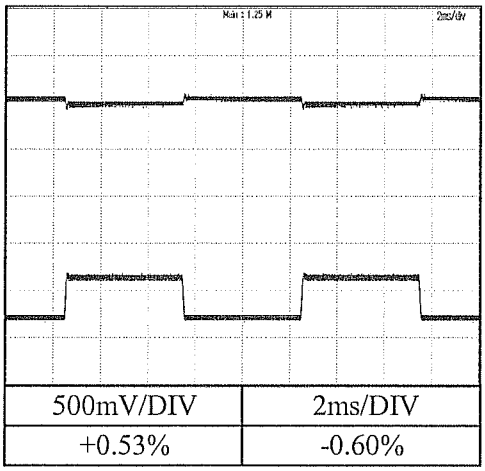
f = 1kHz



500mV/DIV	200 μ s/DIV
+2.20%	-2.80%

15V
(DRB50-12-1)

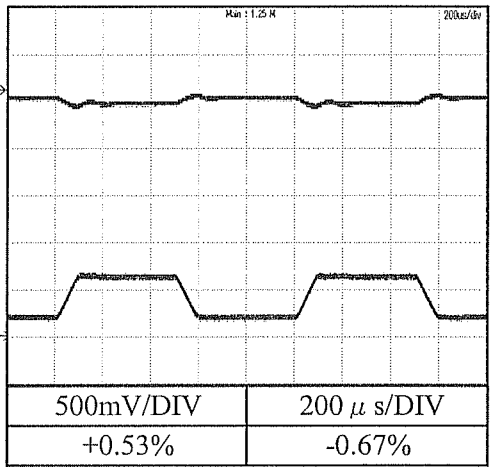
f = 100Hz



500mV/DIV	2ms/DIV
+0.53%	-0.60%

← Vout →
← Iout →
← Iout:0% →

f = 1kHz



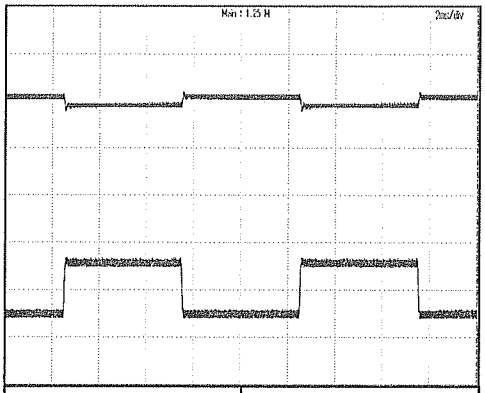
500mV/DIV	200 μ s/DIV
+0.53%	-0.67%

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

Conditions Vin : 230 VAC
Iout : 25 % ⇔ 75 %
(tr = tf = 75us)
Ta : 25 ℃

24V (DRB50-24-1)

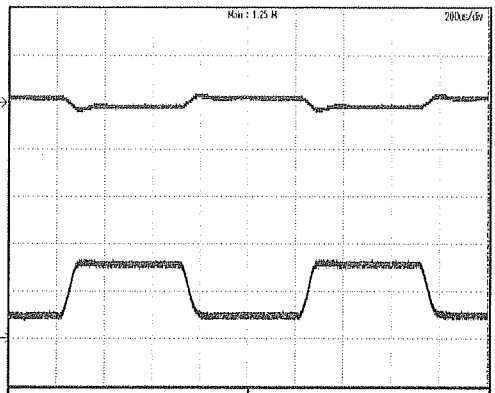
f = 100Hz



500mV/DIV	2ms/DIV
+0.72%	-0.86%

← Vout →
← Iout →
← Iout:0% →

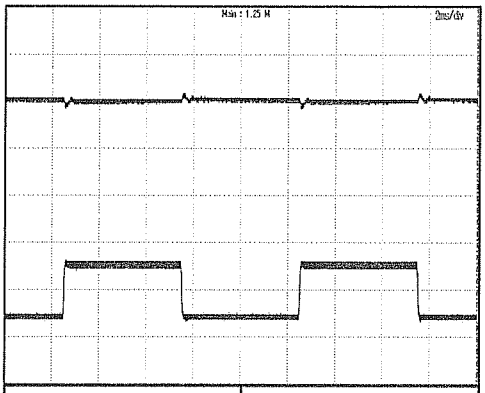
f = 1kHz



500mV/DIV	200 μ s/DIV
+0.65%	-0.77%

48V (DRB50-48-1)

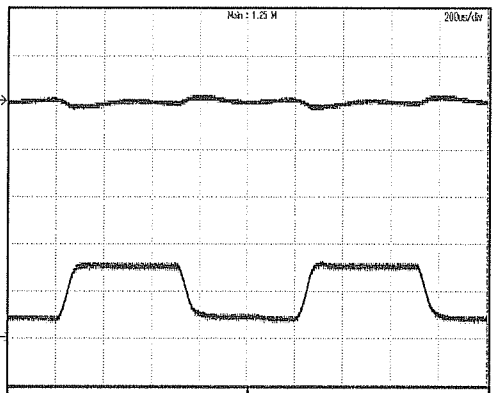
f = 100Hz



500mV/DIV	2ms/DIV
+0.46%	-0.44%

← Vout →
← Iout →
← Iout:0% →

f = 1kHz



500mV/DIV	200 μ s/DIV
+0.46%	-0.46%

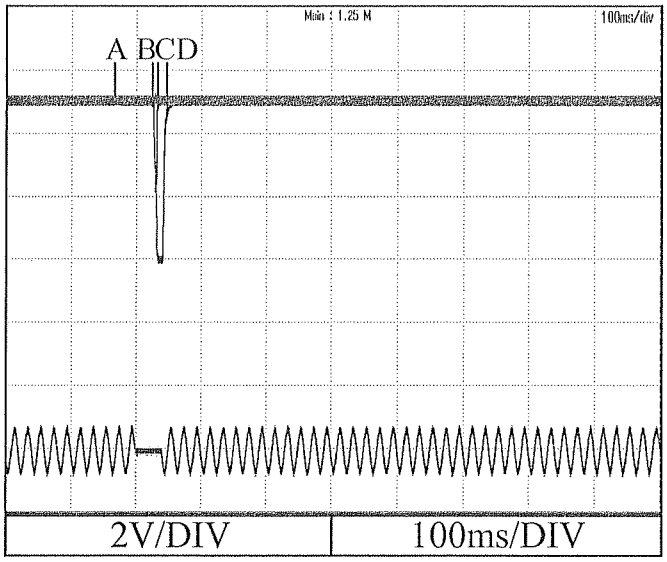
2.8 入力電圧瞬停特性

Response to brown out characteristics

Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

5V

(DRB50-5-1)



A = 26ms

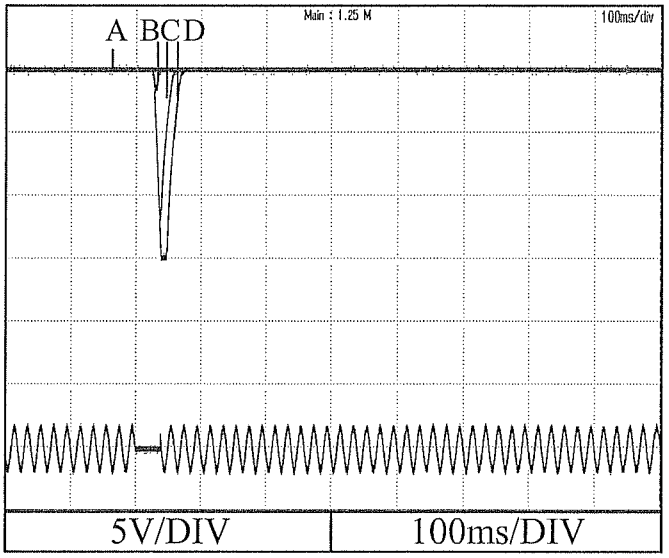
B = 28ms

C =31ms

D =40ms

15V

(DRB50-12-1)



A = 24ms

B = 28ms

C = 33ms

D = 38ms

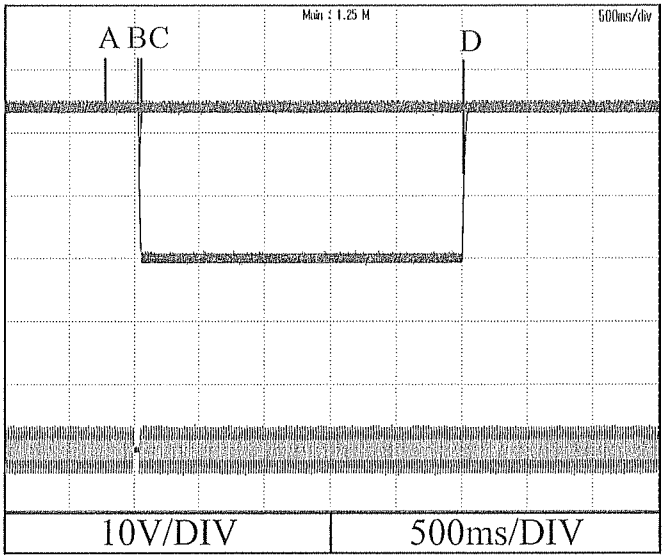
2.8 入力電圧瞬停特性

Response to brown out characteristics

Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

24V

(DRB50-24-1)



A = 25ms

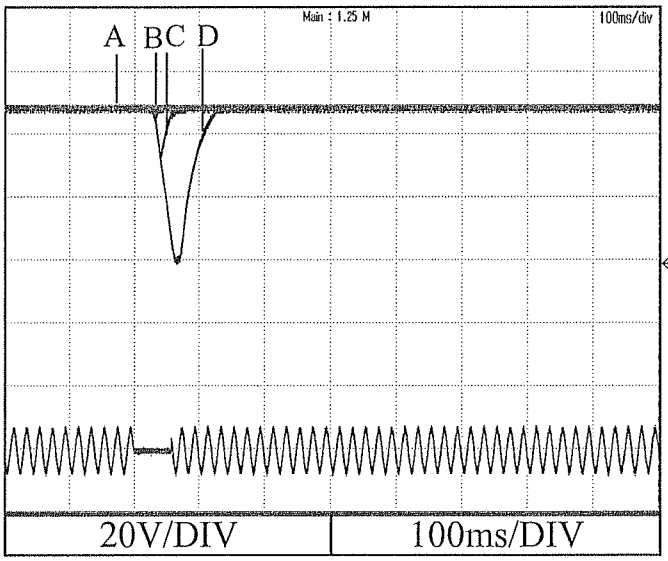
B = 29ms

C = 38ms

D =39ms

48V

(DRB50-48-1)



A = 25ms

B = 30ms

C = 39ms

D = 58ms

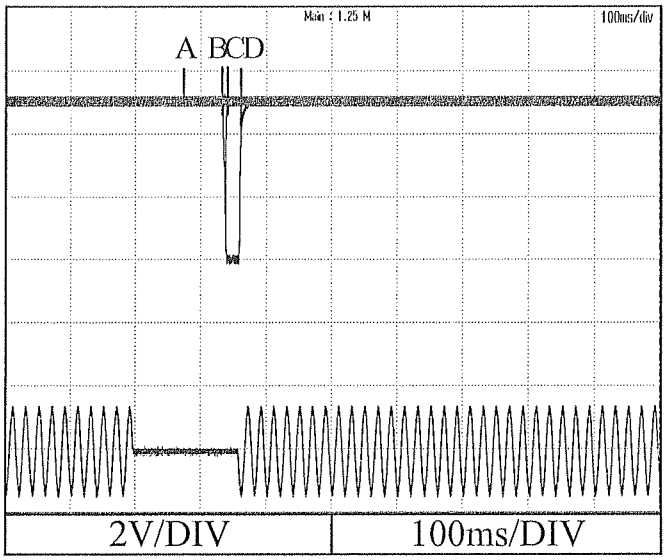
2. 8 入力電圧瞬停特性

Response to brown out characteristics

Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

5V

(DRB50-5-1)



A = 134ms

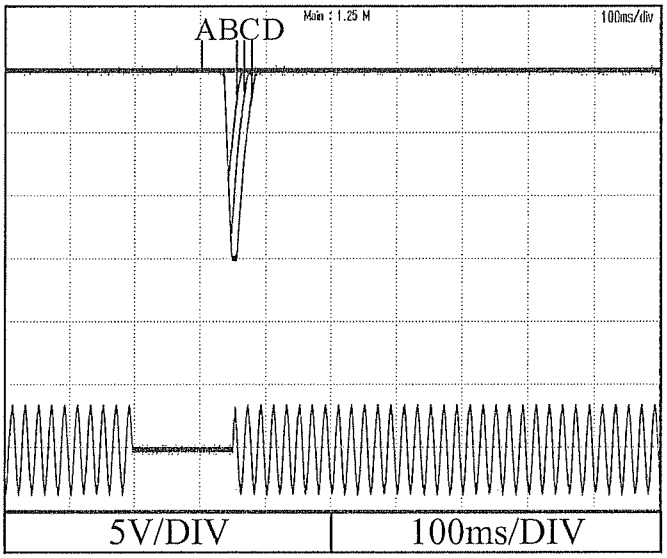
B = 137ms

C = 140ms

D = 160ms

15V

(DRB50-12-1)



A = 137ms

B = 144ms

C = 145ms

D = 152ms

2. 8 入力電圧瞬停特性
Response to brown out characteristics

Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

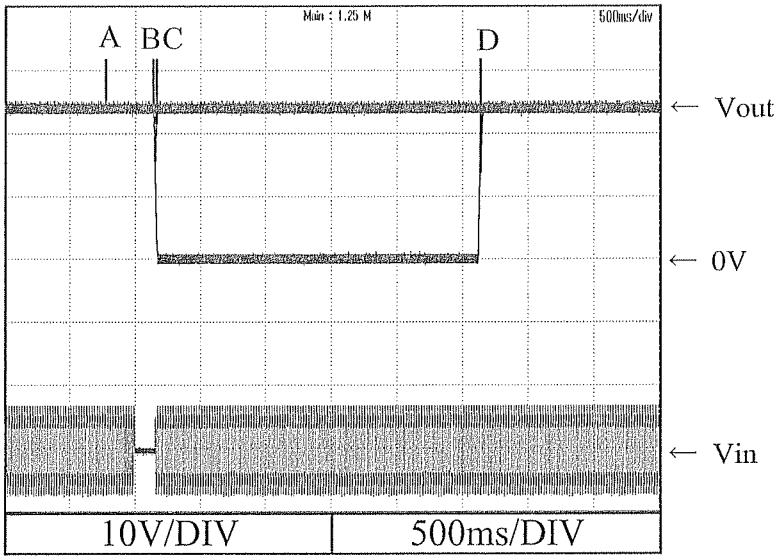
24V
(DRB50-24-1)

A = 138ms

B = 147ms

C = 154ms

D = 155ms



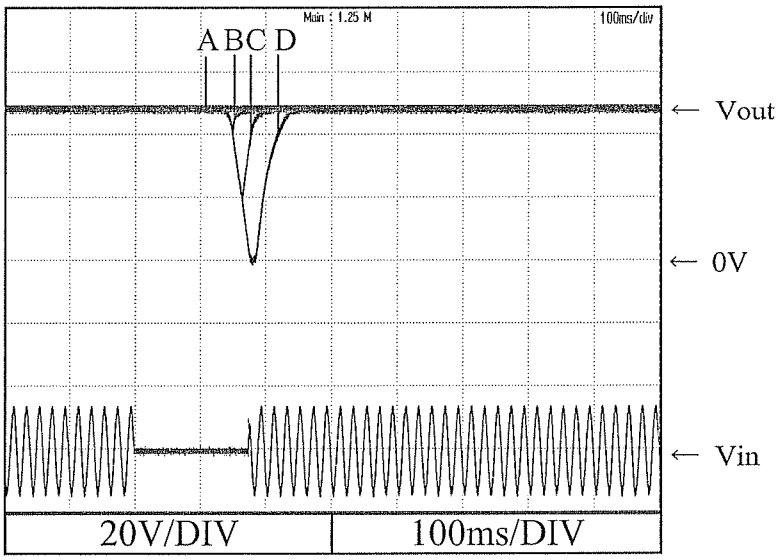
48V
(DRB50-48-1)

A = 137ms

B = 150ms

C = 165ms

D = 176ms

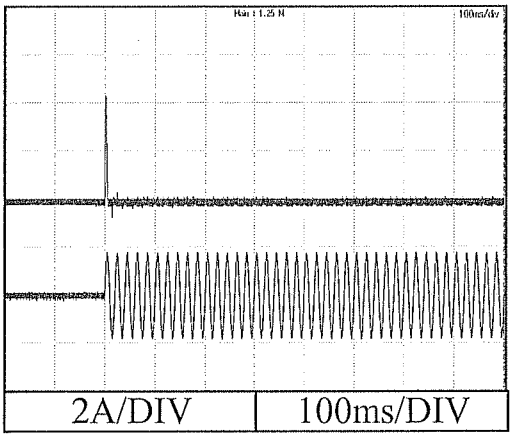


2.9 入力サージ電流（突入電流）波形
Inrush current waveform

5V
(DRB50-5-1)

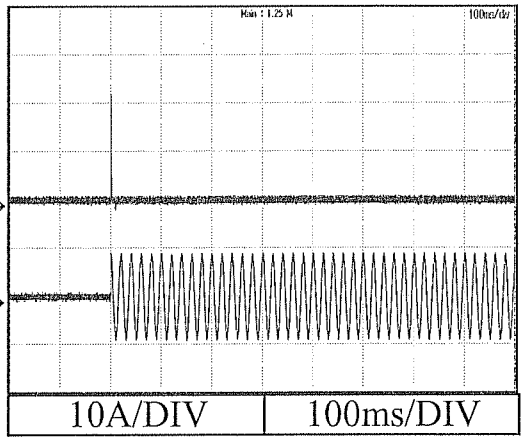
Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°



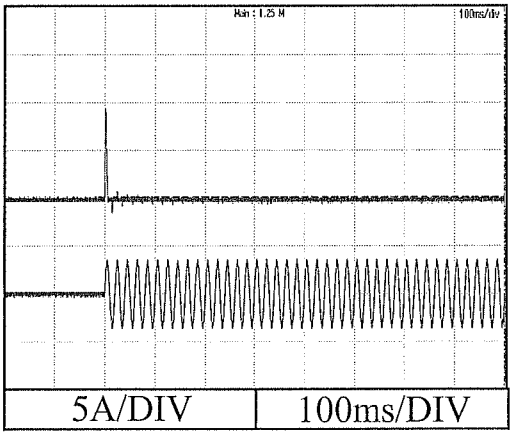
← Iin →
← Vin →

Switch on phase angle of input AC voltage
ϕ = 90°



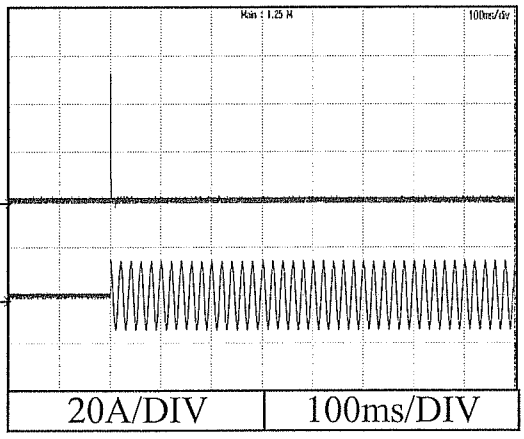
Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°



← Iin →
← Vin →

Switch on phase angle of input AC voltage
ϕ = 90°

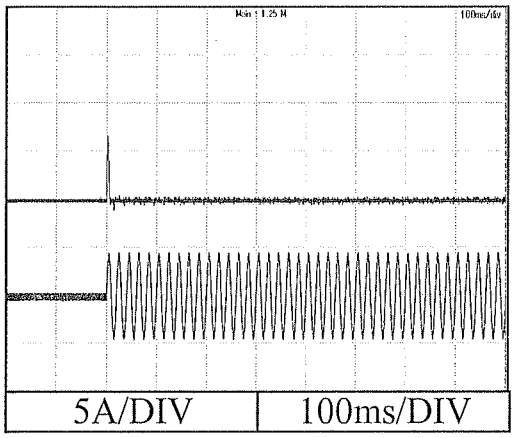


2.9 入力サージ電流（突入電流）波形
Inrush current waveform

15V
(DRB50-12-1)

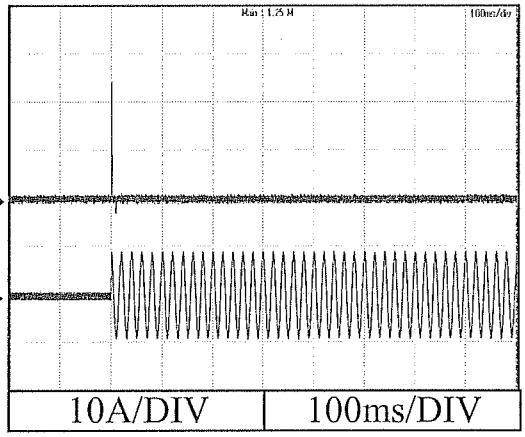
Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°



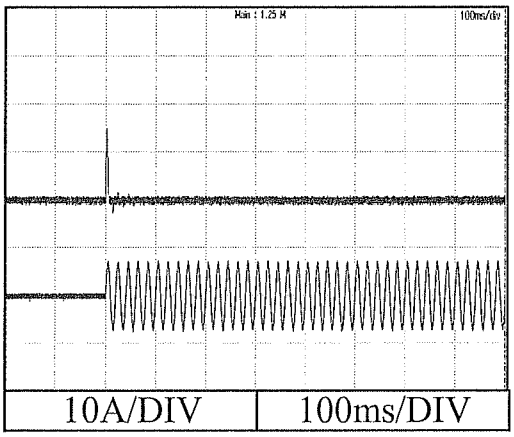
← Iin →
← Vin →

Switch on phase angle of input AC voltage
ϕ = 90°



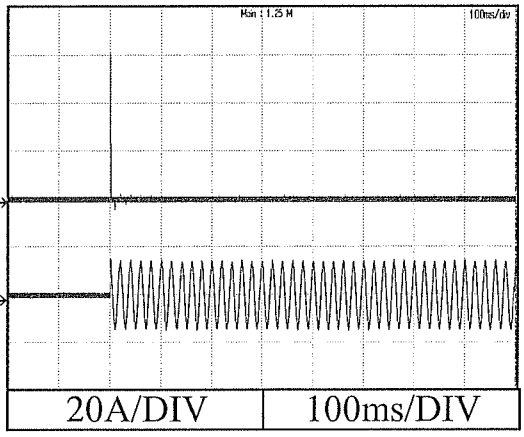
Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°



← Iin →
← Vin →

Switch on phase angle of input AC voltage
ϕ = 90°

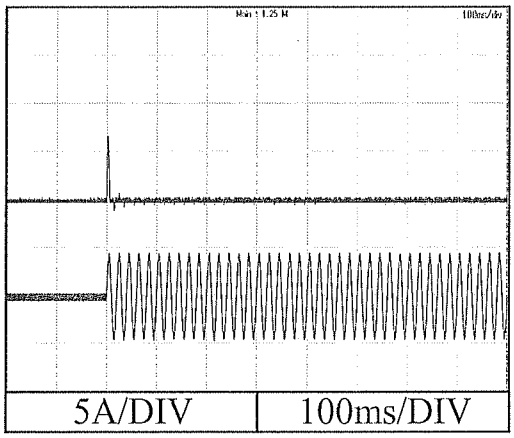


2.9 入力サージ電流（突入電流）波形
Inrush current waveform

24V
(DRB50-24-1)

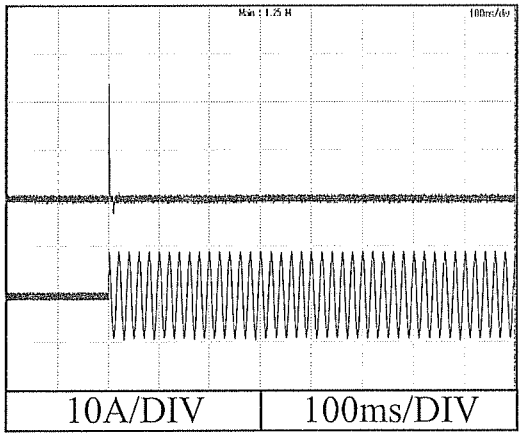
Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°



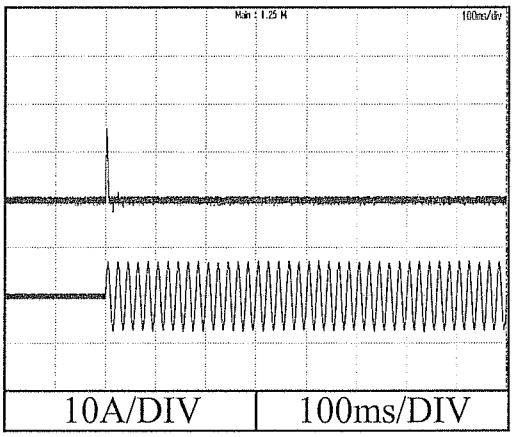
← Iin →
← Vin →

Switch on phase angle of input AC voltage
ϕ = 90°



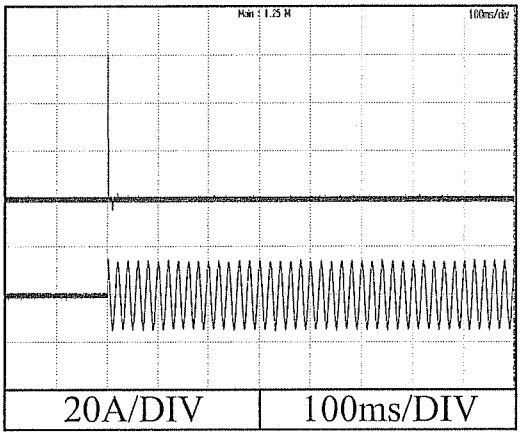
Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°



← Iin →
← Vin →

Switch on phase angle of input AC voltage
ϕ = 90°

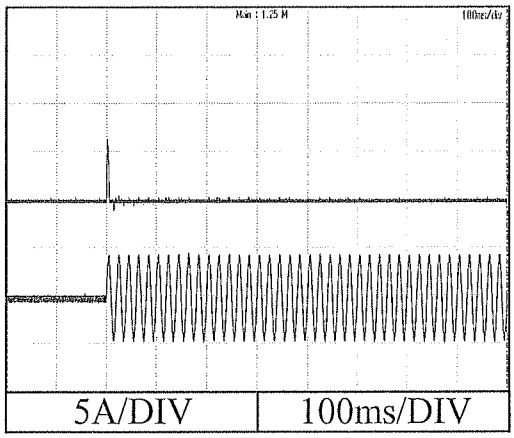


2.9 入力サージ電流（突入電流）波形
Inrush current waveform

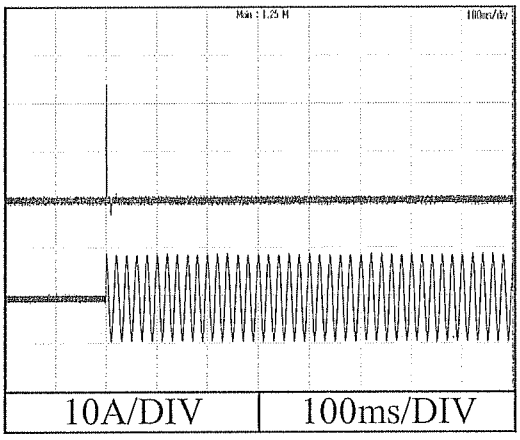
48V
(DRB50-48-1)

Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°

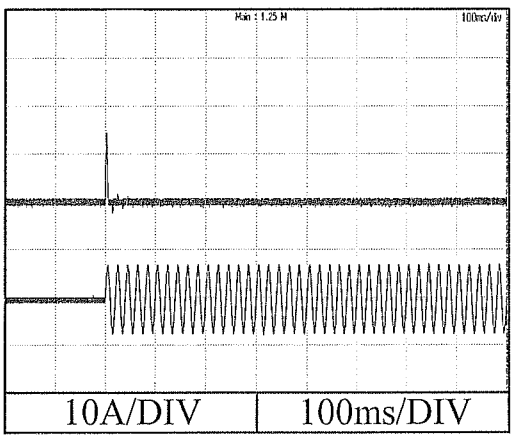


Switch on phase angle of input AC voltage
ϕ = 90°

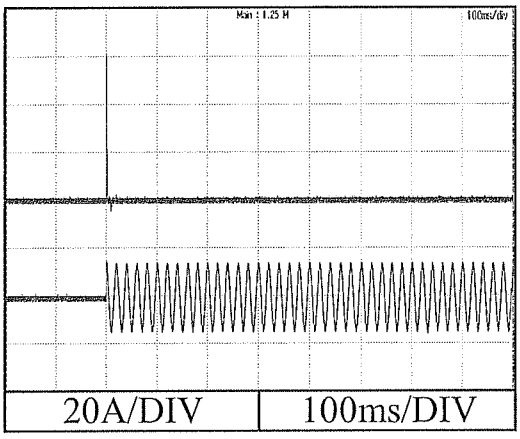


Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

Switch on phase angle of input AC voltage
ϕ = 0°



Switch on phase angle of input AC voltage
ϕ = 90°

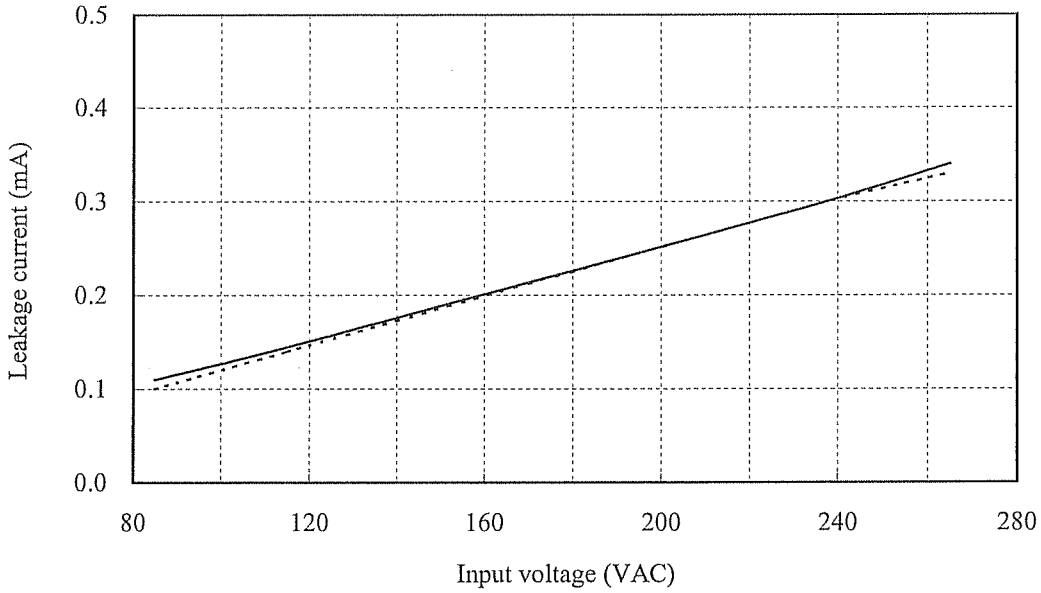


2. 10 リーク電流特性
Leakage current characteristics

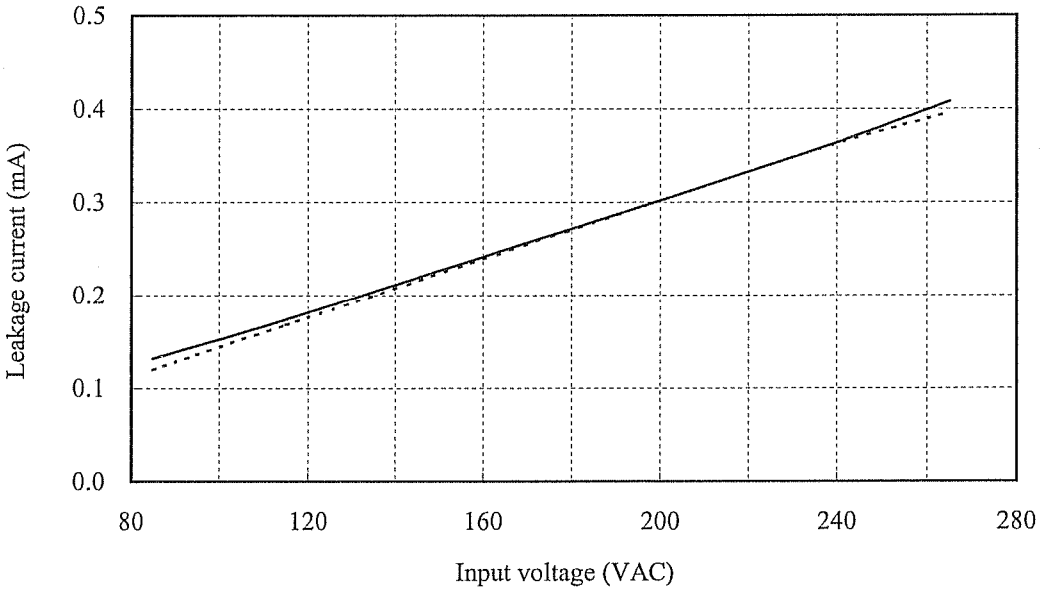
Conditions Iout : 0 % ------
100 % ———
Ta : 25 ℃
Equipment used : 228 (Simpson)

5V
(DRB50-5-1)

f : 50 Hz



f : 60 Hz

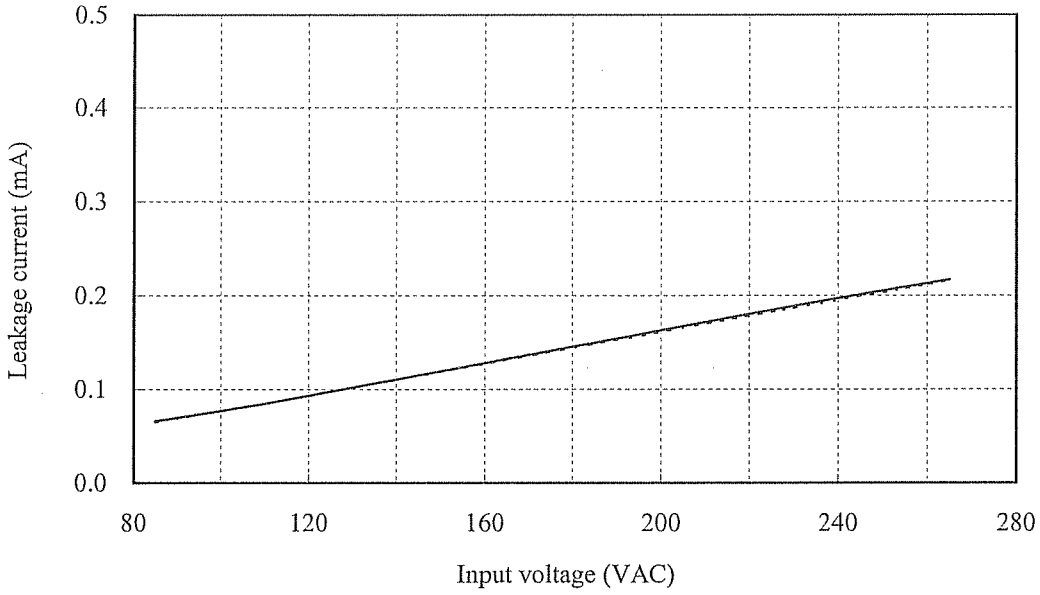


2. 10 リーク電流特性
Leakage current characteristics

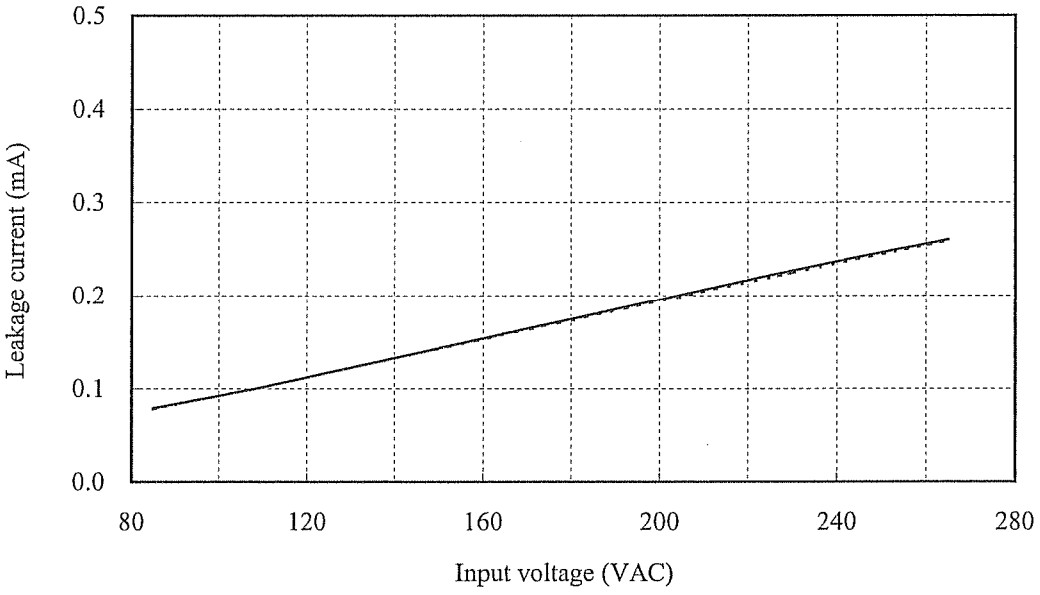
Conditions Iout : 0 % ------
100 % ———
Ta : 25 ℃
Equipment used : 228 (Simpson)

15V
(DRB50-12-1)

f : 50 Hz



f : 60 Hz

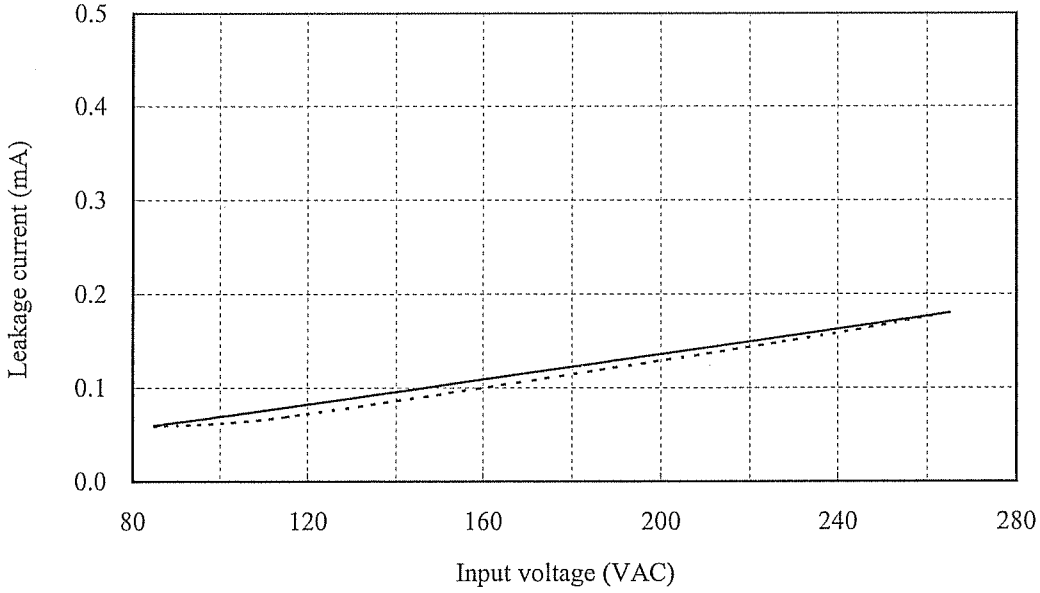


2. 10 リーク電流特性
Leakage current characteristics

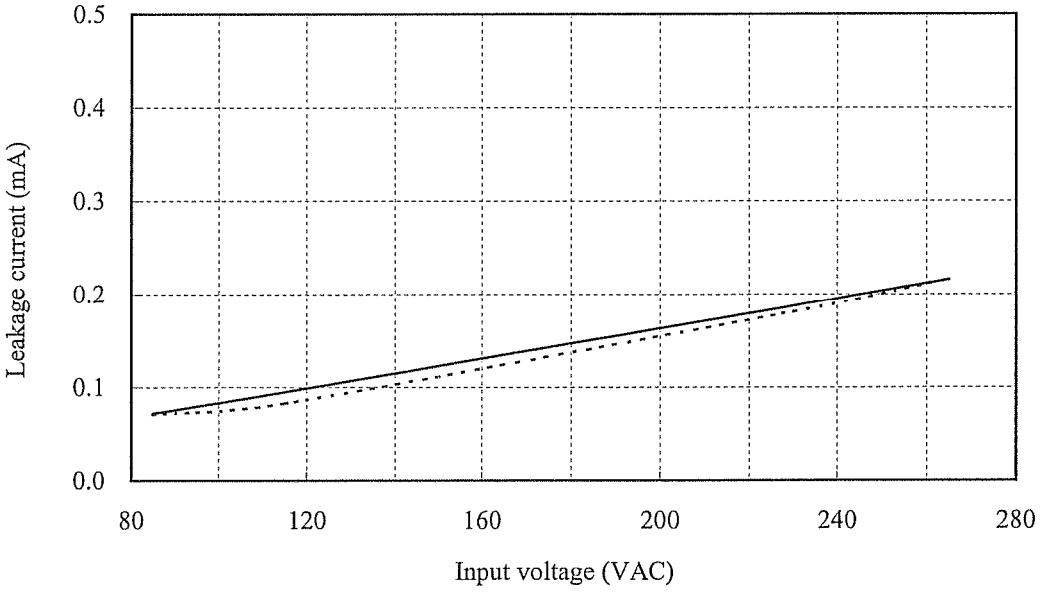
Conditions Iout : 0 % ------
100 % ——
Ta : 25 ℃
Equipment used : 228 (Simpson)

24V
(DRB50-24-1)

f : 50 Hz



f : 60 Hz

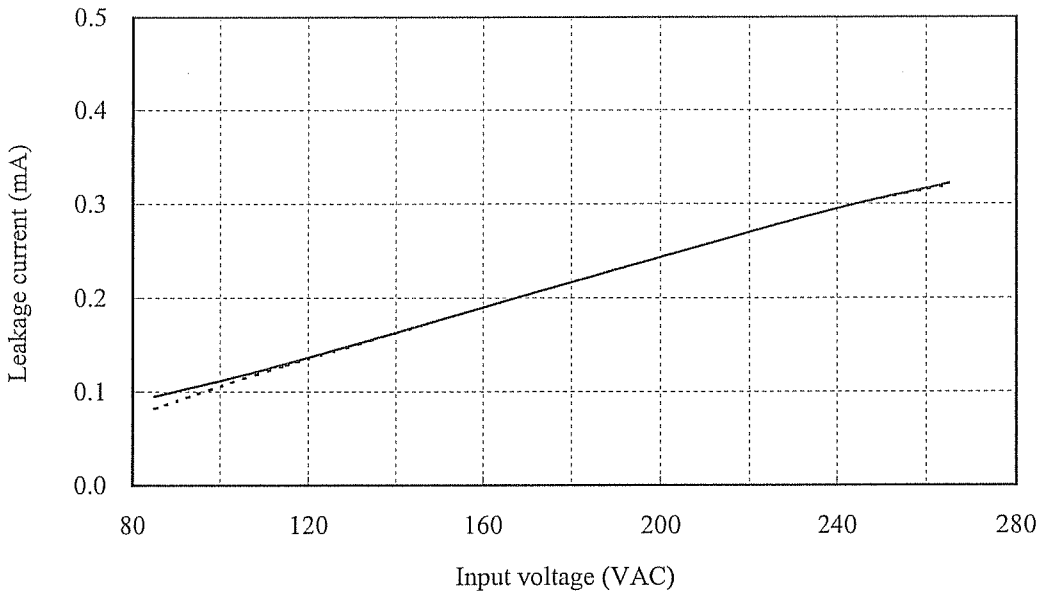


2. 10 リーク電流特性
Leakage current characteristics

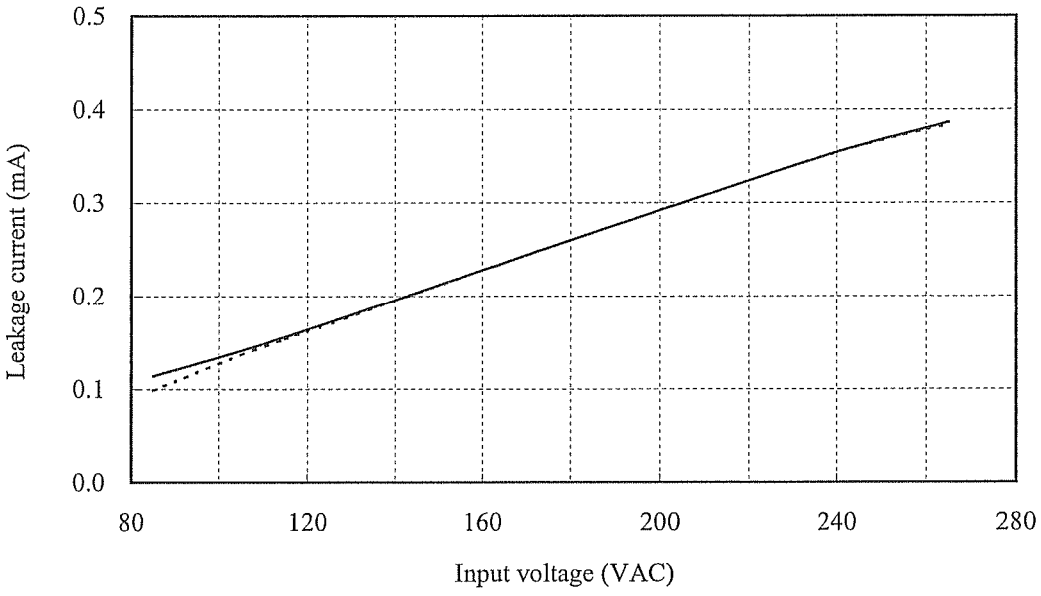
Conditions Iout : 0 % ------
100 % ———
Ta : 25 ℃
Equipment used : 228 (Simpson)

48V
(DRB50-48-1)

f : 50 Hz



f : 60 Hz

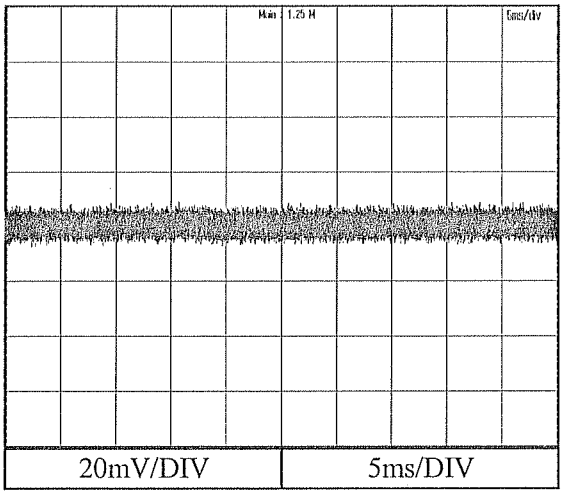


2. 11 出力リップル、ノイズ波形
Output ripple and noise waveform

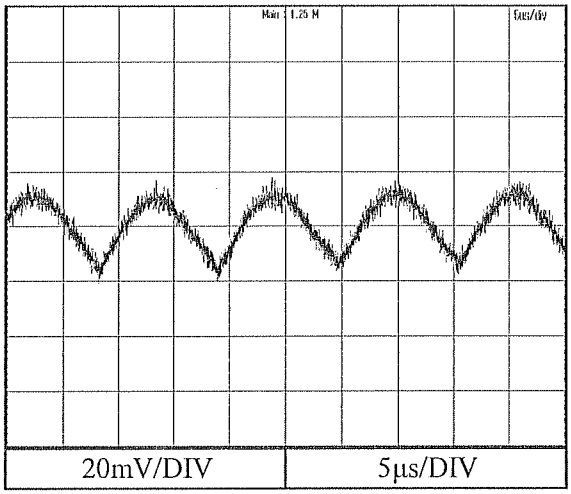
Conditions Vin : 115 VAC
Ta : 25 ℃

5V
(DRB50-5-1)

Iout : 0%

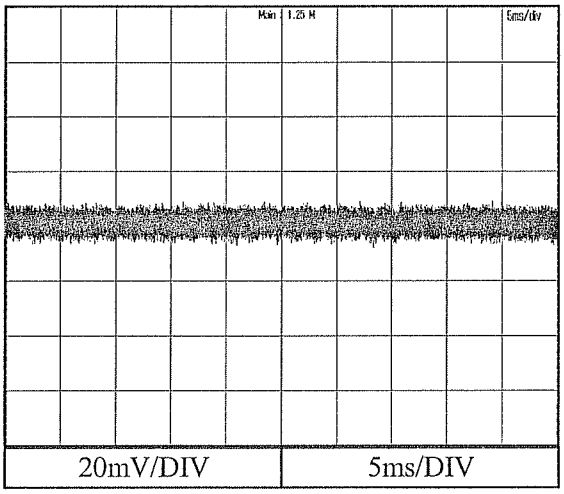


Iout : 100%

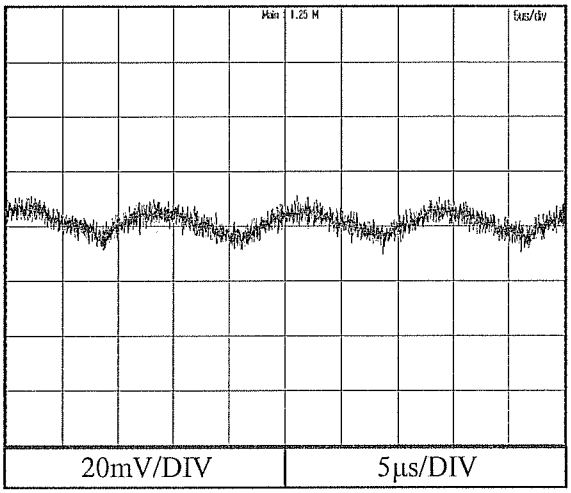


15V
(DRB50-12-1)

Iout : 0%



Iout : 100%

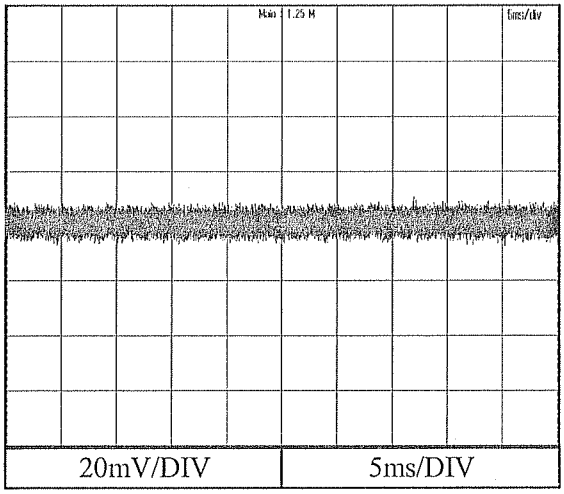


2. 11 出力リップル、ノイズ波形
Output ripple and noise waveform

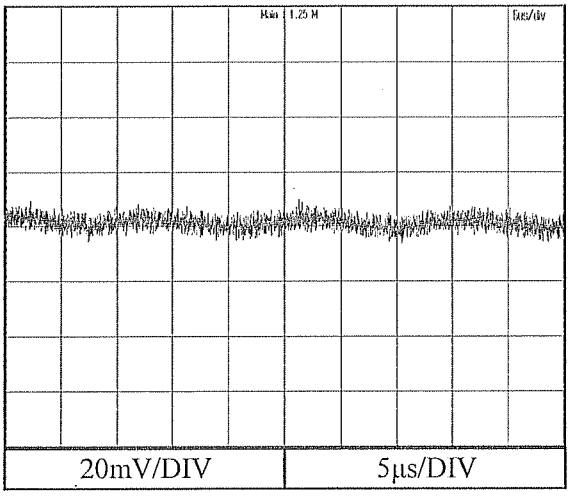
Conditions Vin : 115 VAC
Ta : 25 ℃

24V
(DRB50-24-1)

Iout : 0%

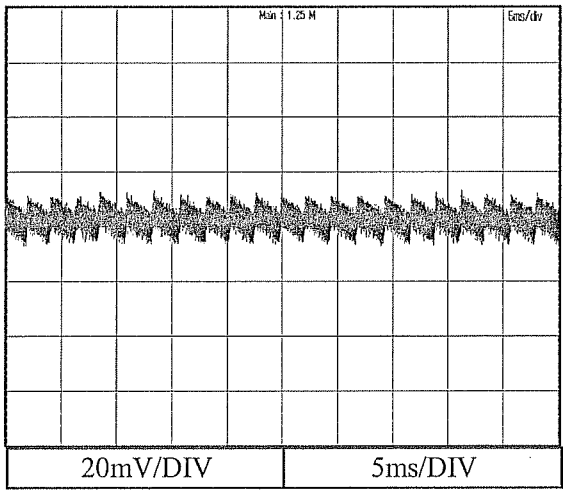


Iout : 100%

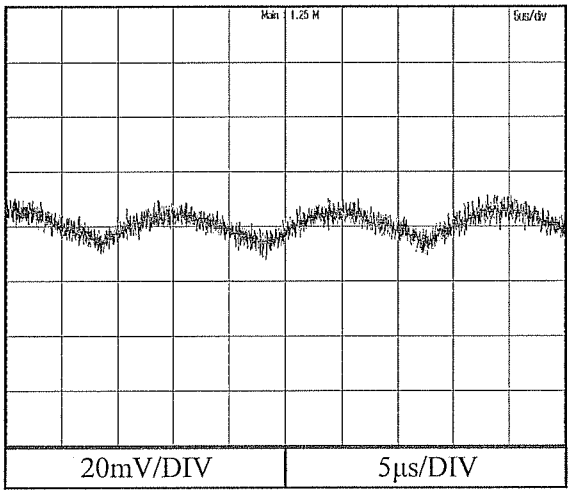


48V
(DRB50-48-1)

Iout : 0%



Iout : 100%

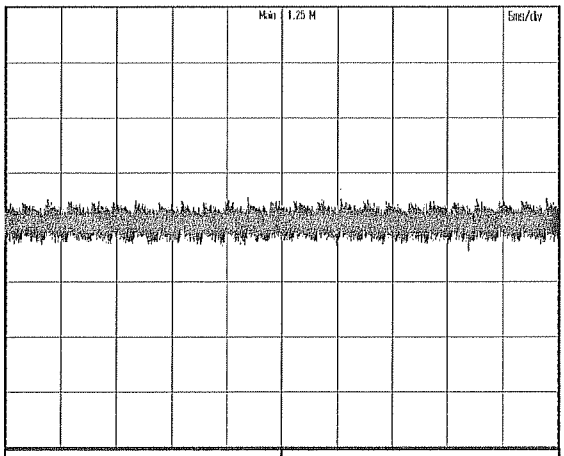


2. 11 出力リップル、ノイズ波形
Output ripple and noise waveform

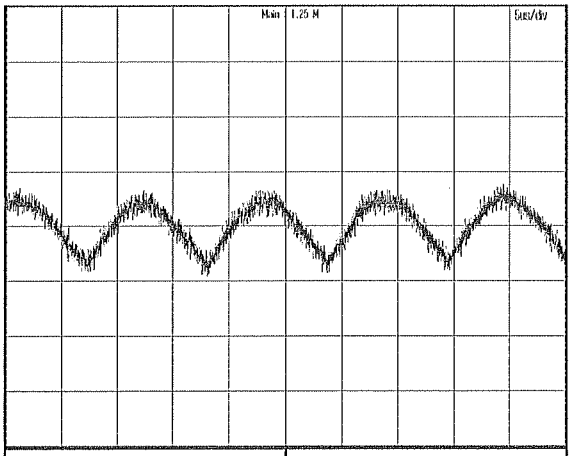
Conditions Vin : 230 VAC
Ta : 25 ℃

5V
(DRB50-5-1)

Iout : 0%

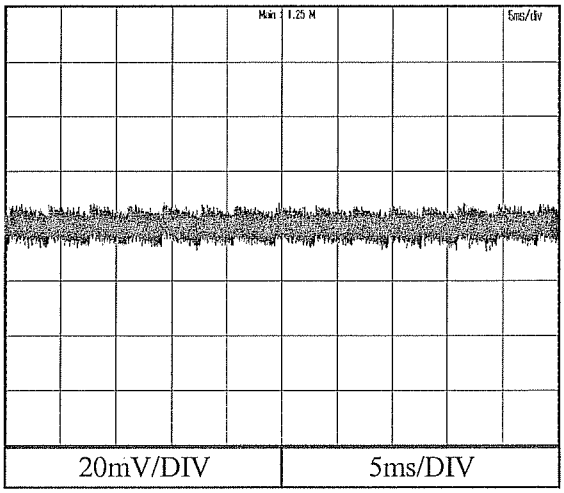


Iout : 100%

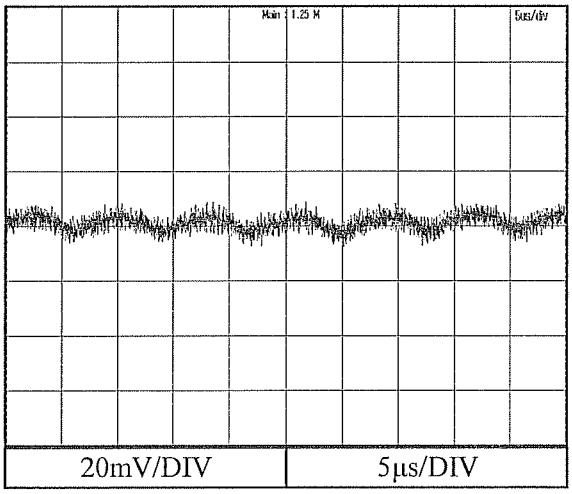


15V
(DRB50-12-1)

Iout : 0%



Iout : 100%

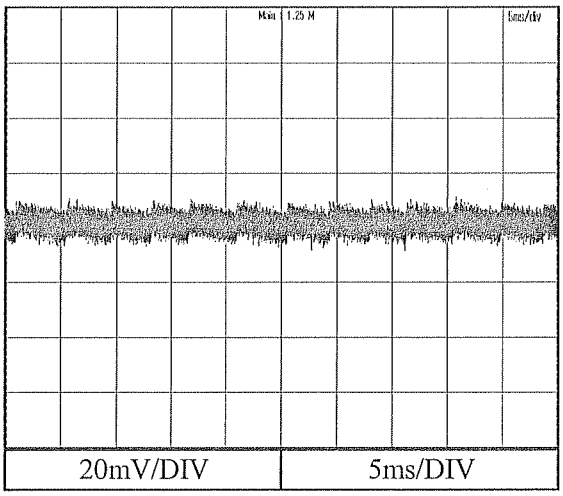


2. 11 出力リップル、ノイズ波形
Output ripple and noise waveform

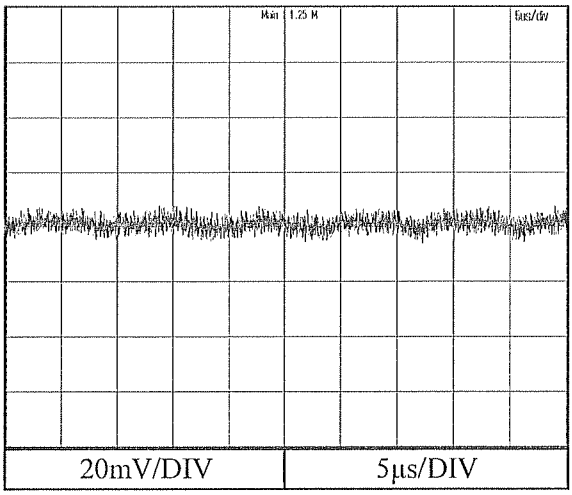
Conditions Vin : 230 VAC
Ta : 25 ℃

24V

(DRB50-24-1) Iout : 0%

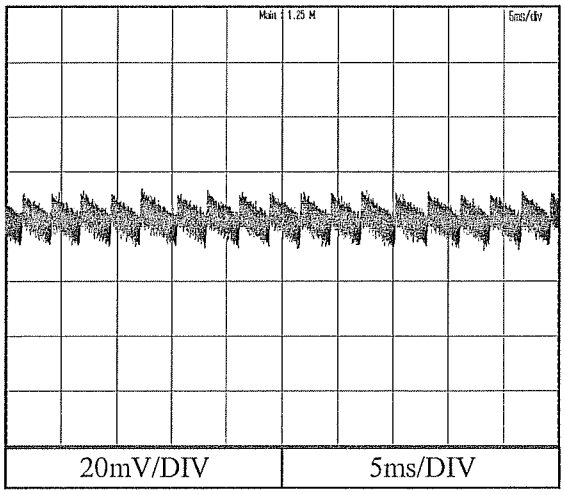


Iout : 100%

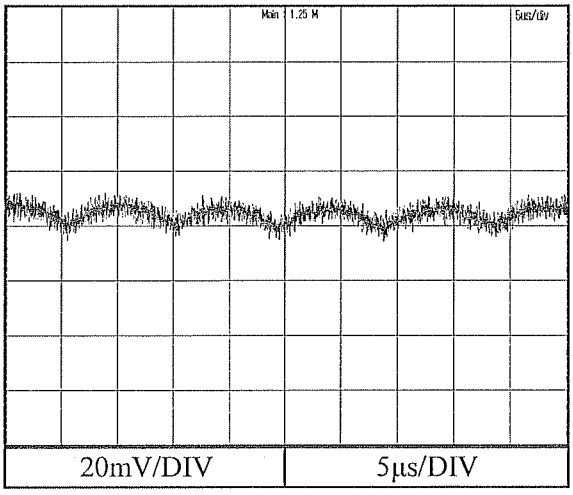


48V

(DRB50-48-1) Iout : 0%



Iout : 100%



2.12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

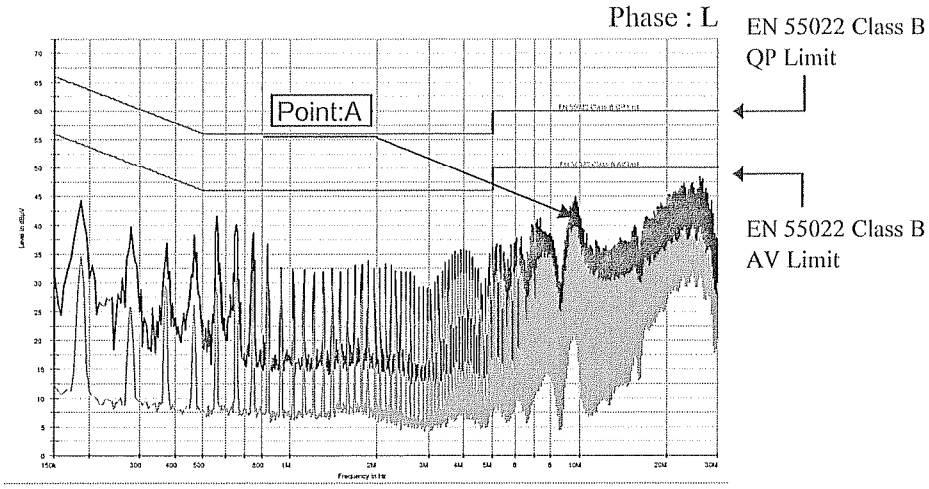
Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

雑音端子電圧
Conducted Emission

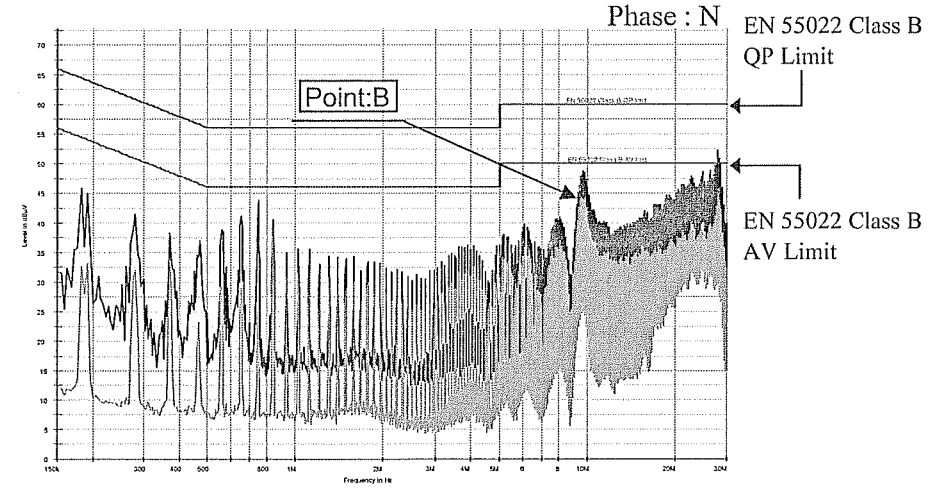
5V

(DRB50-5-1)

Ref. Data	Point A (9.4MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	42.7
AV	50.0	39.9



Ref. Data	Point B (9.6MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	47.3
AV	50.0	44.4



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2. 12 ＥＭＩ特性

Electro-Magnetic Interference characteristics

Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

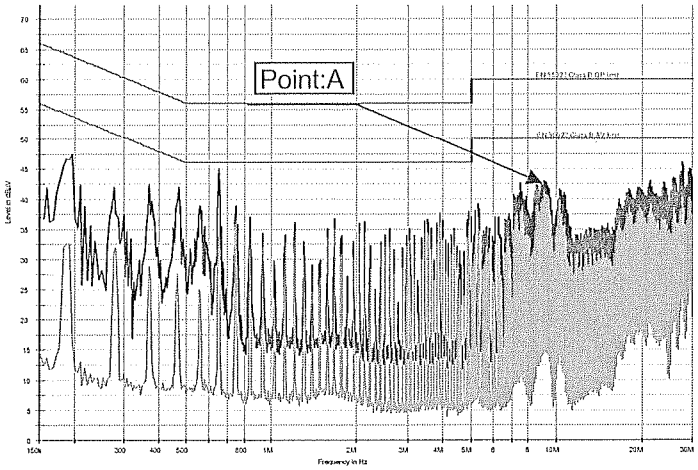
雑音端子電圧

Conducted Emission

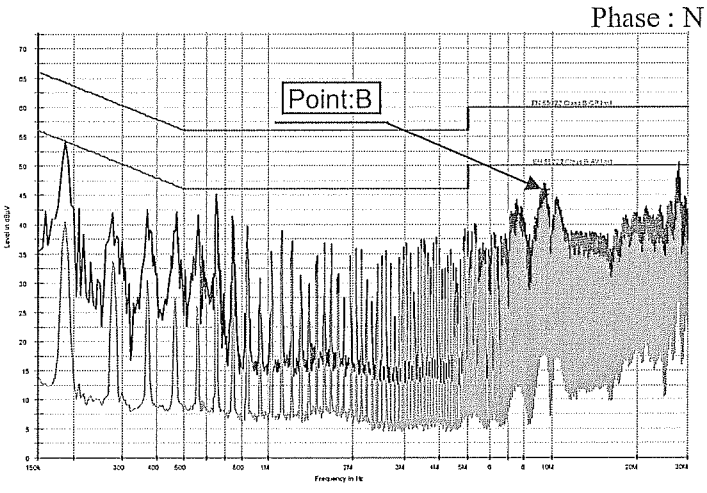
5V

(DRB50-5-1)

Ref. Data	Point A (9.001MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	42.0
AV	50.0	41.6



Ref. Data	Point B (9.465MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	45.9
AV	50.0	44.8



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

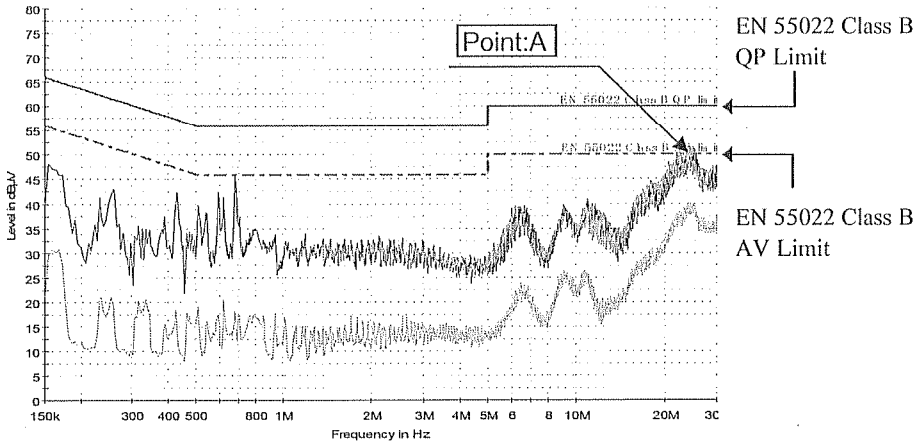
雑音端子電圧
Conducted Emission

15V

(DRB50-12-1)

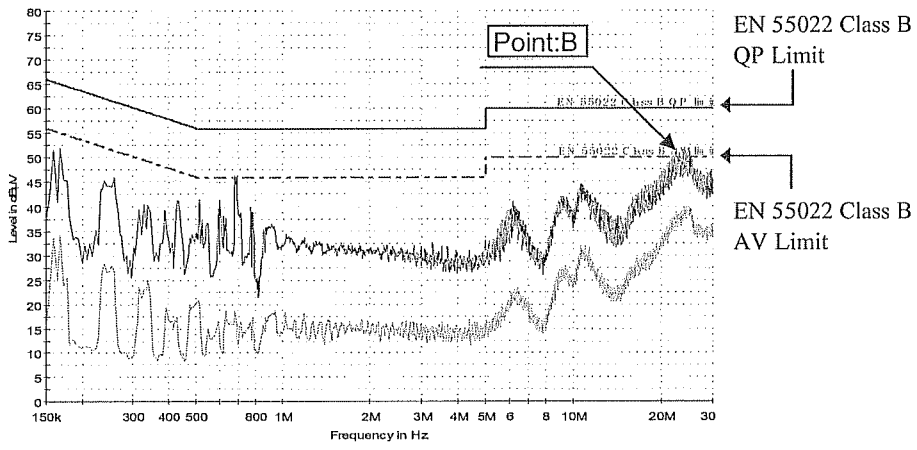
Ref. Data	Point A (26MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	53.0
AV	50.0	43.5

Phase : L



Ref. Data	Point B (27MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	53.0
AV	50.0	42.5

Phase : N



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

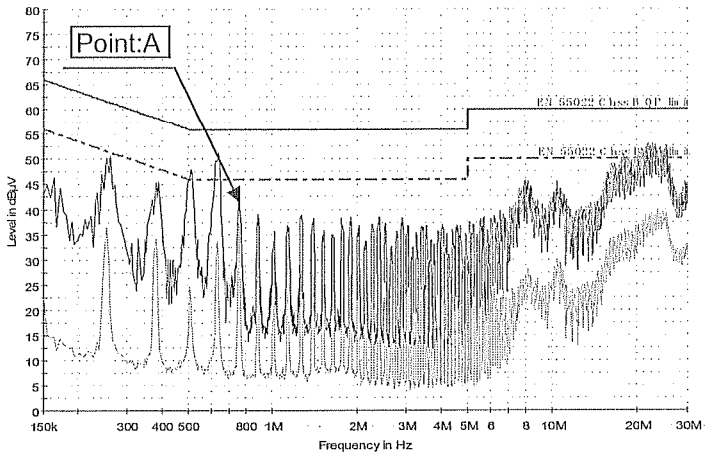
雑音端子電圧
Conducted Emission

15V

(DRB50-12-1)

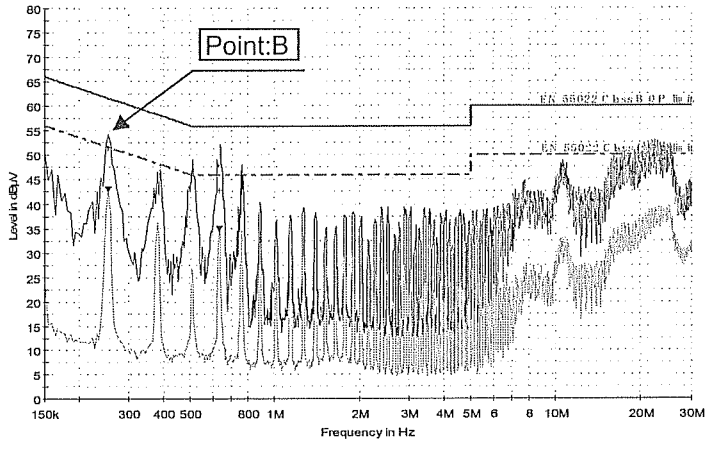
Phase : L

Ref. Data	Point A (0.74MHz) Limit (dBuV)	Measure (dBuV)
QP	56.0	44.1
AV	46.0	39.5



Phase : N

Ref. Data	Point B (0.25MHz) Limit (dBuV)	Measure (dBuV)
QP	61.3	51.3
AV	51.3	42.5



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

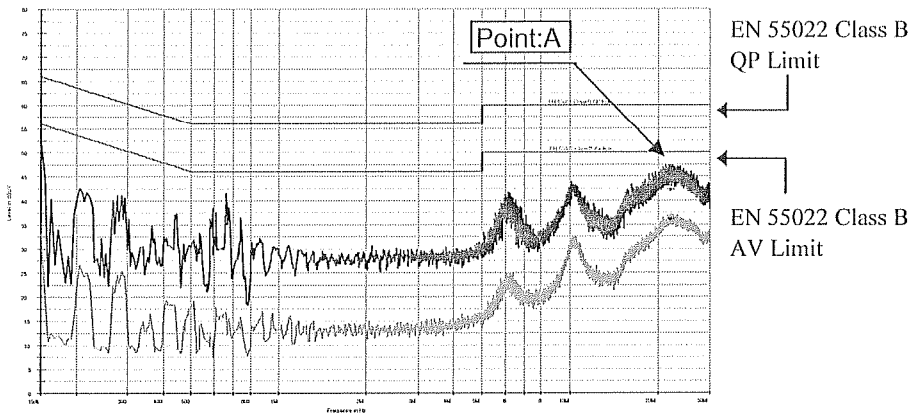
雑音端子電圧
Conducted Emission

24V

(DRB50-24-1)

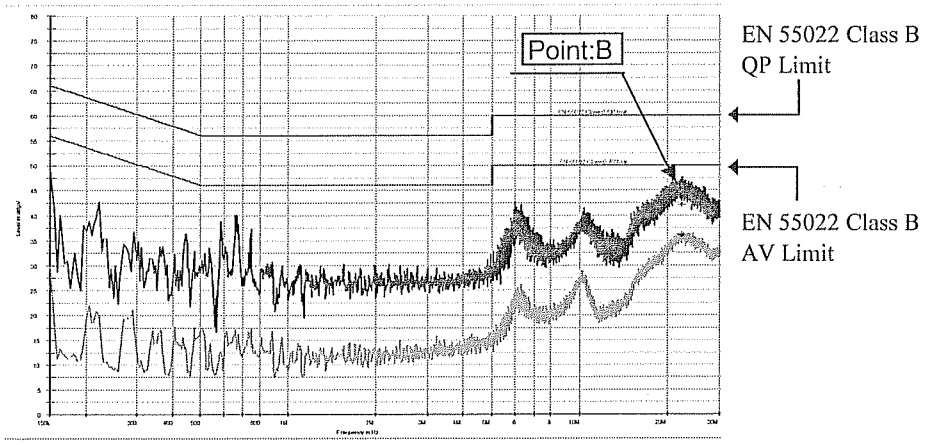
Ref. Data	Point A (22.3MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	42.2
AV	50.0	36.0

Phase : L



Ref. Data	Point B (22.3MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	42.1
AV	50.0	35.8

Phase : N



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

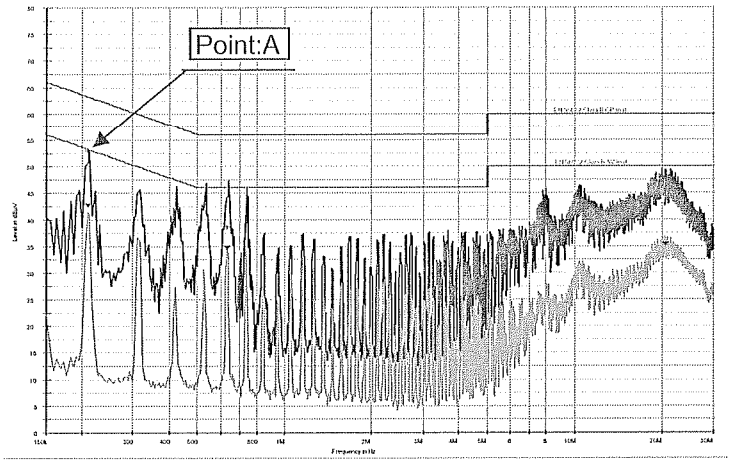
雑音端子電圧
Conducted Emission

24V

(DRB50-24-1)

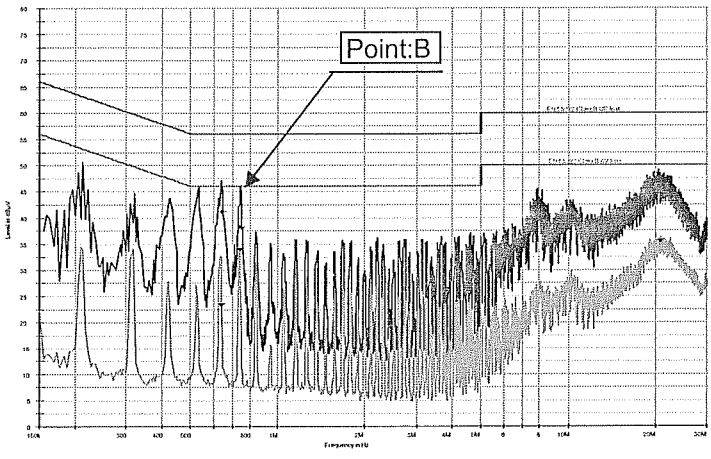
Ref. Data	Point A (0.208MHz) Limit (dBuV)	Measure (dBuV)
QP	62.9	53.0
AV	51.9	42.8

Phase : L



Ref. Data	Point B (0.735MHz) Limit (dBuV)	Measure (dBuV)
QP	56.0	38.3
AV	46.0	33.9

Phase : N



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

Conditions Vin : 115 VAC
Iout : 100 %
Ta : 25 ℃

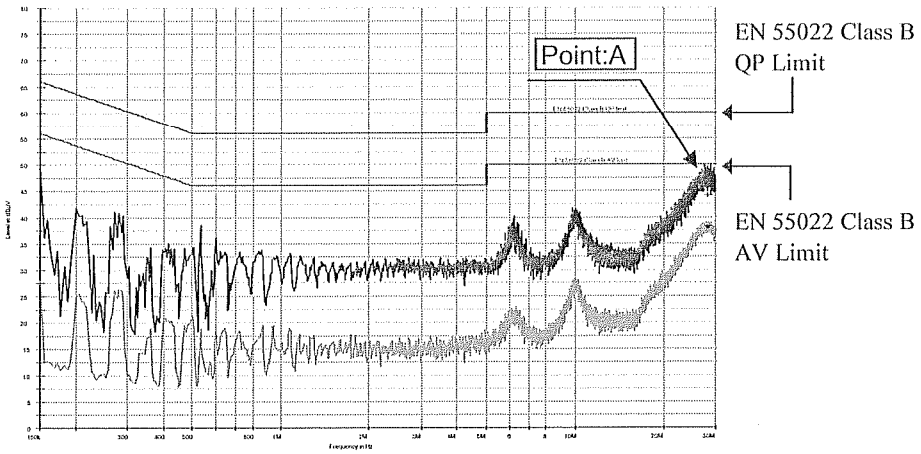
雑音端子電圧
Conducted Emission

48V

(DRB50-48-1)

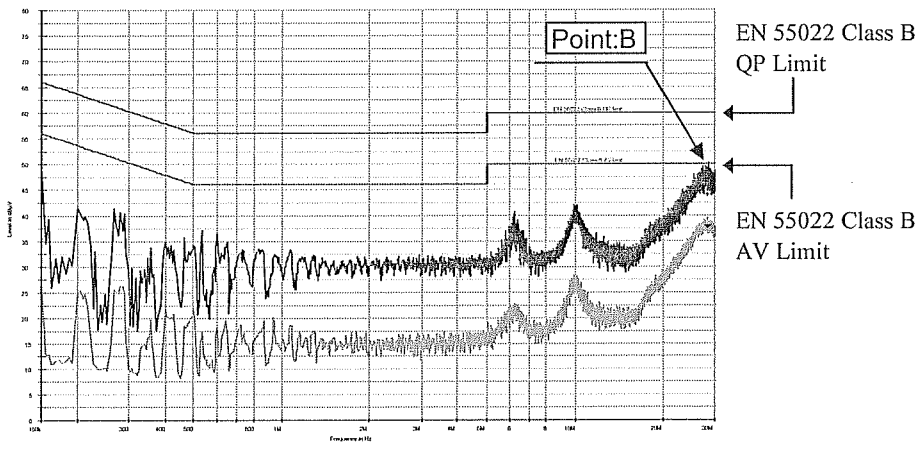
Ref. Data	Point A (28.3MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	44.2
AV	50.0	38.0

Phase : L



Ref. Data	Point B (28.3MHz) Limit (dBuV)	Measure (dBuV)
QP	60.0	44.0
AV	50.0	37.8

Phase : N



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2.12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 ℃

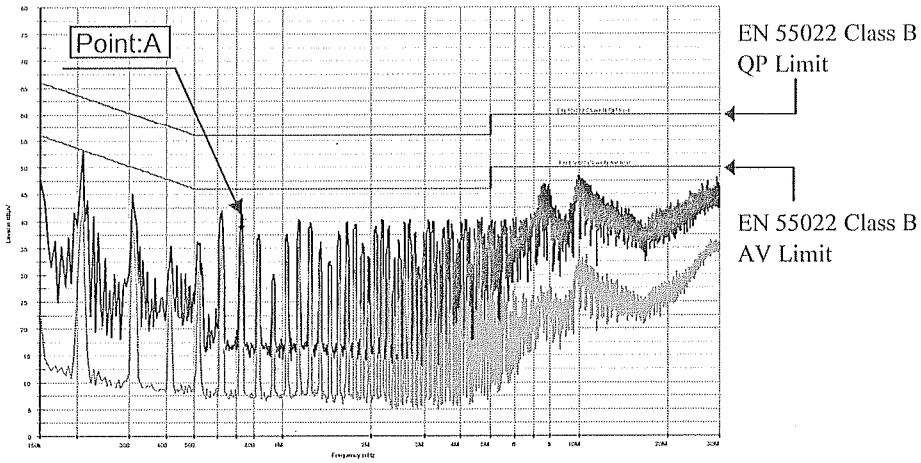
雑音端子電圧
Conducted Emission

48V

(DRB50-48-1)

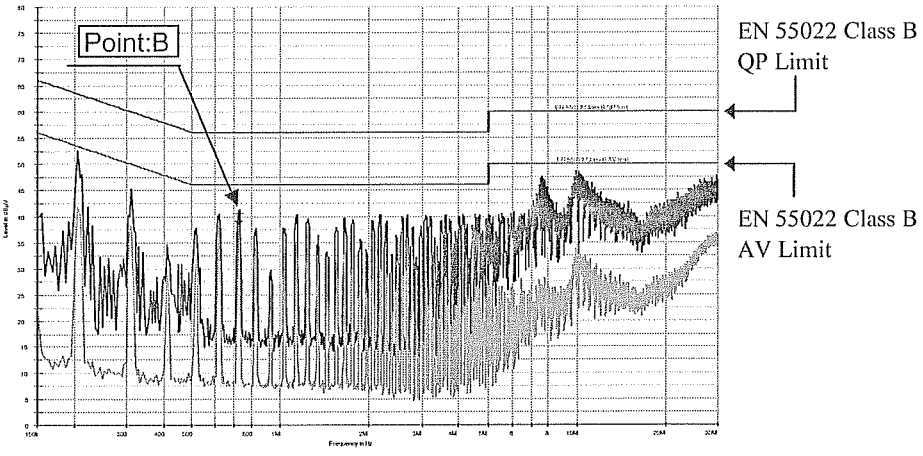
Ref. Data	Point A (0.721MHz) Limit (dBuV)	Measure (dBuV)
QP	56.0	40.6
AV	46.0	38.8

Phase : L



Phase : N

Ref. Data	Point B (0.721MHz) Limit (dBuV)	Measure (dBuV)
QP	56.0	40.5
AV	46.0	38.8



EN55011-B,VCCI-B,FCC-Bの限界値はEN55022 class Bの限界値と同じ
Limit of EN55011-B,VCCI-B,FCC-B are same as its EN55022 class B.

2.12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

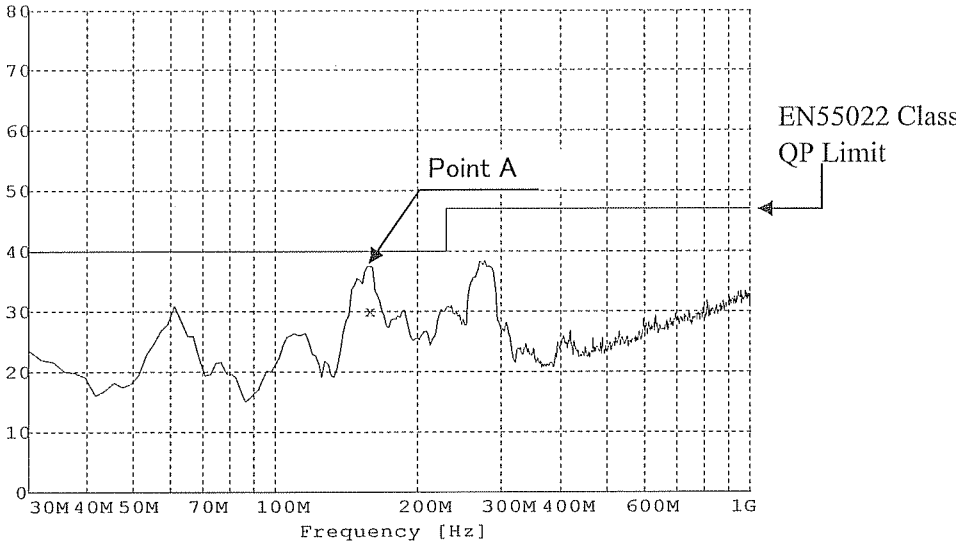
Conditions Vin : 115 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

5V
(DRB50-5-1)

HORIZONTAL

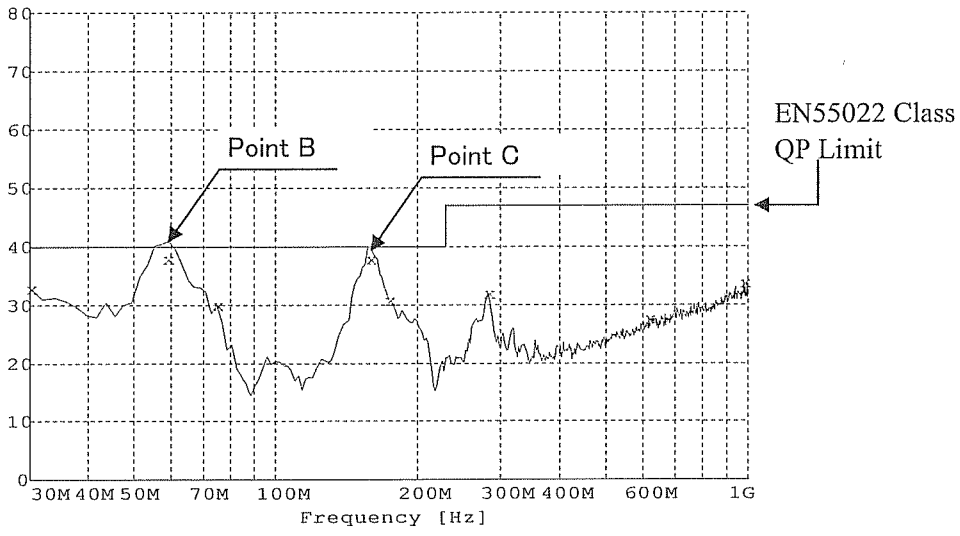
Ref. Data	Point A (58.73MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	30.1



VERTICAL

Ref. Data	Point B (58.73MHz) Limit (dBuV)	Measure (dBuV)
V	40.0	36.7

Ref. Data	Point C (156.7MHz) Limit (dBuV)	Measure (dBuV)
V	40.0	36.8



2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

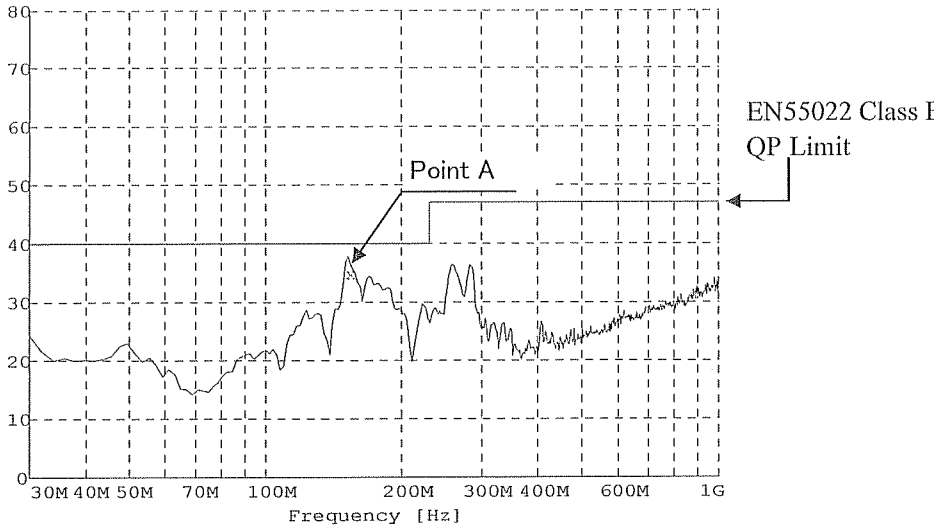
Conditions Vin : 230 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

5V
(DRB50-5-1)

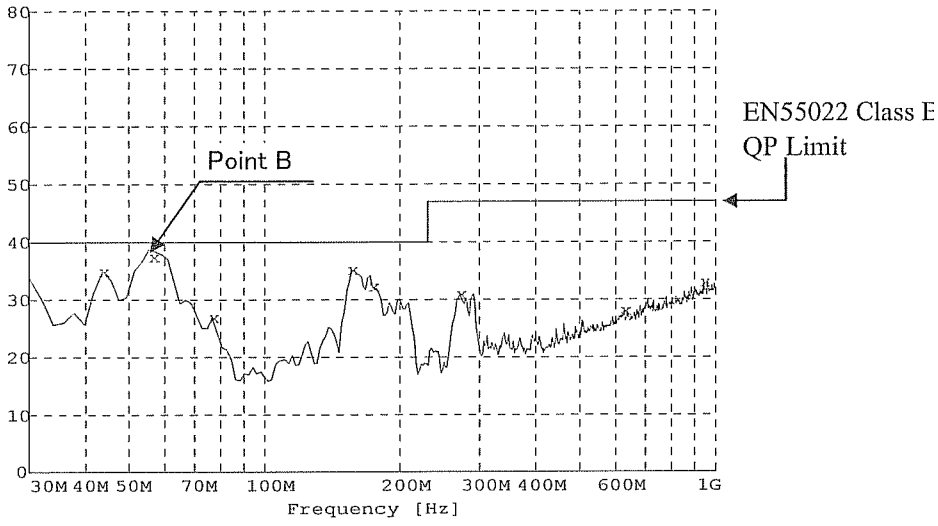
HORIZONTAL

Ref. Data	Point A (152.99MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	34.9



VERTICAL

Ref. Data	Point B (56.47MHz) Limit (dBuV)	Measure (dBuV)
V	40.0	36.5



2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

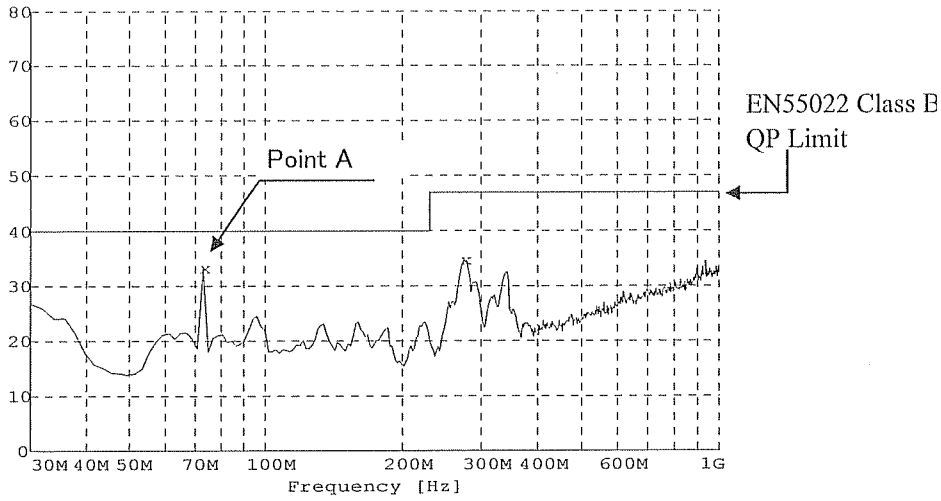
Conditions Vin : 115 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

15V
(DRB50-12-1)

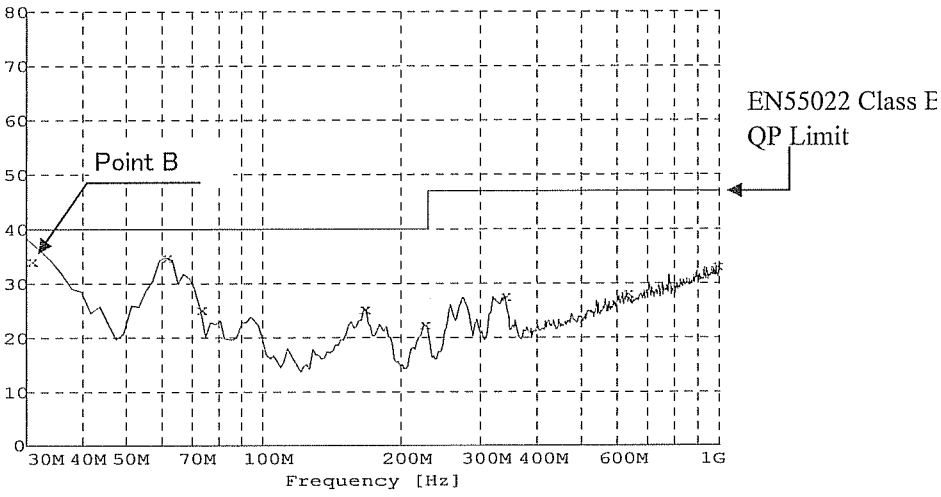
HORIZONTAL

Ref. Data	Point A (72MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	33.3



VERTICAL

Ref. Data	Point B (34MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	34.2



2.12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

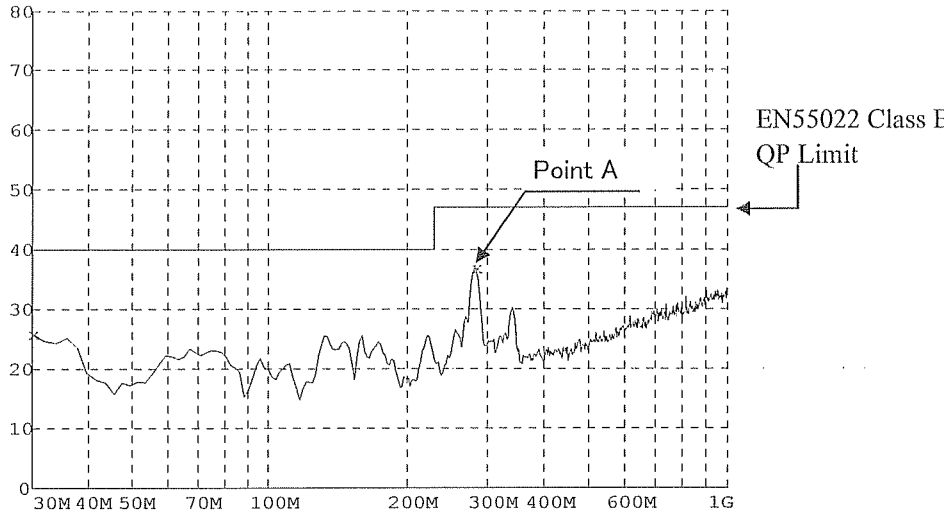
Conditions Vin : 230 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

15V
(DRB50-12-1)

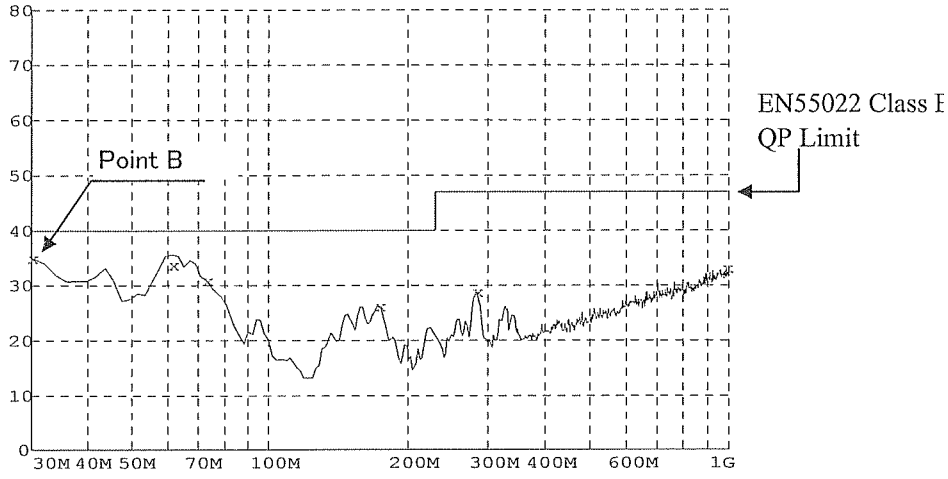
HORIZONTAL

Ref. Data	Point A (280MHz) Limit (dBuV)	Measure (dBuV)
H	47.0	36.8



VERTICAL

Ref. Data	Point B (34MHz) Limit (dBuV)	Measure (dBuV)
V	40.0	33.7



2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

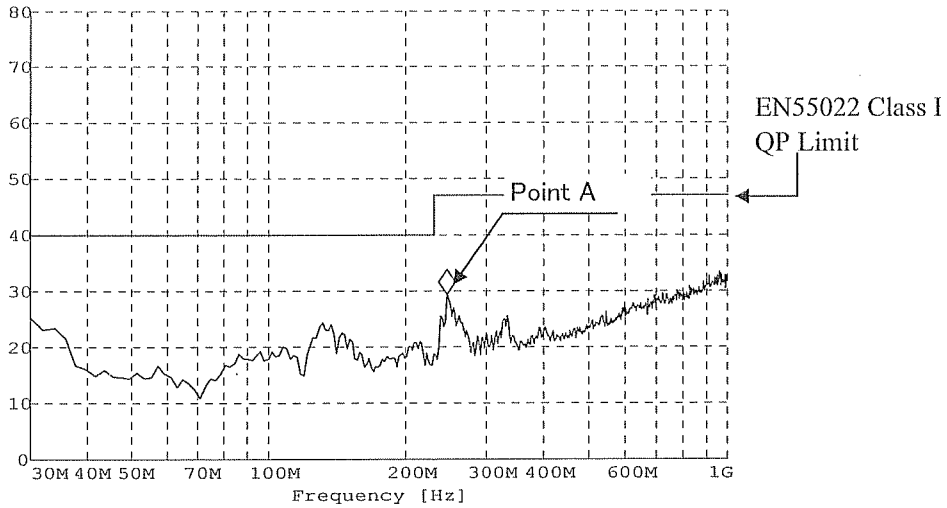
Conditions Vin : 115 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

24V
(DRB50-24-1)

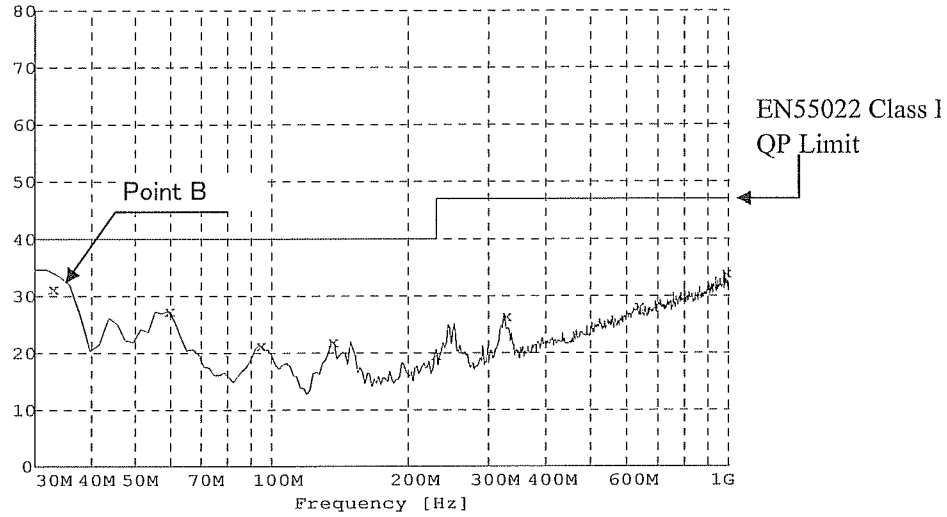
HORIZONTAL

Ref. Data	Point A (245.7MHz) Limit (dBuV)	Measure (dBuV)
H	47.0	29.4



VERTICAL

Ref. Data	Point B (35MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	31.3



2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

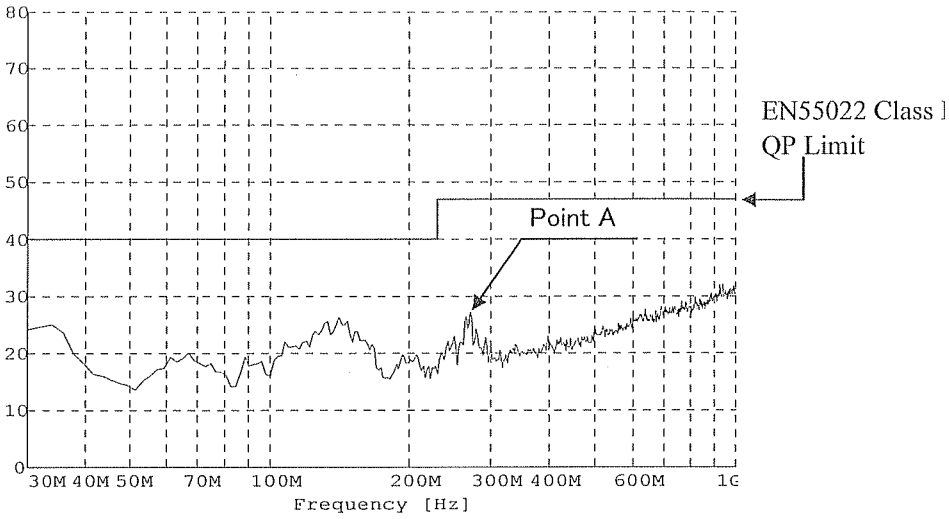
Conditions Vin : 230 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

24V
(DRB50-24-1)

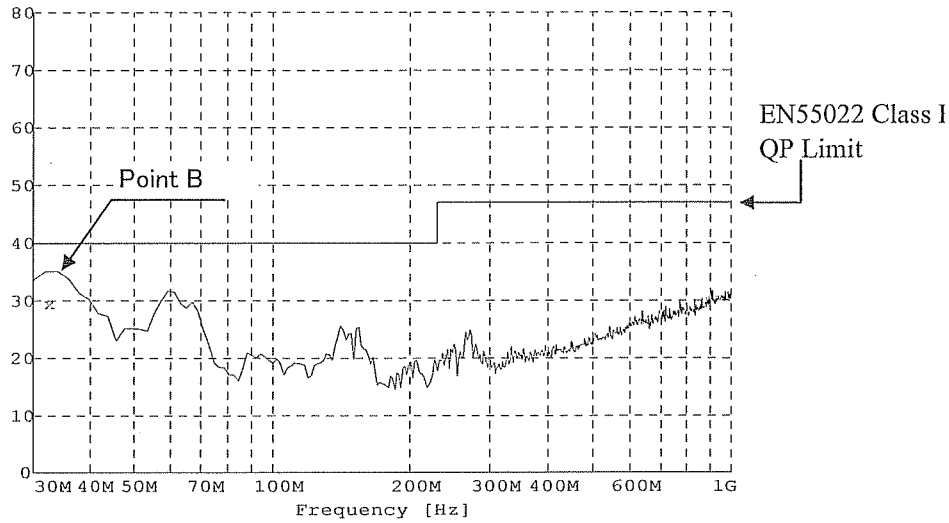
HORIZONTAL

Ref. Data	Point A (245MHz) Limit (dBuV)	Measure (dBuV)
H	47.0	30.8



VERTICAL

Ref. Data	Point B (34.5MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	31.2



2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

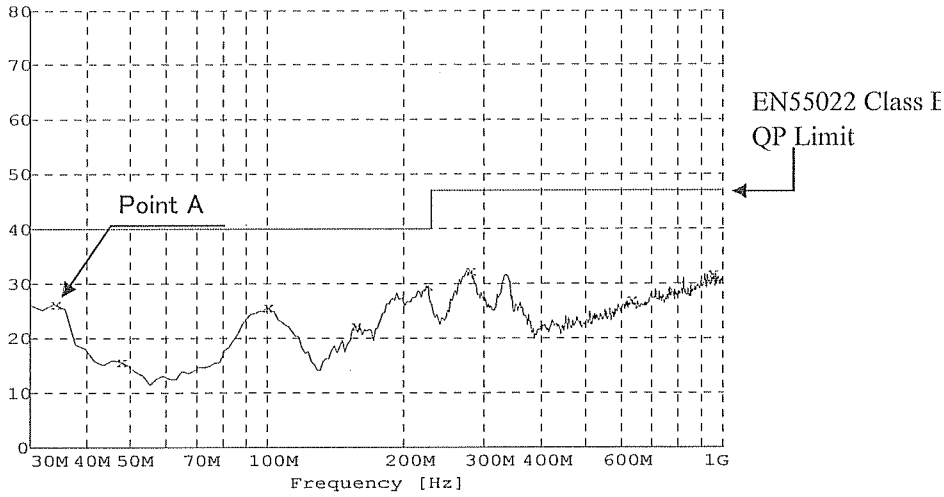
Conditions Vin : 115 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

48V
(DRB50-48-1)

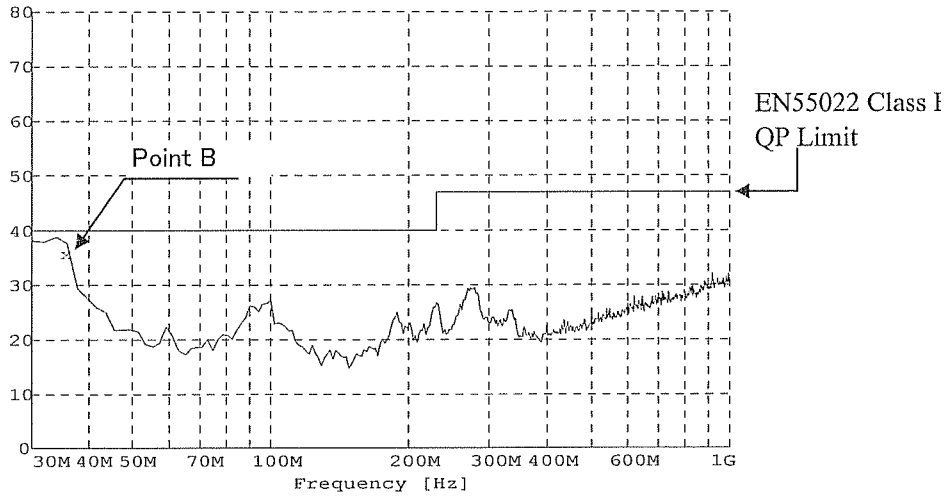
HORIZONTAL

Ref. Data	Point A (33.8MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	26.3



VERTICAL

Ref. Data	Point B (35.3MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	35.7



2. 12 ＥＭＩ特性
Electro-Magnetic Interference characteristics

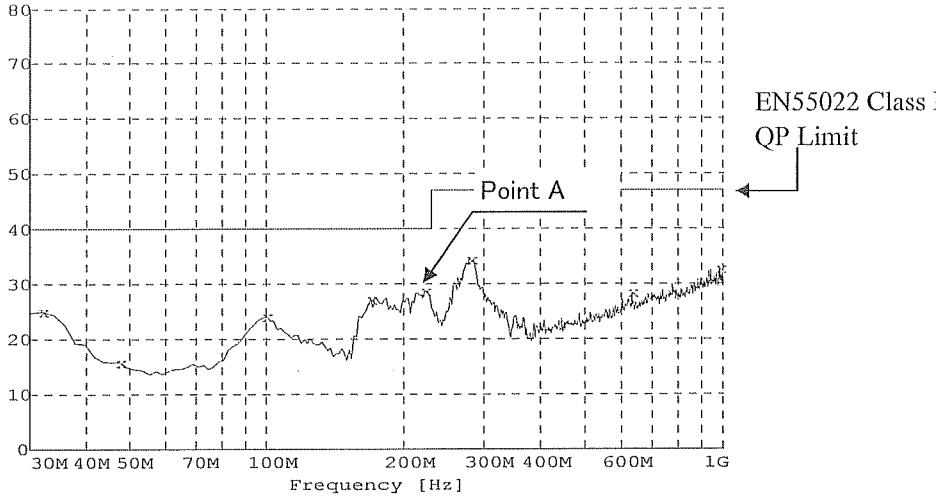
Conditions Vin : 230 VAC
Io : 100 %
Ta : 25 ℃

雑音電界強度
Radiated Emission

48V
(DRB50-48-1)

HORIZONTAL

Ref. Data	Point A (222.4MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	28.6



VERTICAL

Ref. Data	Point B (32.7MHz) Limit (dBuV)	Measure (dBuV)
H	40.0	33.4