HWS600L

(3V,15V,36V,48V,60V Models)

EVALUATION DATA

CA771-53-02A

INDEX

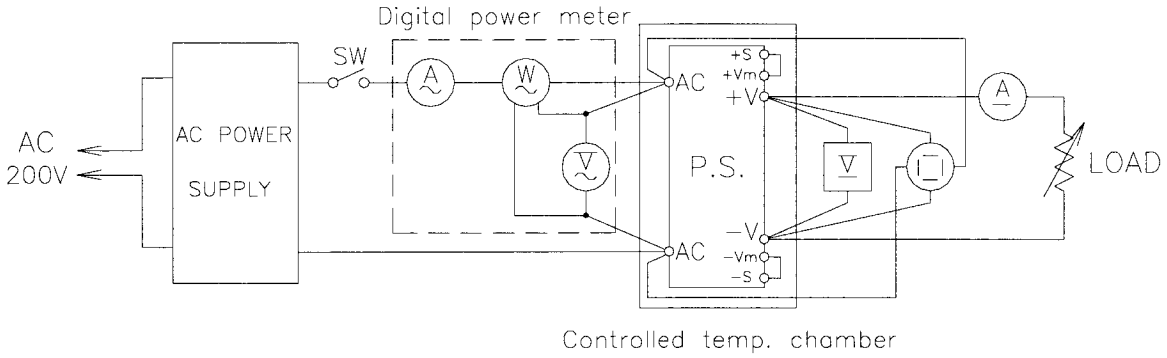
Terminology used

	Definition	
Vin	. . . . .	Input voltage
Vout	. . . . .	Output voltage
Iin	. . . . .	Input current
Iout	. . . . .	Output current
Ta	. . . . .	Ambient temperature
f	. . . . .	Frequency
FG	. . . . .	Frame Ground

1. Evaluation Method

1.1 Circuit used for determination

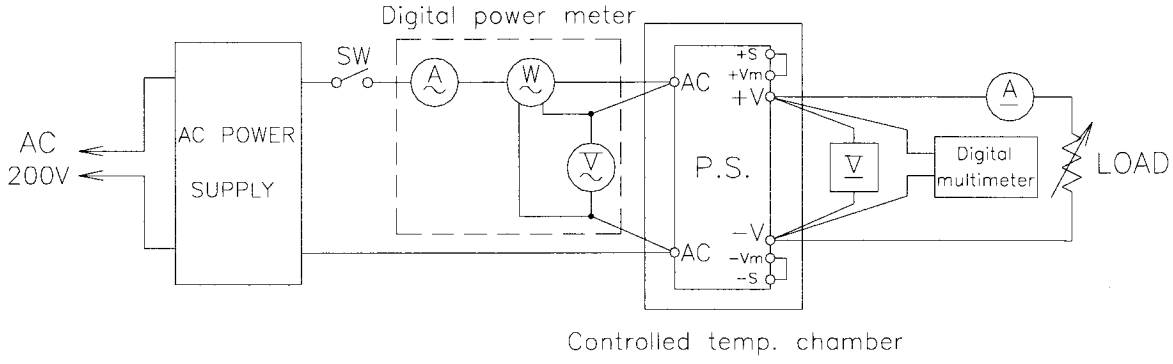
(1) Steady state data



(2) Warm up voltage drift characteristics

Same as Steady state data

(3) Over current protection (OCP) characteristics



(4) Over voltage protection (OVP) characteristics

Same as Steady state data

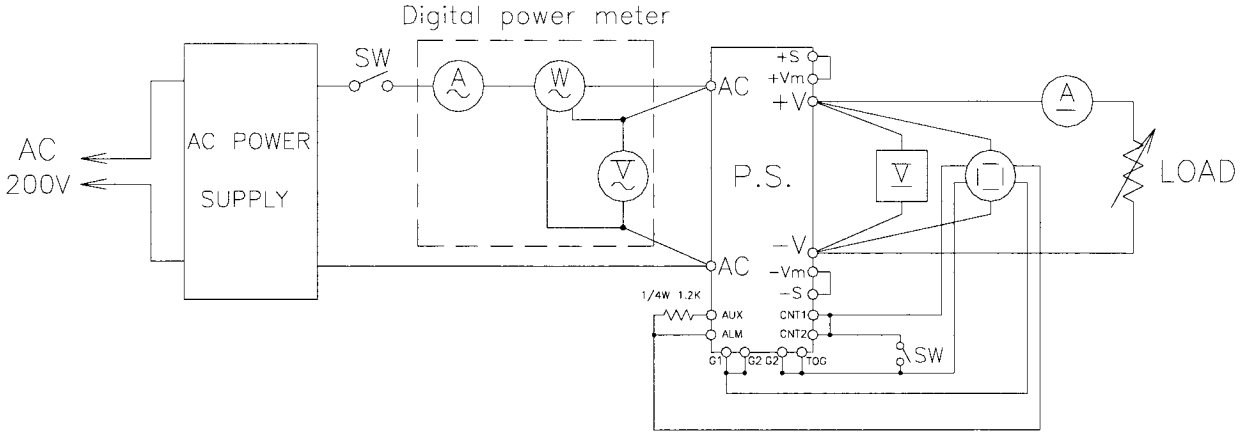
(5) Output rise characteristics

Same as Steady state data

(6) Output fall characteristics

Same as Steady state data

(7) Output rise characteristics with ON/OFF CONTROL



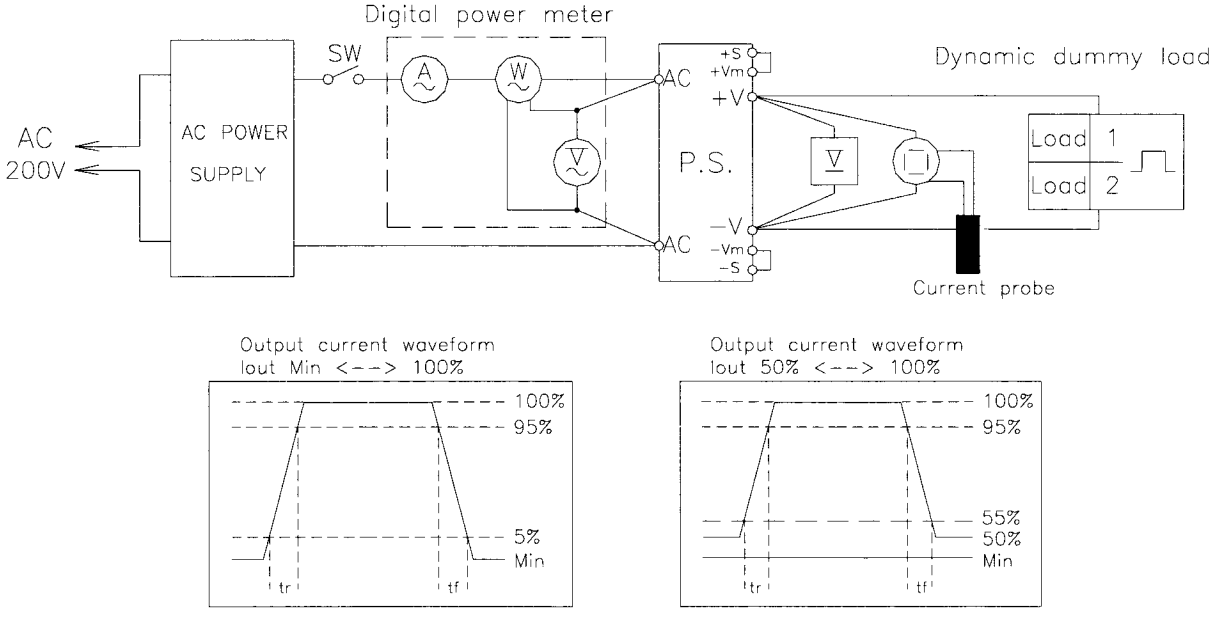
(8) Output fall characteristics with ON/OFF CONTROL

Same as Output rise characteristics with ON/OFF CONTROL

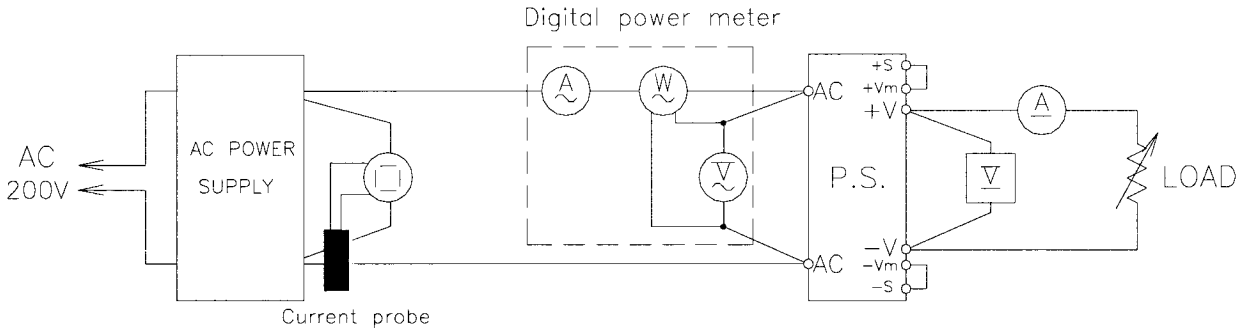
(9) Dynamic line response characteristics

Same as Steady state data

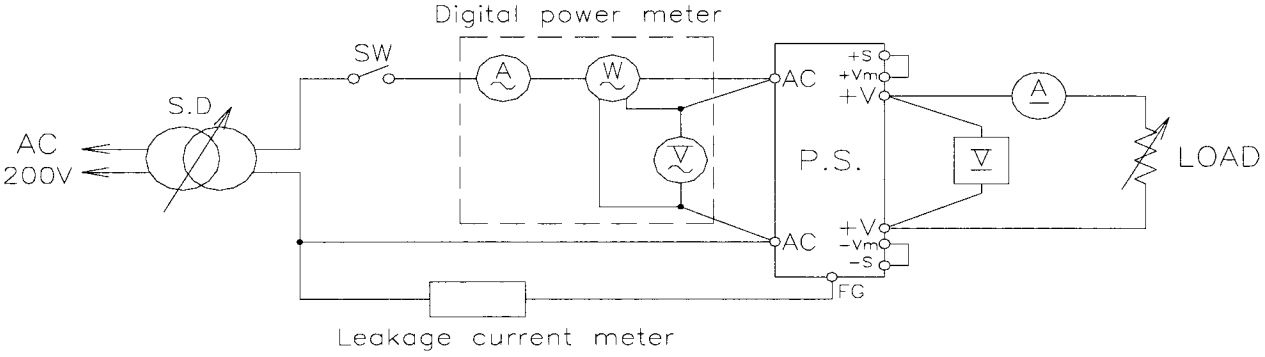
(10) Dynamic load response characteristics



(11) Inrush current characteristics



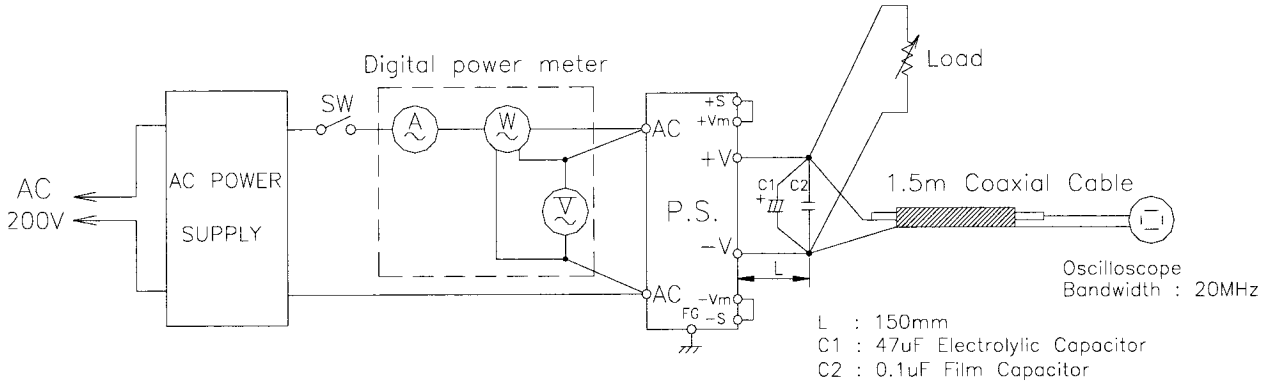
(12) Leakage current characteristics



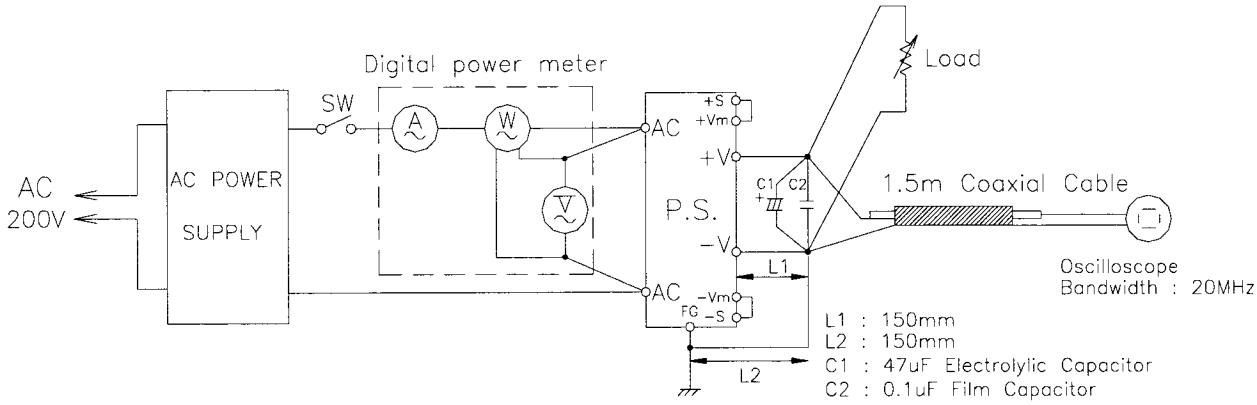
Range used---AC (For SIMPSON TYPE 228)

(13) Output ripple and noise waveform

(a) Normal Mode (using a twisted pair terminated with 0.1uF and 47uF capacitor at 20MHz)



(b) Normal + Common Mode

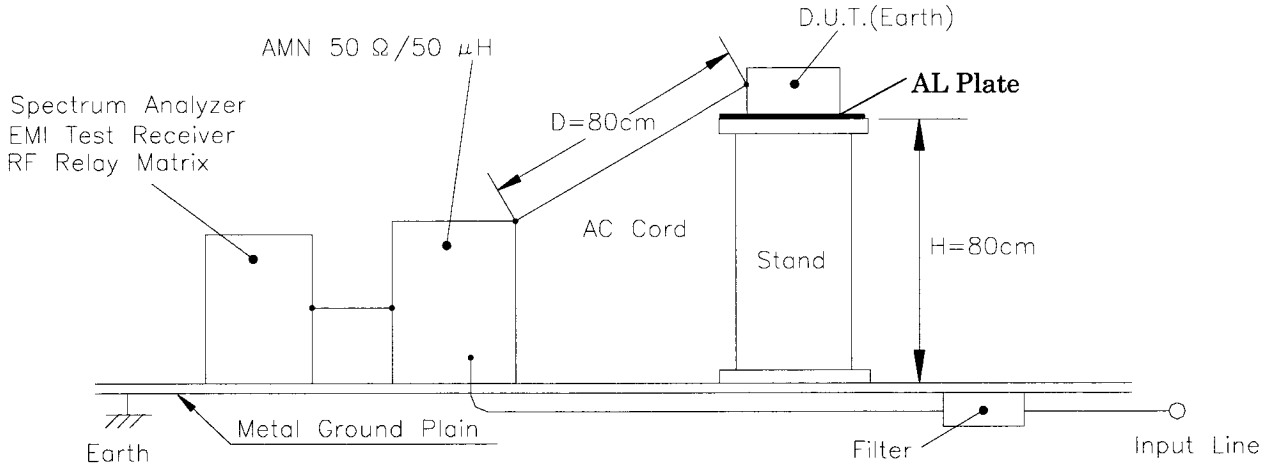


(14) Standby current

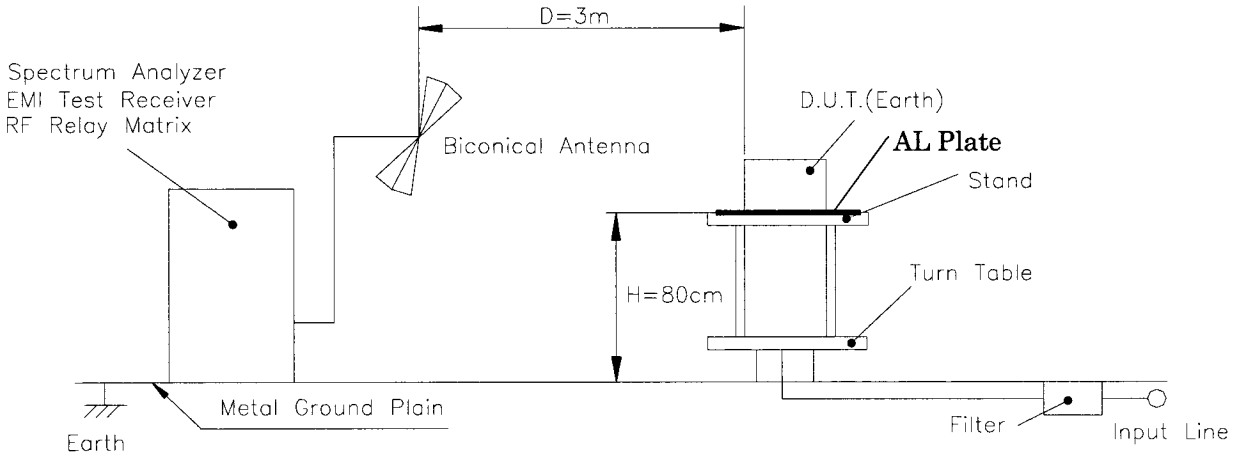
Same as Steady state data

(15) Electro-Magnetic Interference characteristics

(a) Conducted Emission Noise



(b) Radiated Emission Noise



1.2 List of equipment used

	EQUIPMENT USED	MANUFACTURER	MODEL NO.
1	OSCILLOSCOPE	TEKTRONIX	TAS 475
2	DIGITAL STORAGE OSCILLOSCOPE	TEKTRONIX	TDS 724D/540A
3	DIGITAL MULTIMETER	FLUKE	45
4	DIGITAL POWER METER	YOKOGAWA	WT110/WT210
5	CURRENT PROBE/AMPLIFIER	TEKTRONIX	TCP404XL/TCPA400
6	DYNAMIC DUMMY LOAD	CHROMA	63030/63201
7	DYNAMIC DUMMY LOAD	KIKUSUI	PLZ1004W
8	CONTROLLED TEMP. CHAMBER	ESPEC	SU-241
9	LEAKAGE CURRENT METER	SIMPSON	228
10	AC SOURCE	KIKUSUI	PCR-2000L
11	AC SOURCE	CHROMA	6530
12	POWER ANALYZER	CHROMA	6630
13	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI
14	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESI26
15	LISN	ROHDE&SCHWARZ	ENV216
16	ANTENNA	ROHDE&SCHWARZ	HL562

2. Characteristics

2.1 Steady state data

(1) Regulation - line and load, Temperature drift

3V

1. Regulation-line and load — Condition Ta : 25°C

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	3.310V	3.311V	3.311V	3.311V	0.001V	0.030%
60%	3.307V	3.307V	3.307V	3.307V	0.000V	0.000%
100%	3.303V	3.303V	3.303V	3.304V	0.001V	0.030%
load	0.007V	0.008V	0.008V	0.007V		
regulation	0.212%	0.242%	0.242%	0.212%		

2. Temperature drift — Conditions; Vin = 115VAC, Iout = 100%

Ta	-20°C	+25°C	+50°C	temperature stability	
Vout	3.305V	3.303V	3.299V	0.006V	0.18%

15V

1. Regulation-line and load — Condition Ta : 25°C

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	15.008V	15.006V	15.006V	15.006V	0.002V	0.013%
60%	15.006V	15.005V	15.005V	15.005V	0.001V	0.007%
100%	15.004V	15.004V	15.003V	15.002V	0.002V	0.013%
load	0.004V	0.002V	0.003V	0.004V		
regulation	0.027%	0.013%	0.020%	0.027%		

2. Temperature drift — Conditions; Vin =115VAC, Iout =100%

Ta	-20°C	+25°C	+50°C	temperature stability	
Vout	15.001V	15.004V	15.009V	0.008V	0.05%

36V

1. Regulation-line and load — Condition Ta : 25°C

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	36.020V	36.020V	36.020V	36.020V	0.000V	0.000%
50%	36.010V	36.010V	36.010V	36.010V	0.000V	0.000%
100%	36.000V	36.000V	36.010V	36.010V	0.010V	0.028%
load	0.020V	0.020V	0.010V	0.010V		
regulation	0.056%	0.056%	0.028%	0.028%		

2. Temperature drift — Conditions; Vin = 115VAC, Iout = 100%

Ta	-20°C	+25°C	+50°C	temperature stability	
Vout	35.840V	36.000V	36.040V	0.200V	0.56%

2. Characteristics

2.1 Steady state data

(1) Regulation - line and load, Temperature drift

48V

1. Regulation-line and load — Condition Ta : 25°C

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	48.050V	48.060V	48.070V	48.070V	0.020V	0.042%
60%	48.050V	48.060V	48.060V	48.060V	0.010V	0.021%
100%	48.050V	48.060V	48.060V	48.060V	0.010V	0.021%
load	0.000V	0.000V	0.010V	0.010V		
regulation	0.000%	0.000%	0.021%	0.021%		

2. Temperature drift — Conditions; Vin =115VAC, Iout =100%

Ta	-20°C	+25°C	+50°C	temperature stability	
Vout	47.900V	48.060V	48.140V	0.240V	0.50%

60V

1. Regulation-line and load — Condition Ta : 25°C

Iout \ Vin	85VAC	115VAC	230VAC	265VAC	line regulation	
0%	60.020V	60.010V	60.020V	60.020V	0.010V	0.017%
50%	60.030V	60.040V	60.040V	60.050V	0.020V	0.033%
100%	60.060V	60.060V	60.060V	60.060V	0.000V	0.000%
load	0.040V	0.050V	0.040V	0.040V		
regulation	0.067%	0.083%	0.067%	0.067%		

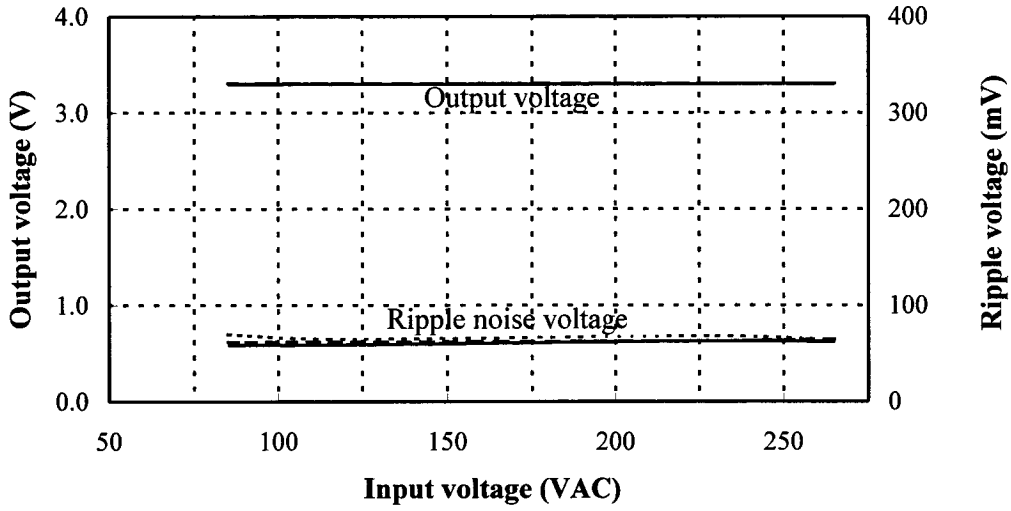
2. Temperature drift — Conditions; Vin = 115VAC, Iout = 100%

Ta	-20°C	+25°C	+50°C	temperature stability	
Vout	59.770V	60.060V	60.100V	0.330V	0.55%

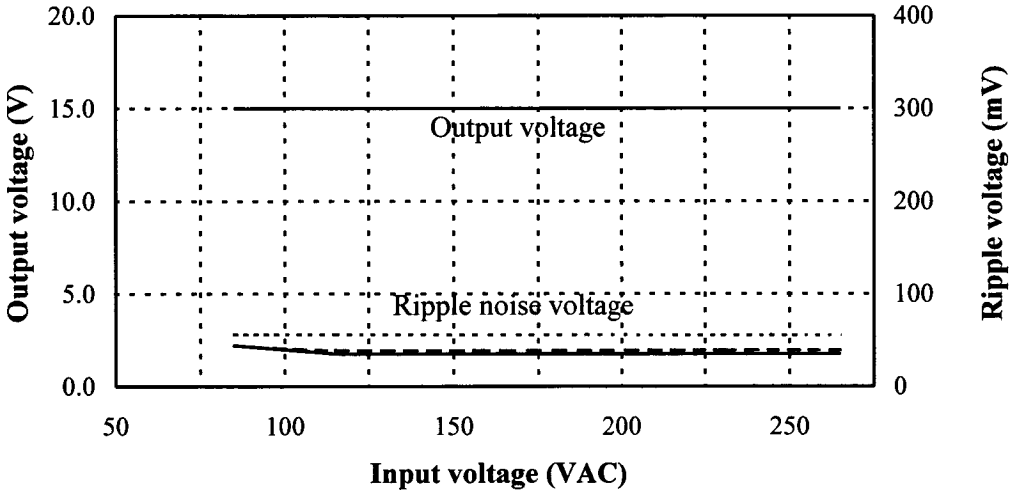
(2) Output voltage and Ripple voltage v.s. Input voltage

Conditions; Iout : 100%
Ta : -20°C
: 25°C
: 50°C

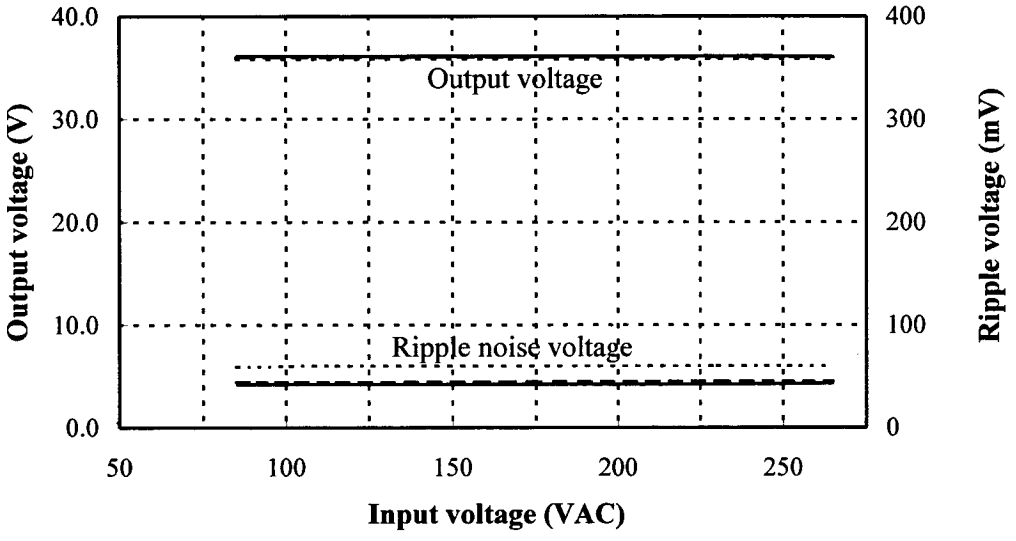
3V



15V



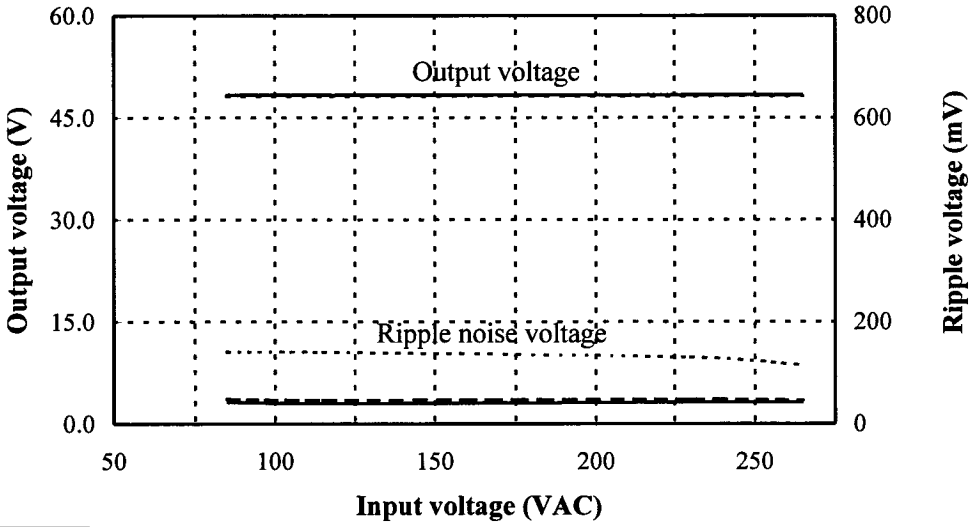
36V



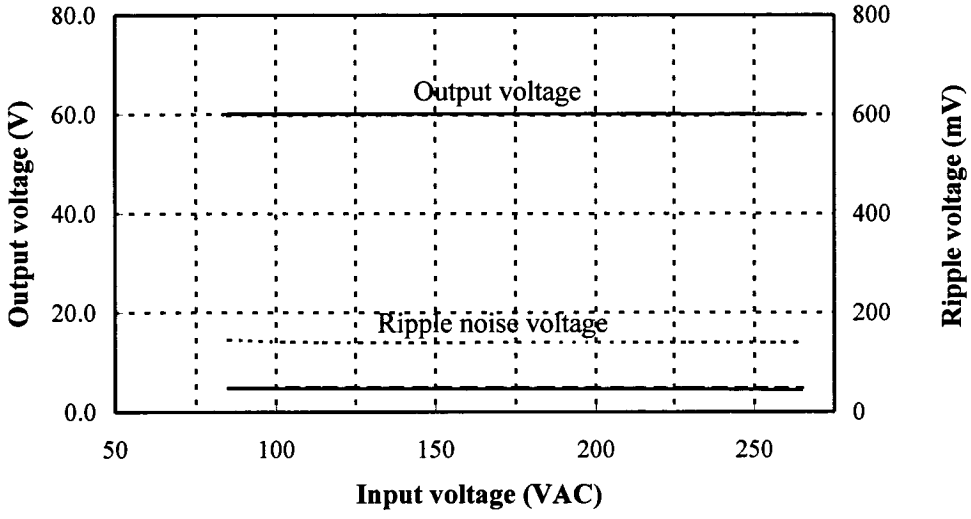
(2) Output voltage and Ripple voltage v.s. Input voltage

Conditions; Iout : 100%
Ta : -20°C ------
: 25°C - - - -
: 50°C ——

48V



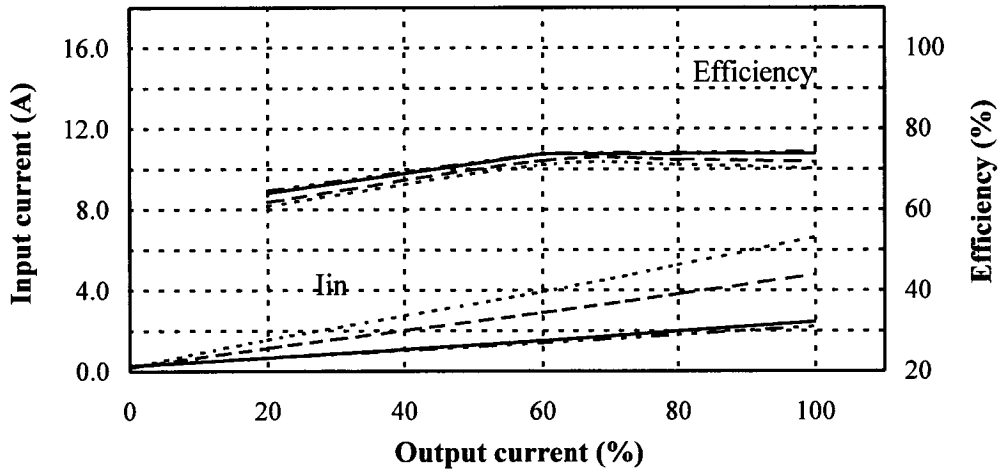
60V



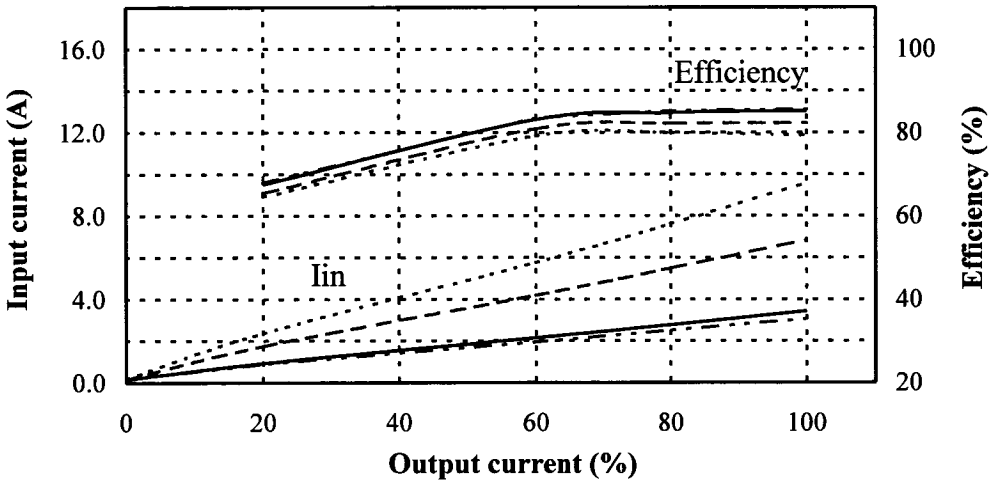
(3) Efficiency and input current v.s. output current

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

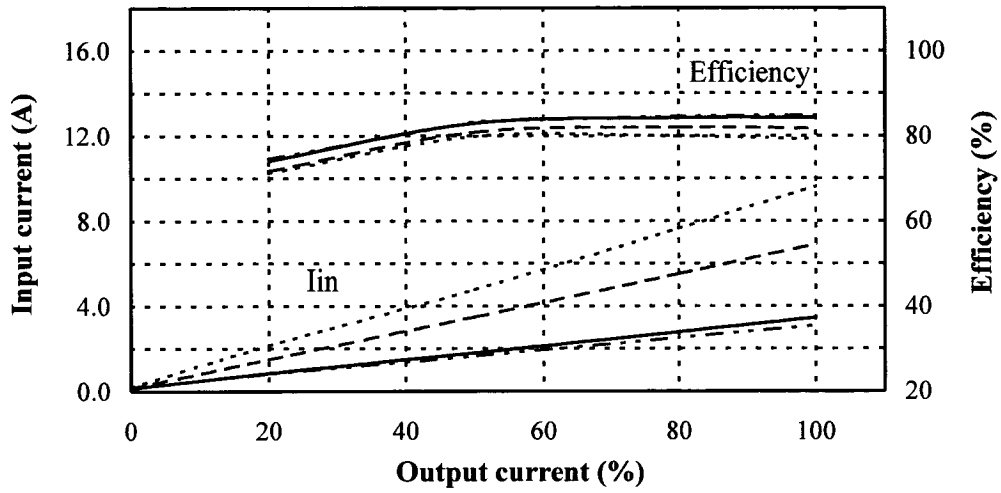
3V



15V



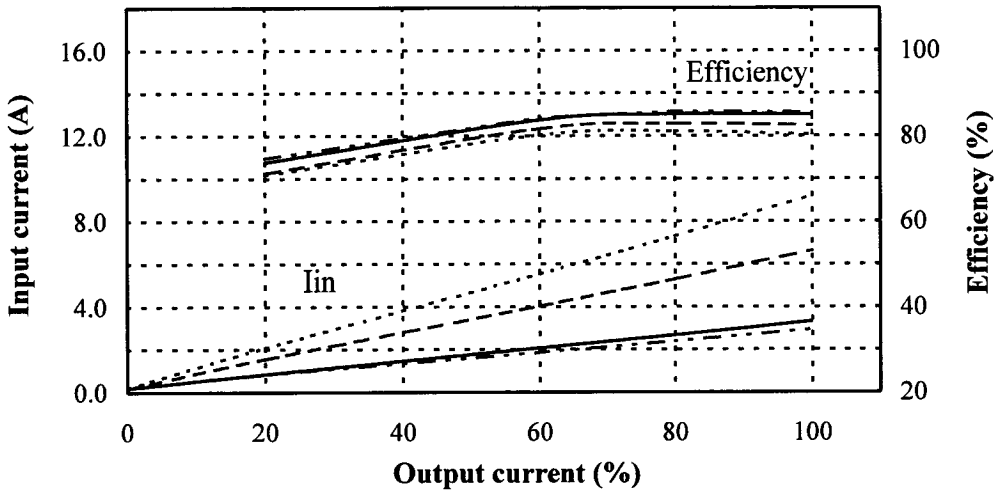
36V



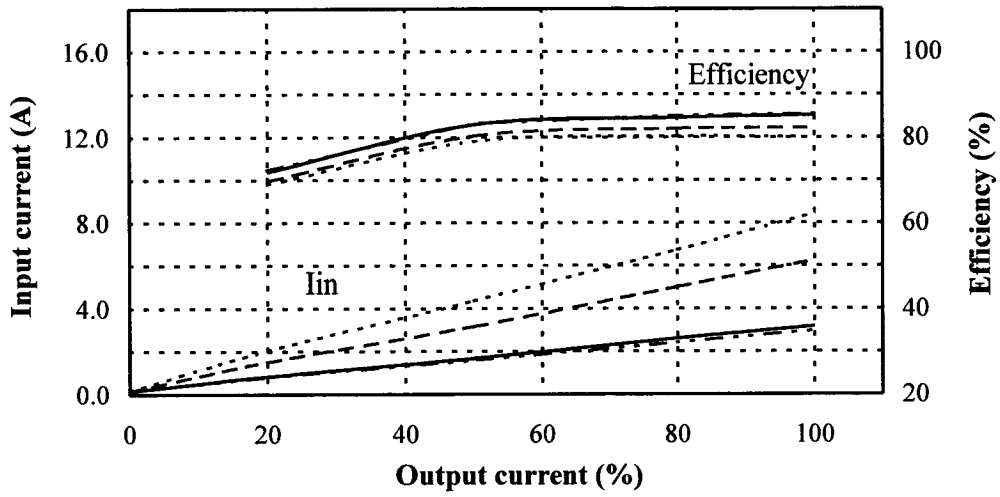
(3) Efficiency and input current v.s. output current

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

48V

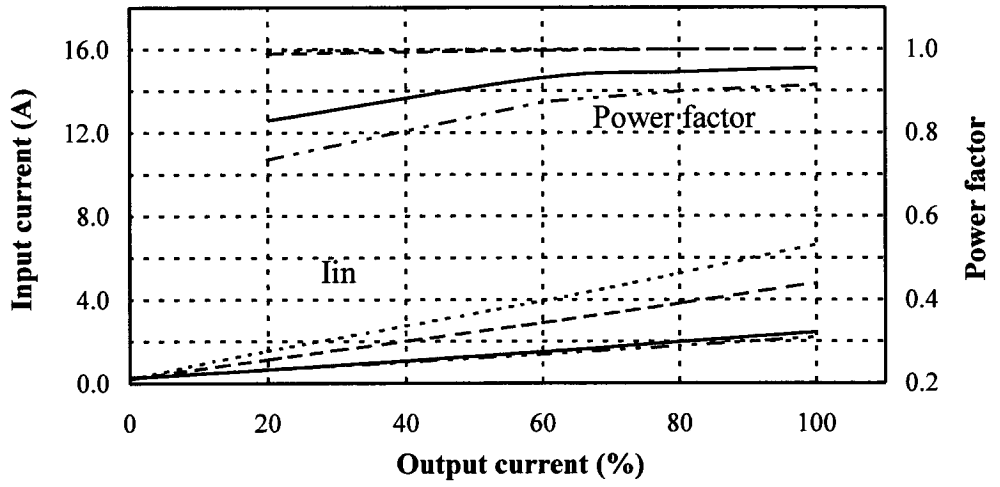


60V

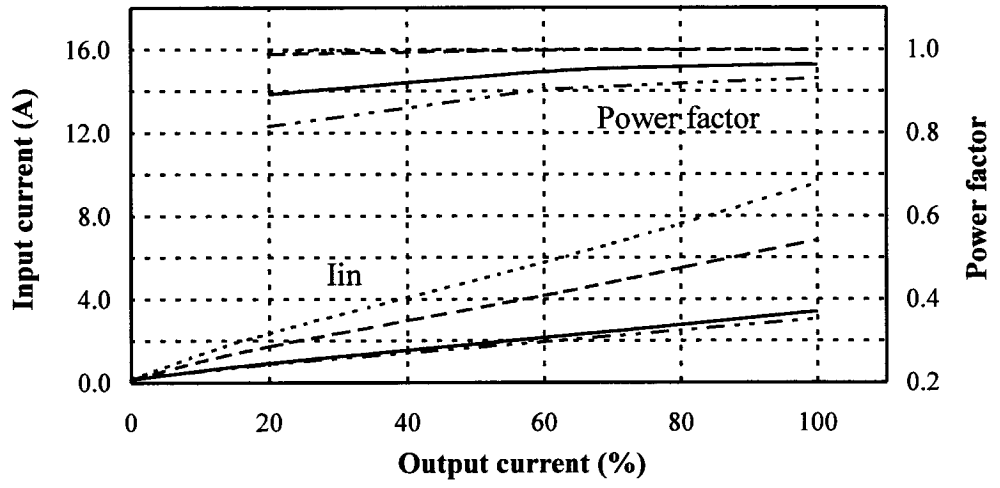


(4) Power factor and input current v.s. output current Conditions Vin : 85VAC ------
: 115VAC – – – –
: 230VAC ——
: 265VAC –·–·–·–

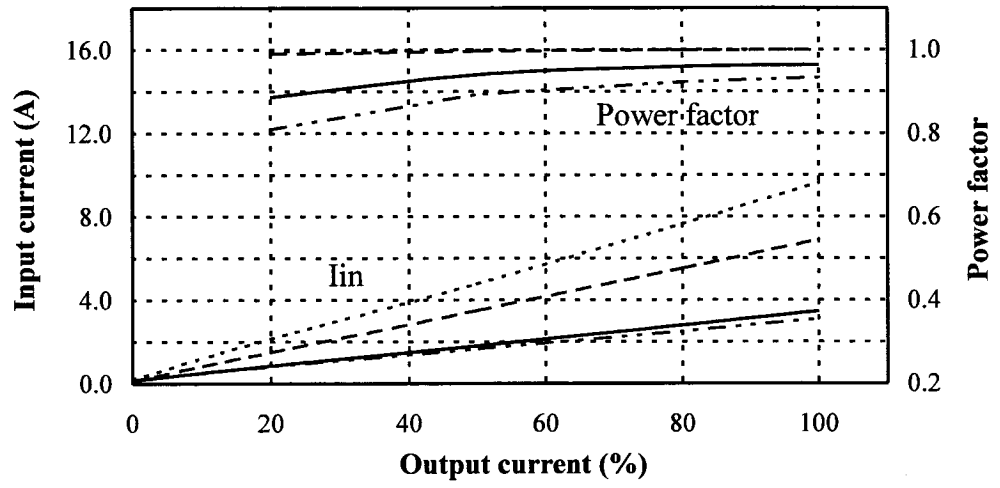
3V



15V

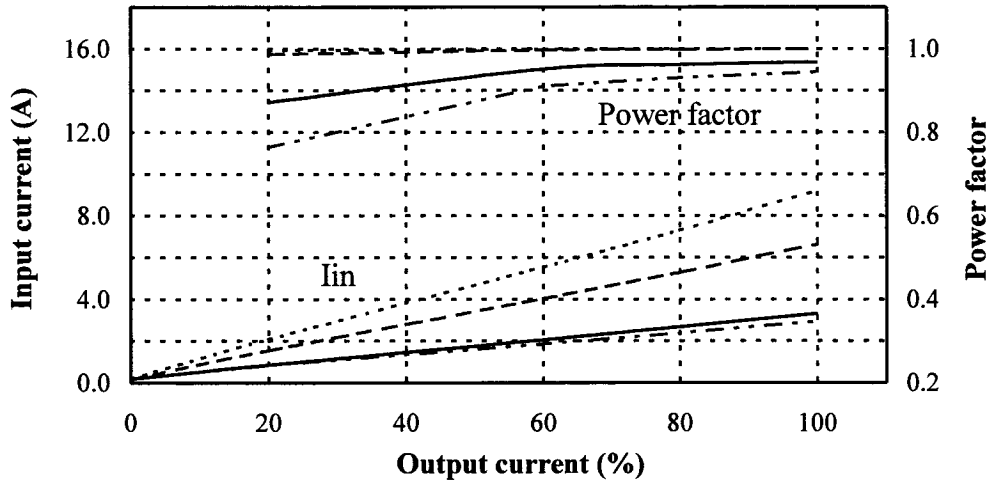


36V

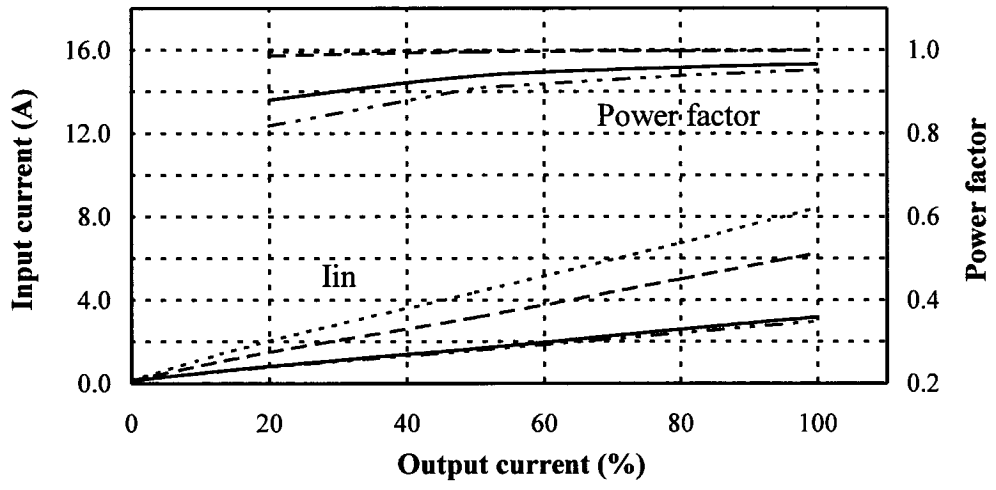


(4) Power factor and input current v.s. output current Conditions Vin : 85VAC ------
: 115VAC – – – –
: 230VAC ——
: 265VAC –··–··–

48V



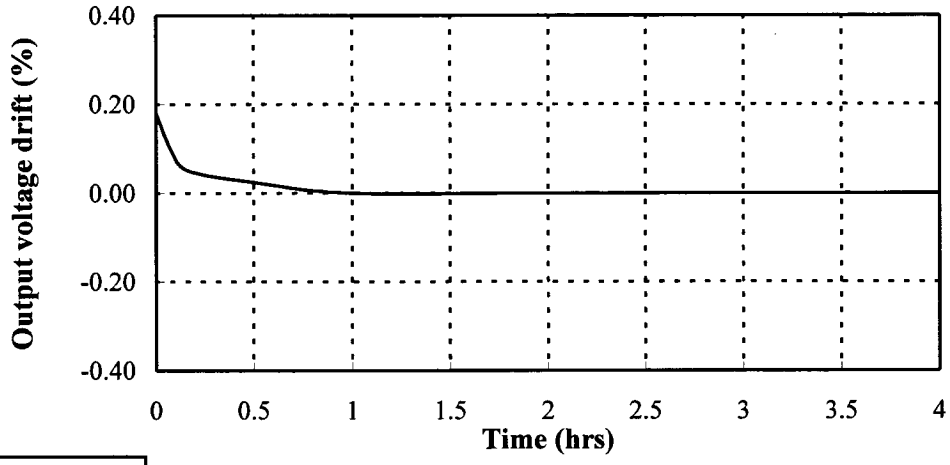
60V



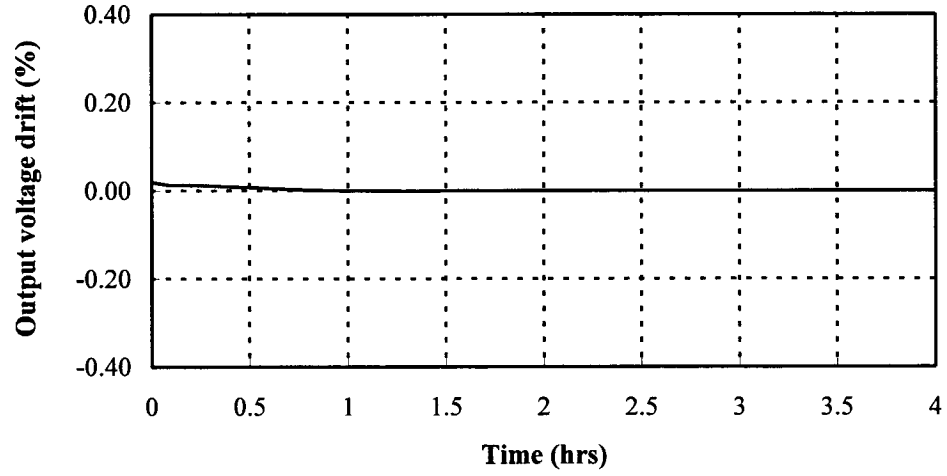
2.2 Warm up voltage drift characteristics

Conditions Vin : 115VAC
Iout : 100%
Ta : 25°C

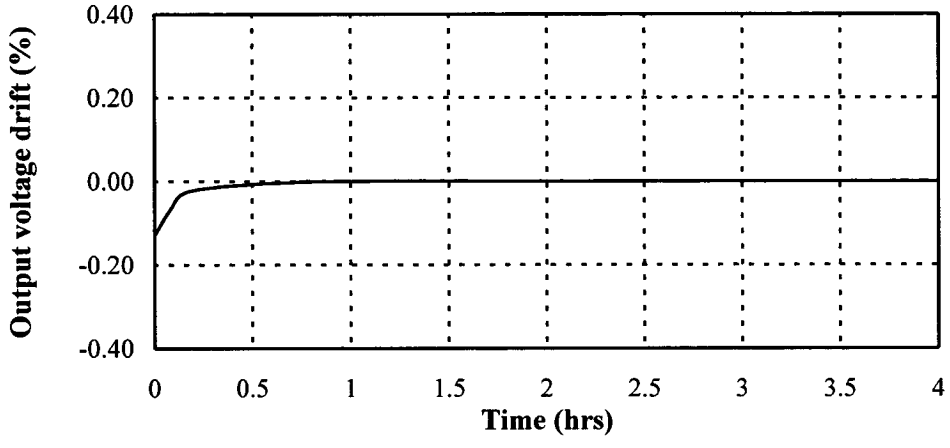
3V



15V



36V



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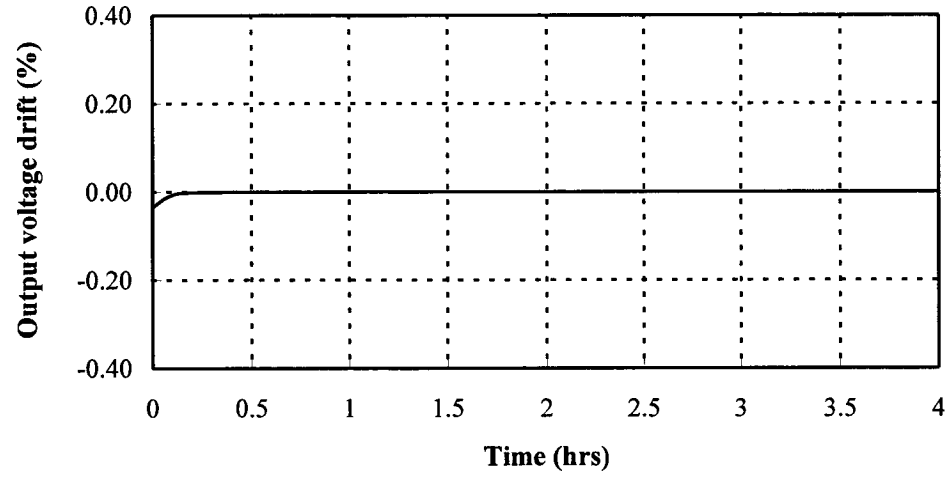
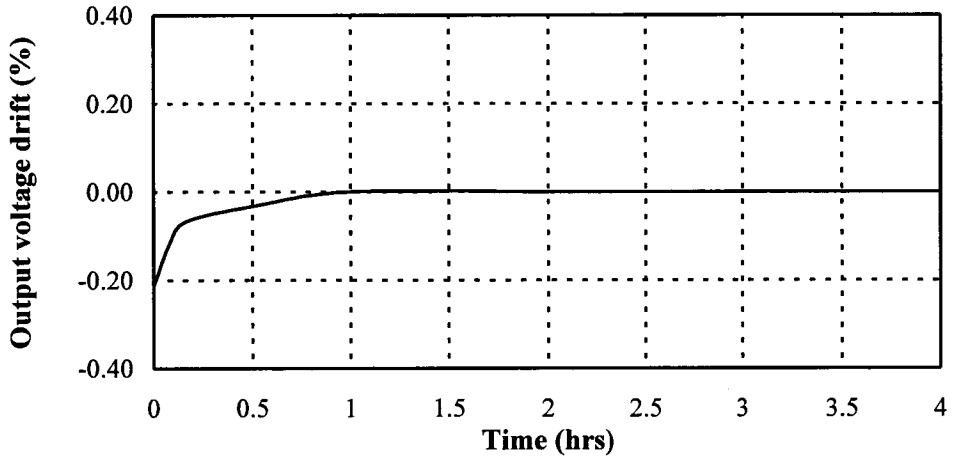
48V



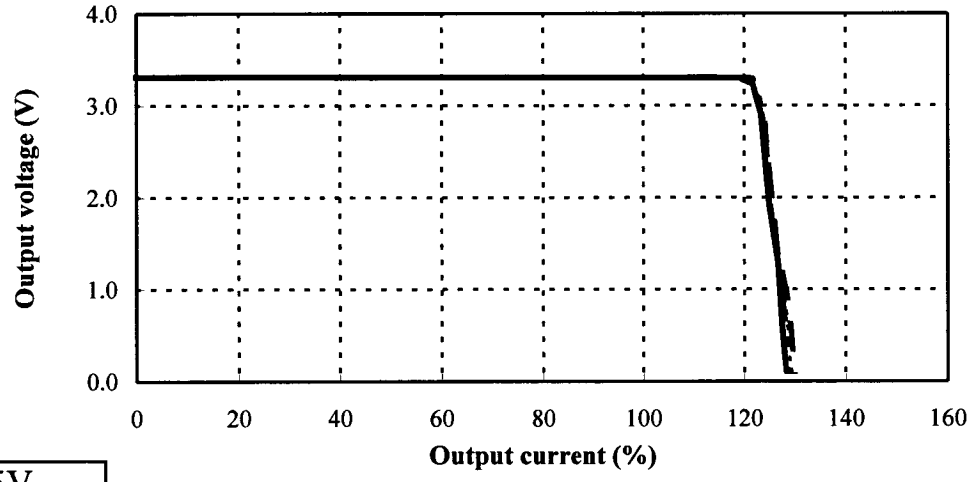
60V



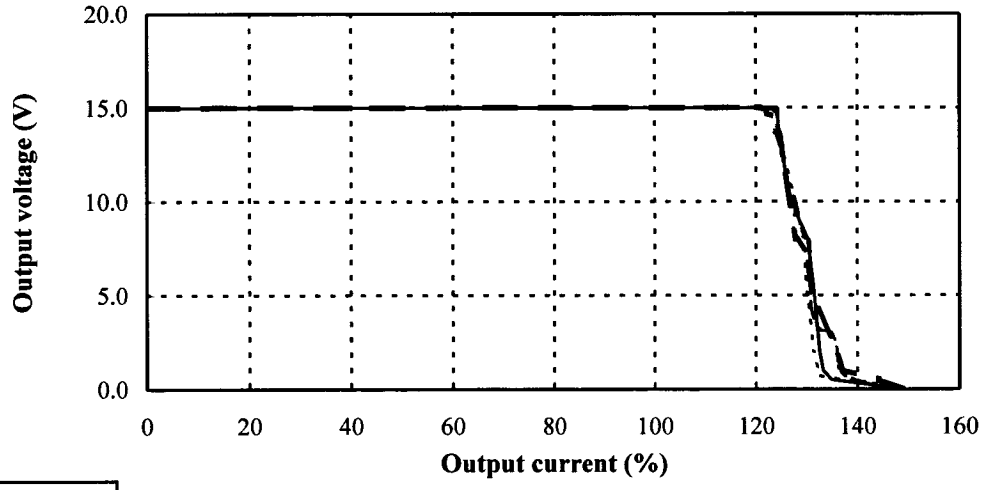
2.3 Over current protection (OCP) characteristics

Conditions Vin : 85 VAC
115 VAC
230 VAC
265 VAC
Ta : 25℃

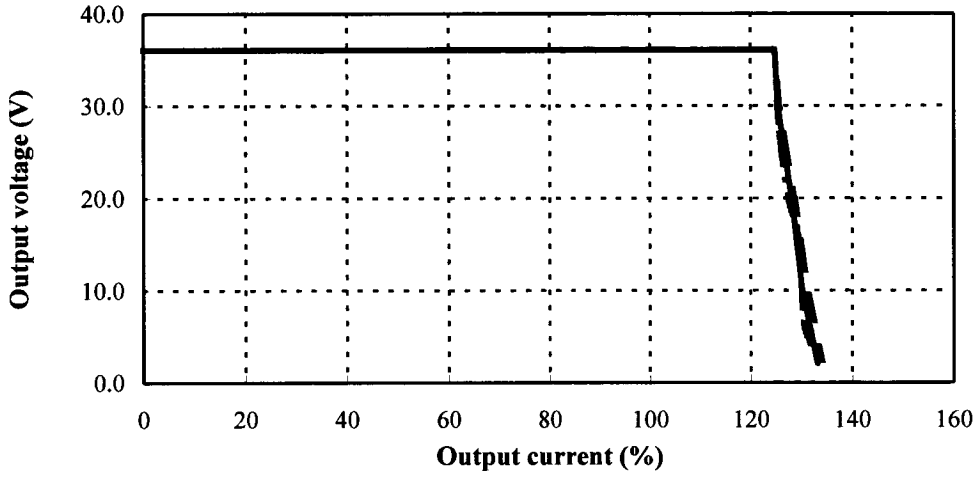
3V



15V



36V



2.3 Over current protection (OCP) characteristics

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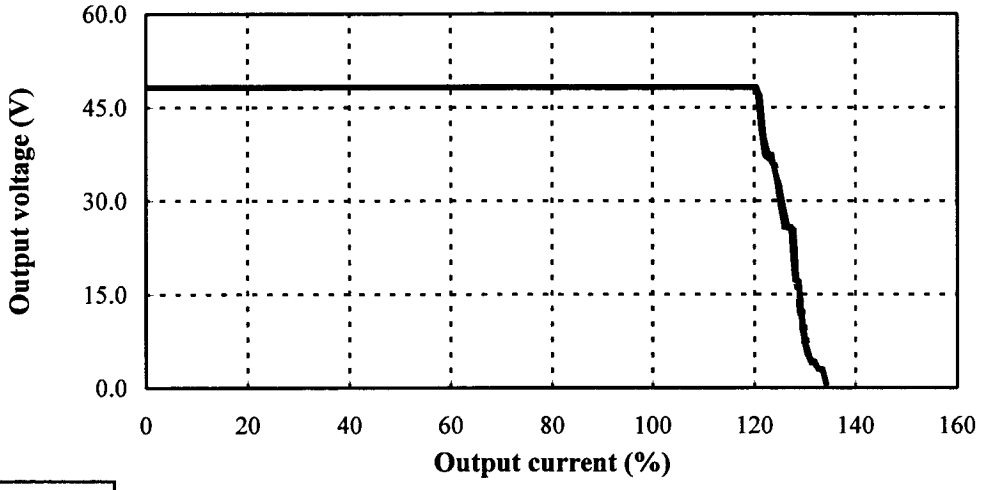
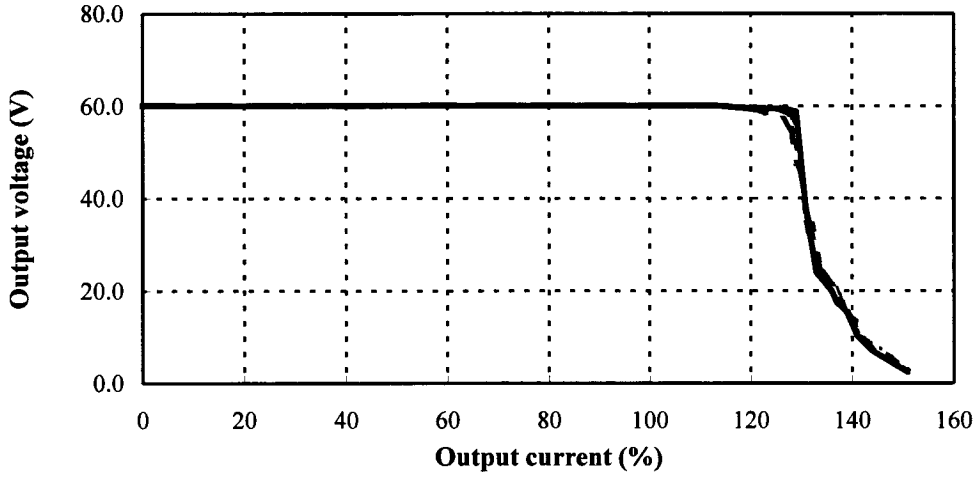
230 VAC ——
265 VAC - - - - - -
Ta : 25℃

48V



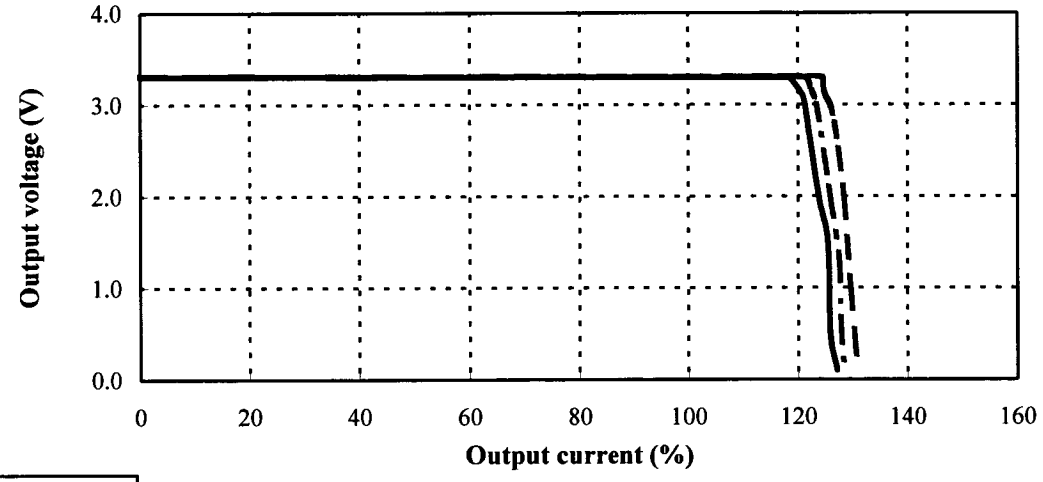
60V



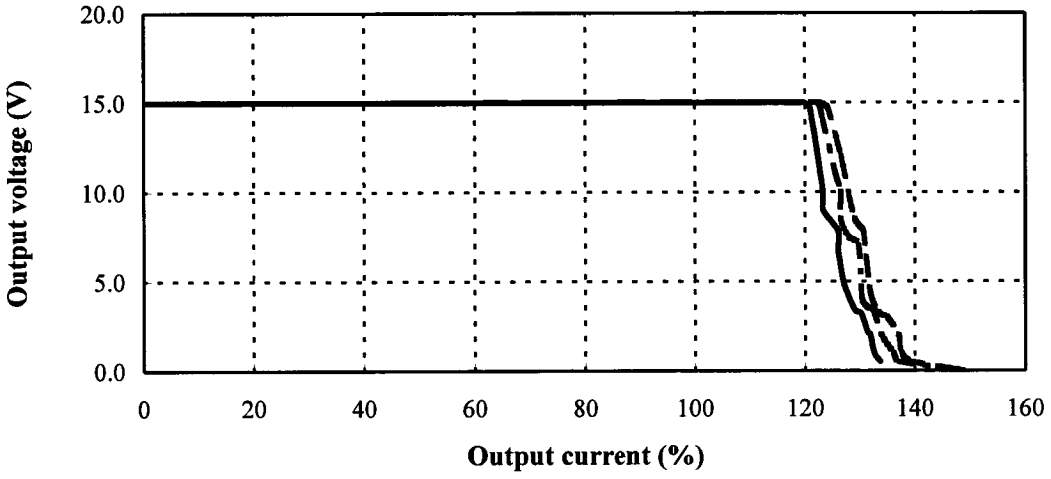
2.3 Over current protection (OCP) characteristics

Conditions: Vin : 115VAC
Ta : -20℃ – – – – –
25℃ - · - · - · -
50℃ ———

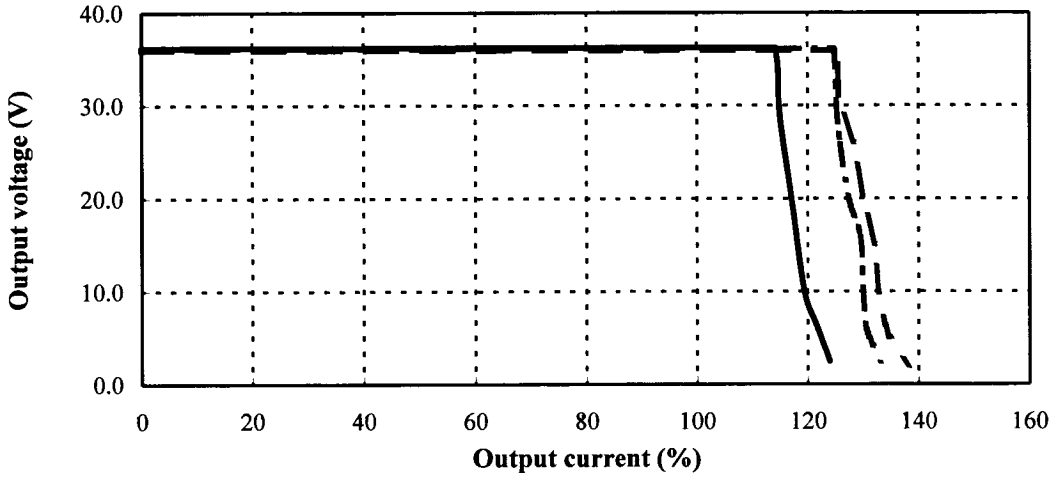
3V



15V



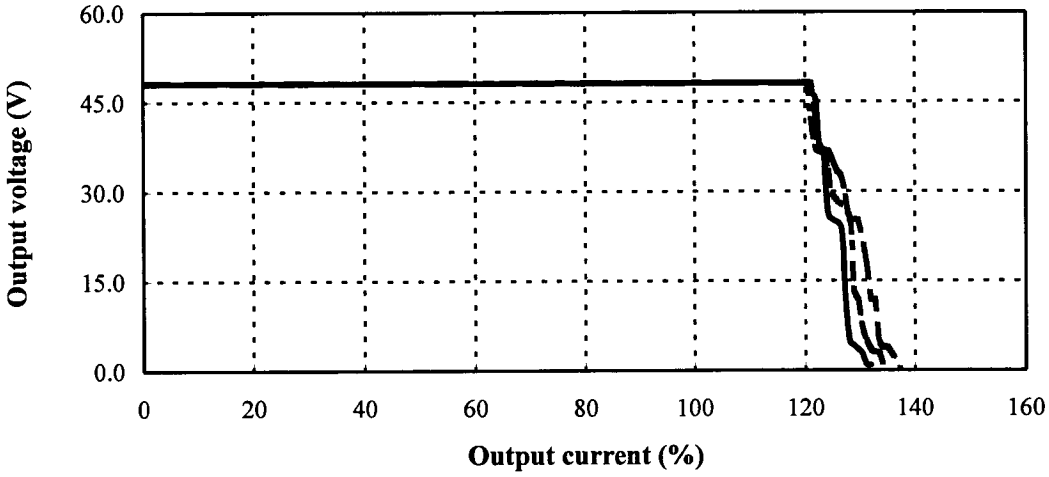
36V



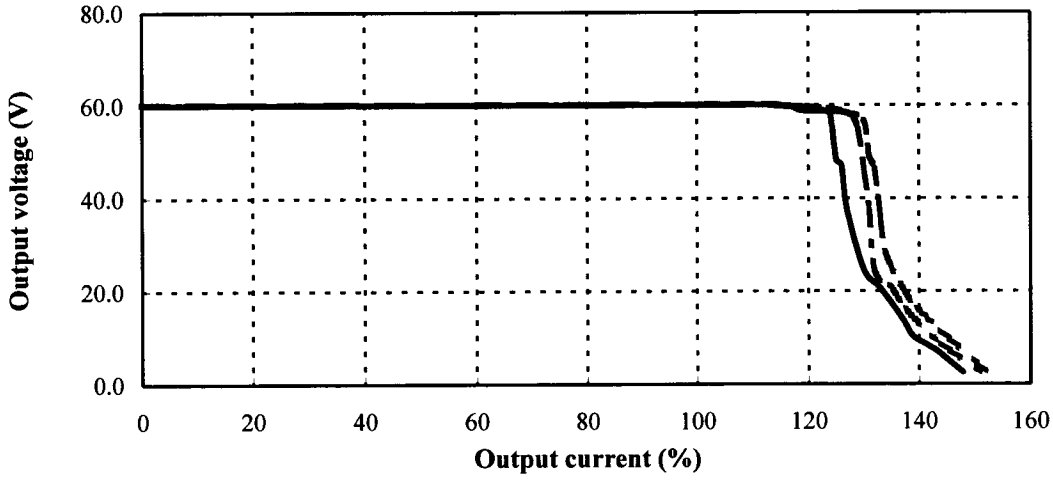
2.3 Over current protection (OCP) characteristics

Conditions: Vin : 115VAC
Ta : -20℃ – – – – –
25℃ - · - · - · -
50℃ ———

48V



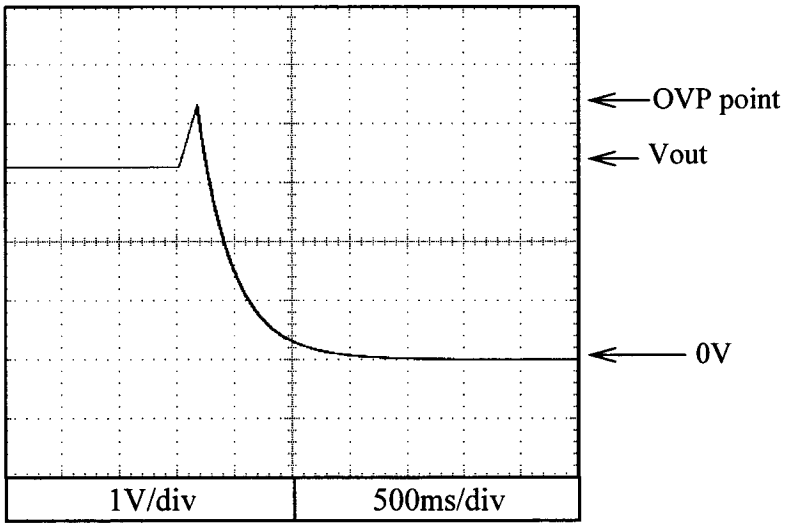
60V



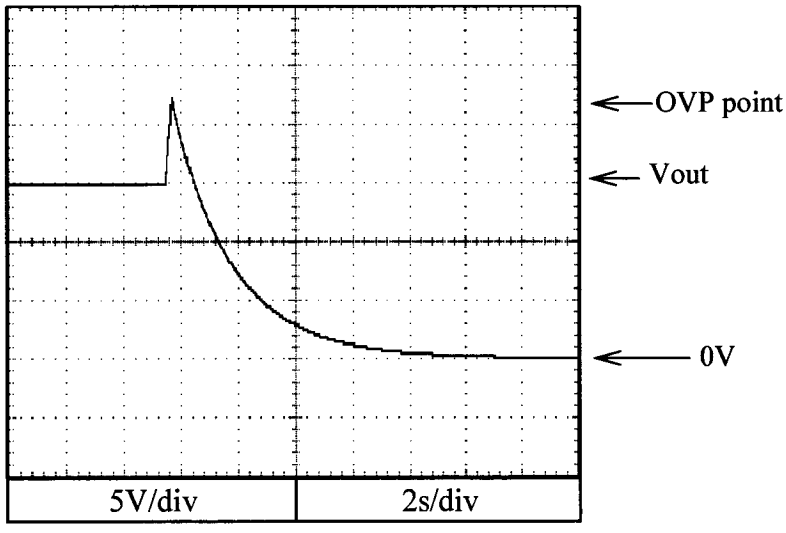
2.4 Over voltage protection (OVP) characteristics

Conditions; Vin : 115VAC
Iout : 0%
Ta : 25°C

3V



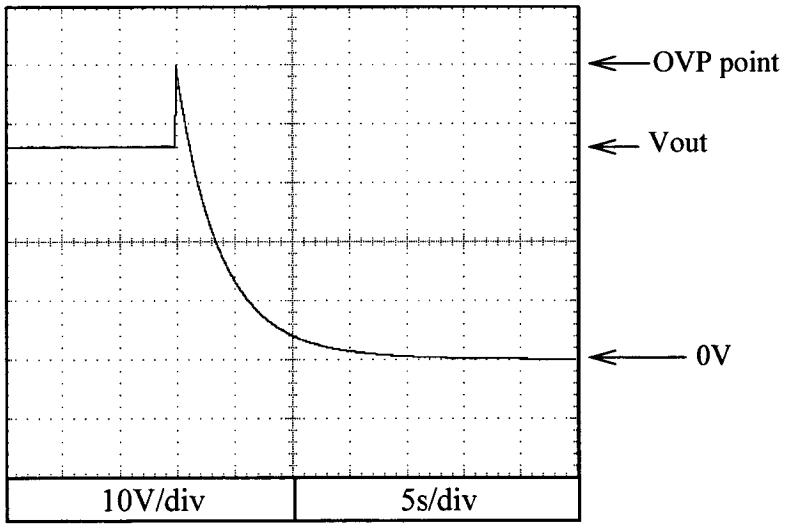
15V



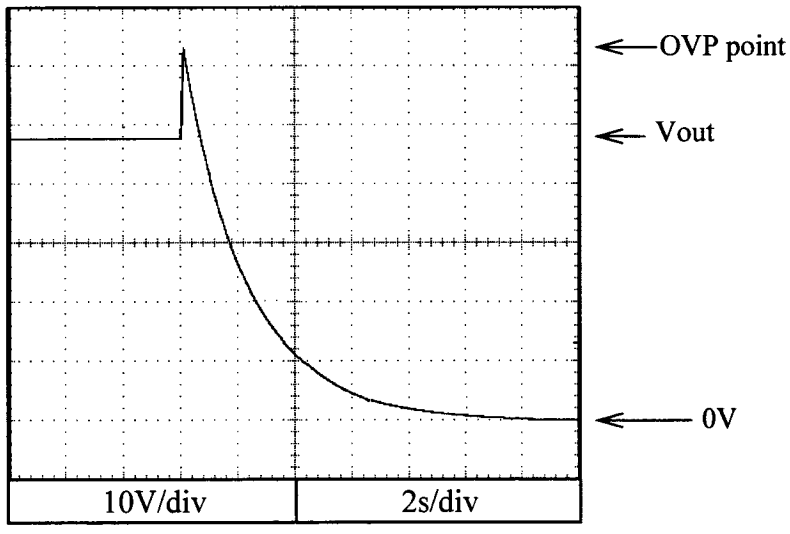
2.4 Over voltage protection (OVP) characteristics

Conditions; Vin : 115VAC
Iout : 0%
Ta : 25°C

36V

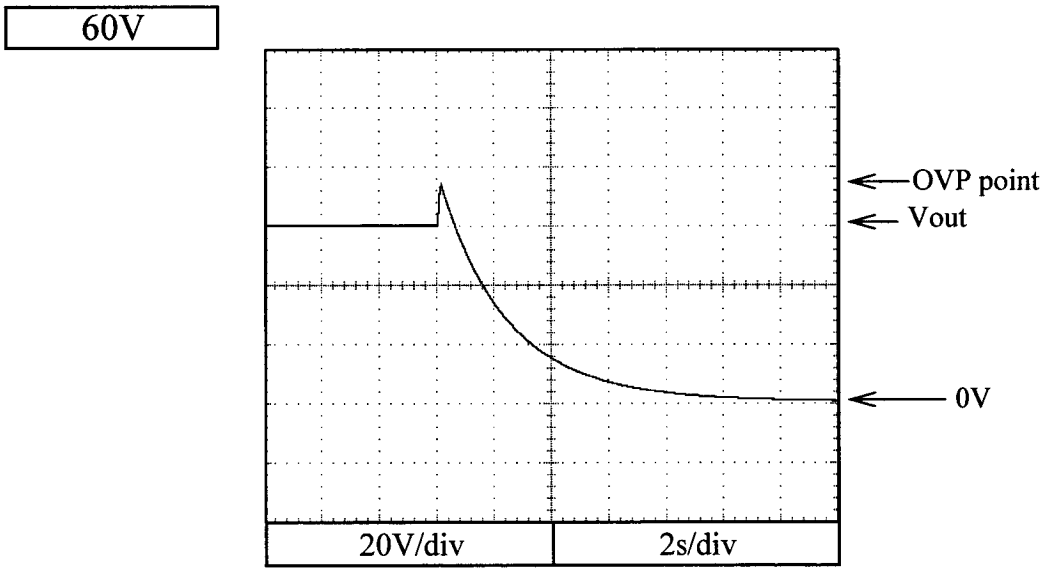


48V



2.4 Over voltage protection (OVP) characteristics

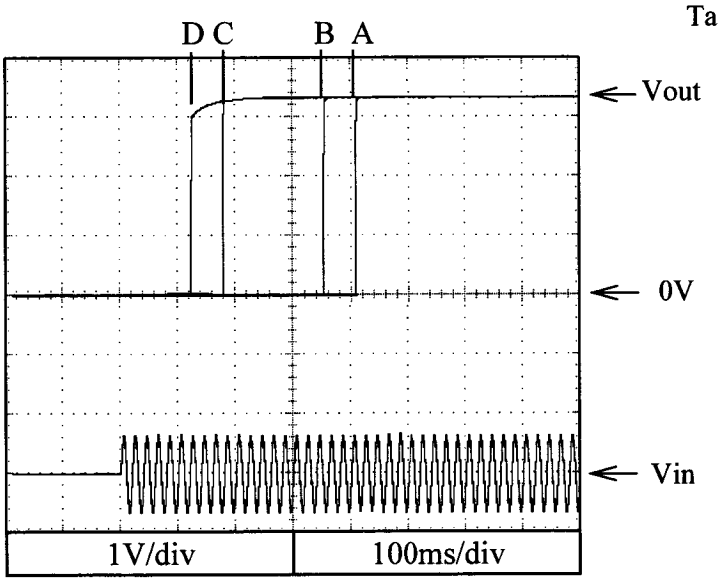
Conditions; Vin : 115VAC
Iout : 0%
Ta : 25°C



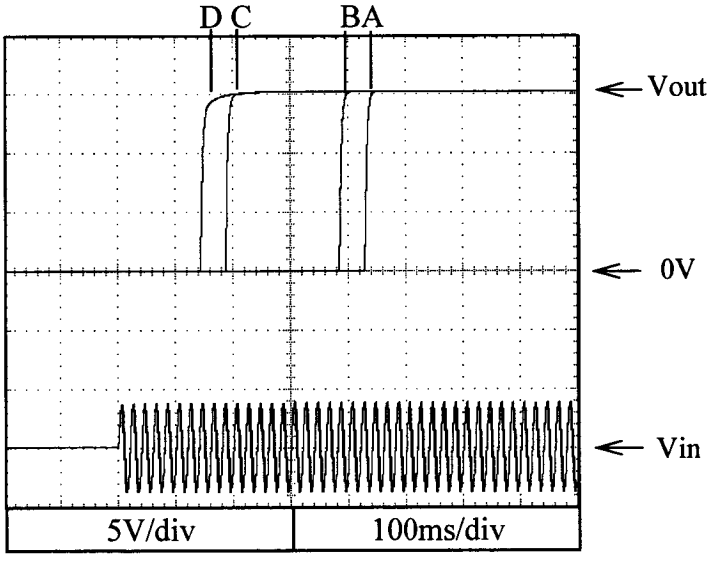
2.5 Output rise characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 0%
Ta : 25°C

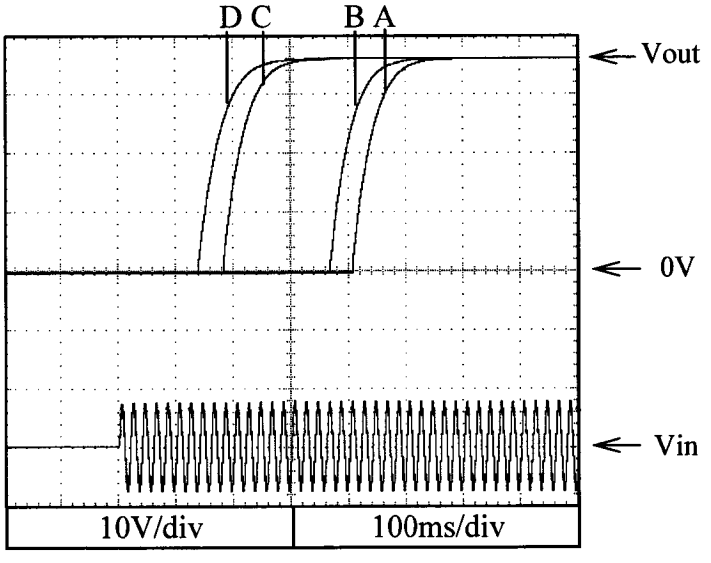
3V



15V



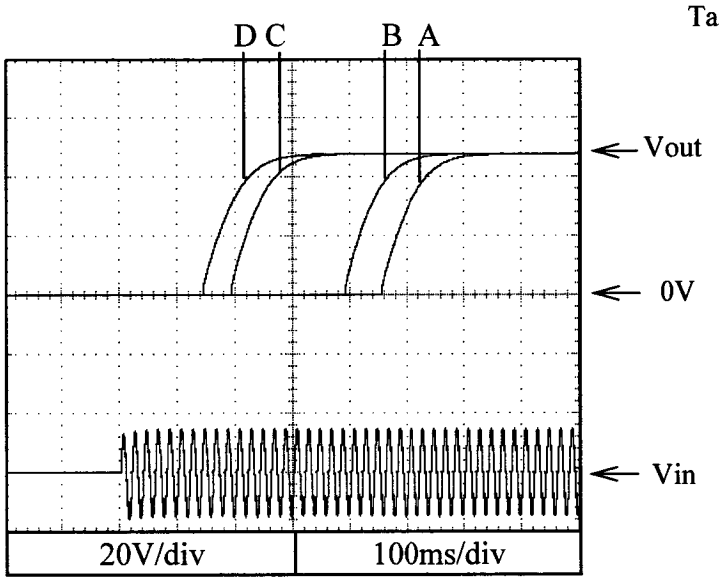
36V



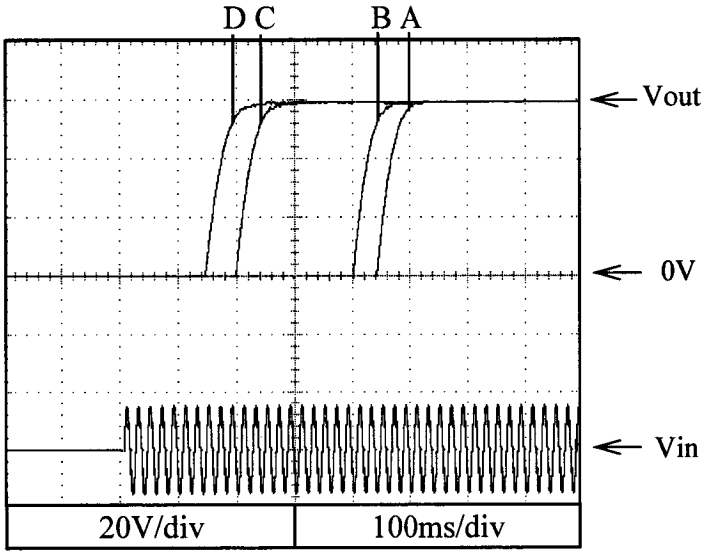
2.5 Output rise characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 0%
Ta : 25°C

48V



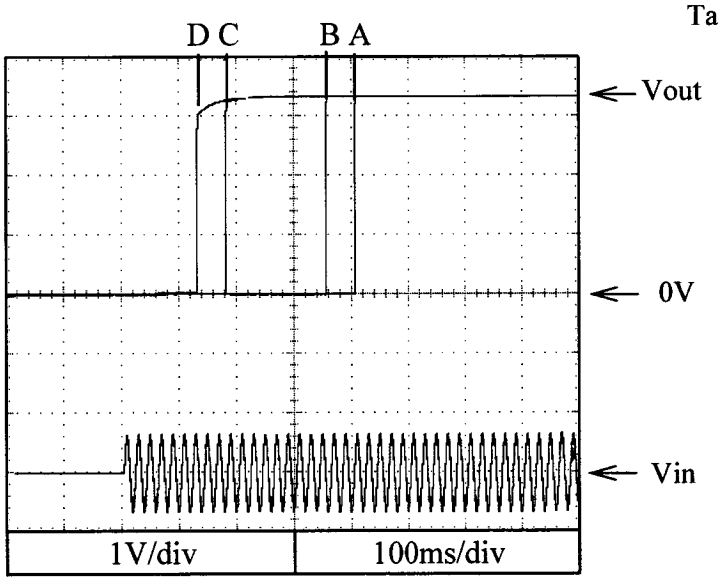
60V



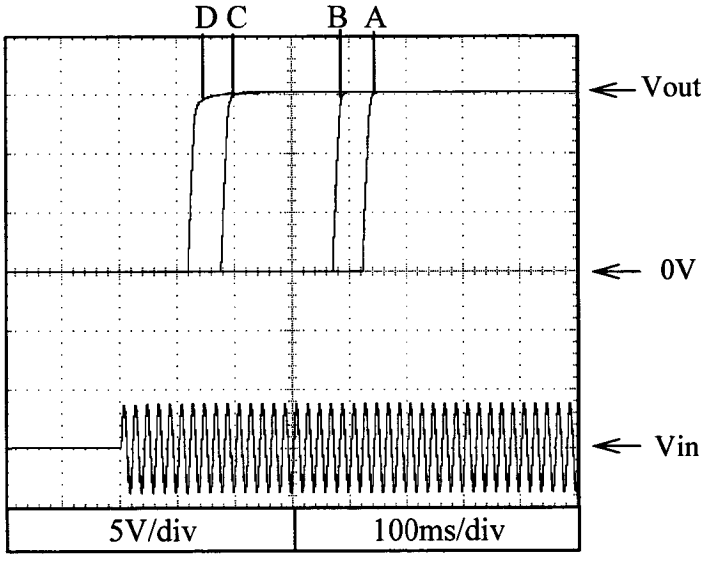
2.5 Output rise characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 100%
Ta : 25°C

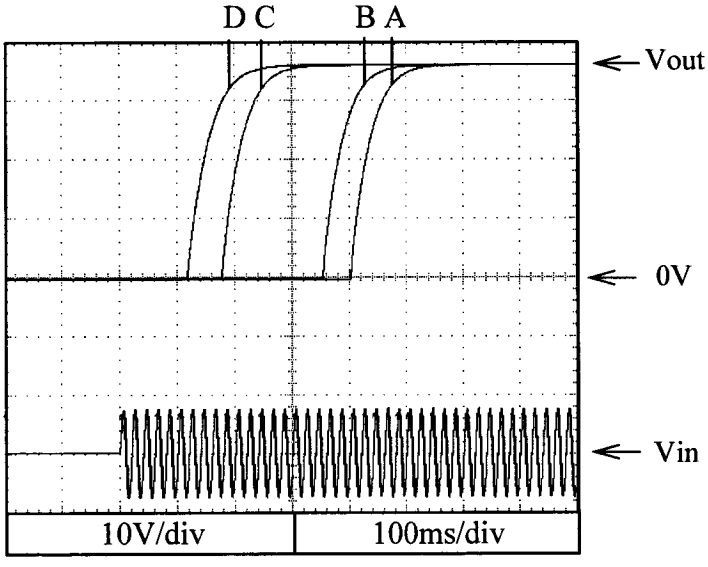
3V



15V



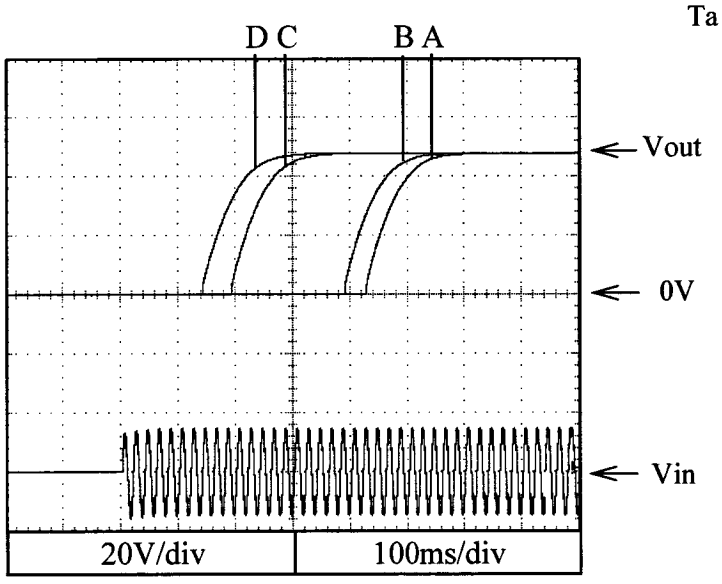
36V



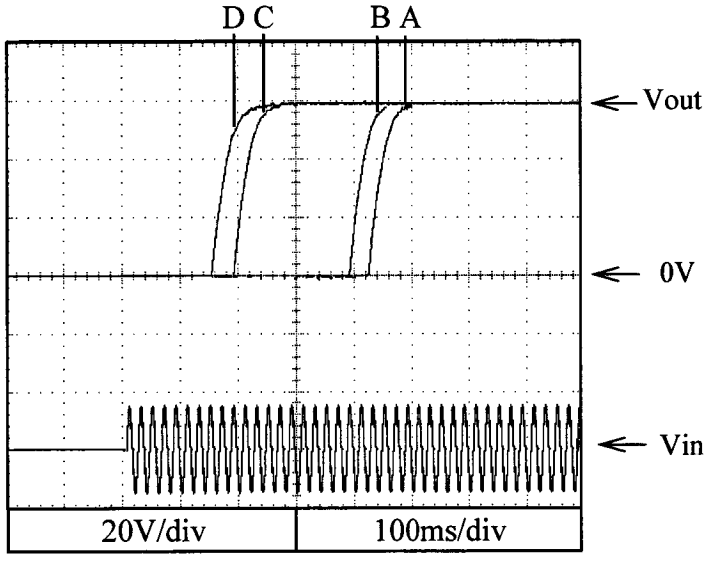
2.5 Output rise characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 100%
Ta : 25°C

48V



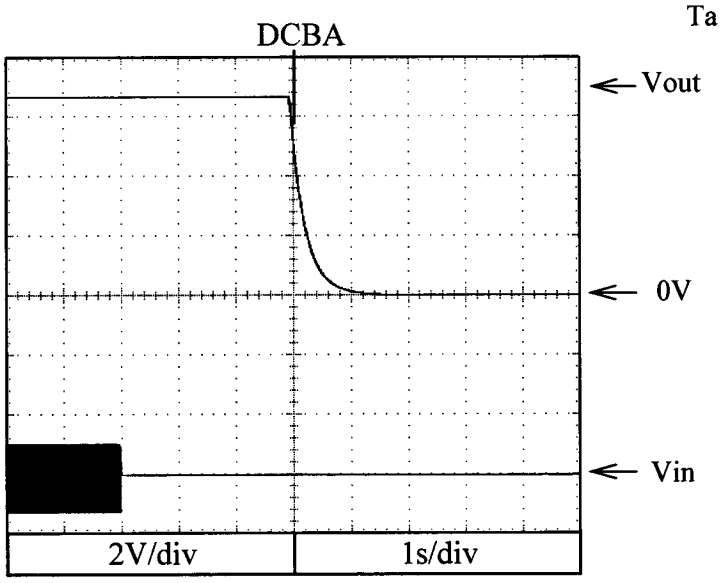
60V



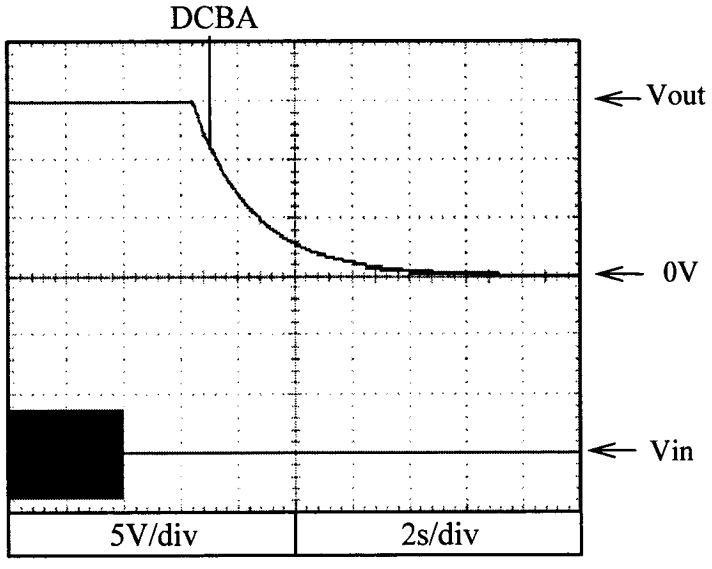
2.6 Output fall characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 0%
Ta : 25°C

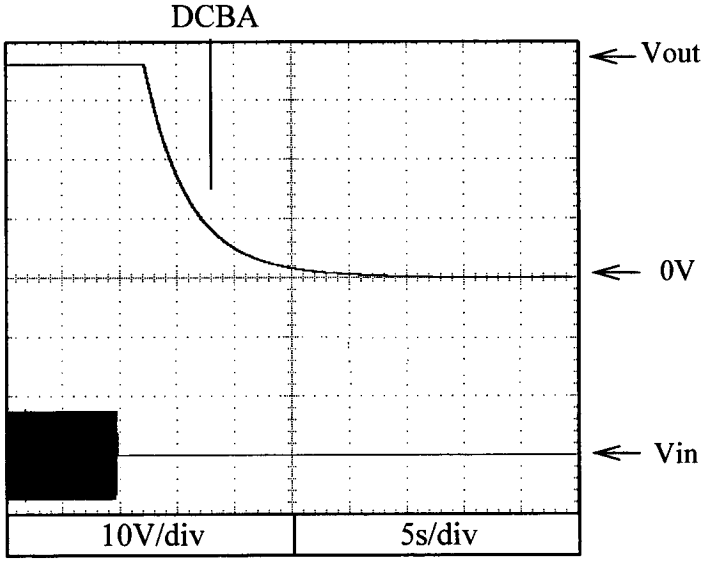
3V



15V



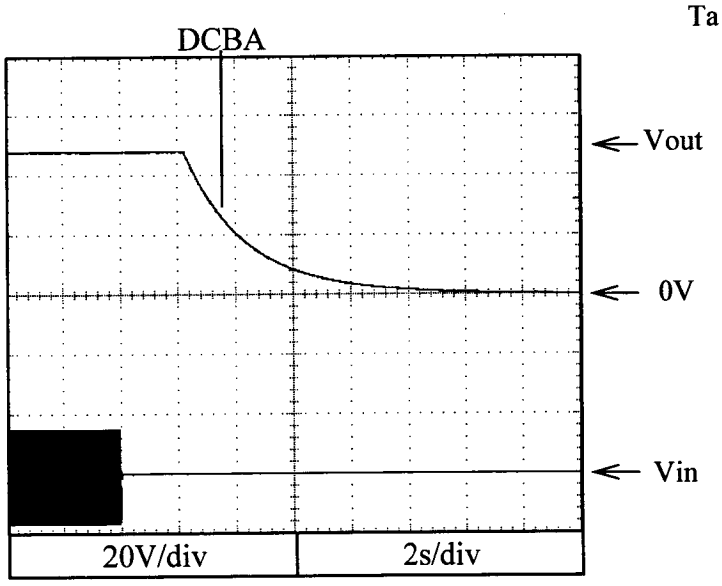
36V



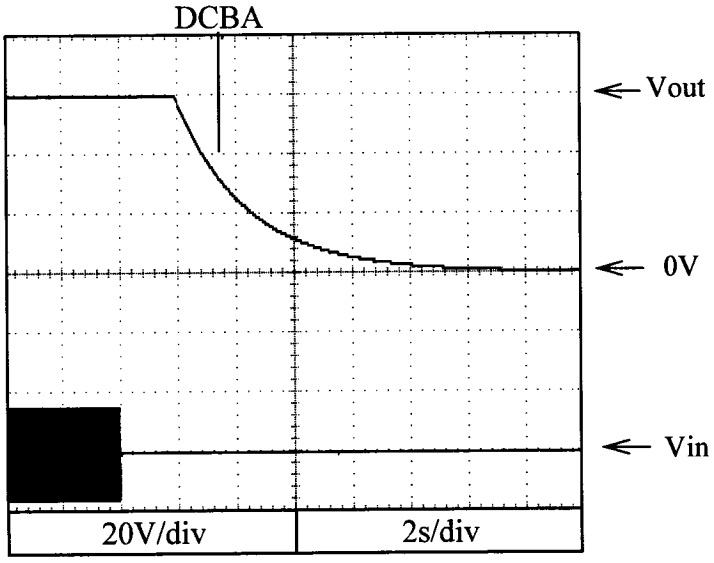
2.6 Output fall characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 0%
Ta : 25°C

48V



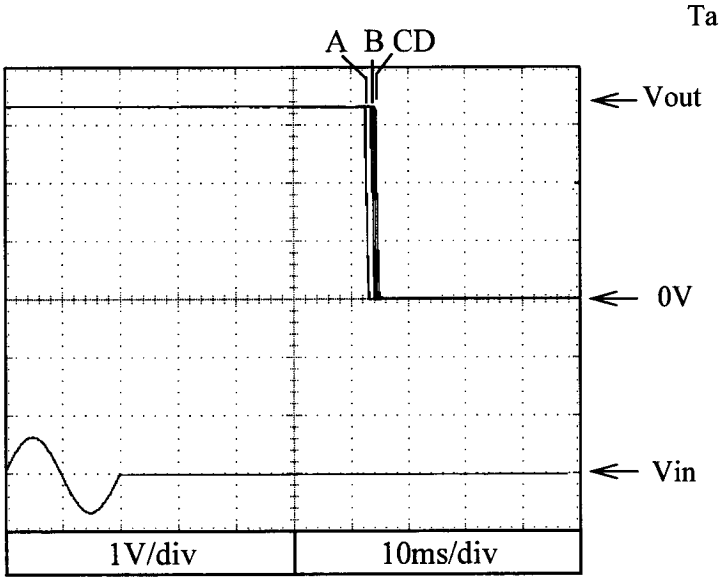
60V



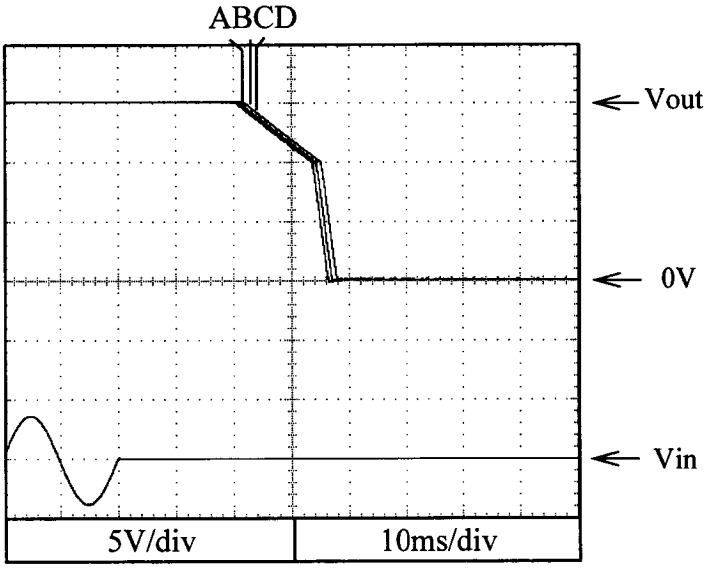
2.6 Output fall characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 100%
Ta : 25°C

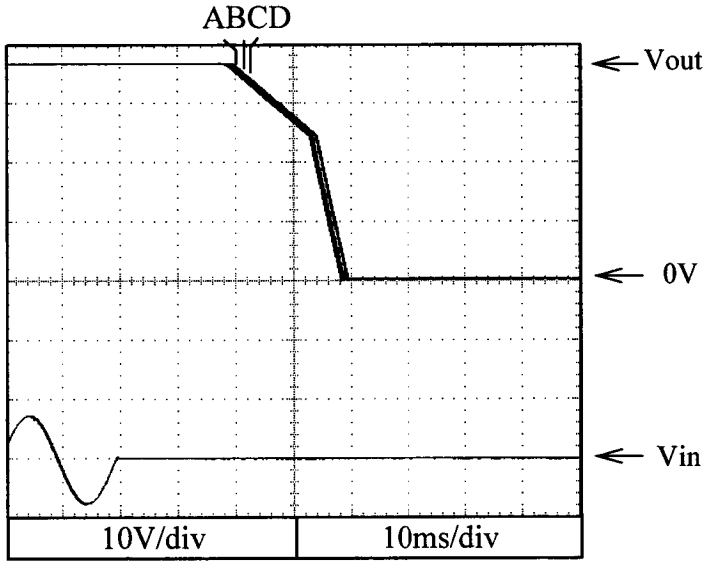
3V



15V



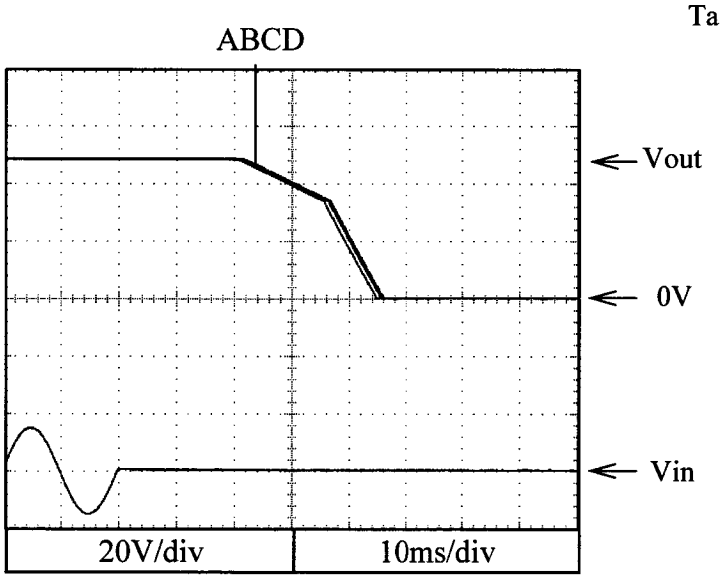
36V



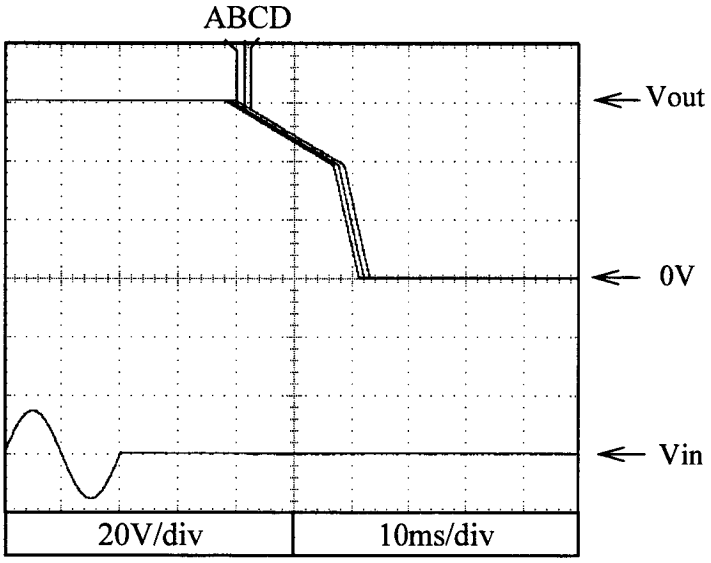
2.6 Output fall characteristics

Conditions; Vin : 85VAC (A)
: 115VAC (B)
: 230VAC (C)
: 265VAC (D)
Iout : 100%
Ta : 25°C

48V



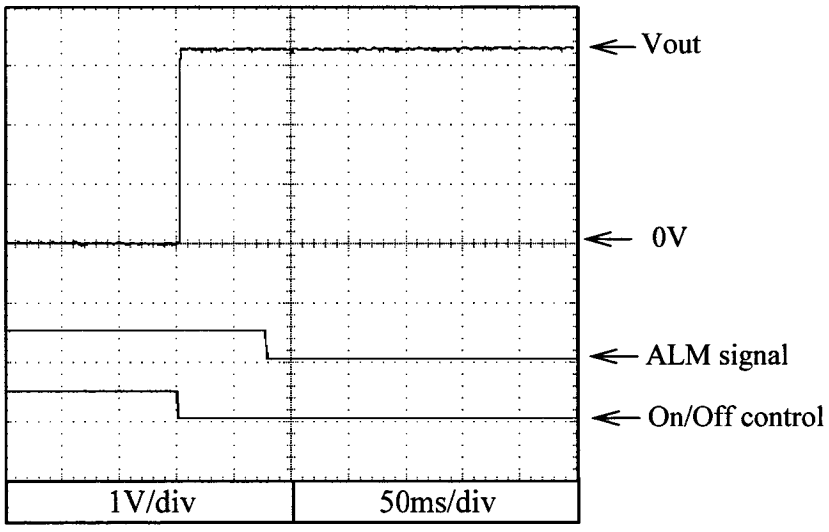
60V



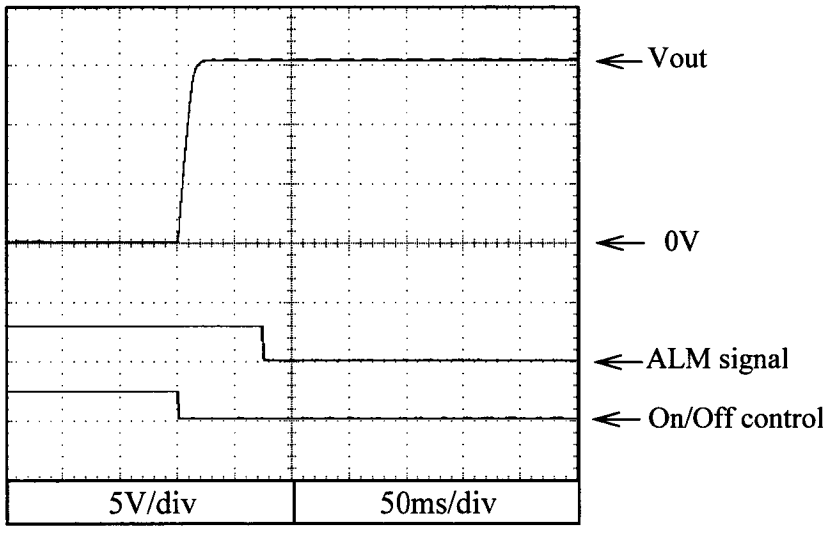
2.7 Output rise characteristics with On/Off control

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

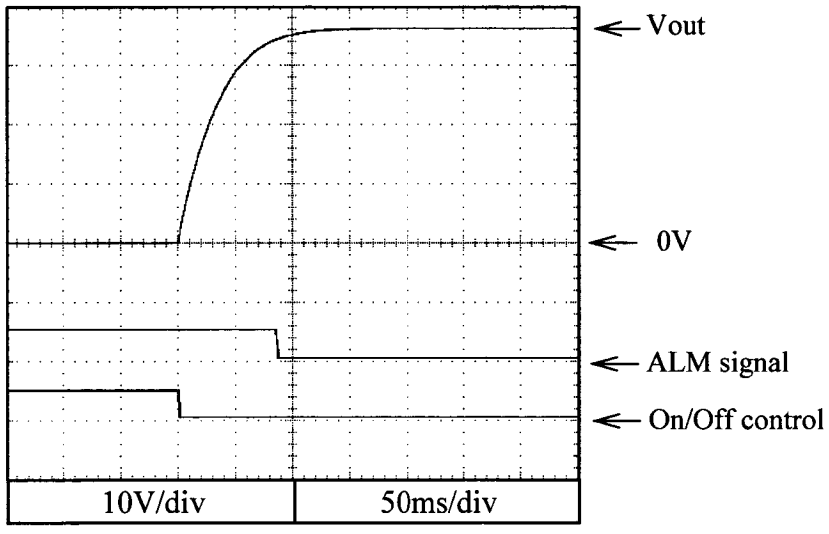
3V



15V



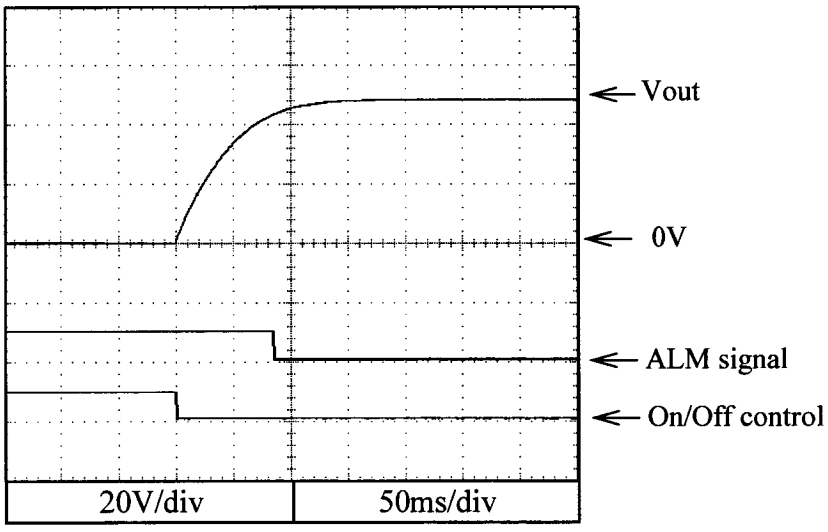
36V



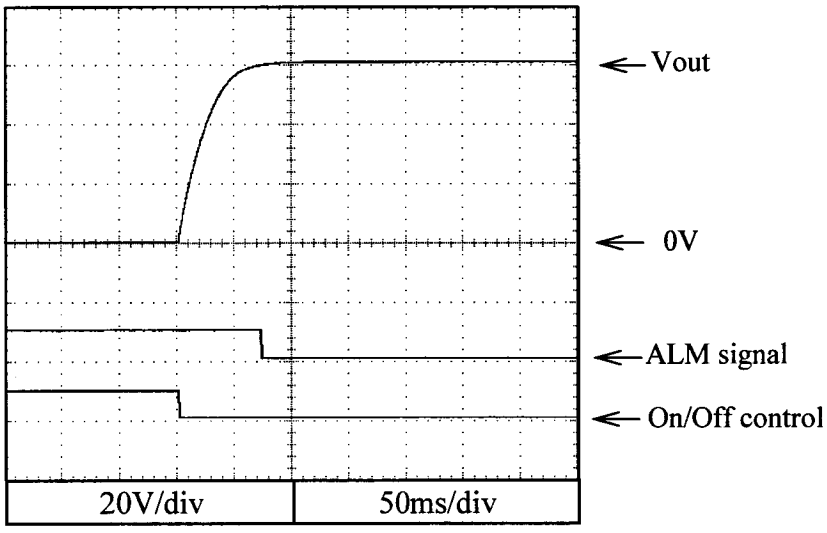
2.7 Output rise characteristics with On/Off control

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

48V



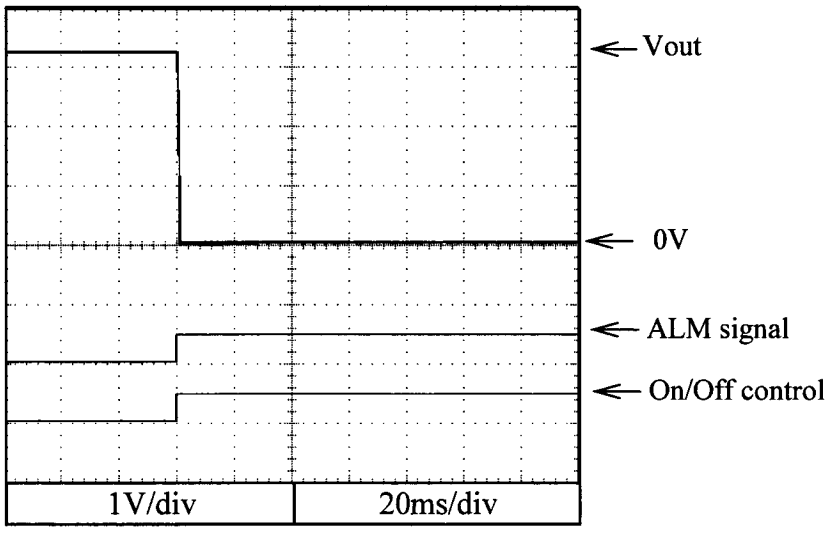
60V



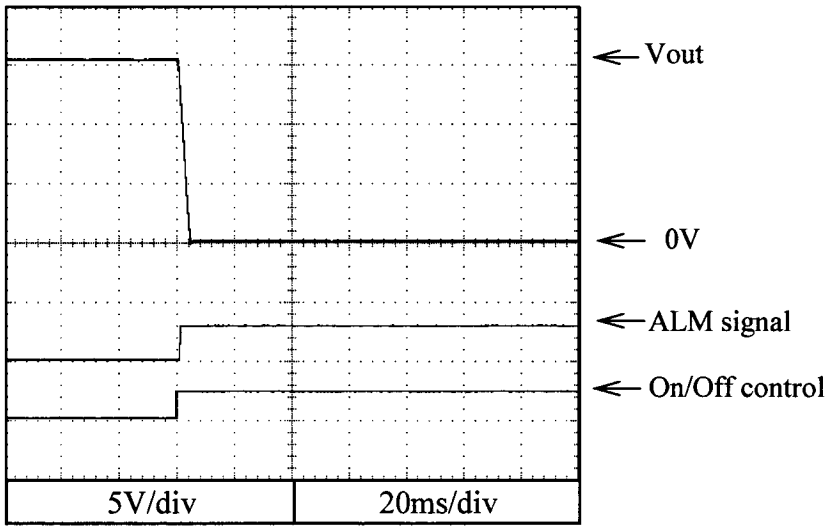
2.8 Output fall characteristics with On/Off control

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

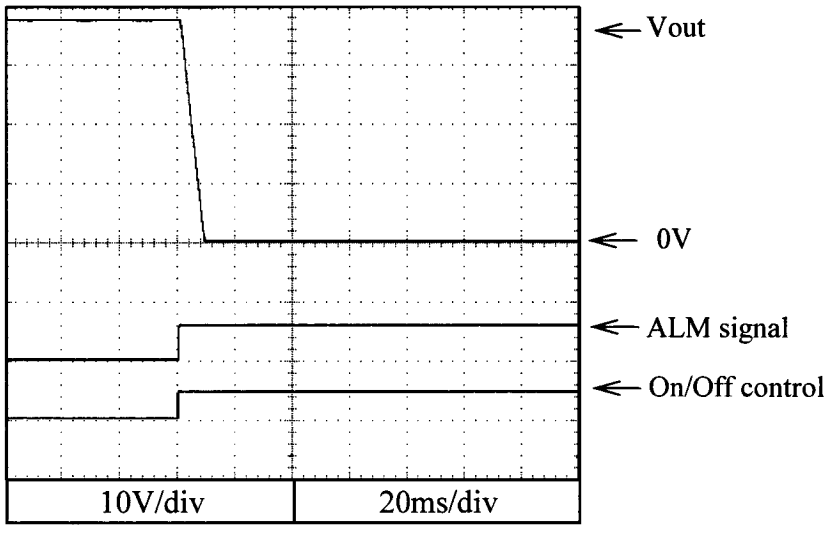
3V



15V



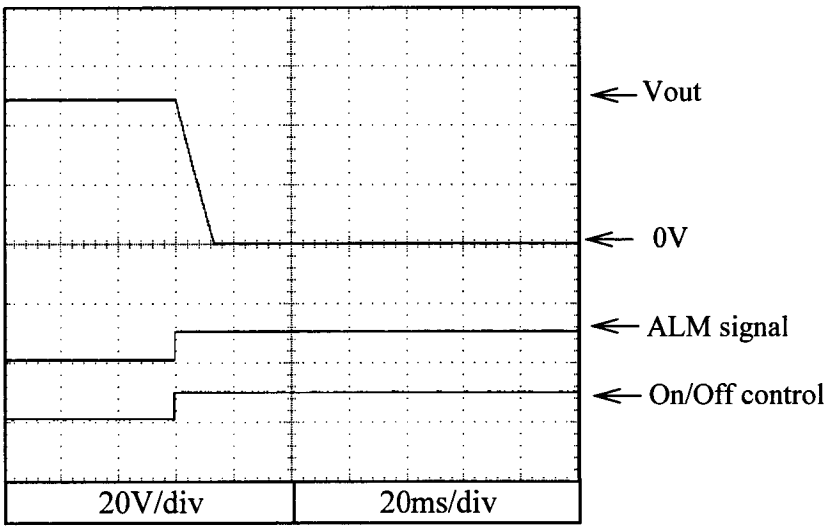
36V



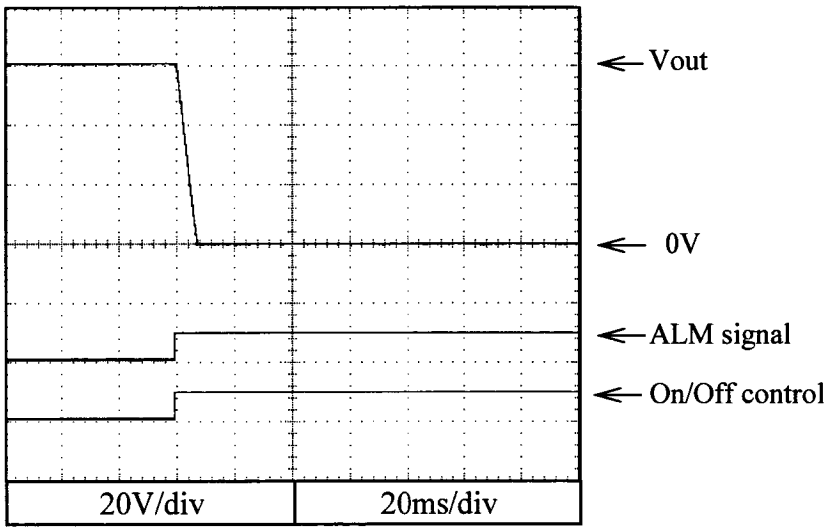
2.8 Output fall characteristics with On/Off control

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

48V



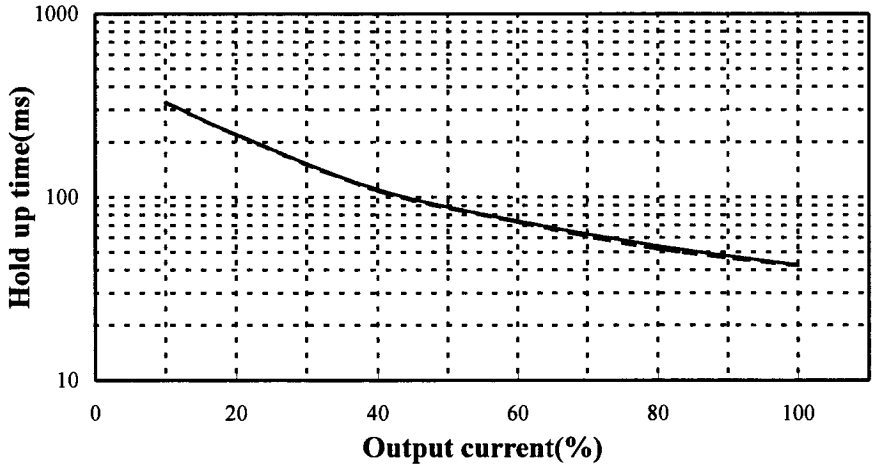
60V



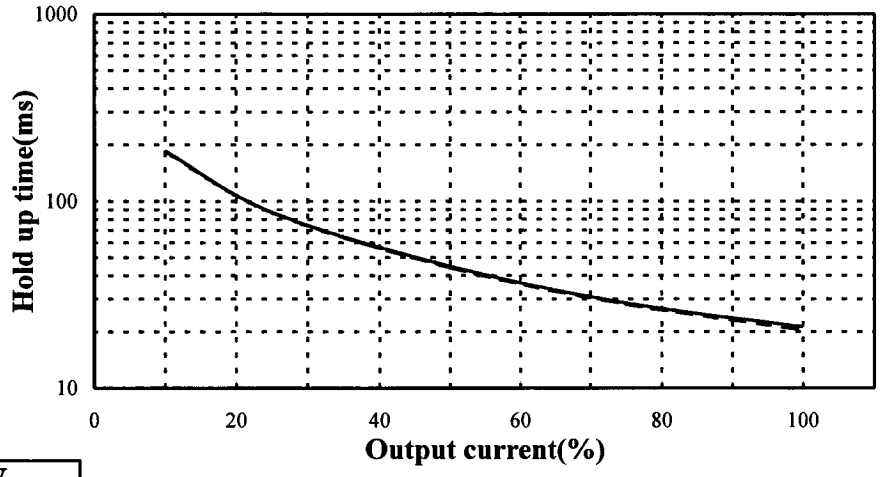
2.9 Hold up time characteristics

Conditions; Vin : 115VAC - - - - -
: 230VAC ———
Ta : 25°C

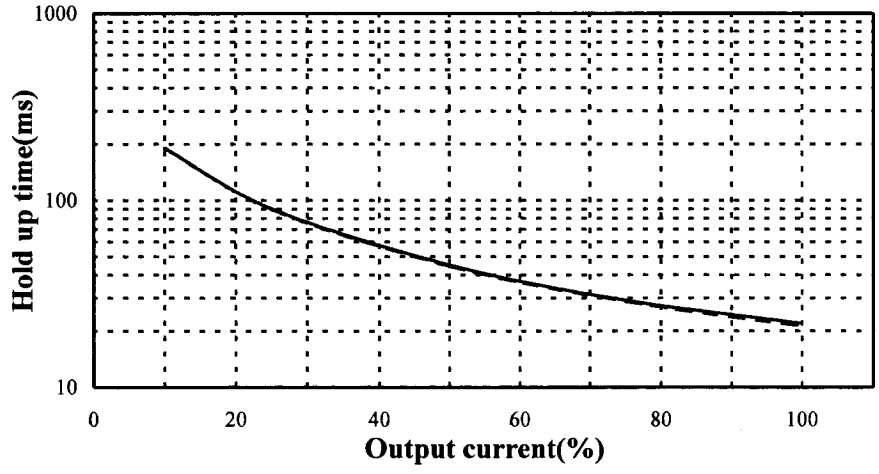
3V



15V



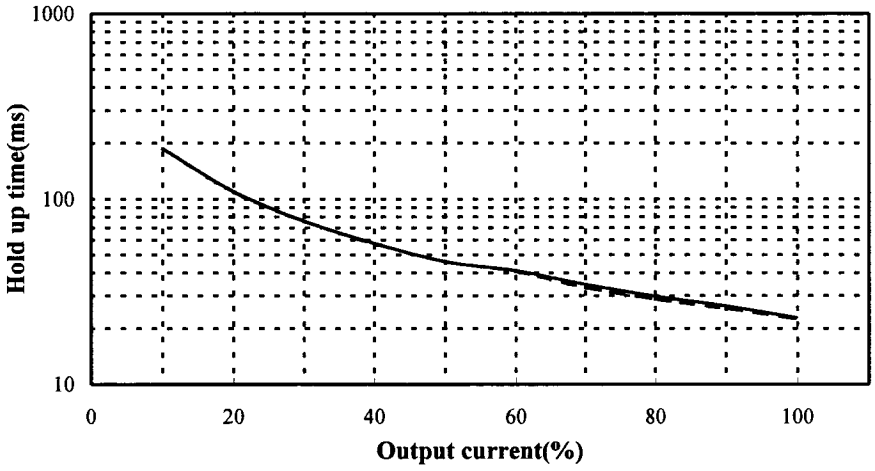
36V



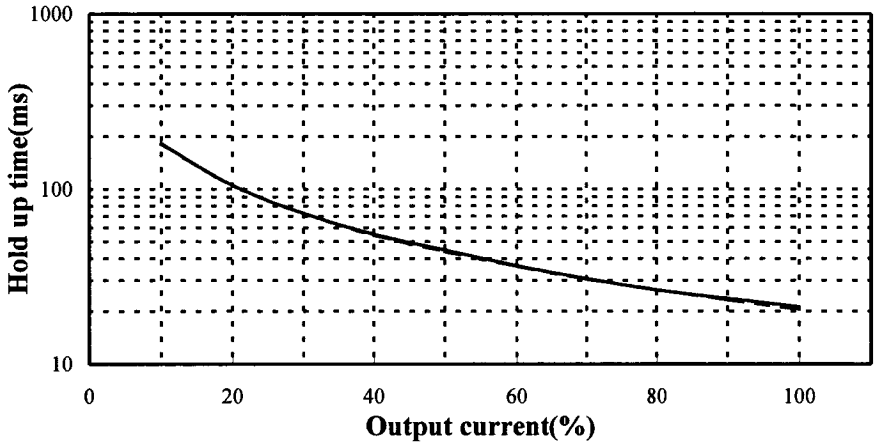
2.9 Hold up time characteristics

Conditions; Vin : 115VAC - - - - -
: 230VAC ———
Ta : 25°C

48V



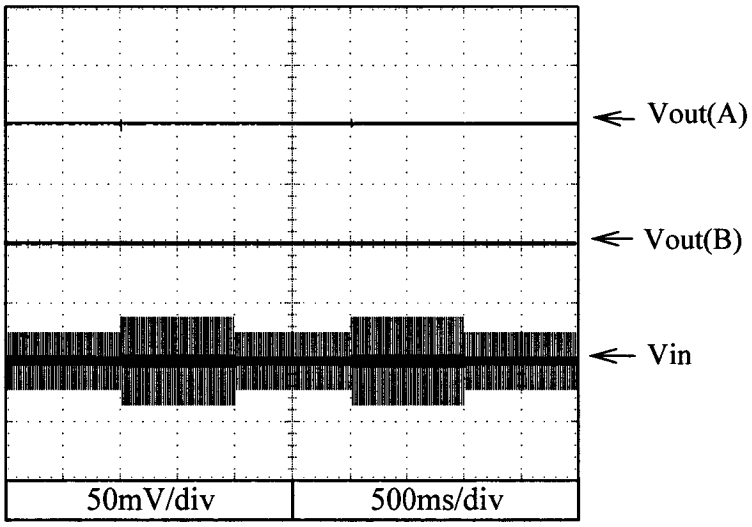
60V



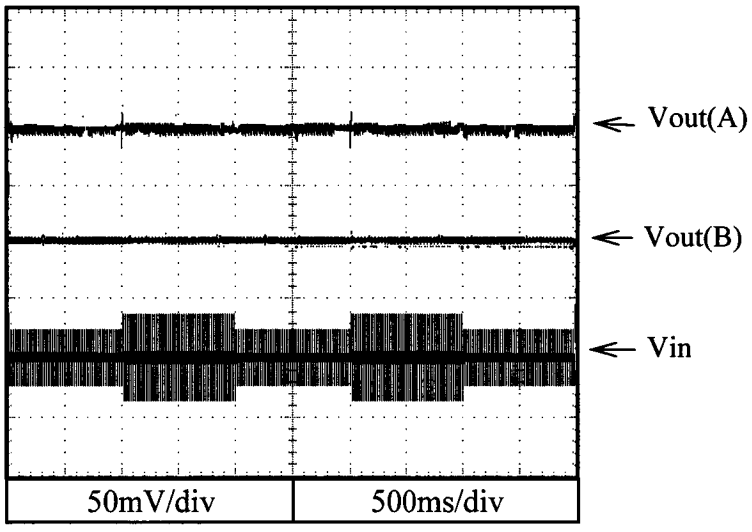
2.10 Dynamic line response characteristics

Conditions; Vin : 85VAC ⇔ 132VAC(A)
170VAC ⇔ 265VAC(B)
Iout : 100%
Ta : 25°C

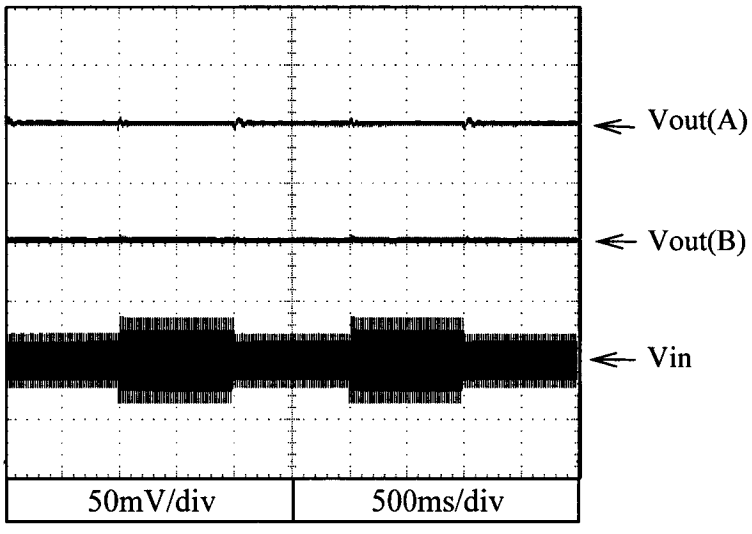
3V



15V



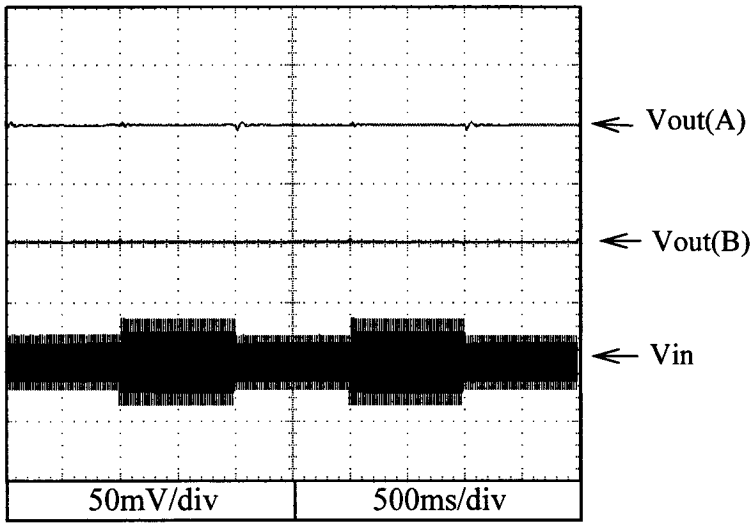
36V



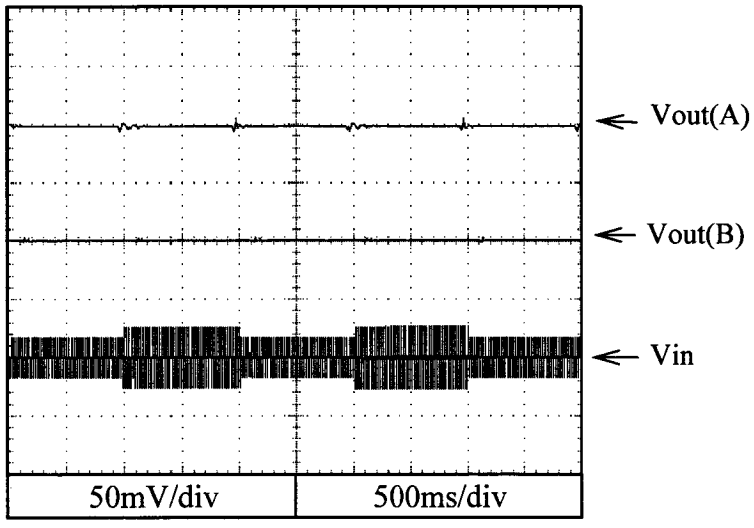
2.10 Dynamic line response characteristics

Conditions; Vin : 85VAC ⇔ 132VAC(A)
170VAC ⇔ 265VAC(B)
Iout : 100%
Ta : 25°C

48V



60V

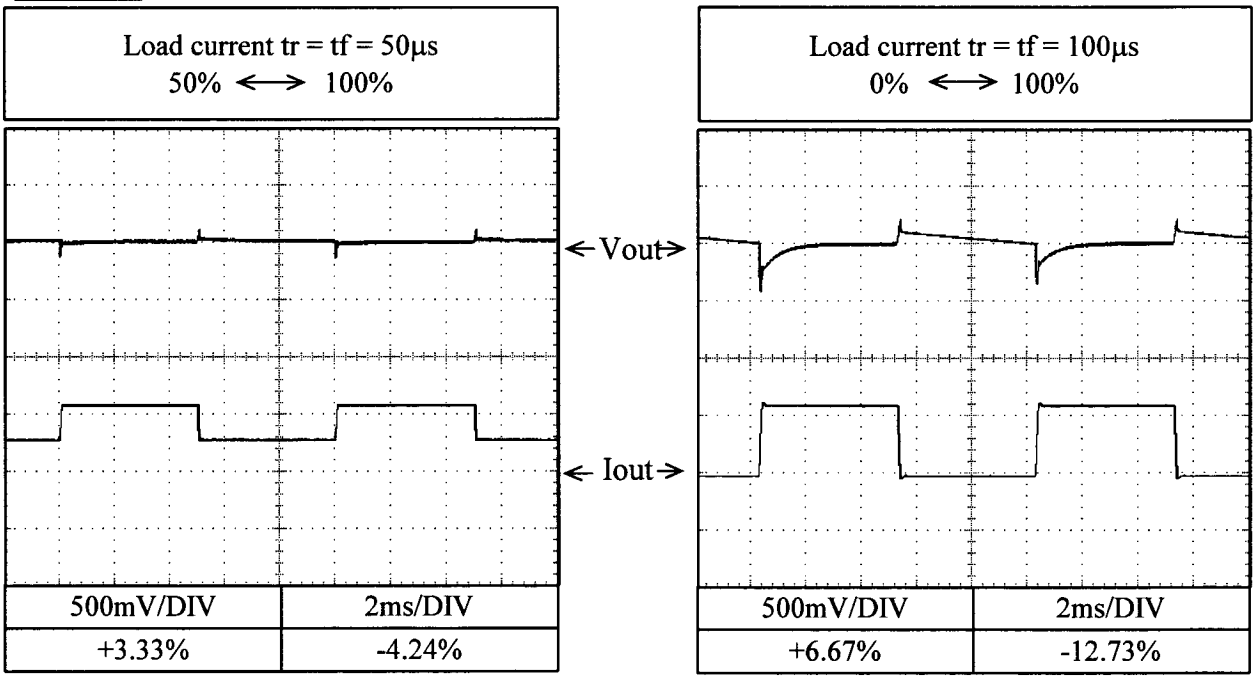


2.11 Dynamic load response characteristics

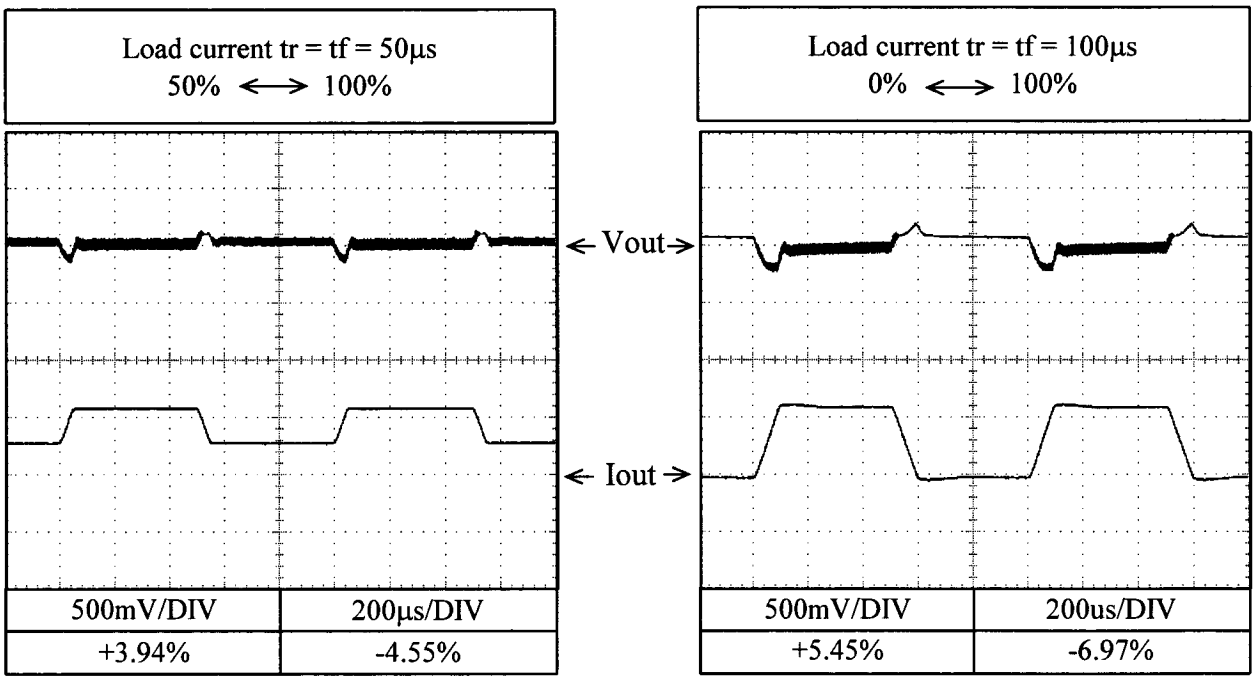
Conditions; Vin : 115VAC
Ta : 25°C

3V

f=100Hz



f=1kHz

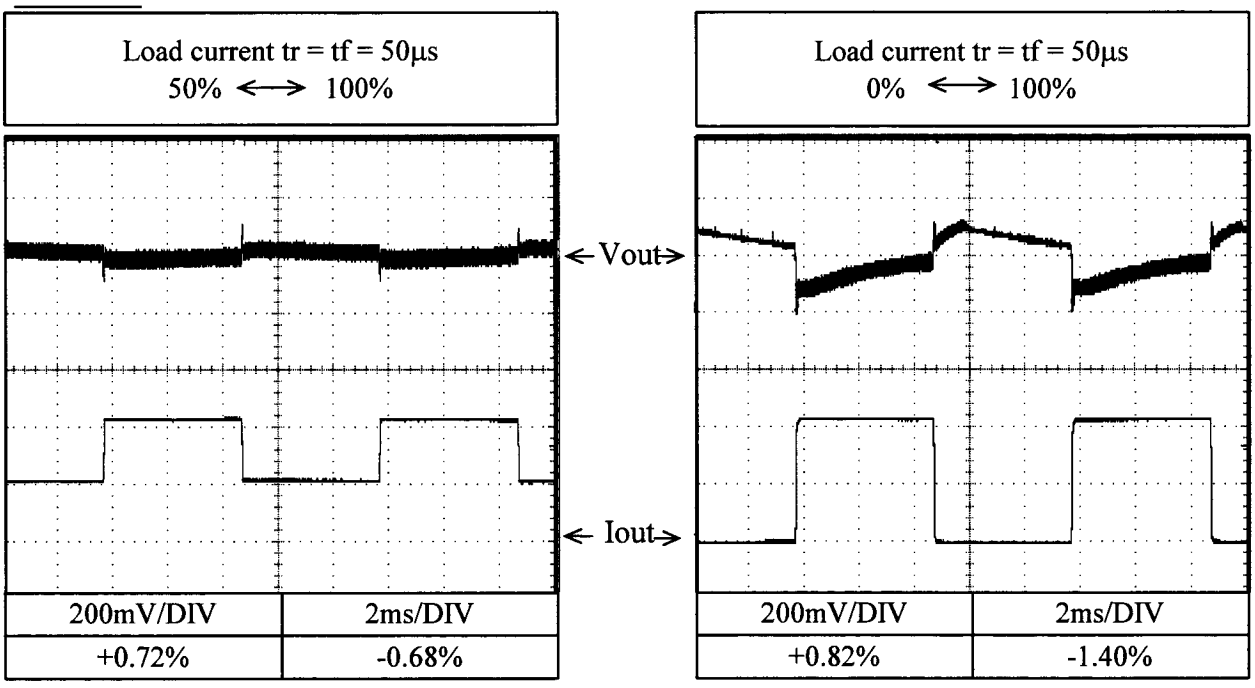


2.11 Dynamic load response characteristics

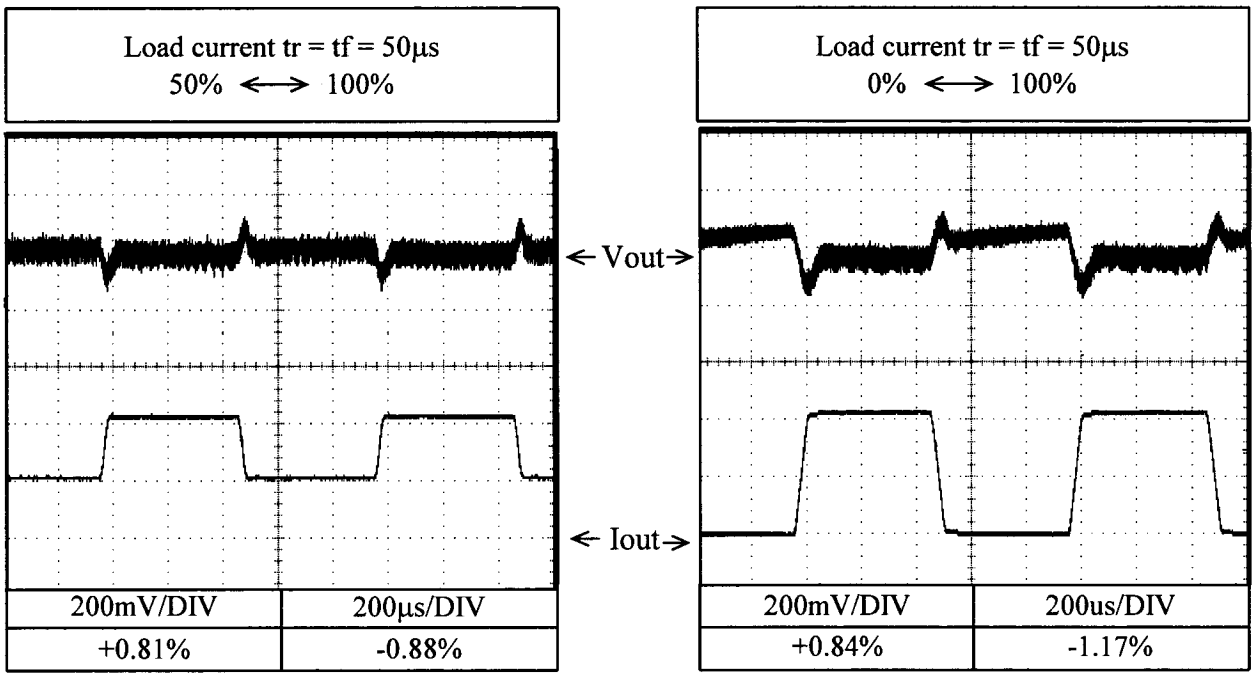
Conditions; Vin : 115VAC
Ta : 25°C

15V

f=100Hz



f=1kHz

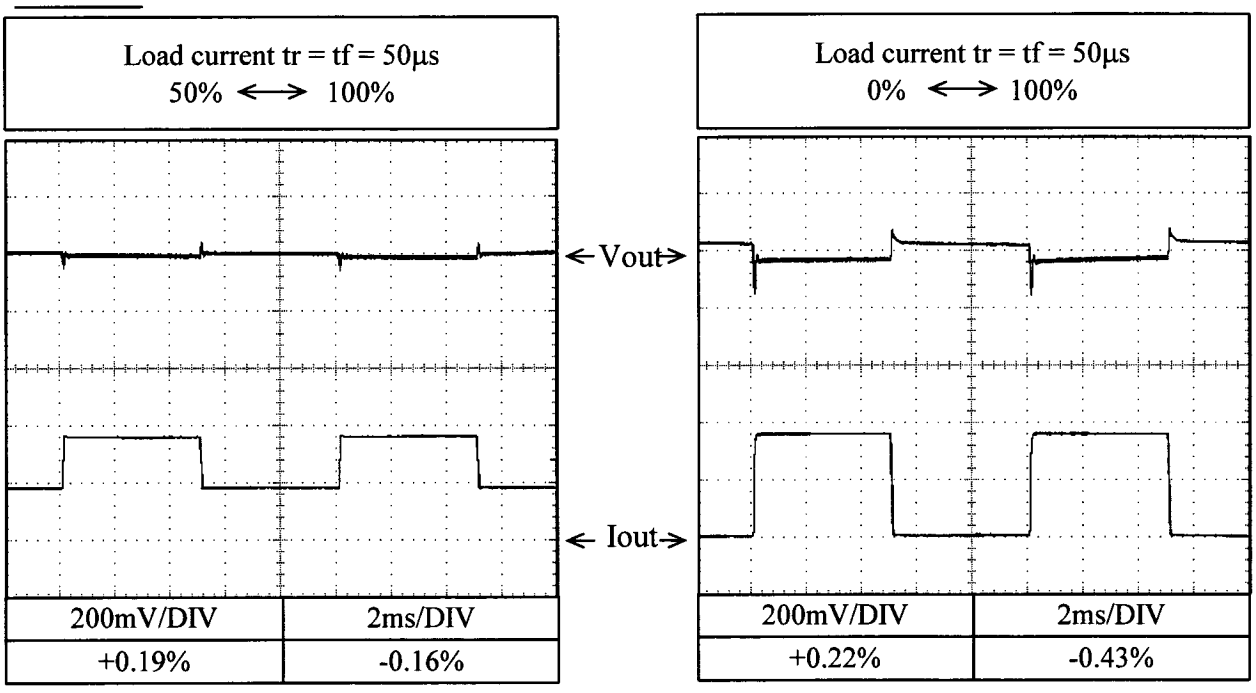


2.11 Dynamic load response characteristics

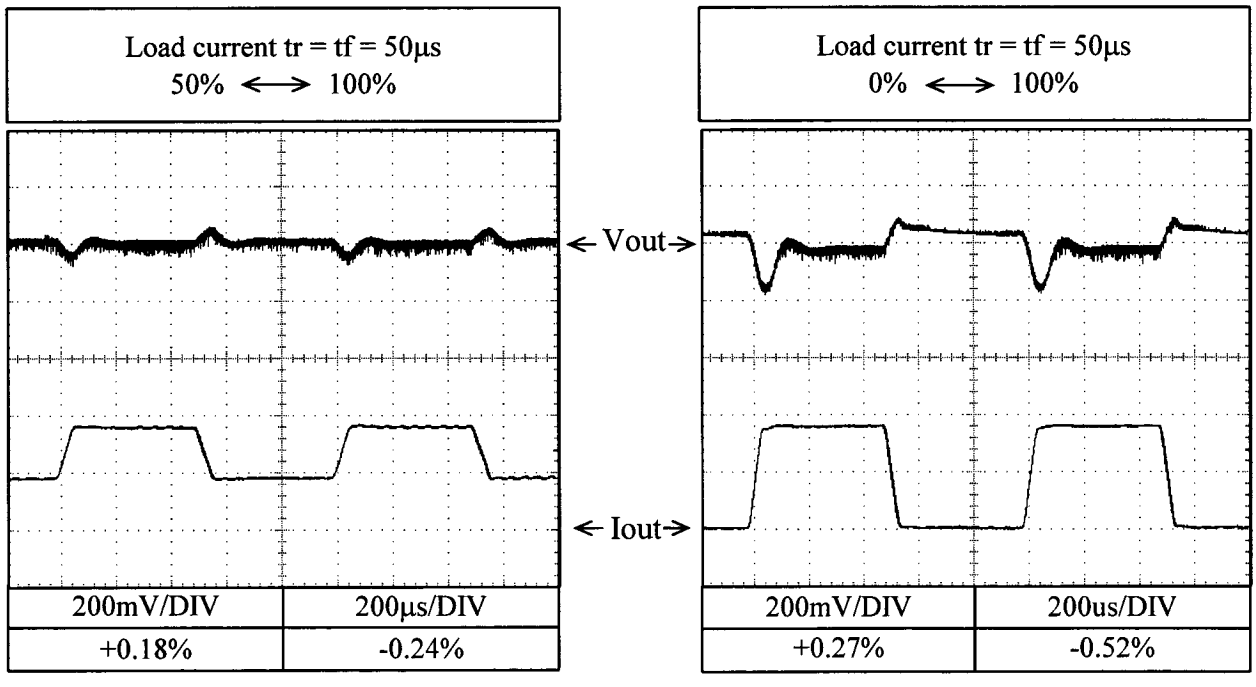
Conditions; Vin : 115VAC
Ta : 25°C

36V

f=100Hz



f=1kHz



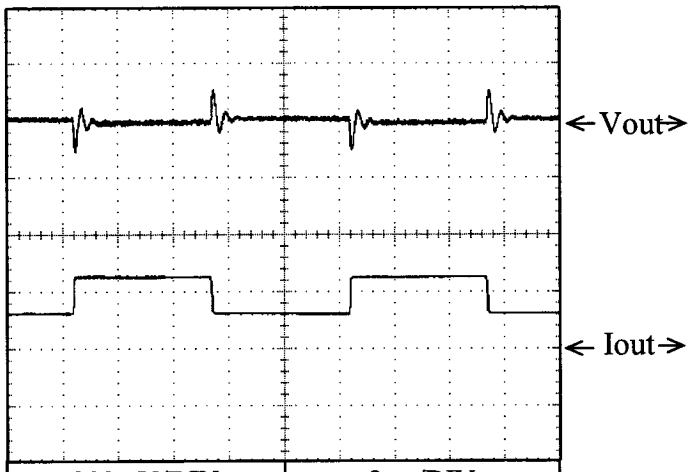
2.11 Dynamic load response characteristics

Conditions; Vin : 115VAC
Ta : 25°C

48V

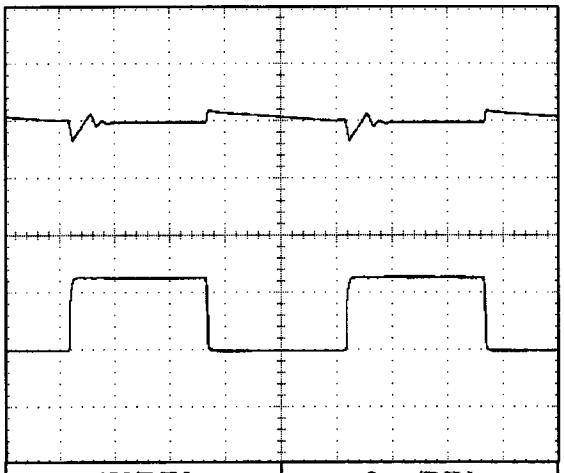
f=100Hz

Load current tr = tf = 50μs
50% ⟷ 100%



200mV/DIV	2ms/DIV
+0.23%	-0.23%

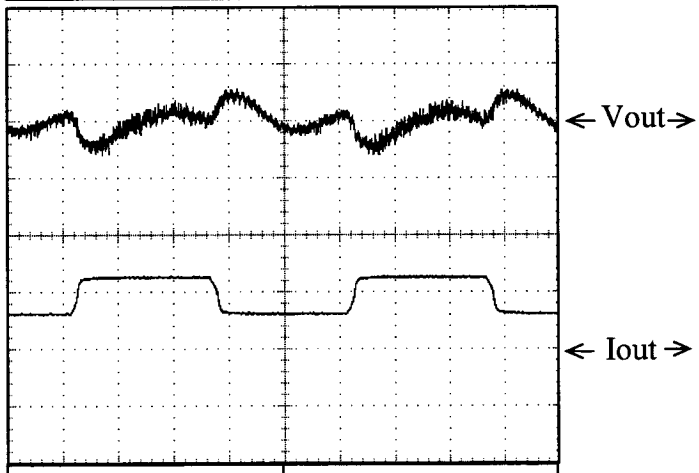
Load current tr = tf = 50μs
0% ⟷ 100%



1V/DIV	2ms/DIV
+0.42%	-0.71%

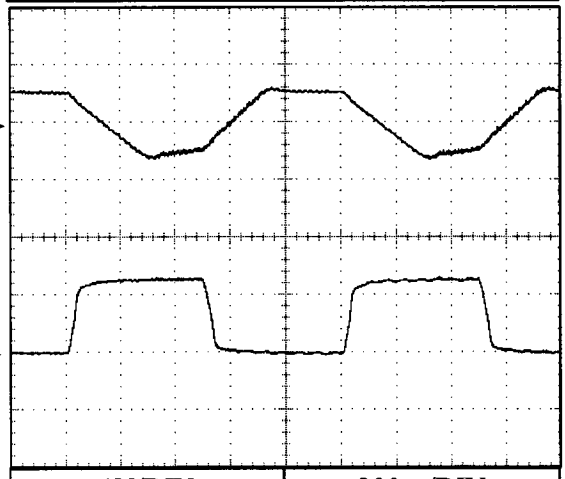
f=1kHz

Load current tr = tf = 50μs
50% ⟷ 100%



200mV/DIV	200μs/DIV
+0.23%	-0.25%

Load current tr = tf = 50μs
0% ⟷ 100%



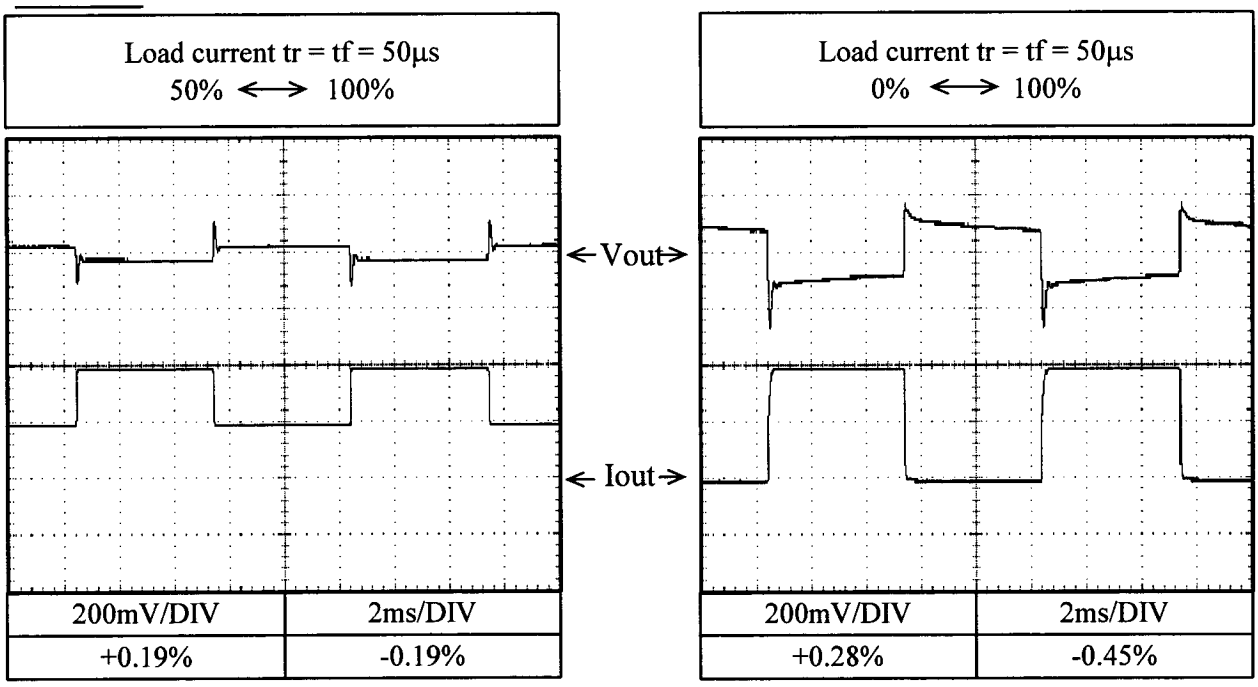
1V/DIV	200us/DIV
+1.25%	-1.33%

2.11 Dynamic load response characteristics

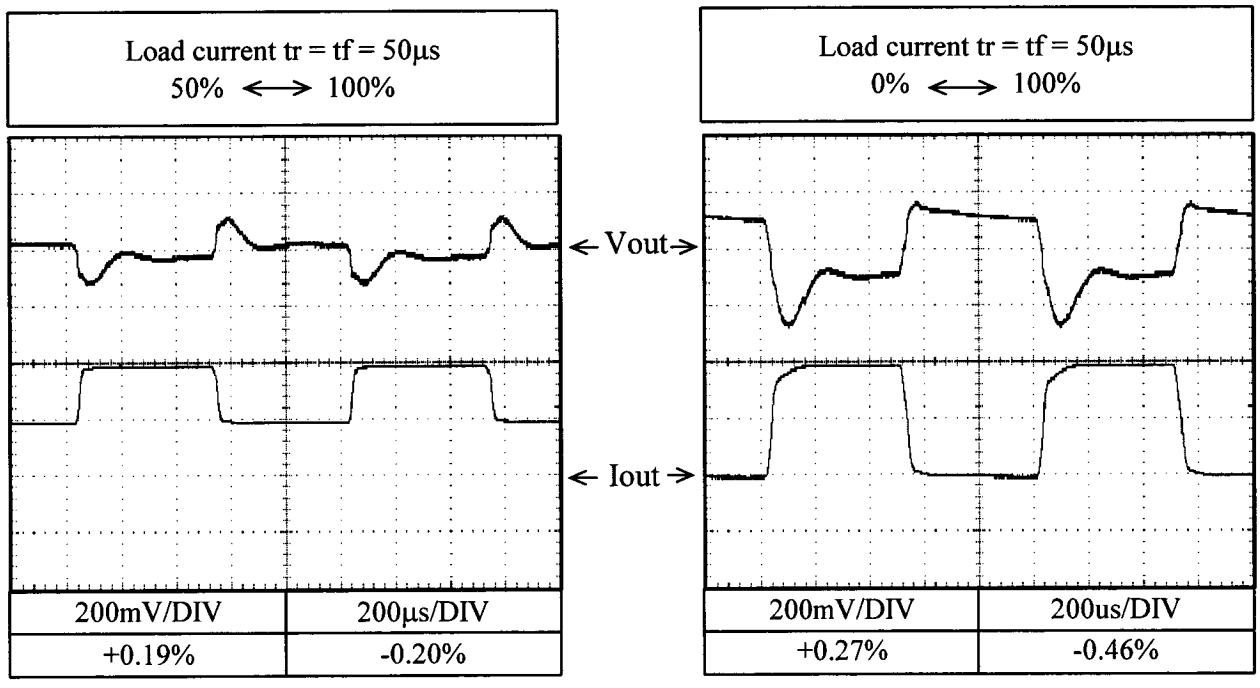
Conditions; Vin : 115VAC
Ta : 25°C

60V

f=100Hz



f=1kHz

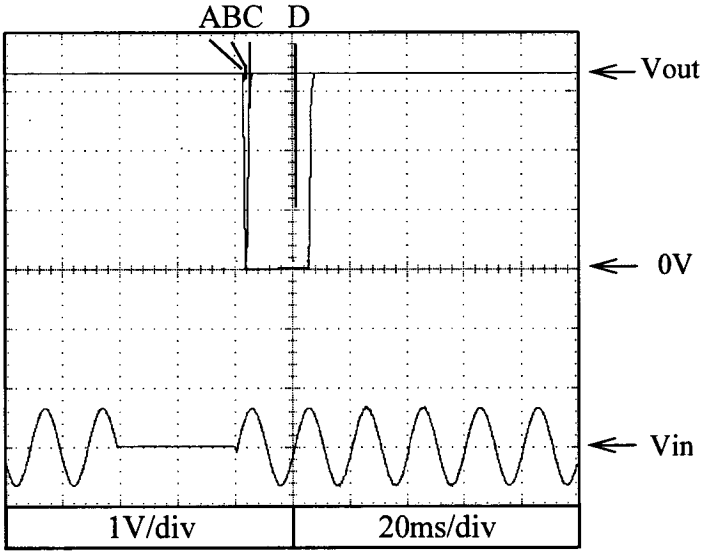


2.12 Response to brownout characteristics

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

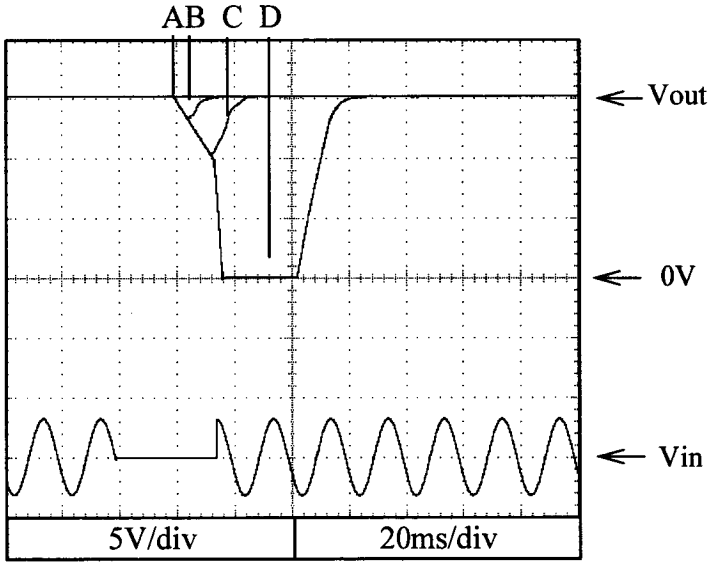
3V

A=36ms
B=38ms
C=42ms
D=43ms



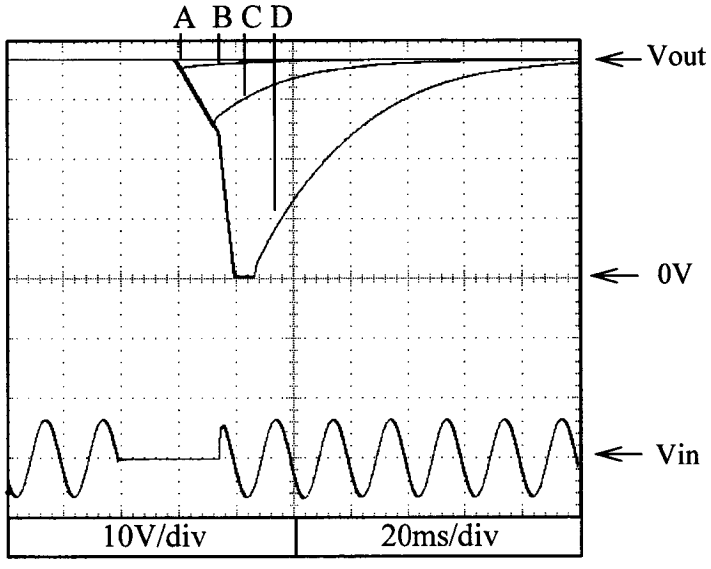
15V

A=19ms
B=20ms
C=32ms
D=33ms



36V

A=22ms
B=24ms
C=34ms
D=35ms

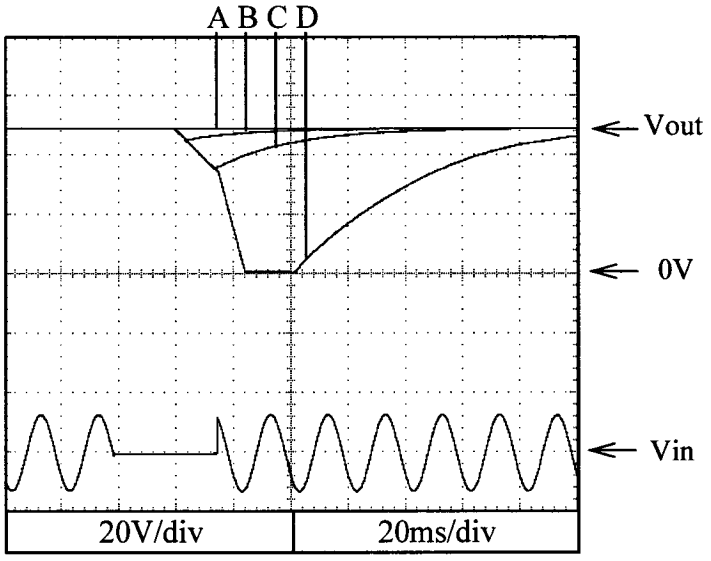


2.12 Response to brownout characteristics

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

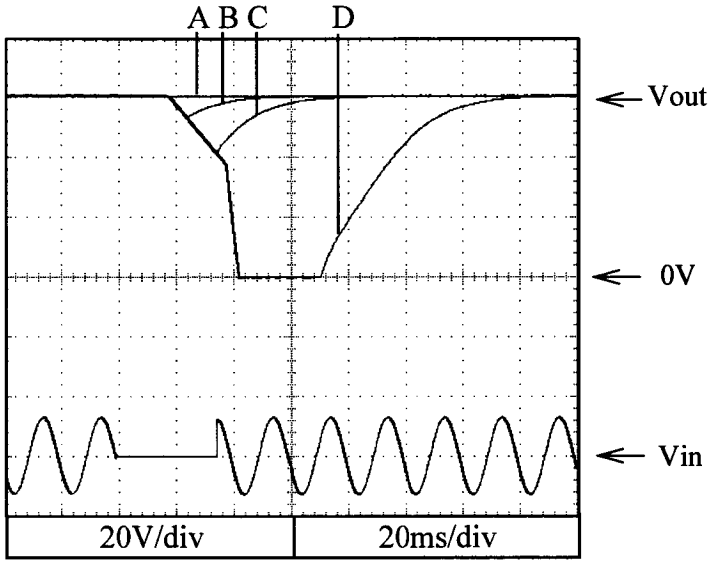
48V

A=23ms
B=24ms
C=34ms
D=35ms



60V

A=20ms
B=21ms
C=36ms
D=37ms

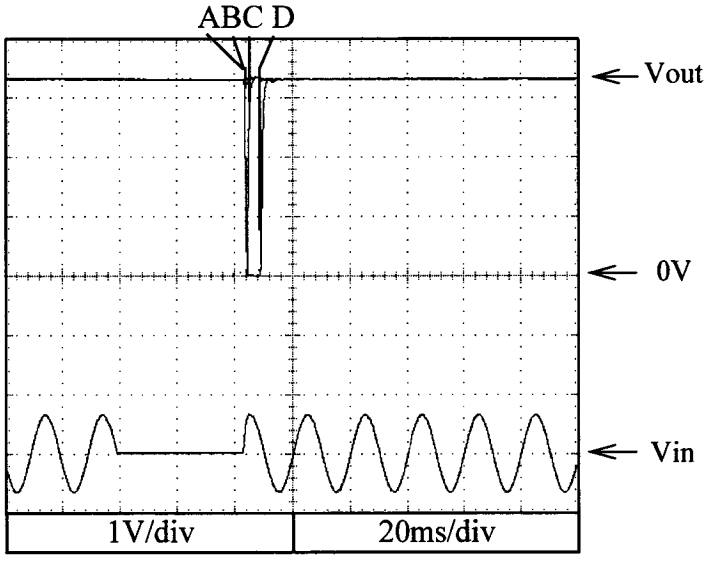


2.12 Response to brownout characteristics

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

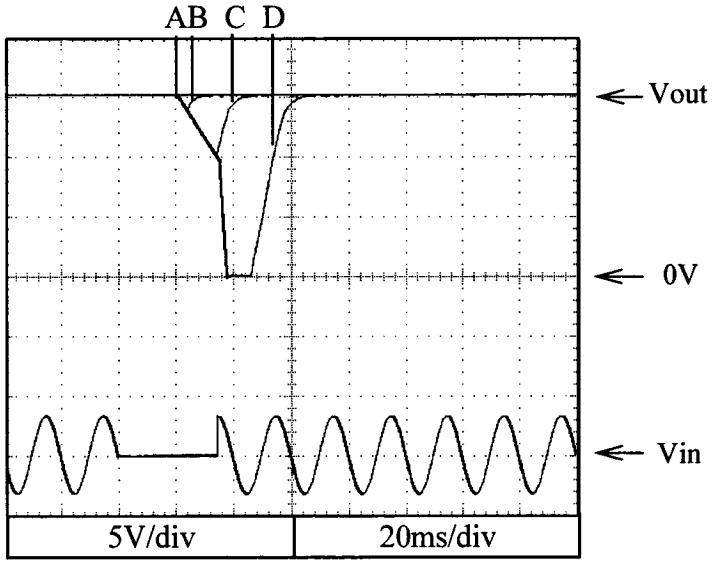
3V

A=37ms
B=39ms
C=41ms
D=42ms



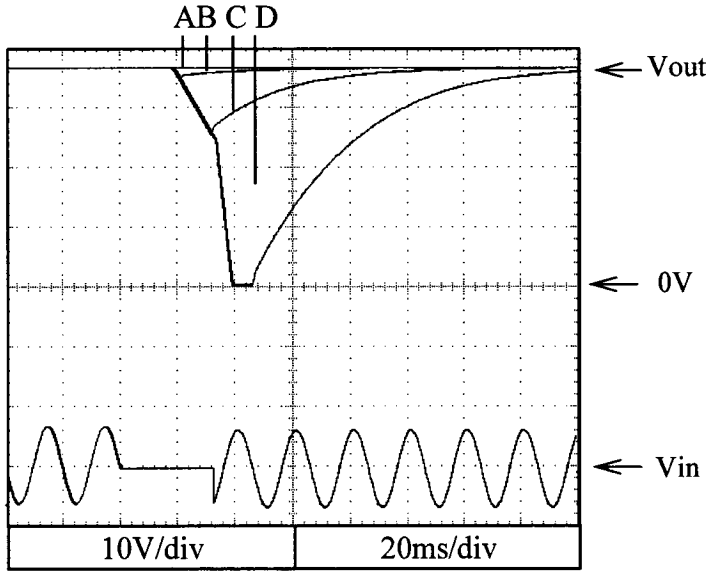
15V

A=21ms
B=22ms
C=34ms
D=35ms



36V

A=22ms
B=25ms
C=34ms
D=35ms

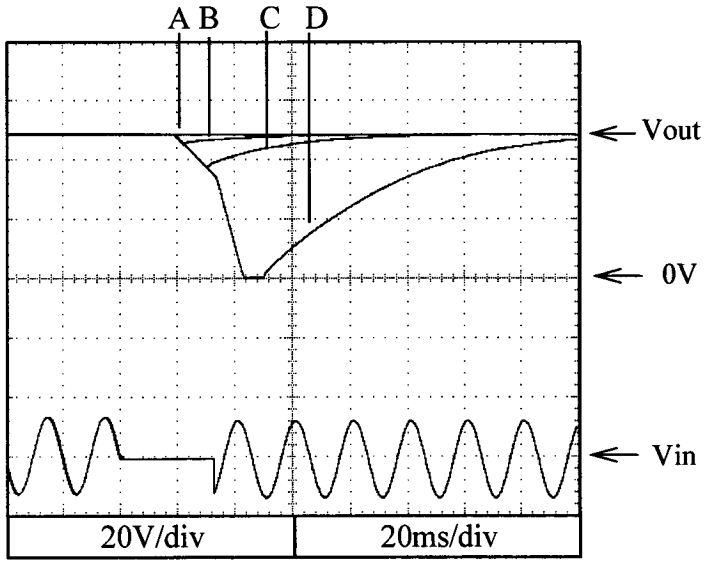


2.12 Response to brownout characteristics

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

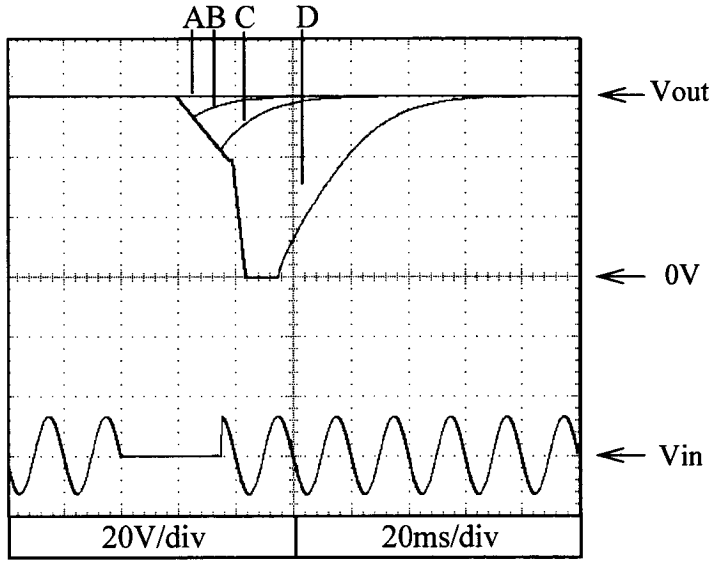
48V

A=24ms
B=25ms
C=35ms
D=36ms



60V

A=21ms
B=22ms
C=37ms
D=38ms

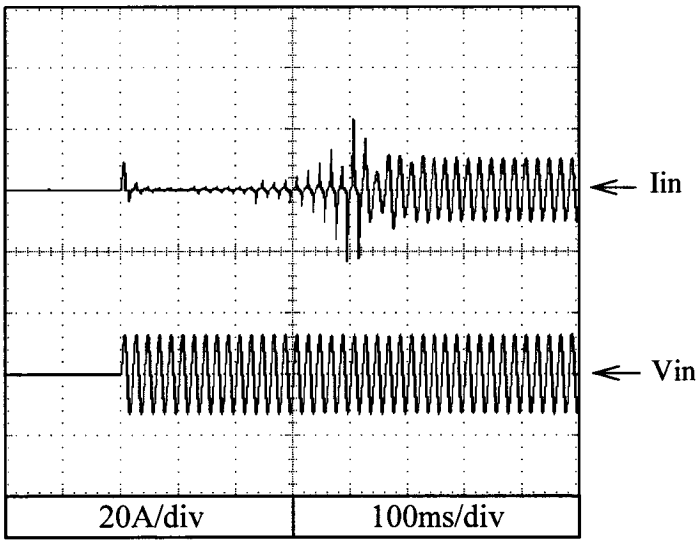


2.13 Inrush current waveform

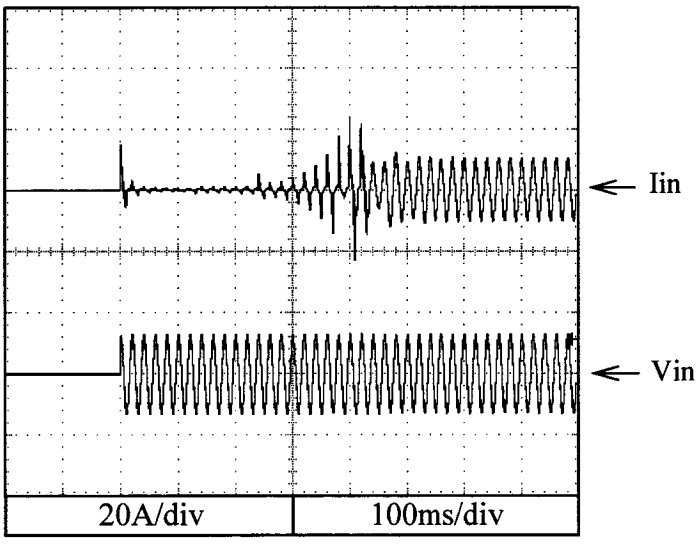
Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

15V

Switch on phase angle of input AC voltage
$\phi = 0^{o}$



Switch on phase angle of input AC voltage
$\phi = 90^{o}$

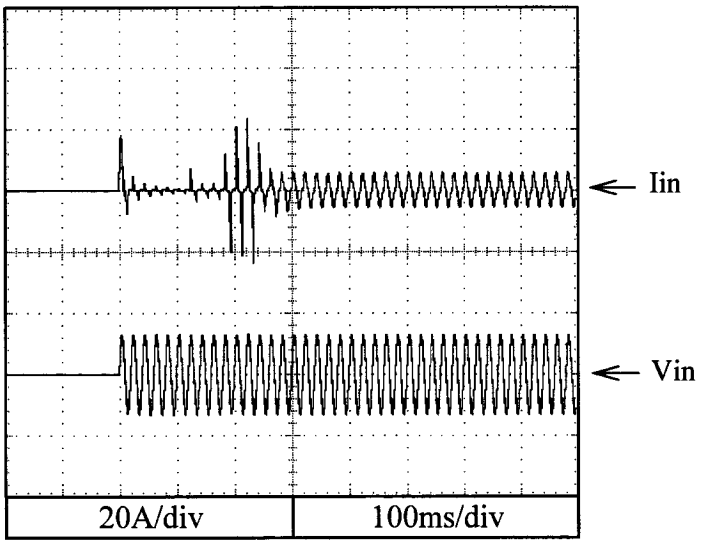


2.13 Inrush current waveform

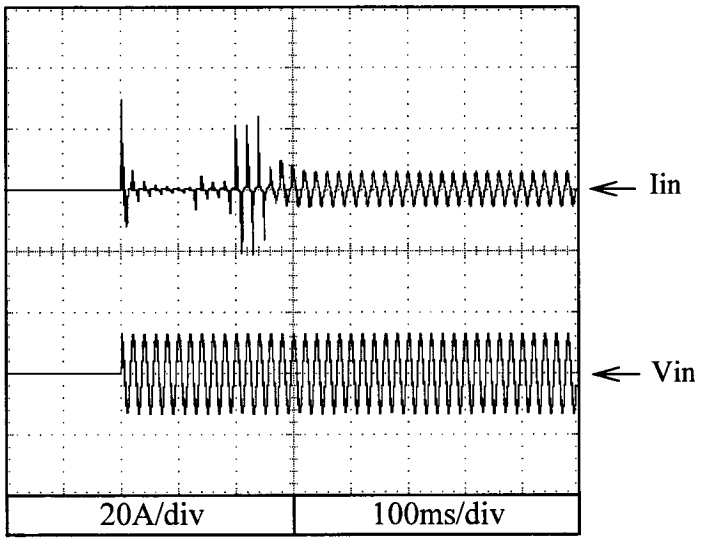
Conditions; Vin : 230VAC
Iout : 100%
Ta : 25°C

15V

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



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

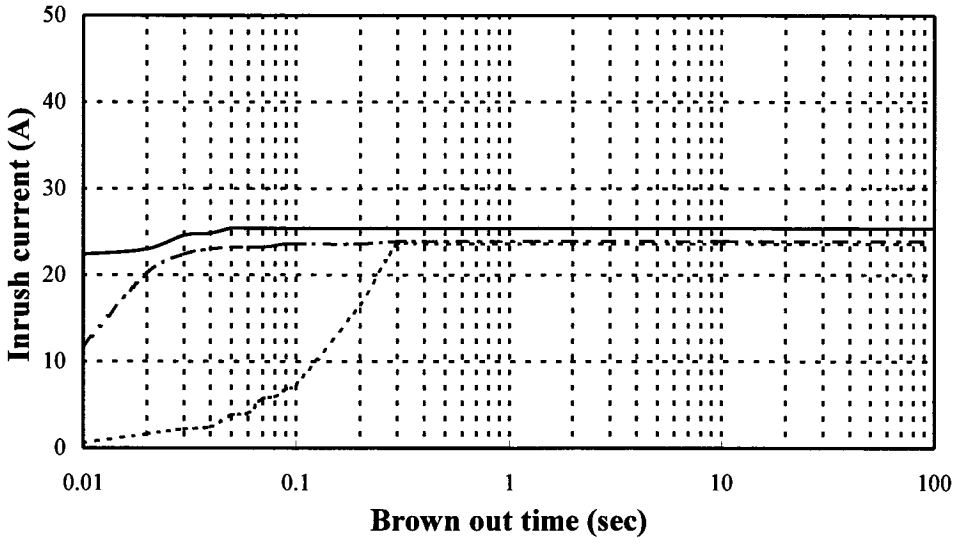


2.14 Inrush current characteristics

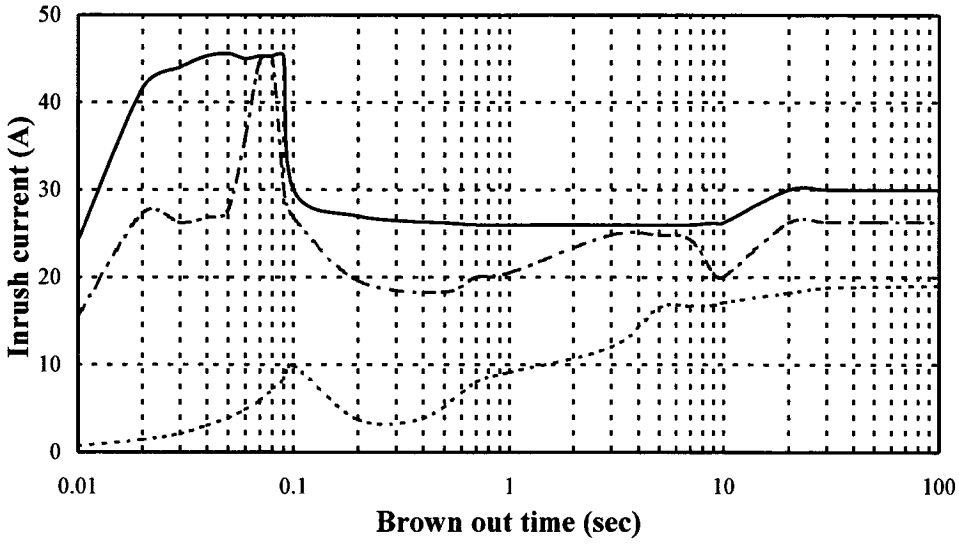
Conditions; Iout : 0% – – – – –
: 50% - - - - - -
: 100% ———
Ta : 25°C

15V

Vin: 115VAC



Vin: 230VAC



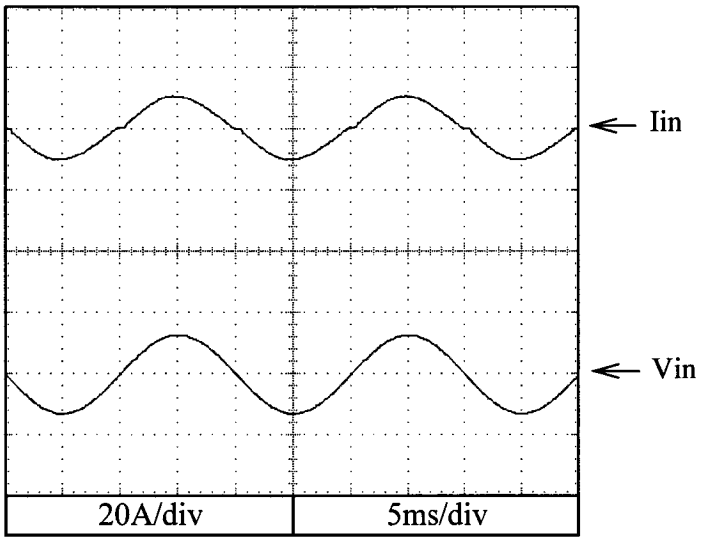
Above data included secondary inrush current.

2.15 Input current waveform

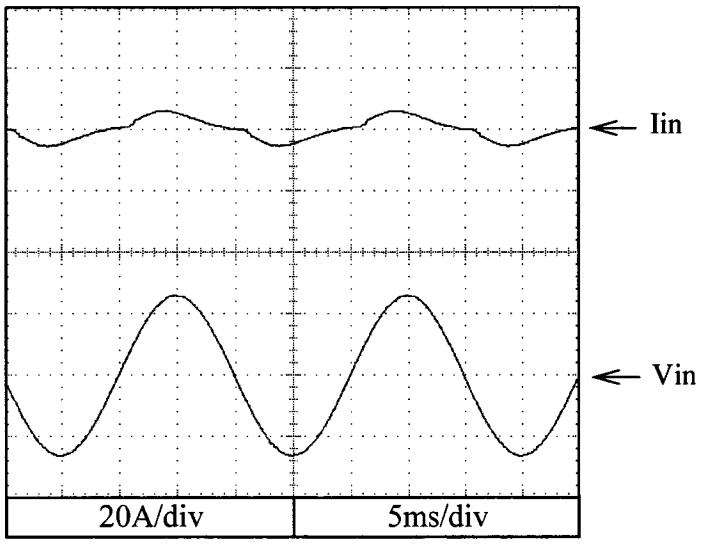
Conditions; Iout : 100%
Ta : 25°C

15V

Vin : 115VAC



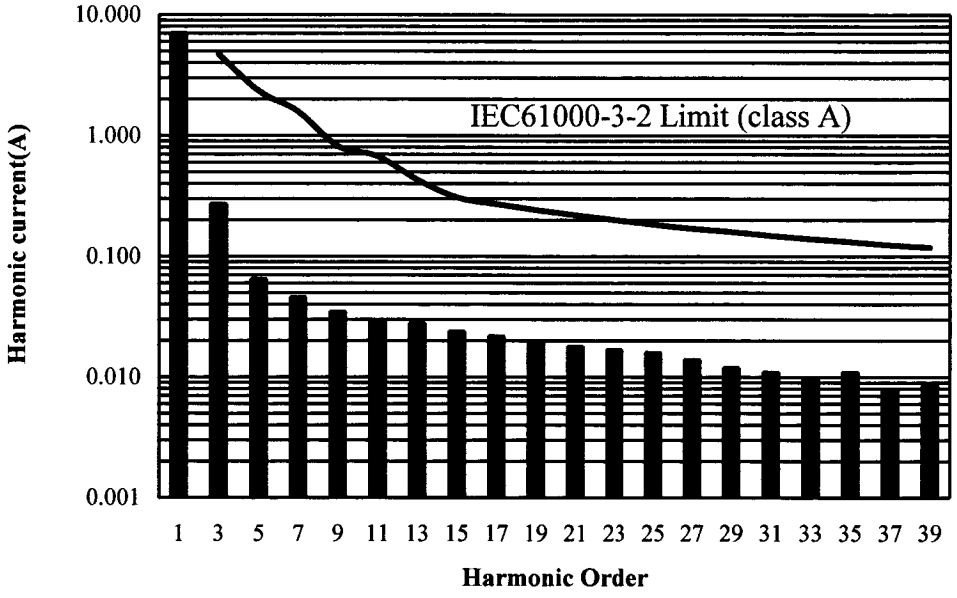
Vin : 230VAC



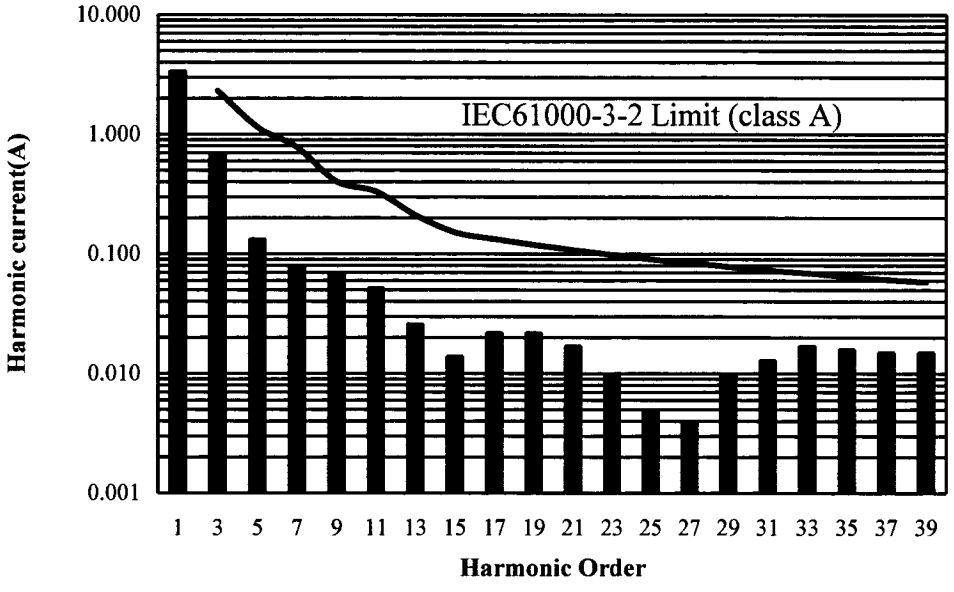
2.16 Input current harmonics

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

15V



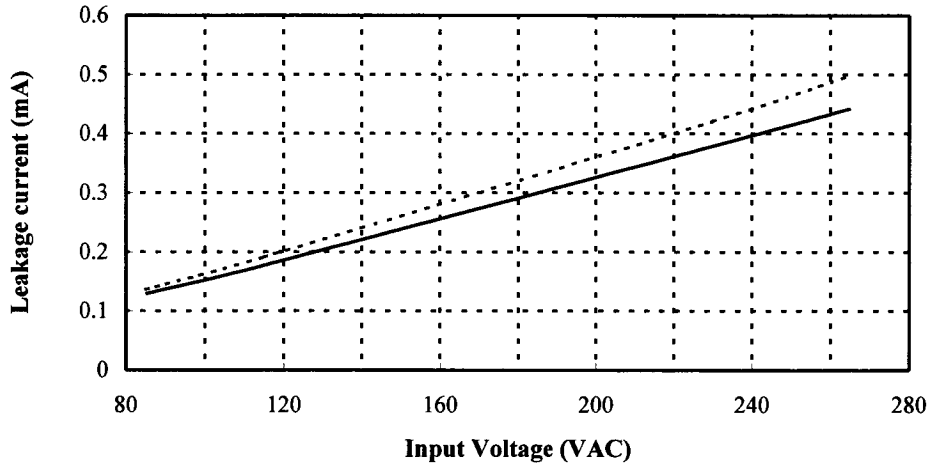
Conditions; Vin : 230VAC
Iout : 100%
Ta : 25°C



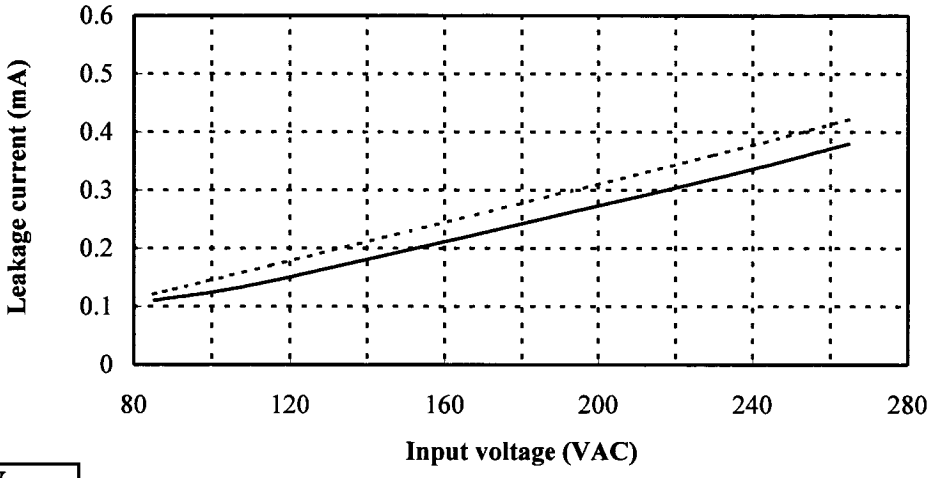
2.17 Leakage current characteristics

Conditions; Iout : 0% ------
: 100% ——
Ta : 25°C
f : 50Hz
Equipment used : MODEL 228
(Simpson)

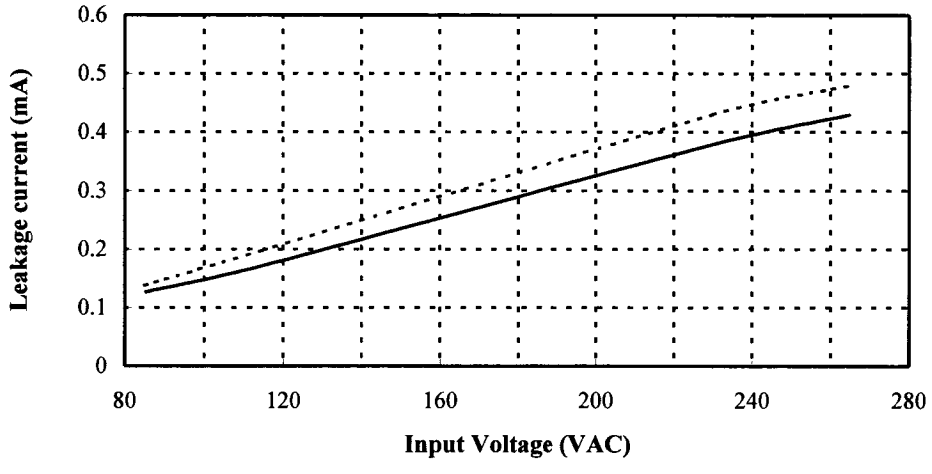
3V



15V



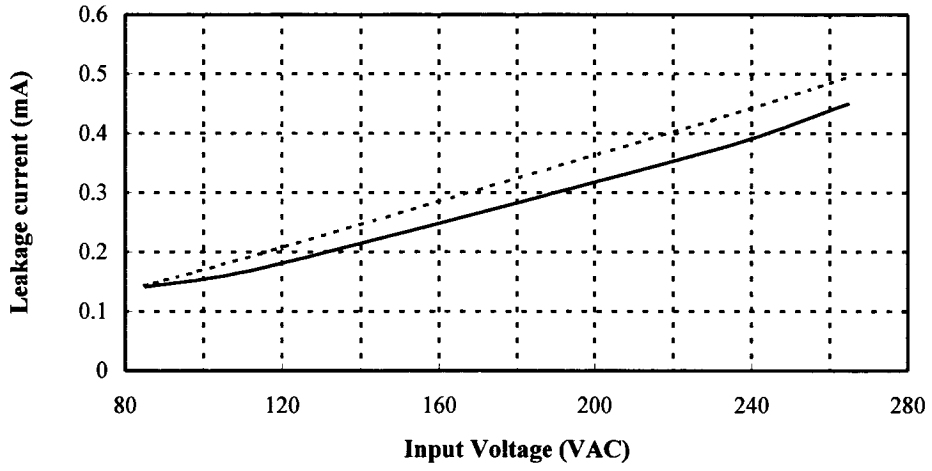
36V



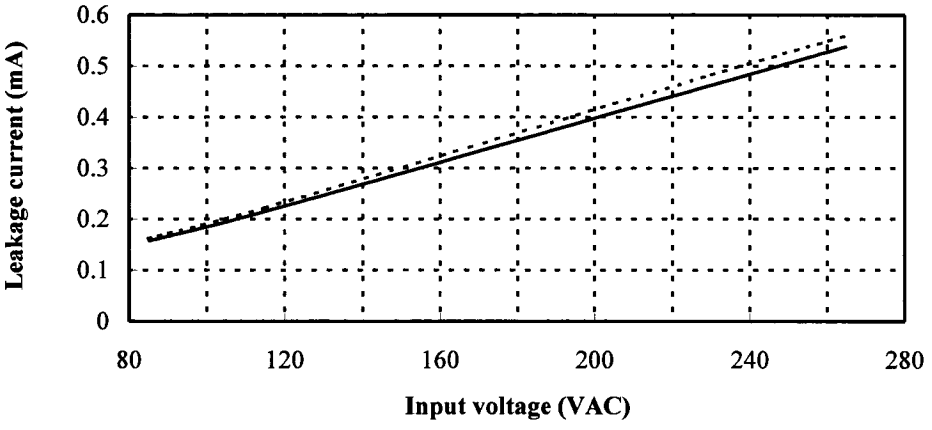
2.17 Leakage current characteristics

Conditions; Iout : 0% ------
: 100% ——
Ta : 25°C
f : 50Hz
Equipment used : MODEL 228
(Simpson)

48V



60V

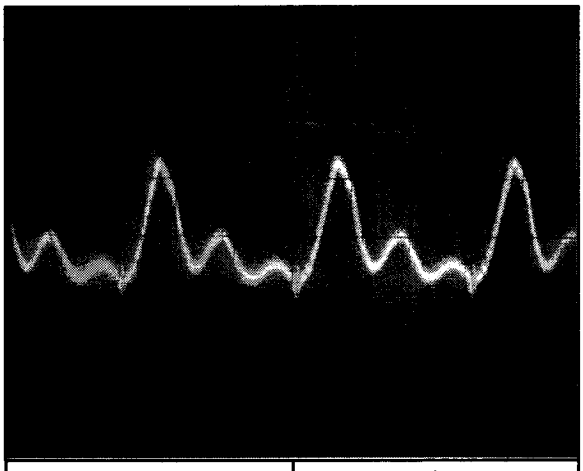


2.18 Output ripple and noise waveform

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

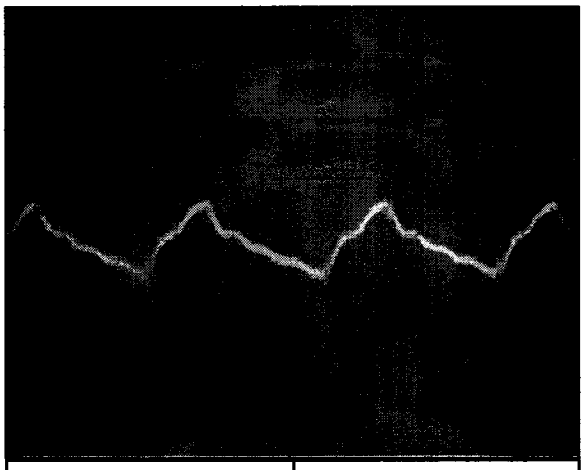
NORMAL MODE

3V



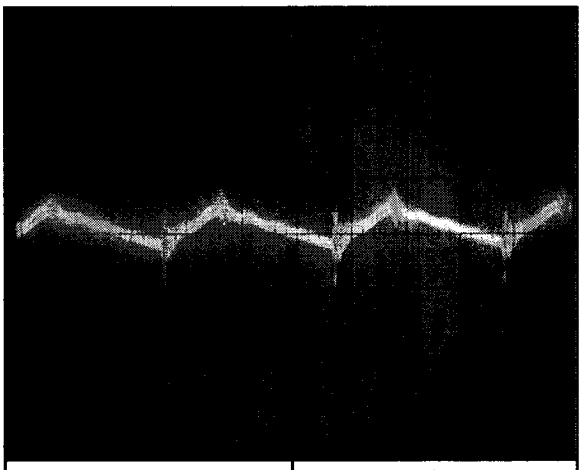
20mV/DIV	1us/DIV

15V



20mV/DIV	1us/DIV

36V



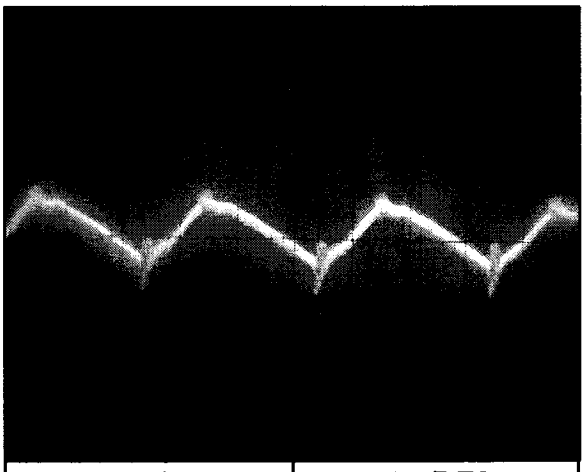
20mV/DIV	1us/DIV

2.18 Output ripple and noise waveform

Conditions; Vin : 115VAC
Iout : 100%
Ta : 25°C

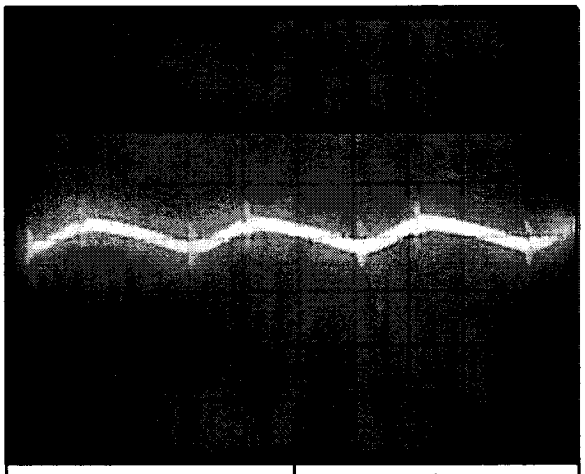
NORMAL MODE

48V



20mV/DIV	1us/DIV

60V



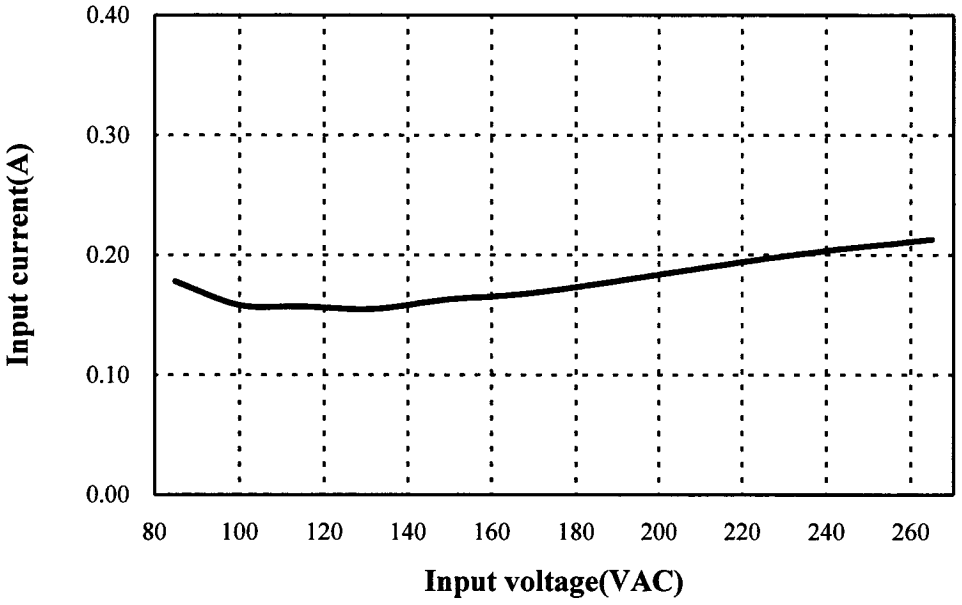
20mV/DIV	1us/DIV

2.19 Standby current

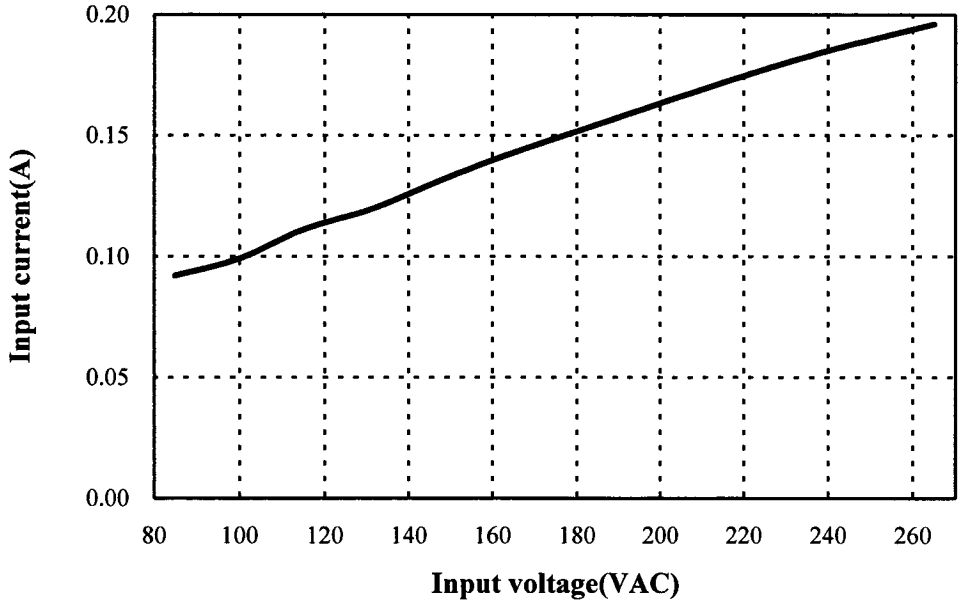
Conditions; Ta : 25°C

15V

Io=0%



Remote control OFF



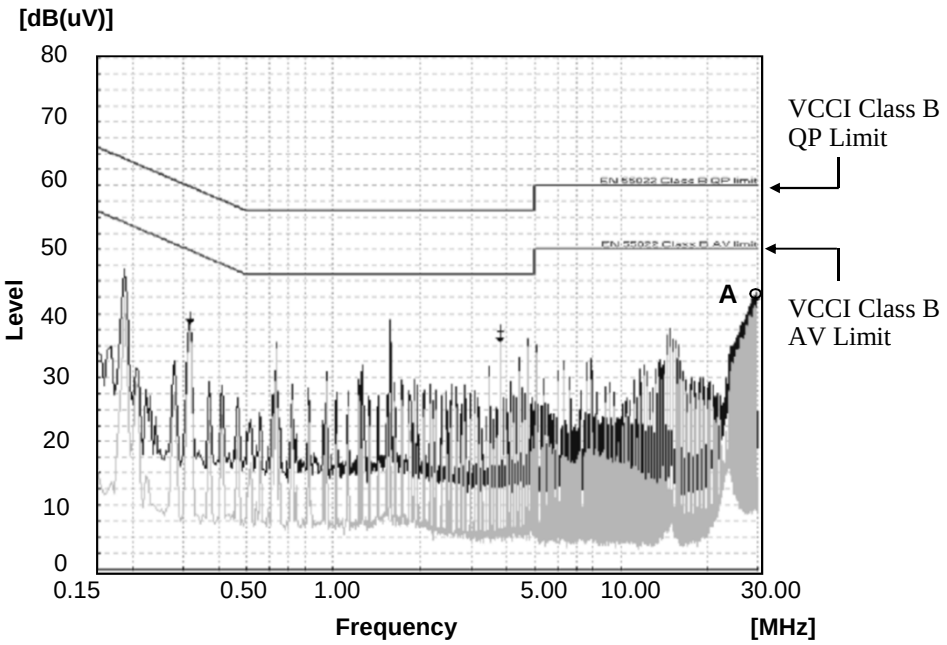
2.20 Electro-Magnetic Interference characteristics

Conditions Vin : 230VAC
Iout : 100%

Conducted Emission

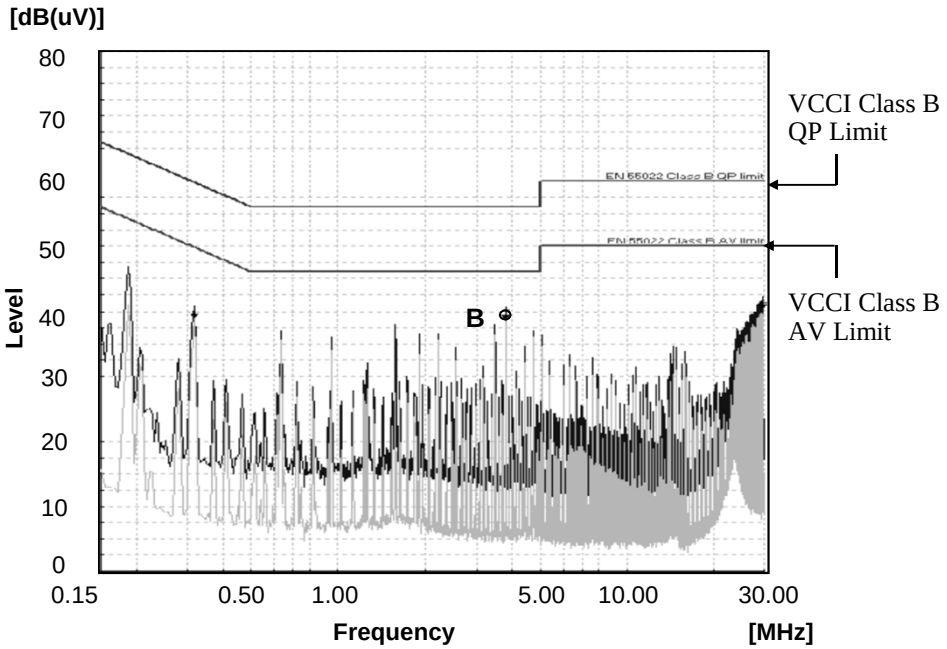
3V

Ref. / Data	Point A (29.70MHz) Limit (dBµV)	Measure (dBµV)
QP	60.0	42.8
AV	50.0	42.0



Phase : L

Ref. / Data	Point B (3.797MHz) Limit (dBµV)	Measure (dBµV)
QP	56.0	40.1
AV	46.0	39.1



Phase : N

Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

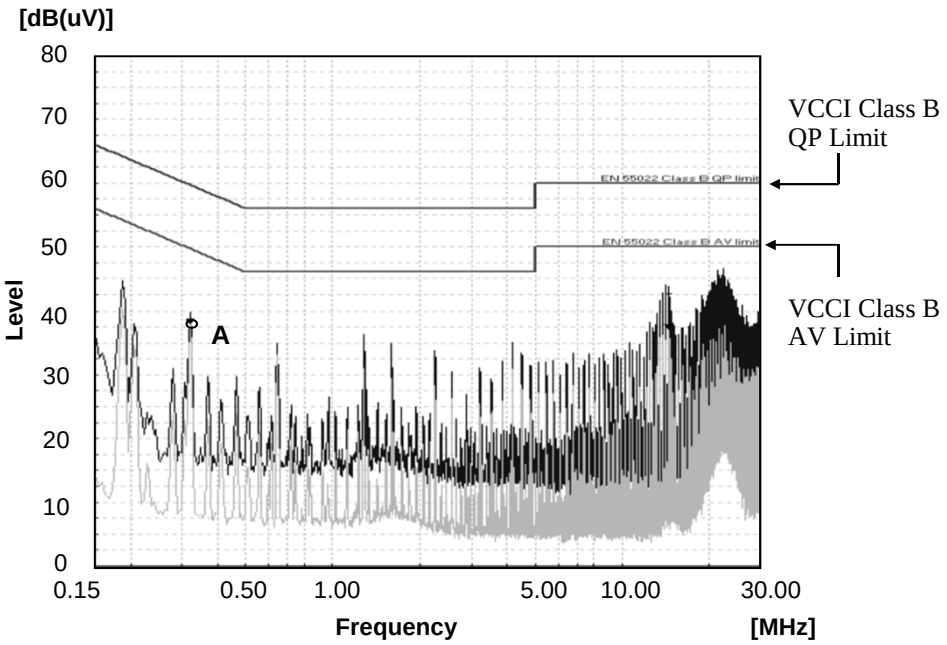
2.20 Electro-Magnetic Interference characteristics

Conditions Vin : 230VAC
Iout : 100%

Conducted Emission

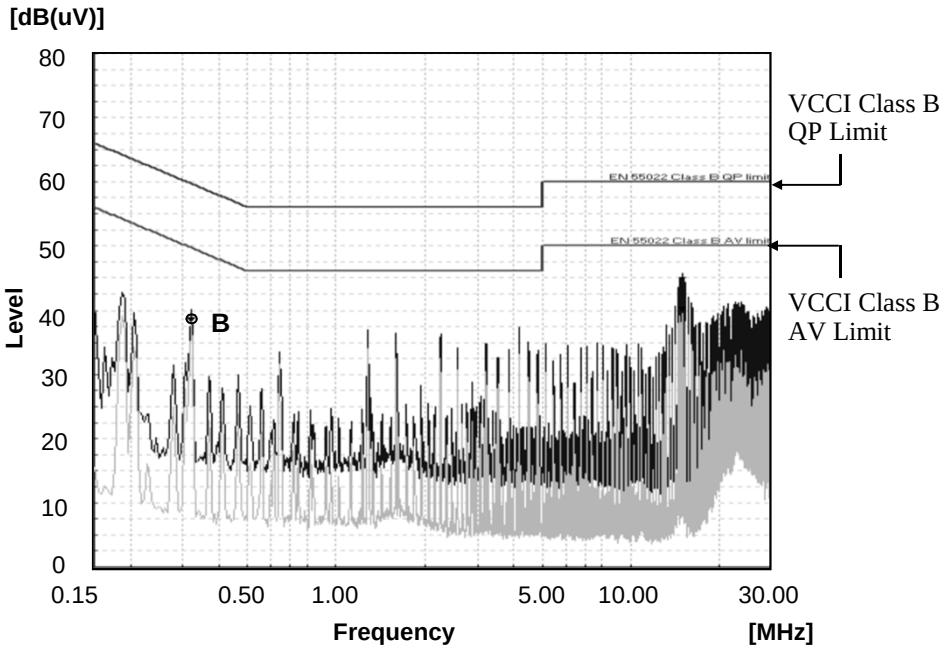
15V

Ref. / Data	Point A (0.321MHz) Limit (dBµV)	Measure (dBµV)
QP	59.5	37.6
AV	49.5	37.1



Phase : L

Ref. / Data	Point B (0.321MHz) Limit (dBµV)	Measure (dBµV)
QP	59.5	38.2
AV	49.5	37.7



Phase : N

Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

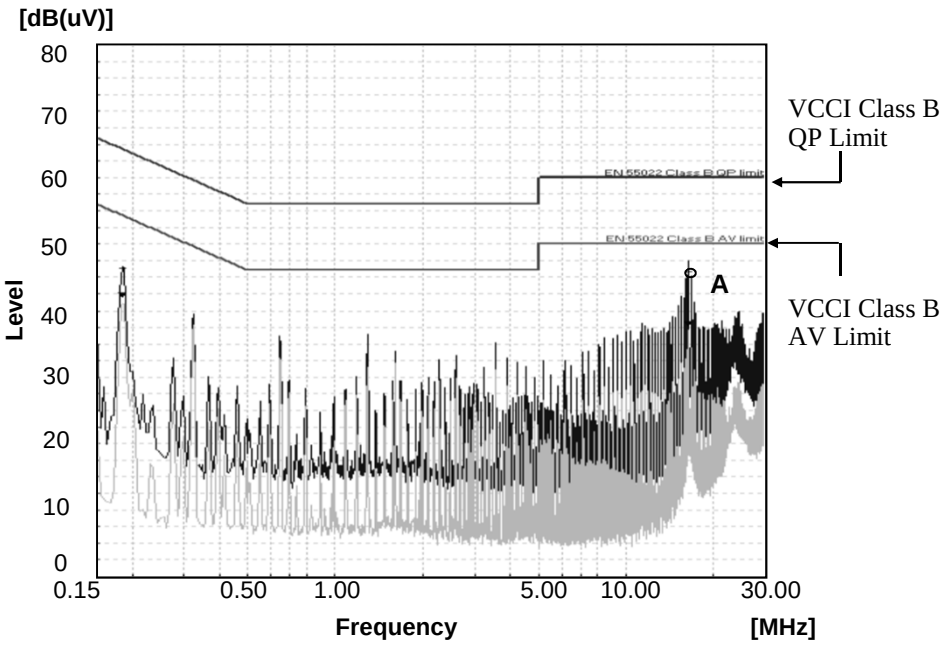
2.20 Electro-Magnetic Interference characteristics

Conditions Vin : 230VAC
Iout : 100%

Conducted Emission

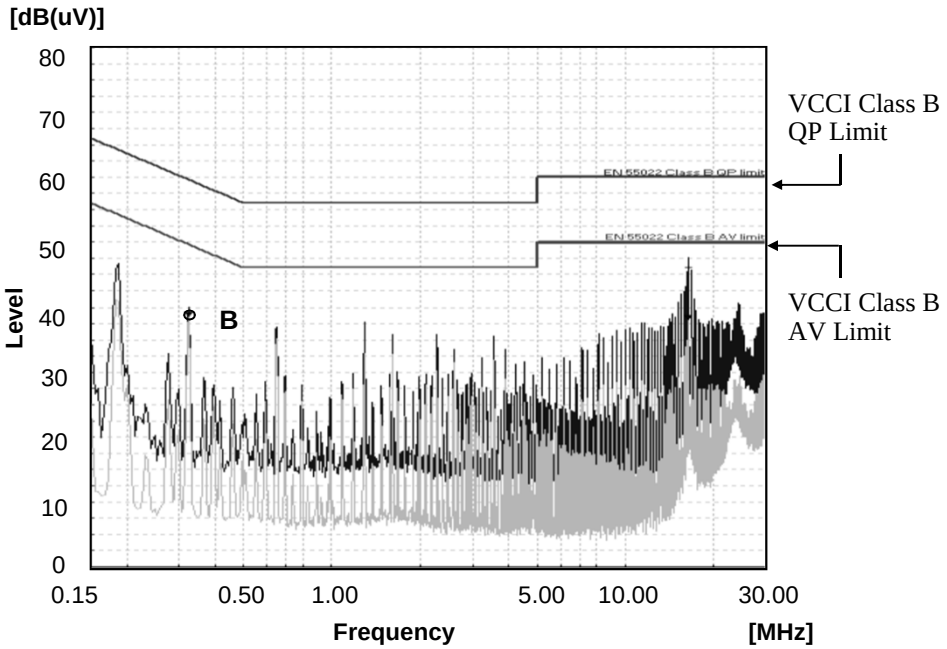
36V

Ref. / Data	Point A (16.49MHz) Limit (dBµV)	Measure (dBµV)
QP	60.0	45.8
AV	50.0	38.0



Phase : L

Ref. / Data	Point B (0.323MHz) Limit (dBµV)	Measure (dBµV)
QP	59.5	39.2
AV	49.5	38.9



Phase : N

Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

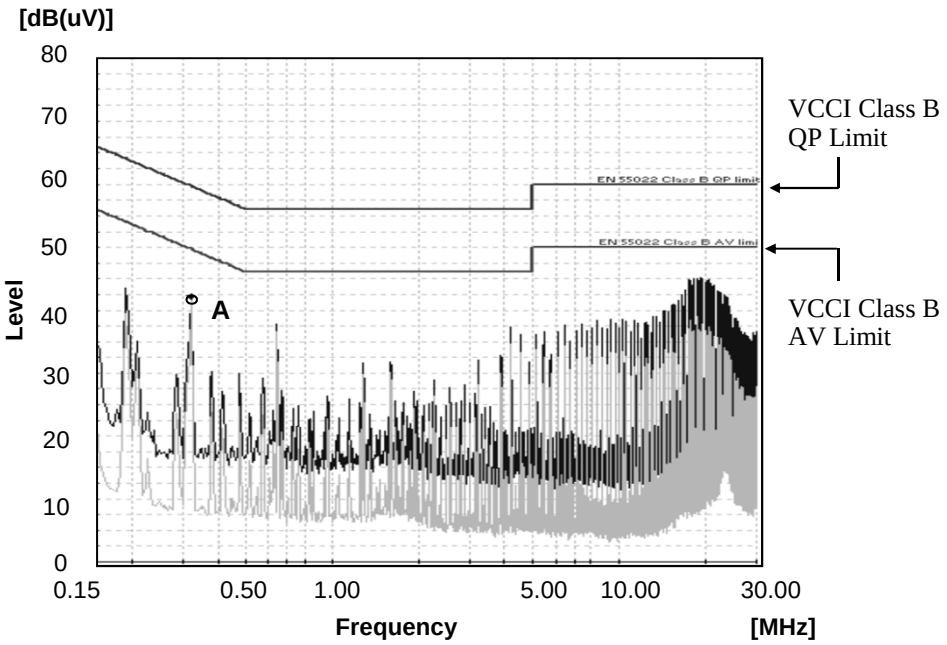
2.20 Electro-Magnetic Interference characteristics

Conditions Vin : 230VAC
Iout : 100%

Conducted Emission

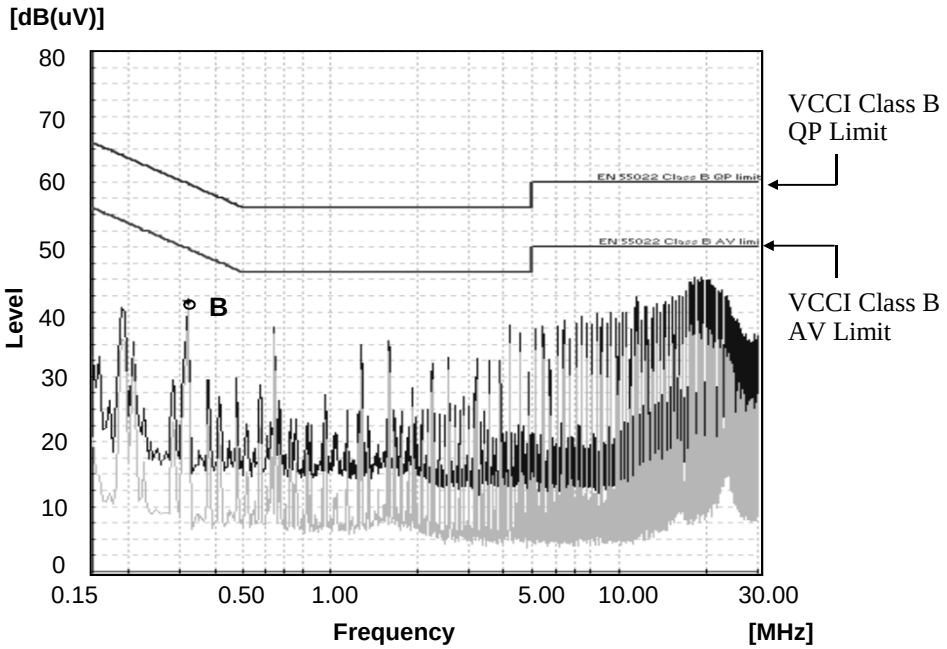
48V

Ref. / Data	Point A (0.322MHz) Limit (dBµV)	Measure (dBµV)
QP	59.5	41.9
AV	49.5	41.8



Phase : L

Ref. / Data	Point B (0.322MHz) Limit (dBµV)	Measure (dBµV)
QP	59.5	41.5
AV	49.5	41.3



Phase : N

Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

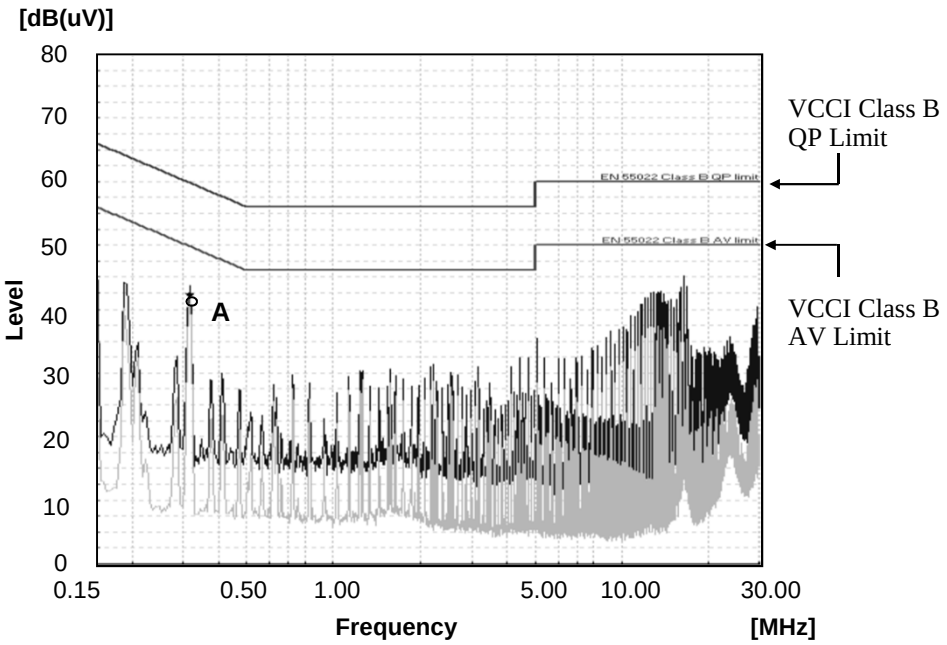
2.20 Electro-Magnetic Interference characteristics

Conditions Vin : 230VAC
Iout : 100%

Conducted Emission

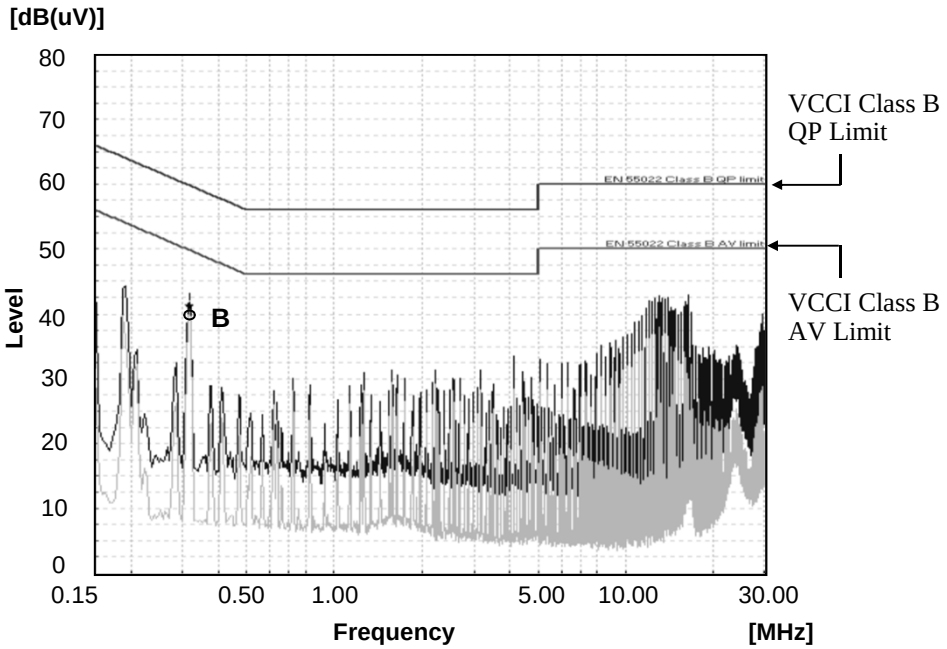
60V

Ref. / Data	Point A (0.316MHz) Limit (dBµV)	Measure (dBµV)
QP	59.8	42.3
AV	49.8	42.0



Phase : L

Ref. / Data	Point B (0.316MHz) Limit (dBµV)	Measure (dBµV)
QP	59.8	41.5
AV	49.8	41.1



Phase : N

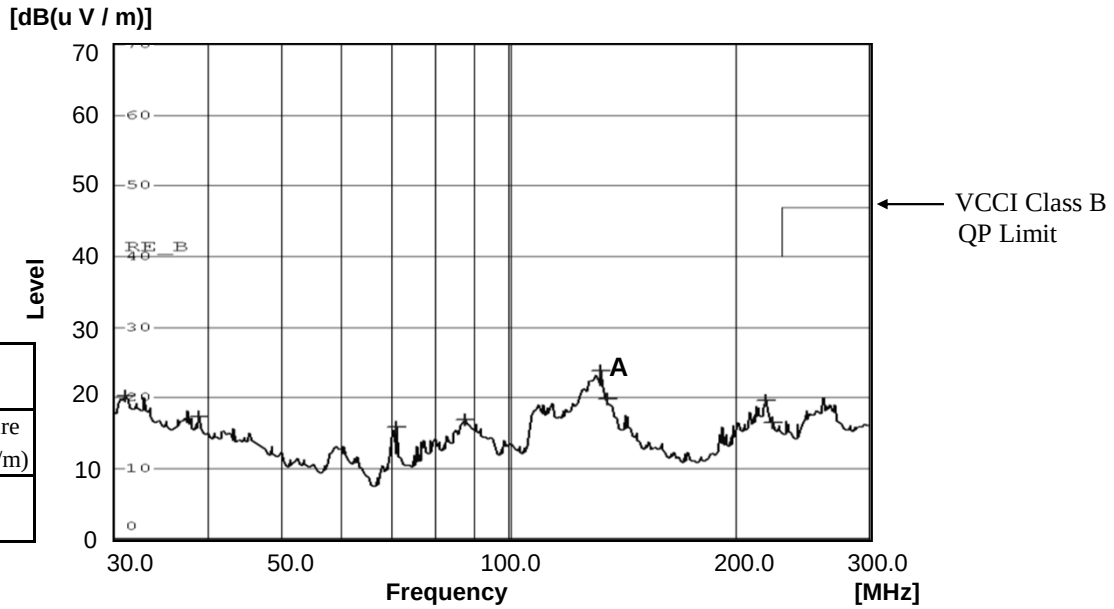
Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

2.20 Electro-Magnetic Interference characteristics Conditions Vin : 230VAC
Iout : 100%

Radiated Emission

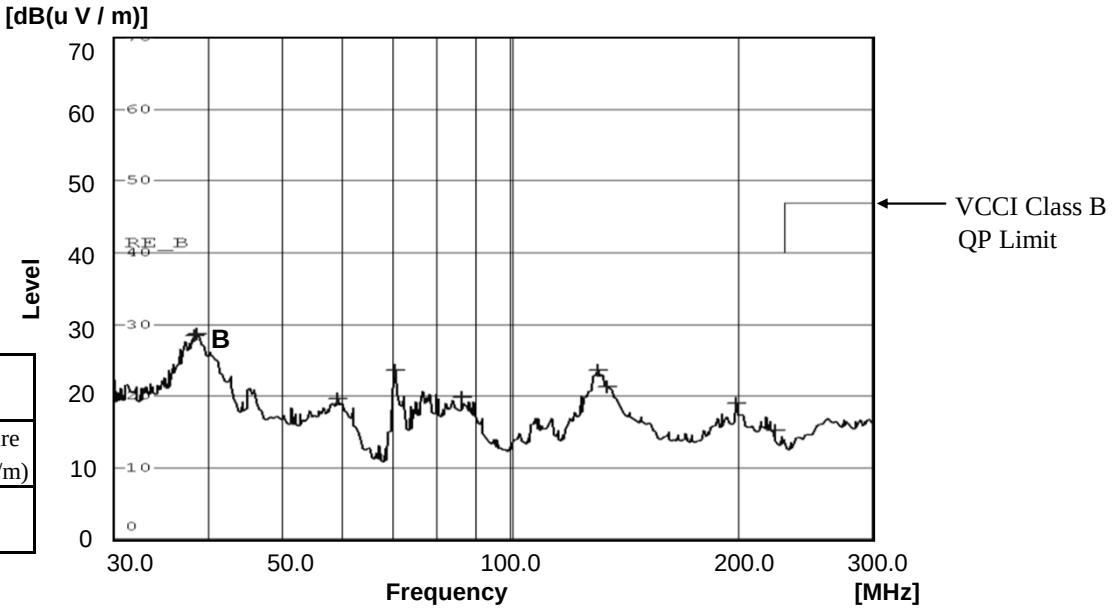
3V

HORIZONTAL



Point A (132.6MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	24.3

VERTICAL



Point B (38.56MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	29.3

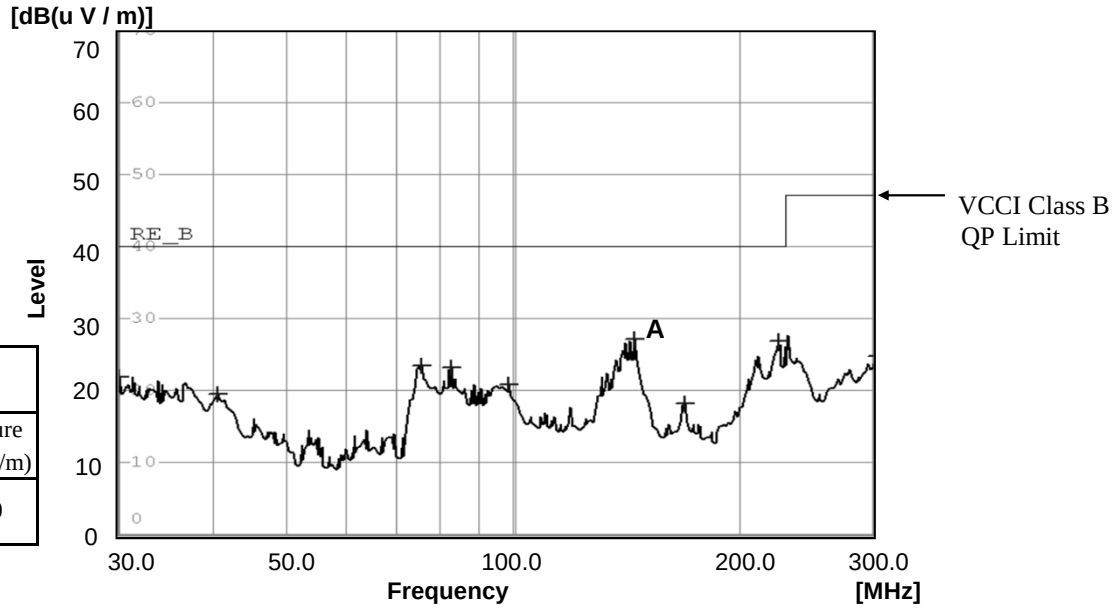
Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

2.20 Electro-Magnetic Interference characteristics Conditions Vin : 230VAC
Iout : 100%

Radiated Emission

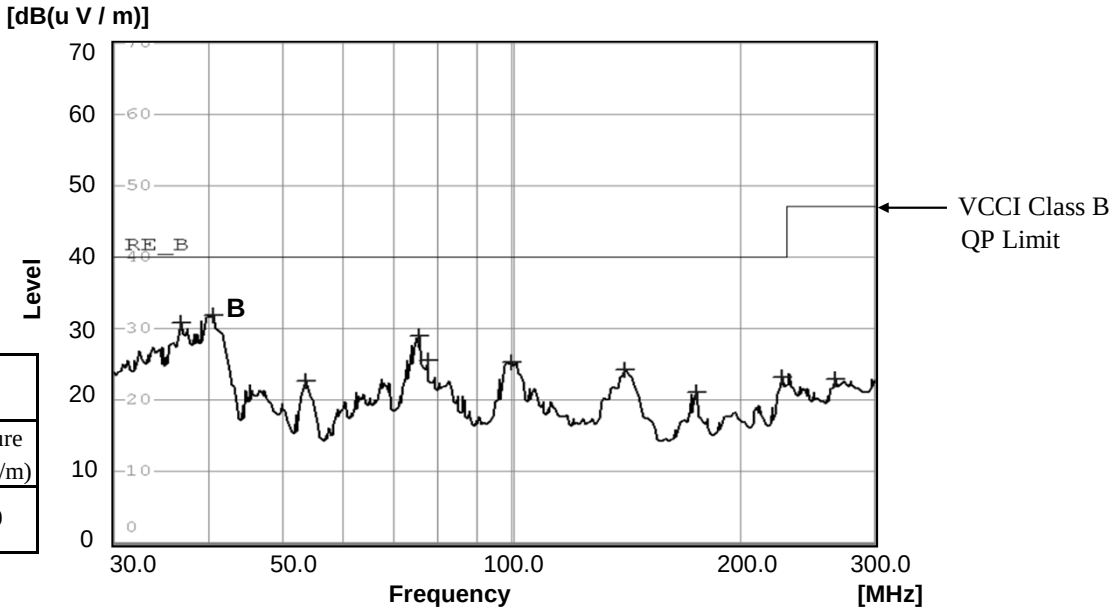
15V

HORIZONTAL



Point A (145.0MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	27.0

VERTICAL



Point B (40.64MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	30.9

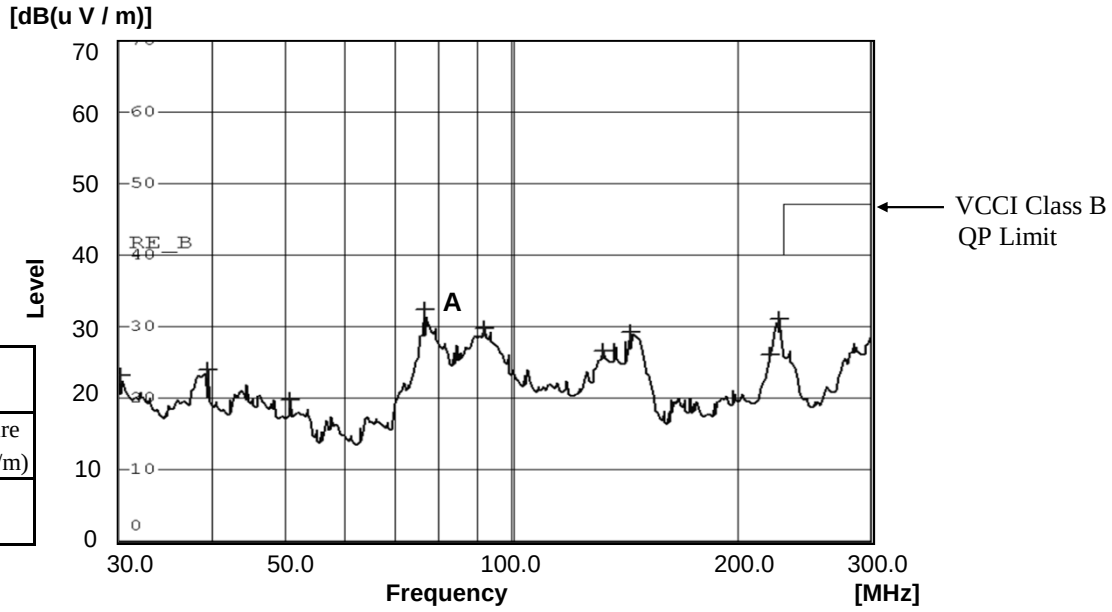
Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

2.20 Electro-Magnetic Interference characteristics Conditions Vin : 230VAC
Iout : 100%

Radiated Emission

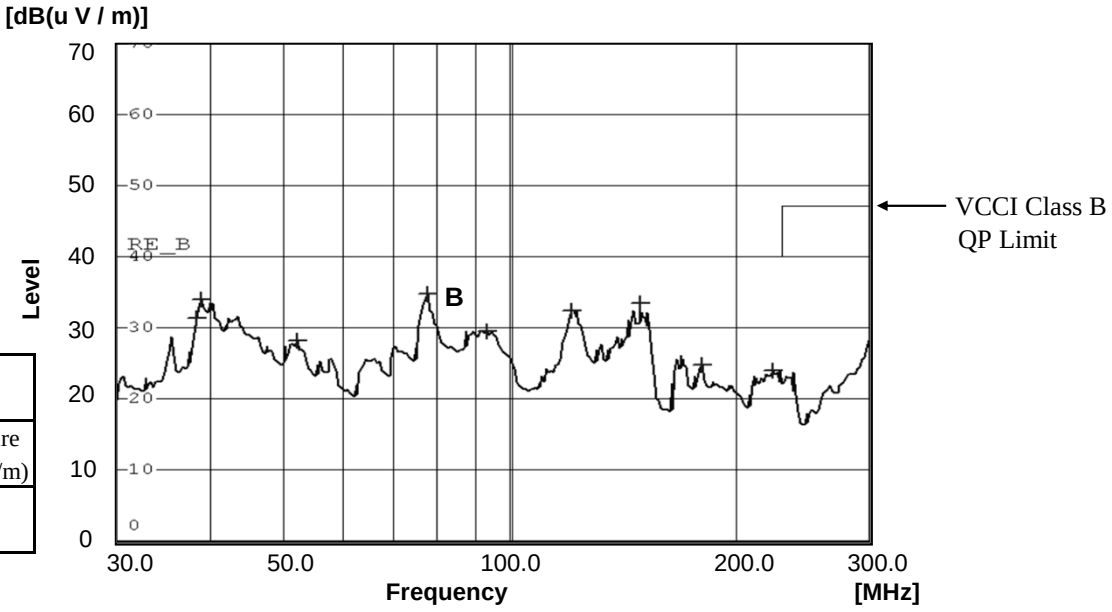
36V

HORIZONTAL



Point A (76.8MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	28.7

VERTICAL



Point B (77.8MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	32.1

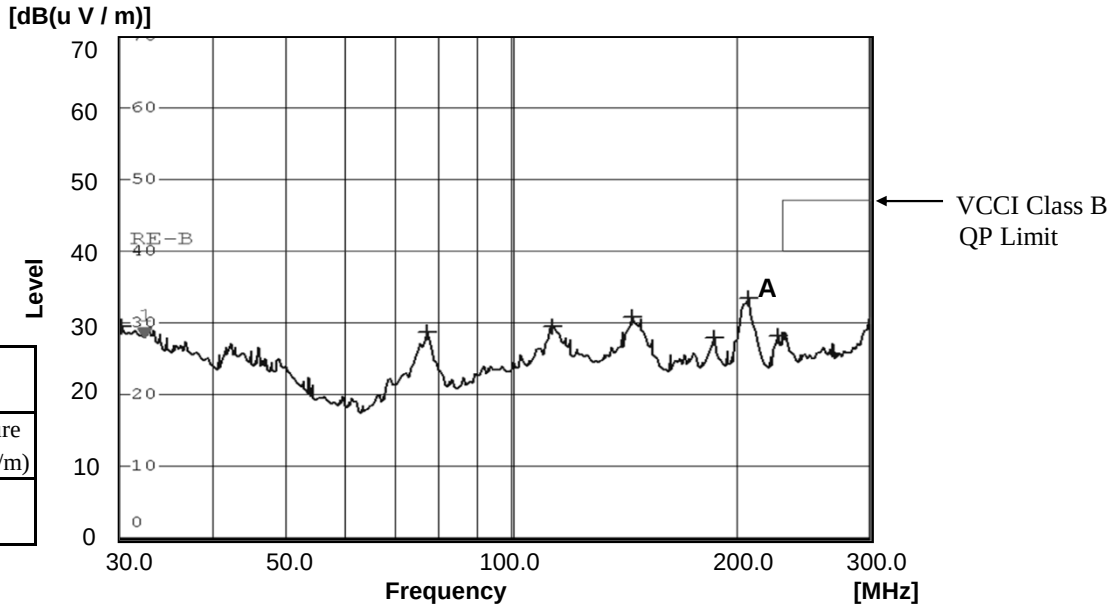
Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

2.20 Electro-Magnetic Interference characteristics Conditions Vin : 230VAC
Iout : 100%

Radiated Emission

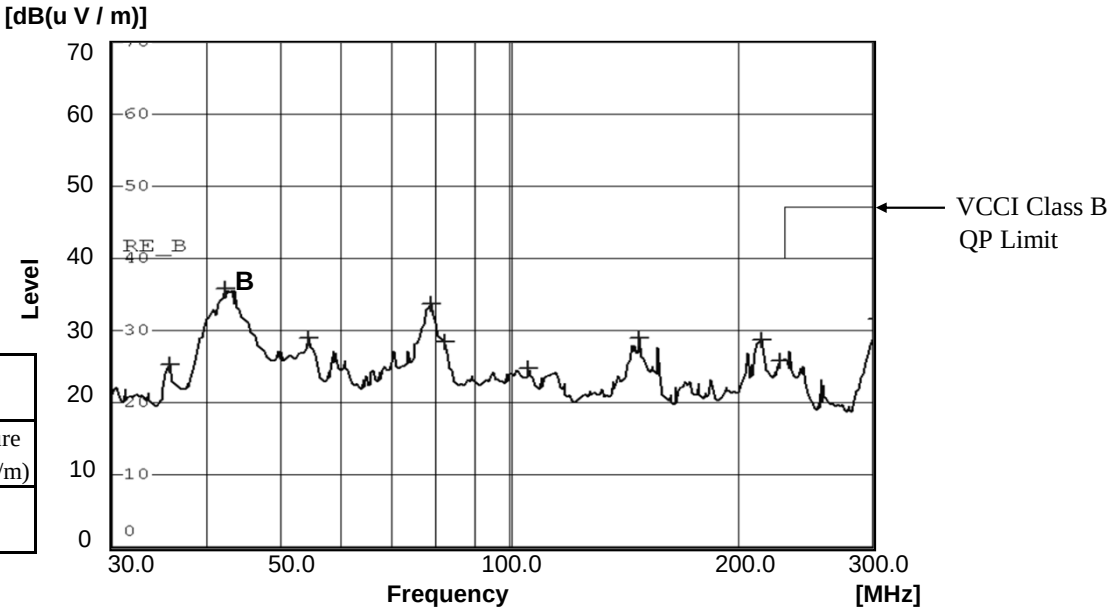
48V

HORIZONTAL



Point A (207.68MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	31.2

VERTICAL



Point B (42.36MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	33.8

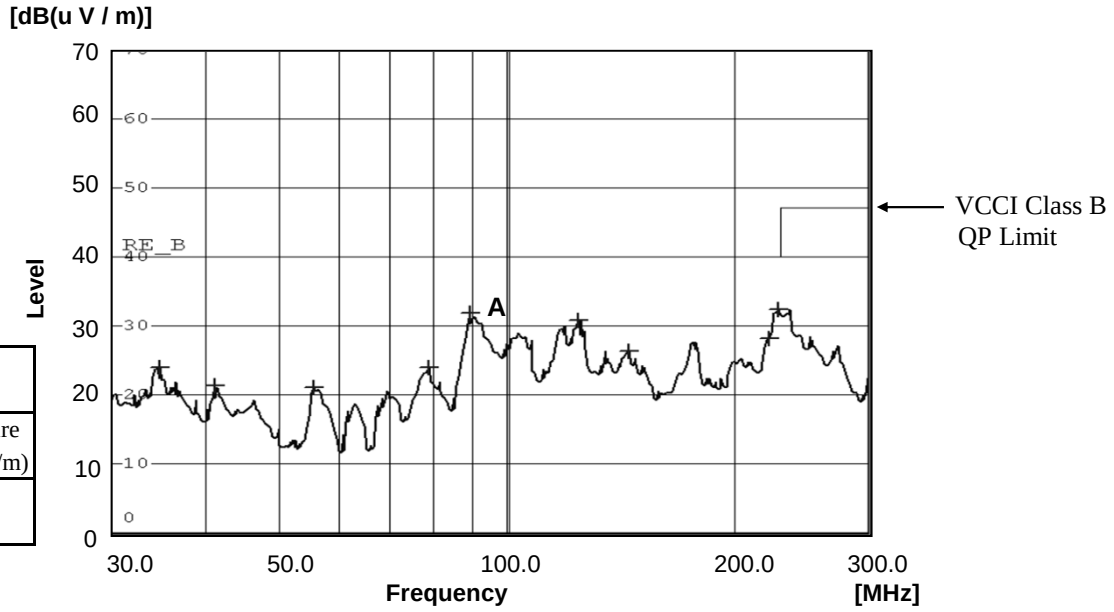
Limit of EN55011-B,EN55032-B are same as its VCCI Class B.

2.20 Electro-Magnetic Interference characteristics Conditions Vin : 230VAC
Iout : 100%

Radiated Emission

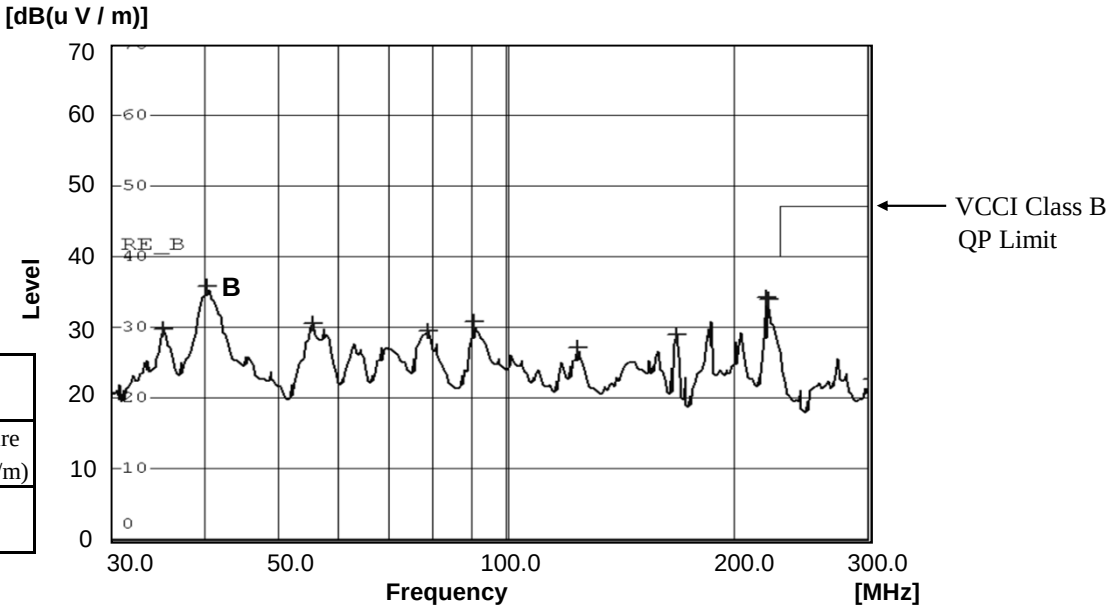
60V

HORIZONTAL



Point A (89.84MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	28.8

VERTICAL



Point B (40.36MHz)	
Limit (dBµV/m)	Measure (dBµV/m)
40.0	34.4

Limit of EN55011-B,EN55032-B are same as its VCCI Class B.