

ZWS300BAF

EVALUATION DATA

型式データ

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2. 特性データ Characteristics

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準標準品 ZWS300BAF-*/R にて対応

For option model ZWS300BAF-*/R

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使用記号 Terminology used

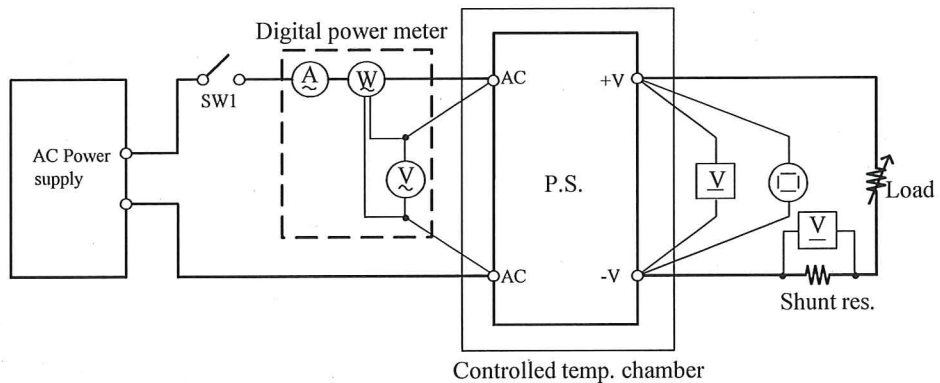
| | 定義 | Definition |
|------|------|---------------------|
| Vin | 入力電圧 | Input voltage |
| Vout | 出力電圧 | Output voltage |
| Iin | 入力電流 | Input current |
| Iout | 出力電流 | Output current |
| Ta | 周囲温度 | Ambient temperature |
| f | 周波数 | Frequency |

1. 測定方法 Evaluation Method

1.1 測定回路 Circuit used for determination

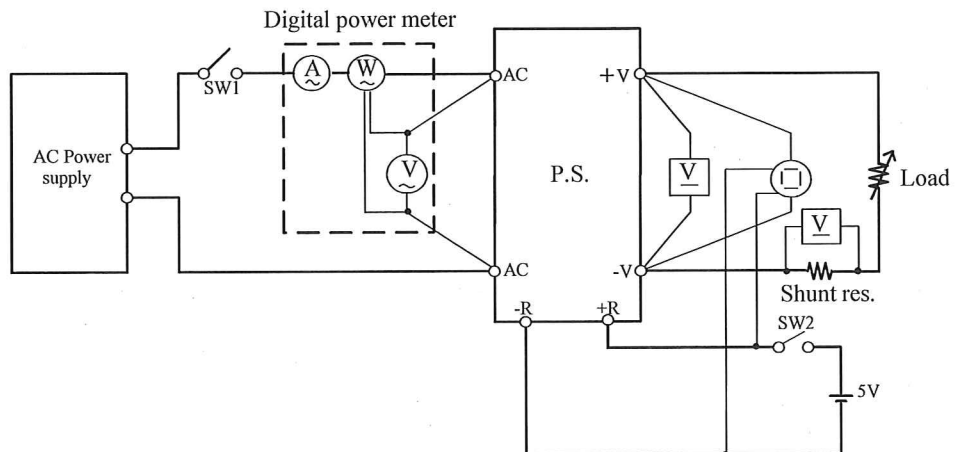
測定回路1 Circuit 1 used for determination

- 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



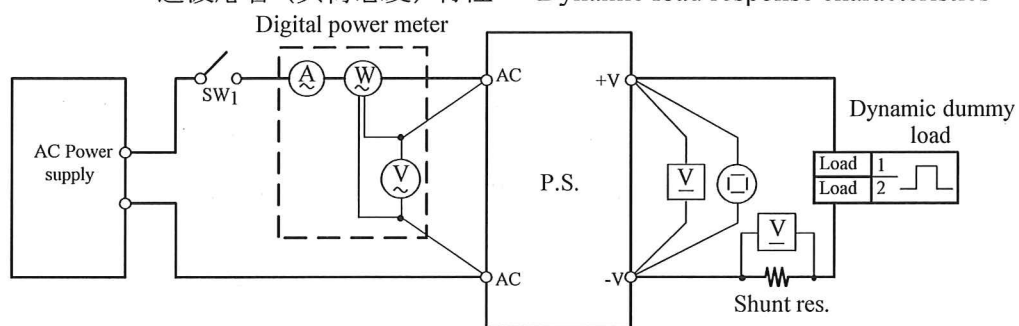
測定回路2 Circuit 2 used for determination

- ON/OFFコントロール時出力立ち上がり、立ち下がり特性
Output rise, fall characteristics with ON/OFF Control
- 準標準品 ZWS300BAF-*/R にて対応
For option model ZWS300BAF-*/R

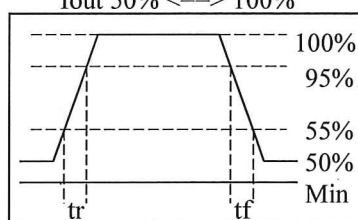


測定回路3 Circuit 3 used for determination

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

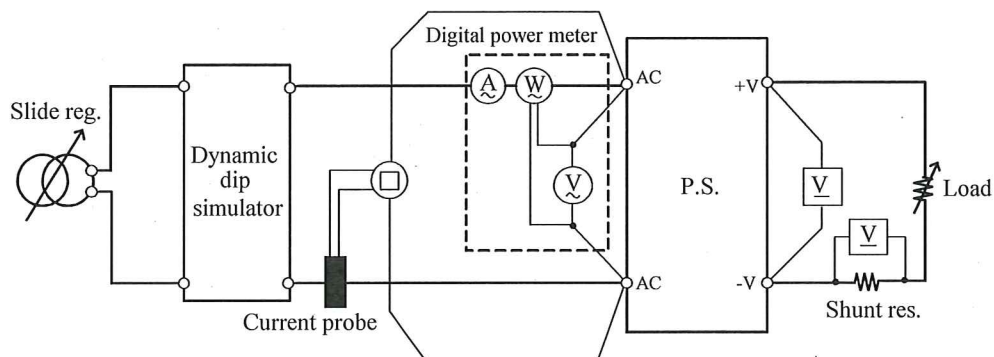


Output current waveform
Iout 50% <=> 100%



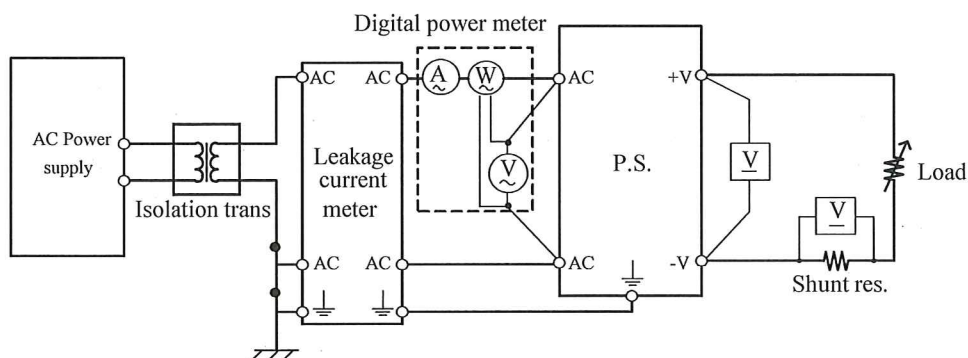
測定回路4 Circuit 4 used for determination

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



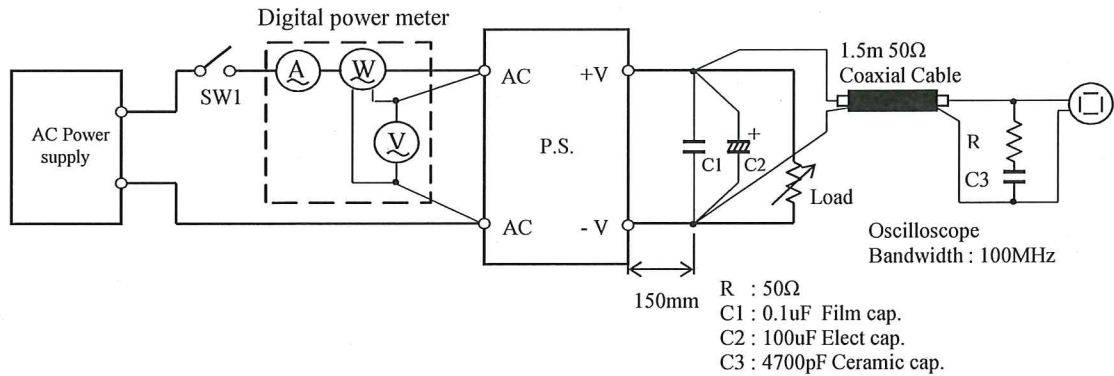
測定回路5 Circuit 5 used for determination

・リーク電流特性 Leakage current characteristics



測定回路6 Circuit 6 used for determination

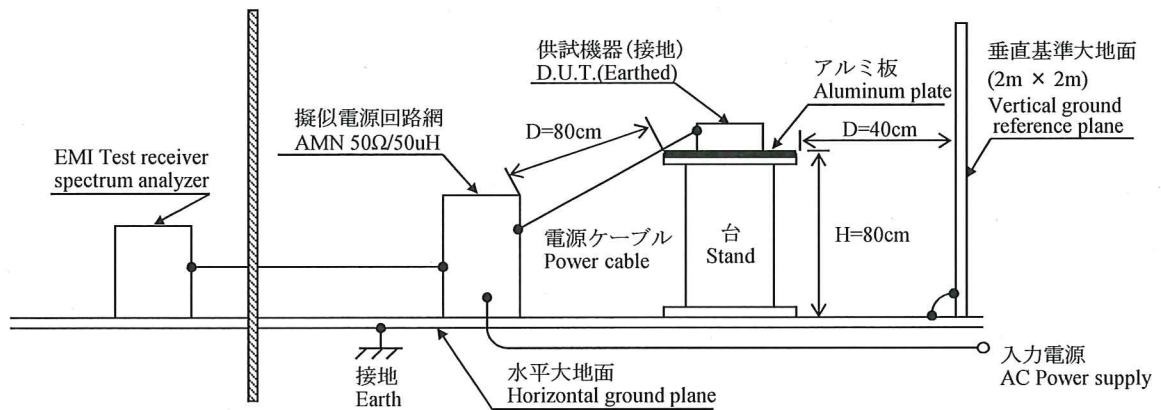
・出力リップル、ノイズ波形 Output ripple and noise waveform



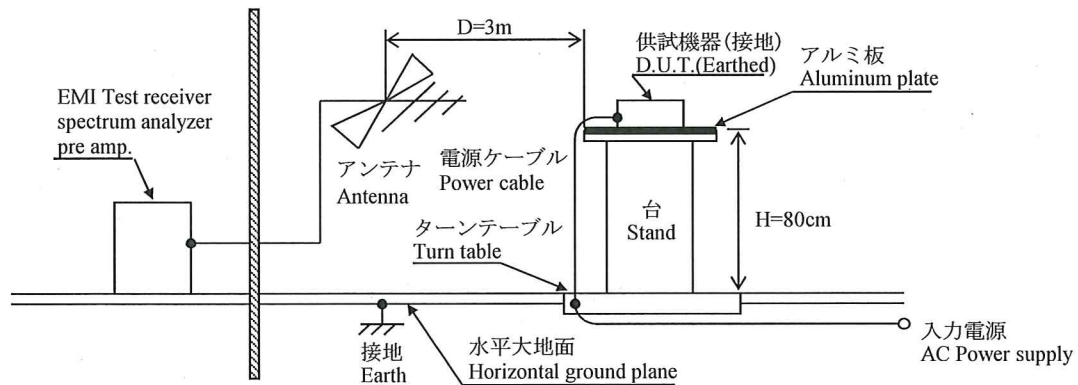
測定構成 Configuration used for determination

・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 | TEKTRONIX | TDS220 |
| 2 | DIGITAL STORAGE OSCILLOSCOPE | YOKOGAWA ELECT. | DL9040L |
| 3 | DIGITAL MULTIMETER | AGILENT | 34970A |
| 4 | DIGITAL POWER METER | YOKOGAWA ELECT. | WT210 |
| 5 | CURRENT PROBE | YOKOGAWA ELECT. | 701928 / 701930 |
| 6 | DYNAMIC DUMMY LOAD | TAKASAGO | FK-600L / FK-1000L |
| 7 | DUMMY LOAD | PCN | RHF250 SIRIES |
| 8 | SLIDE REGULATOR | MATSUNAGA | S3-24100 |
| 9 | ISOLATION TRANS | MATSUNAGA | 3WTC-50K |
| 10 | CVCF | TAKASAGO | AA2000XG |
| 11 | CVCF | NF | ES10000S |
| 12 | LEAKAGE CURRENT METER | HIOKI | 3156 |
| 13 | DYNAMIC DIP SIMULATOR | TAKAMISAWA | PSA-210 |
| 14 | CONTROLLED TEMP. CHAMBER | ESPEC | SU-641 / SH-240 |
| 15 | EMI TEST RECEIVER / SPECTRUM ANALYZER | ROHDE & SCHWARZ | ESCI |
| 16 | PRE AMP. | SONOMA | 310N |
| 17 | AMN | SCHWARZBECK | NNLK8121 |
| 18 | ANTENNA | SCHWARZBECK | CBL6111D |
| 19 | HARMONIC / FLICKER ANALYZER | KIKUSUI | KHA1000 |
| 20 | SINGLE-PHASE MASTER | NF | 4420 |
| 21 | REFERENCE IMPEDANCE NETWORK 20A | NF | 4150 |
| 22 | MULTI OUTLET UNIT | KIKUSUI | OT01-KHA |

1.3 評価負荷条件 Load condition

| | | | | |
|-------------|-----|-------|------|------|
| Vout | 12V | 24V | 36V | 48V |
| Iout : 100% | 25A | 12.5A | 8.4A | 6.3A |

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

| 12V | | 1. Regulation - line and load | | | | Condition Ta : 25 °C | |
|------------------------|---------|--|---------|-----------------------|-----------------|--|--|
| Iout \ Vin | 90VAC | 100VAC | 200VAC | 265VAC | line regulation | | |
| 0% | 12.067V | 12.067V | 12.067V | 12.067V | 0mV | 0.000% | |
| 50% | 12.069V | 12.069V | 12.069V | 12.069V | 0mV | 0.000% | |
| 100% | 12.069V | 12.069V | 12.070V | 12.069V | 1mV | 0.008% | |
| load | 2mV | 2mV | 3mV | 2mV | | | |
| regulation | 0.017% | 0.017% | 0.025% | 0.017% | | | |
| | | 2. Temperature drift | | | | Conditions Vin : 100 VAC Iout : 100 % | |
| Ta | -10°C | +25°C | +40°C | temperature stability | | | |
| Vout | 12.033V | 12.069V | 12.075V | 42mV | 0.350% | | |
| | | 3. Start up voltage and Drop out voltage | | | | Conditions Ta : 25 °C Iout : 100 % | |
| Start up voltage (Vin) | | 73VAC | | | | | |
| Drop out voltage (Vin) | | 62VAC | | | | | |

| 24V | | 1. Regulation - line and load | | | | Condition Ta : 25 °C | |
|------------------------|---------|--|---------|-----------------------|-----------------|--|--|
| Iout \ Vin | 90VAC | 100VAC | 200VAC | 265VAC | line regulation | | |
| 0% | 24.018V | 24.019V | 24.019V | 24.019V | 1mV | 0.004% | |
| 50% | 24.015V | 24.015V | 24.016V | 24.016V | 1mV | 0.004% | |
| 100% | 24.014V | 24.014V | 24.014V | 24.014V | 0mV | 0.000% | |
| load | 4mV | 5mV | 5mV | 5mV | | | |
| regulation | 0.017% | 0.021% | 0.021% | 0.021% | | | |
| | | 2. Temperature drift | | | | Conditions Vin : 100 VAC Iout : 100 % | |
| Ta | -10°C | +25°C | +45°C | temperature stability | | | |
| Vout | 24.030V | 24.014V | 24.031V | 17mV | 0.071% | | |
| | | 3. Start up voltage and Drop out voltage | | | | Conditions Ta : 25 °C Iout : 100 % | |
| Start up voltage (Vin) | | 77VAC | | | | | |
| Drop out voltage (Vin) | | 64VAC | | | | | |

36V

1. Regulation - line and load

Condition Ta : 25 °C

| Iout \ Vin | 90VAC | 100VAC | 200VAC | 265VAC | line regulation | |
|-----------------|---------|---------|---------|---------|-----------------|--------|
| 0% | 36.063V | 36.063V | 36.063V | 36.063V | 0mV | 0.000% |
| 50% | 36.063V | 36.063V | 36.063V | 36.063V | 0mV | 0.000% |
| 100% | 36.064V | 36.064V | 36.064V | 36.064V | 0mV | 0.000% |
| load regulation | 1mV | 1mV | 1mV | 1mV | | |
| | 0.003% | 0.003% | 0.003% | 0.003% | | |

2. Temperature drift

Conditions Vin : 100 VAC

Iout : 100 %

| Ta | -10°C | +25°C | +45°C | temperature stability | |
|------|---------|---------|---------|-----------------------|--------|
| Vout | 36.003V | 36.064V | 36.065V | 62mV | 0.172% |

3. Start up voltage and Drop out voltage

Conditions Ta : 25 °C

Iout : 100 %

| | |
|------------------------|-------|
| Start up voltage (Vin) | 75VAC |
| Drop out voltage (Vin) | 62VAC |

48V

1. Regulation - line and load

Condition Ta : 25 °C

| Iout \ Vin | 90VAC | 100VAC | 200VAC | 265VAC | line regulation | |
|-----------------|---------|---------|---------|---------|-----------------|--------|
| 0% | 48.084V | 48.084V | 48.084V | 48.083V | 1mV | 0.002% |
| 50% | 48.082V | 48.082V | 48.082V | 48.082V | 0mV | 0.000% |
| 100% | 48.077V | 48.077V | 48.077V | 48.078V | 1mV | 0.002% |
| load regulation | 7mV | 7mV | 7mV | 5mV | | |
| | 0.015% | 0.015% | 0.015% | 0.010% | | |

2. Temperature drift

Conditions Vin : 100 VAC

Iout : 100 %

| Ta | -10°C | +25°C | +45°C | temperature stability | |
|------|---------|---------|---------|-----------------------|--------|
| Vout | 48.003V | 48.077V | 48.054V | 74mV | 0.154% |

3. Start up voltage and Drop out voltage

Conditions Ta : 25 °C

Iout : 100 %

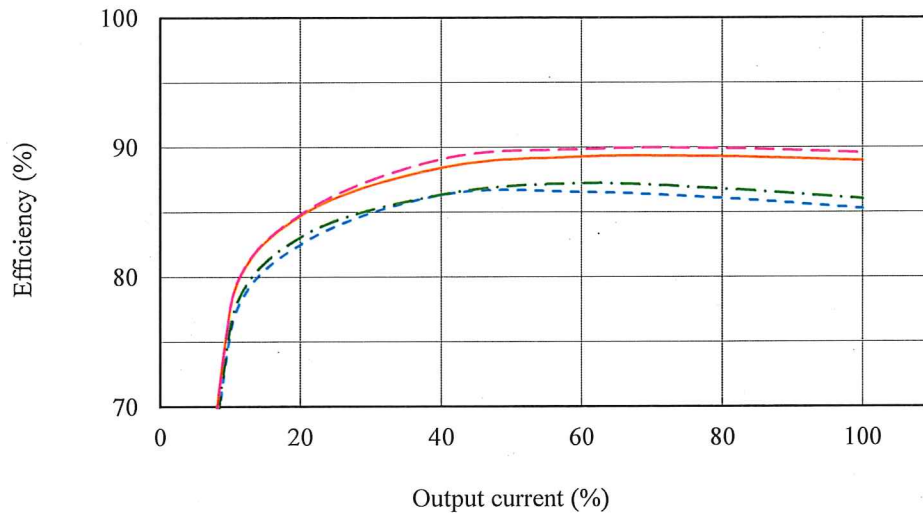
| | |
|------------------------|-------|
| Start up voltage (Vin) | 75VAC |
| Drop out voltage (Vin) | 61VAC |

(2) 効率対出力電流

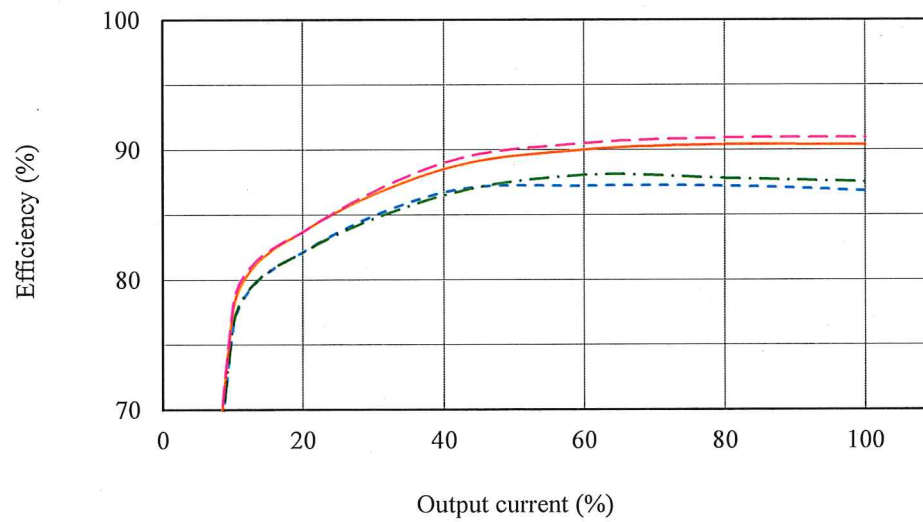
Efficiency vs. Output current

Conditions Vin : 90 VAC ---
 100 VAC - - -
 200 VAC ———
 265 VAC - · - · -
 Ta : 25 °C

12V

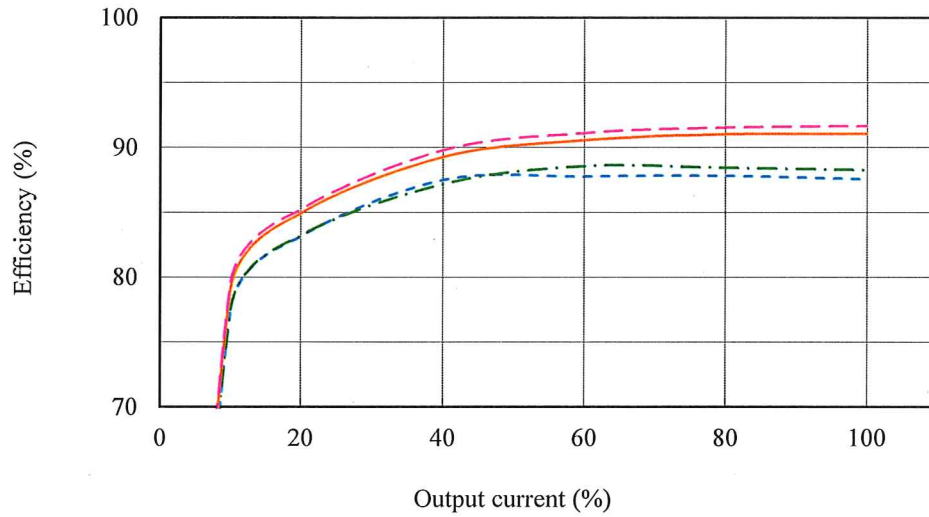


24V

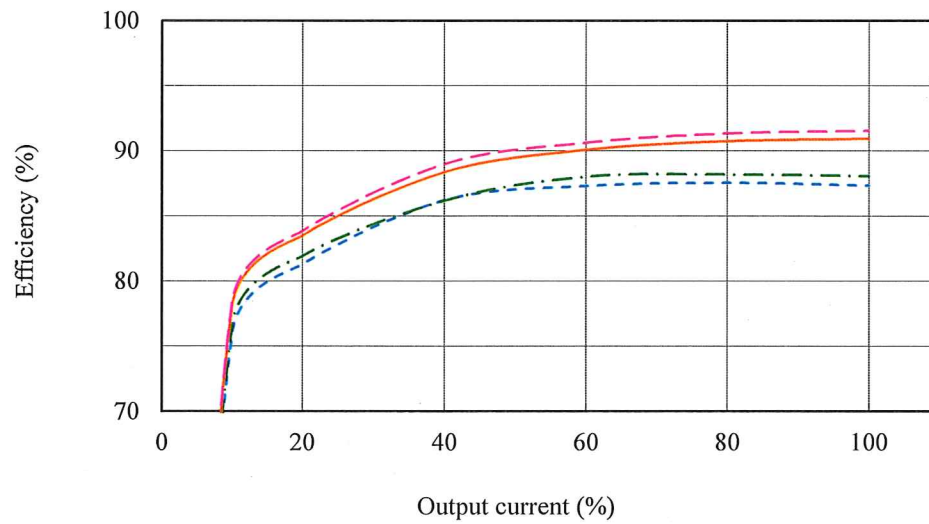


Conditions Vin : 90 VAC ---
 100 VAC -.-
 200 VAC ---
 265 VAC -.-
 Ta : 25 °C

36V



48V

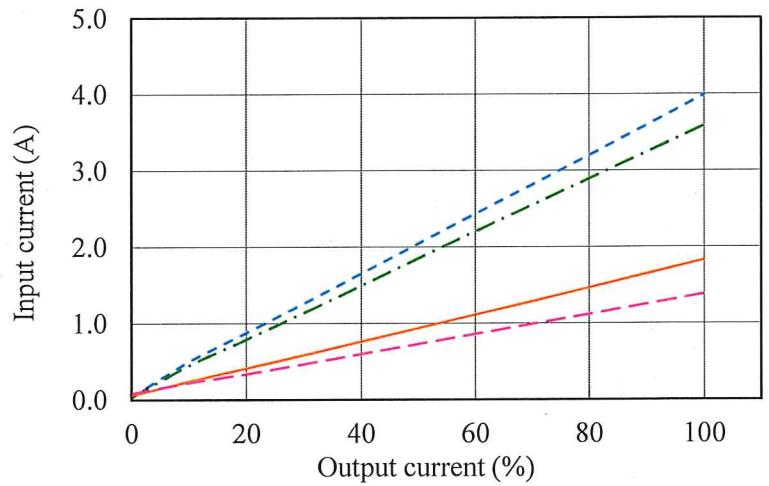


(3) 入力電流対出力電流
Input current vs. Output current

Conditions Vin : 90 VAC ---
100 VAC -.-
200 VAC ---
265 VAC -.-
Ta : 25 °C

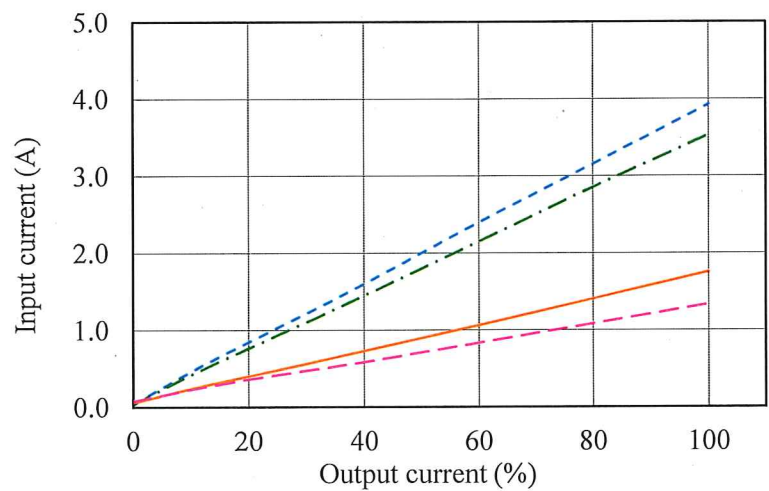
12V

| Vin | Input current | |
|--------|---------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 0.04A | 0.03A |
| 100VAC | 0.04A | 0.03A |
| 200VAC | 0.06A | 0.06A |
| 265VAC | 0.09A | 0.08A |



24V

| Vin | Input current | |
|--------|---------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 0.04A | 0.03A |
| 100VAC | 0.04A | 0.03A |
| 200VAC | 0.06A | 0.06A |
| 265VAC | 0.09A | 0.08A |

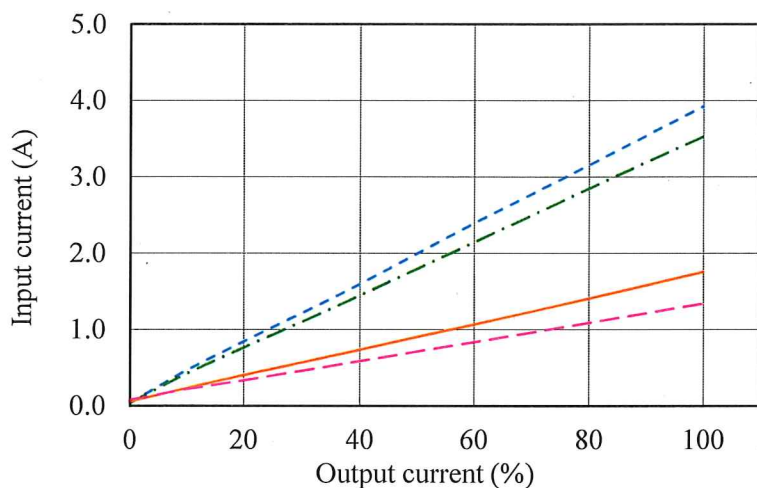


* 準標準品 ZWS300BAF-*/R にて対応
For option model ZWS300BAF-*/R

36V

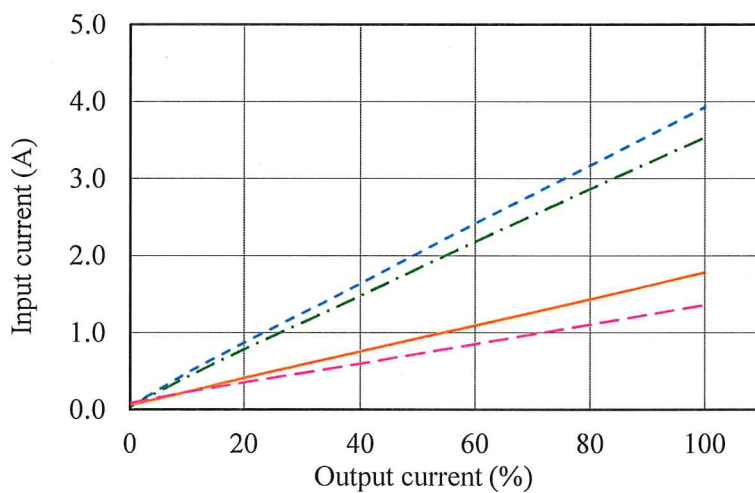
| Vin | Input current | |
|--------|---------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 0.04A | 0.03A |
| 100VAC | 0.04A | 0.03A |
| 200VAC | 0.06A | 0.06A |
| 265VAC | 0.09A | 0.08A |

Conditions Vin : 90 VAC ---
 100 VAC -.-
 200 VAC —
 265 VAC -.-
 Ta : 25 °C



48V

| Vin | Input current | |
|--------|---------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 0.04A | 0.03A |
| 100VAC | 0.04A | 0.03A |
| 200VAC | 0.06A | 0.06A |
| 265VAC | 0.09A | 0.08A |



* 準標準品 ZWS300BAF-*/R にて対応
 For option model ZWS300BAF-*/R

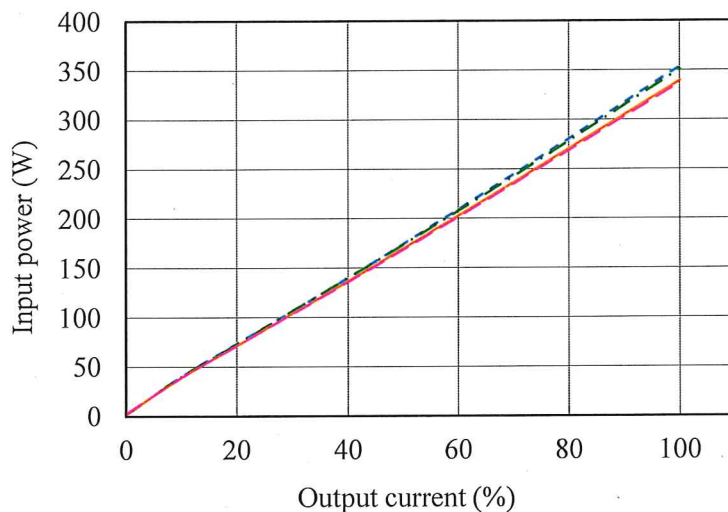
ZWS300BAF

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

Conditions Vin : 90 VAC ---
 100 VAC -.-
 200 VAC ---
 265 VAC -.-
 Ta : 25 °C

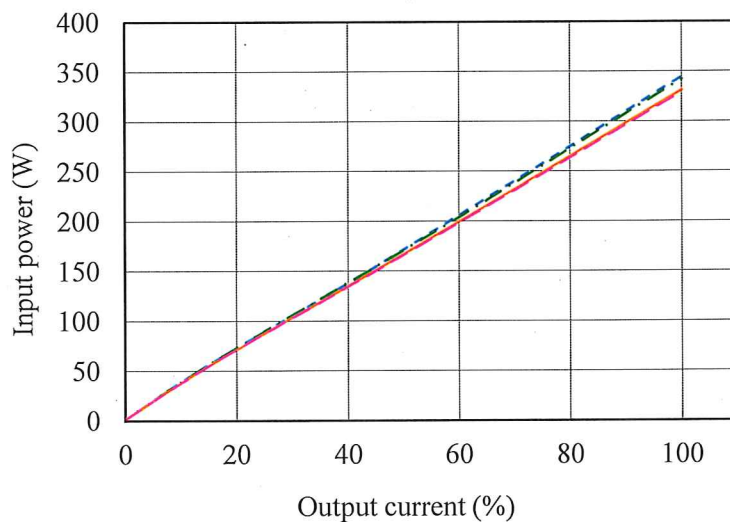
12V

| Vin | Input power | |
|--------|-------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 2.2W | 0.1W |
| 100VAC | 2.1W | 0.1W |
| 200VAC | 2.7W | 0.5W |
| 265VAC | 3.0W | 0.8W |



24V

| Vin | Input power | |
|--------|-------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 2.1W | 0.1W |
| 100VAC | 2.2W | 0.1W |
| 200VAC | 2.0W | 0.5W |
| 265VAC | 2.2W | 0.8W |



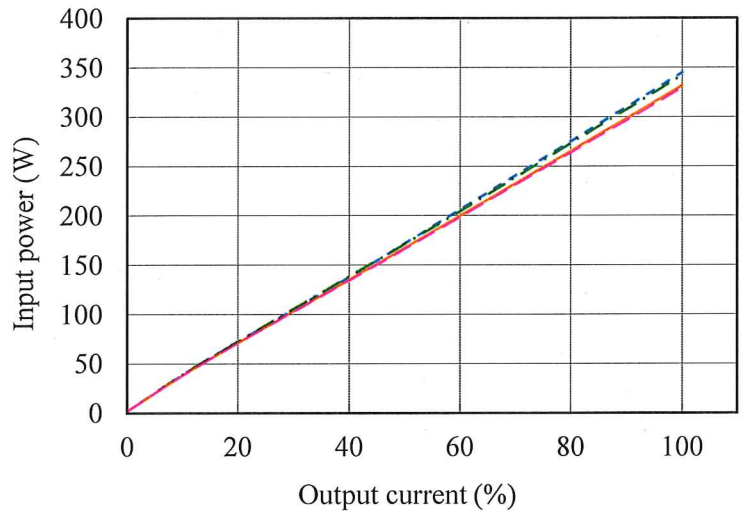
* 準標準品 ZWS300BAF-*/R にて対応
 For option model ZWS300BAF-*/R

ZWS300BAF

Conditions Vin : 90 VAC ---
 100 VAC -.-
 200 VAC —
 265 VAC - - -
 Ta : 25 °C

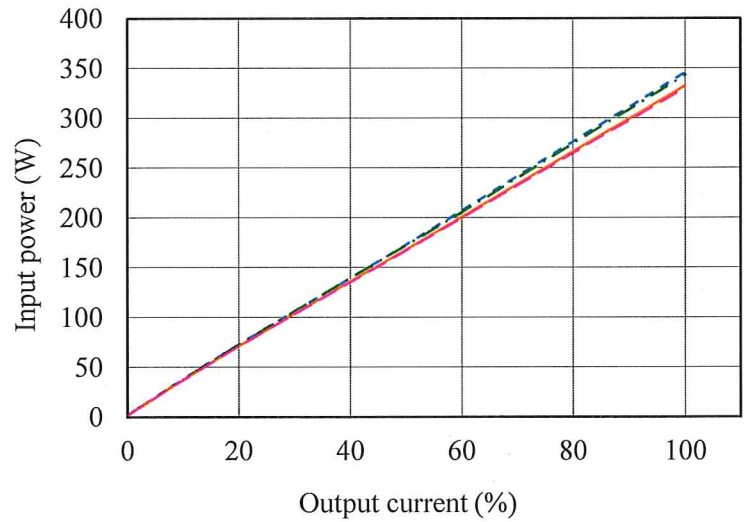
36V

| Vin | Input power | |
|--------|-------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 2.3W | 0.1W |
| 100VAC | 2.3W | 0.1W |
| 200VAC | 2.1W | 0.5W |
| 265VAC | 2.3W | 0.8W |



48V

| Vin | Input power | |
|--------|-------------|--------------|
| | Iout : 0% | Control OFF* |
| 90VAC | 2.3W | 0.1W |
| 100VAC | 2.3W | 0.1W |
| 200VAC | 2.1W | 0.5W |
| 265VAC | 2.2W | 0.8W |



* 標準品 ZWS300BAF-*/R にて対応
 For option model ZWS300BAF-*/R

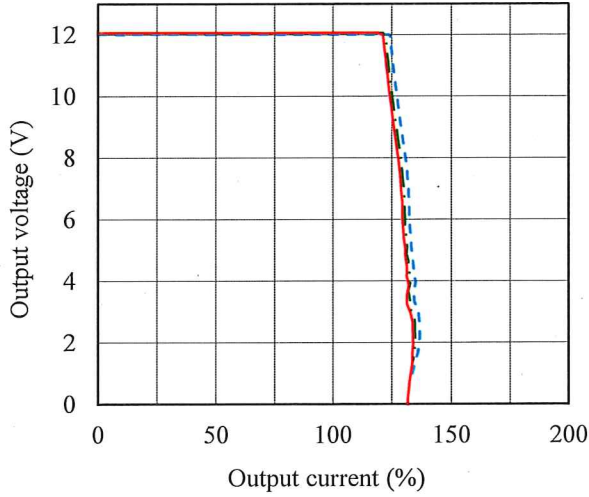
2.2 過電流保護特性

Over current protection (OCP) characteristics

Conditions Vin : 100 VAC

Ta : -10 °C ---
 25 °C - - -
 40 °C ———

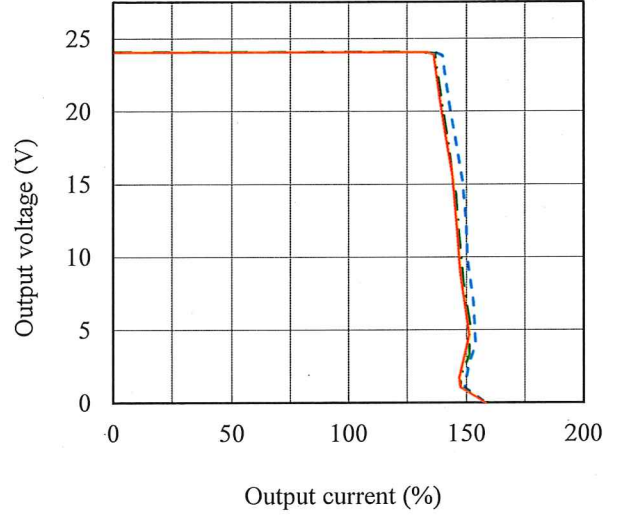
12V



Conditions Vin : 100 VAC

Ta : -10 °C ---
 25 °C - - -
 45 °C ———

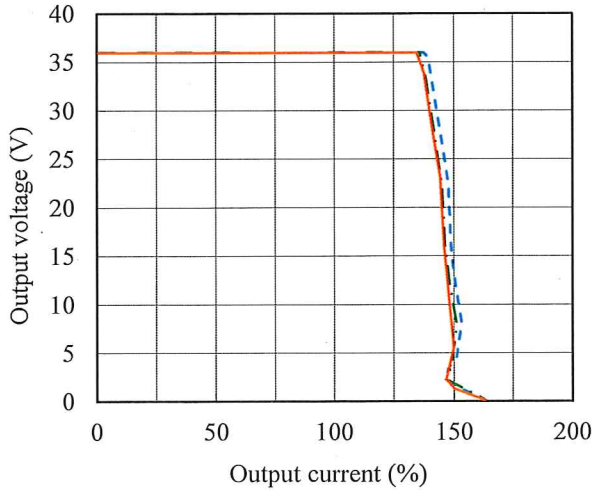
24V



Conditions Vin : 100 VAC

Ta : -10 °C ---
 25 °C - - -
 45 °C ———

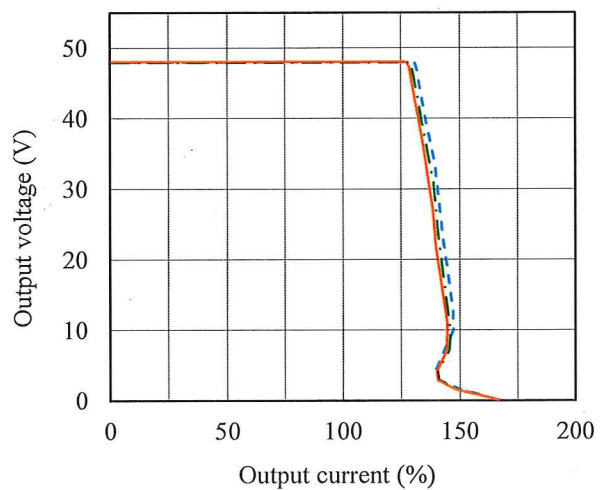
36V



Conditions Vin : 100 VAC

Ta : -10 °C ---
 25 °C - - -
 45 °C ———

48V



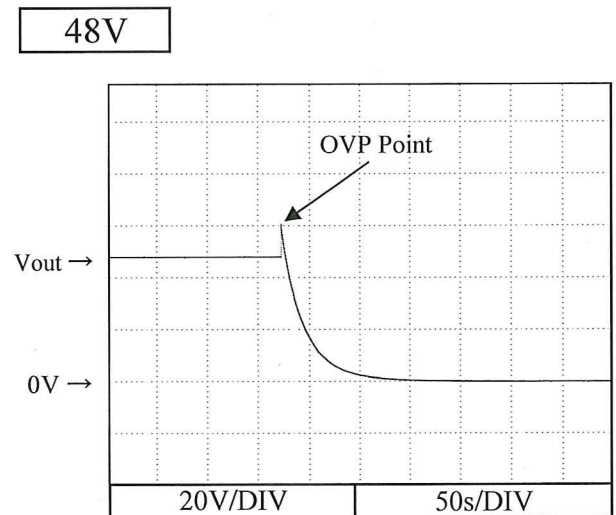
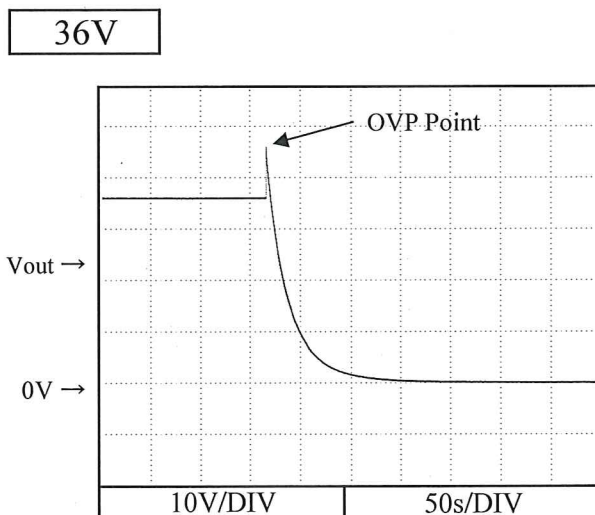
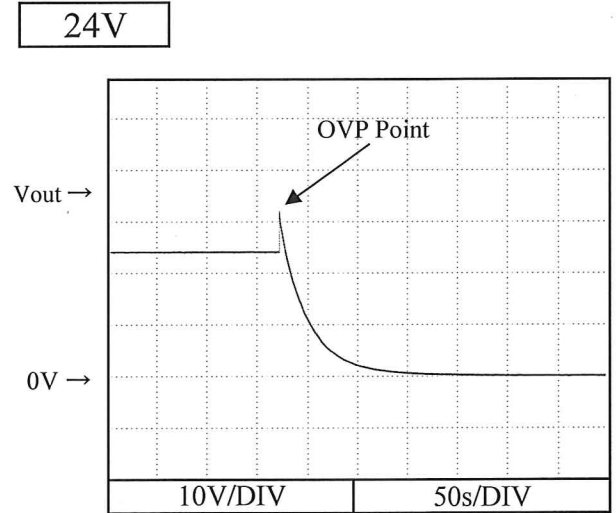
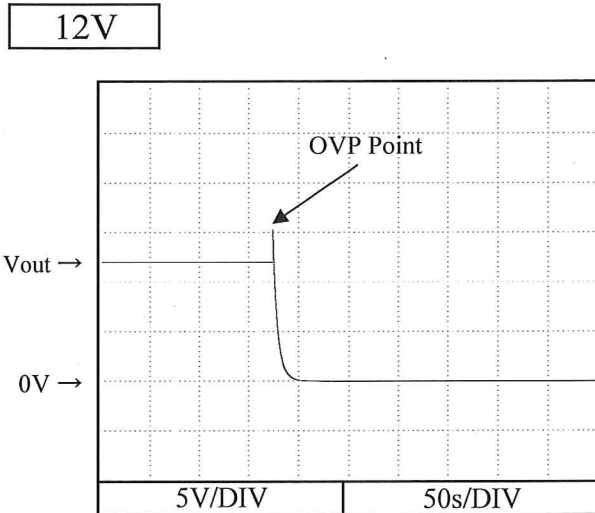
2.3 過電圧保護特性

Over voltage protection (OVP) characteristics

Conditions V_{in} : 100 VAC

I_{out} : 0 %

T_a : 25 °C



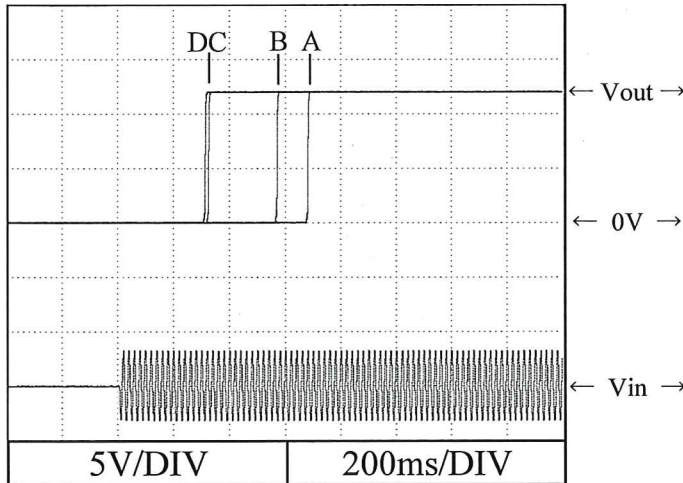
2.4 出力立ち上がり特性

Output rise characteristics

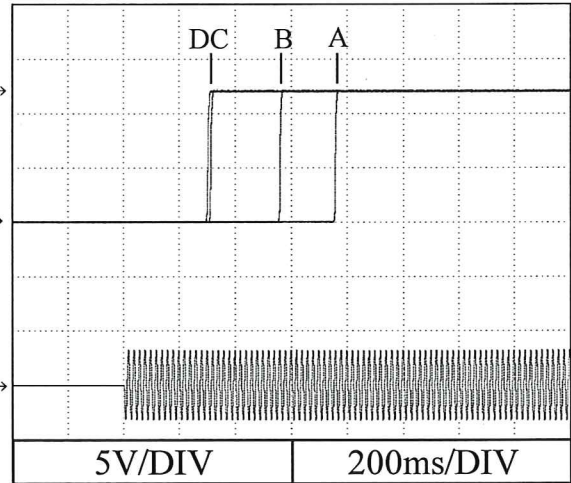
Conditions Vin : 90 VAC (A)
 100 VAC (B)
 200 VAC (C)
 265 VAC (D)
 Ta : 25 °C

12V

Iout : 0%

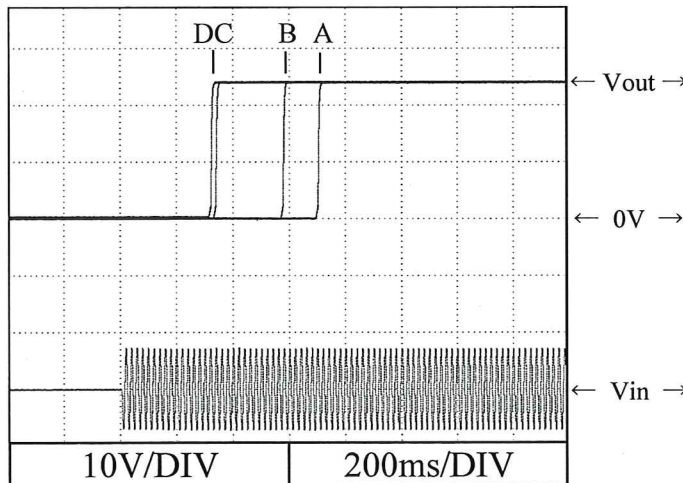


Iout : 100%

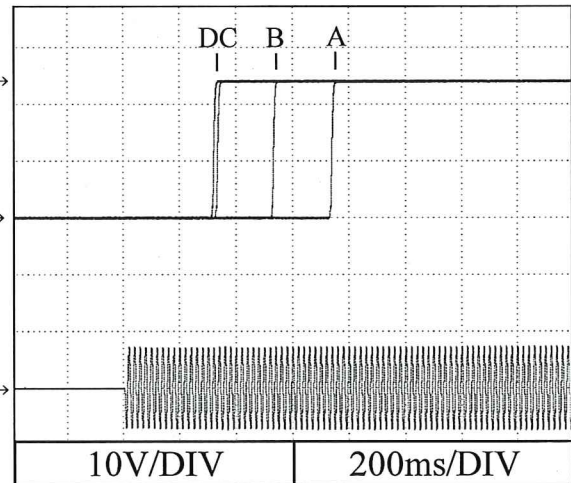


24V

Iout : 0%



Iout : 100%



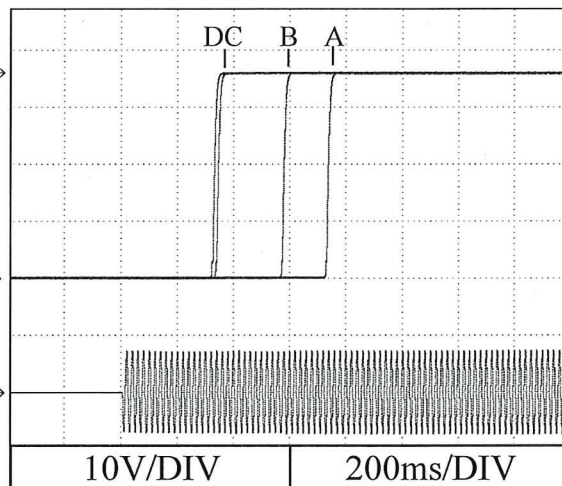
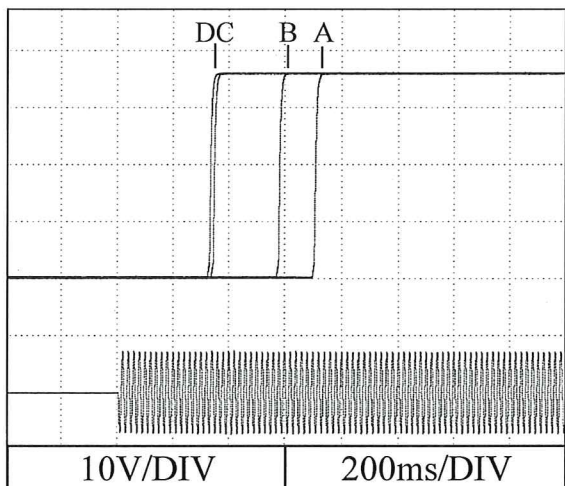
ZWS300BAF

Conditions Vin : 90 VAC (A)
 100 VAC (B)
 200 VAC (C)
 265 VAC (D)
 Ta : 25 °C

36V

Iout : 0%

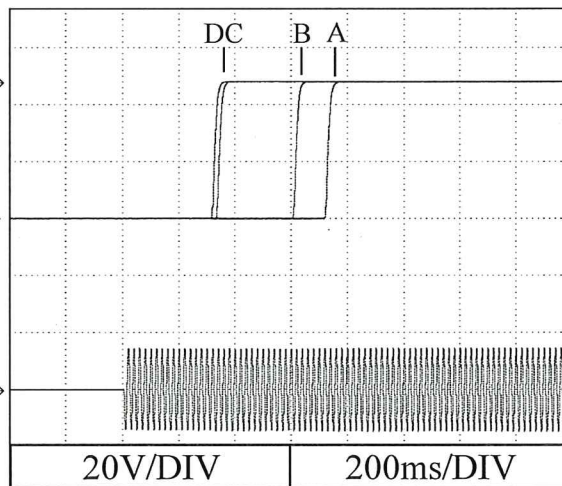
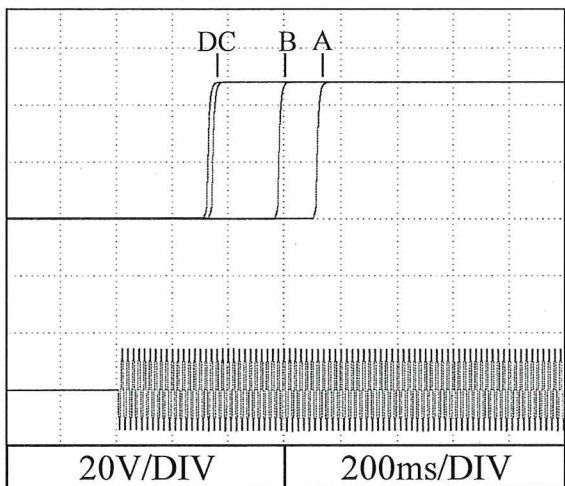
Iout : 100%



48V

Iout : 0%

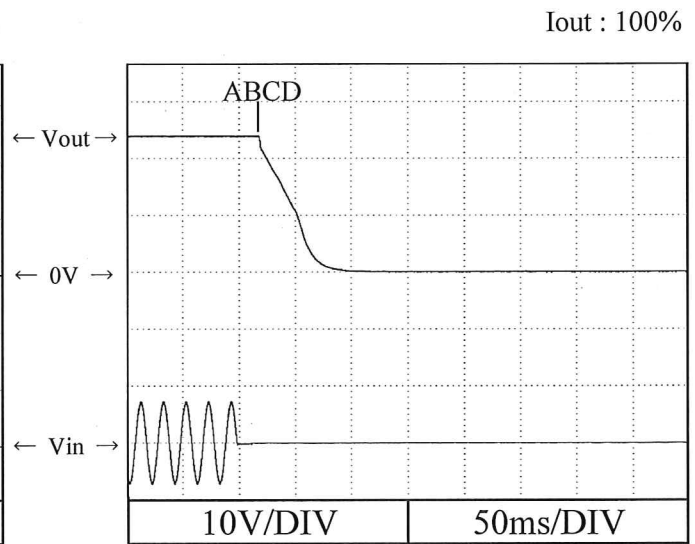
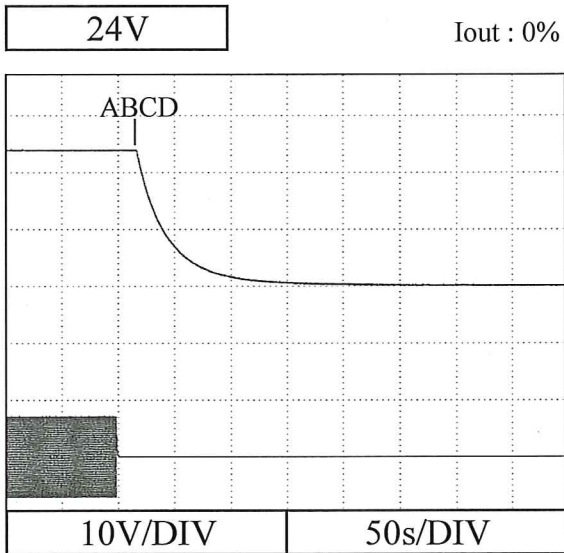
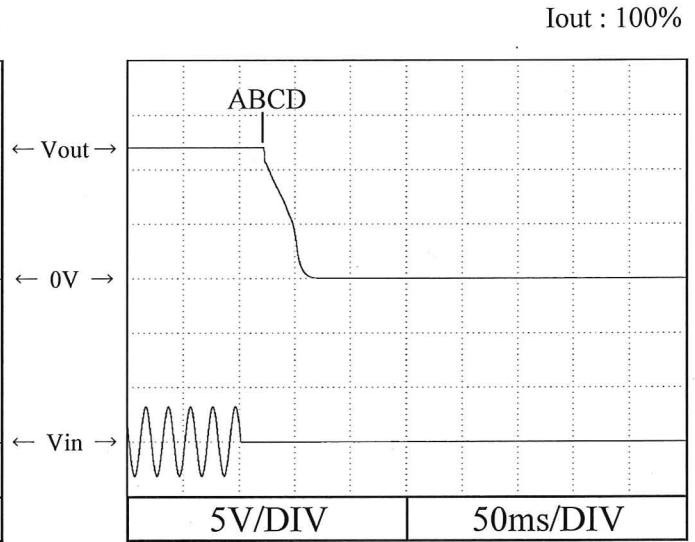
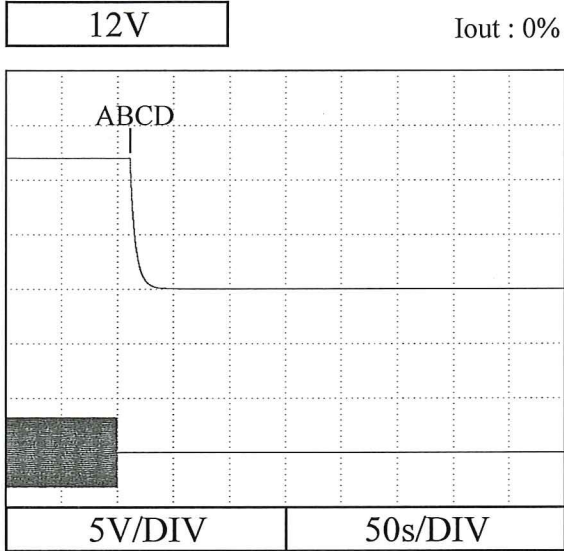
Iout : 100%



2.5 出力立ち下がり特性

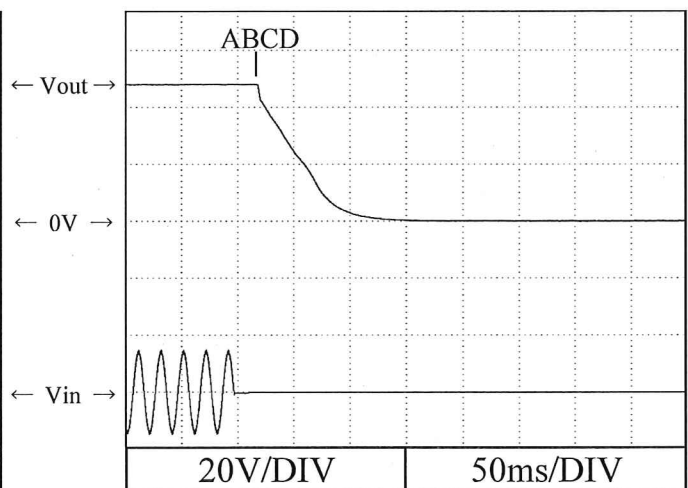
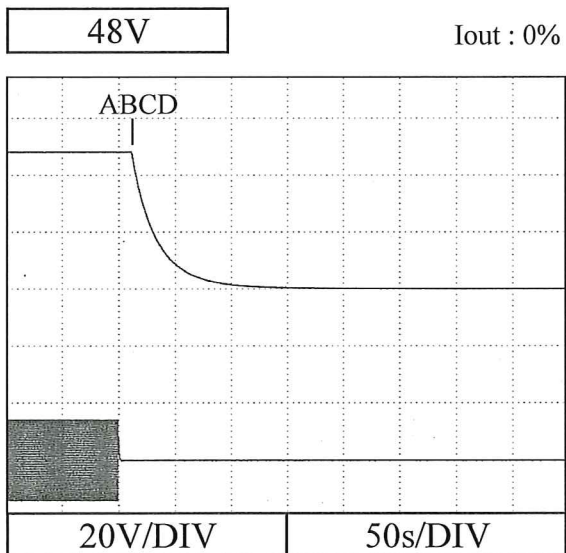
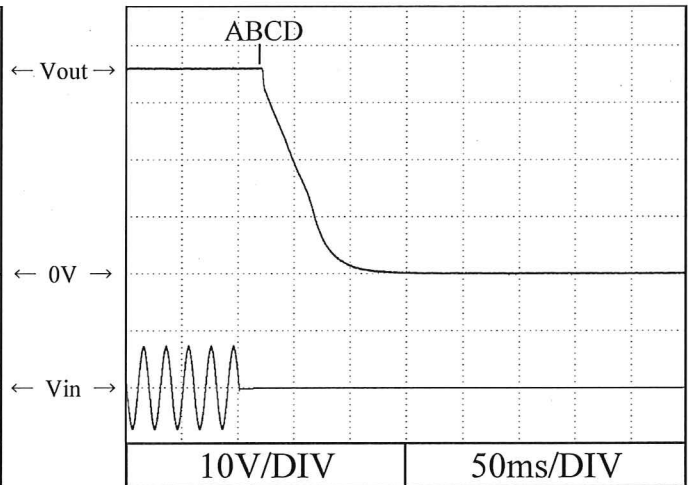
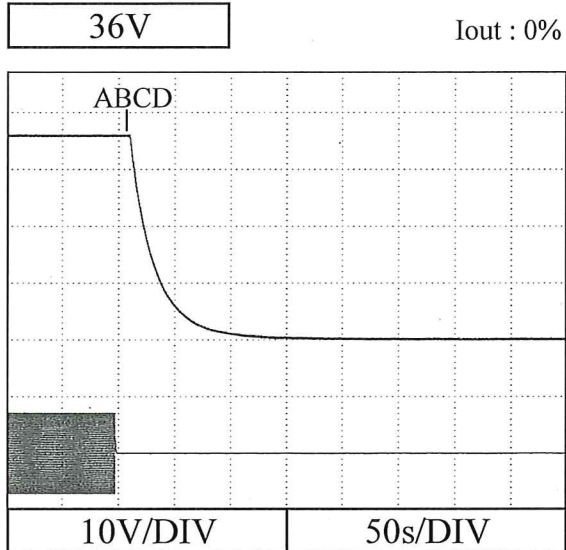
Output fall characteristics

Conditions Vin : 90 VAC (A)
 100 VAC (B)
 200 VAC (C)
 265 VAC (D)
 Ta : 25 °C



ZWS300BAF

Conditions Vin : 90 VAC (A)
100 VAC (B)
200 VAC (C)
265 VAC (D)
Ta : 25 °C

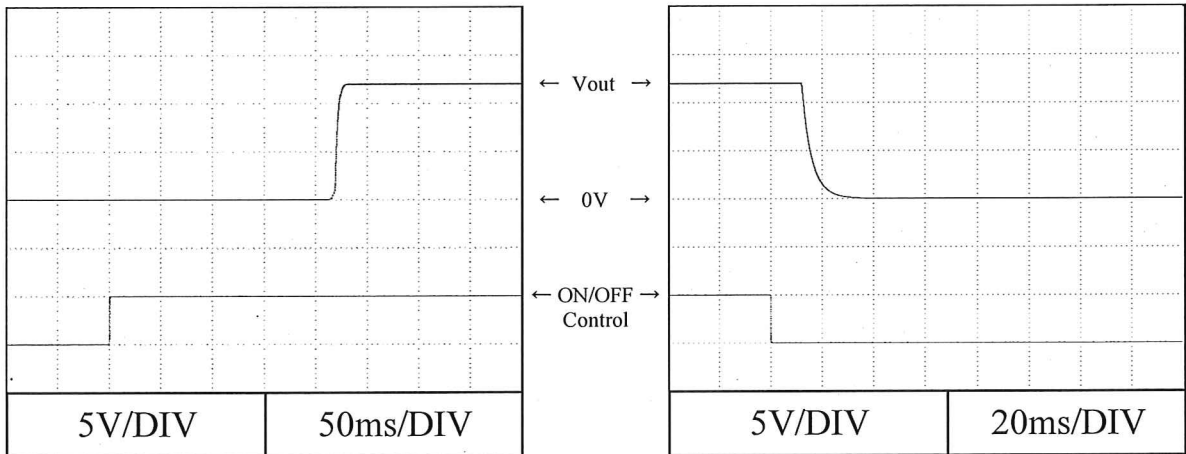


2.6 ON/OFFコントロール時出力立ち上がり、立ち下がり特性 Output rise, fall characteristics with ON/OFF Control

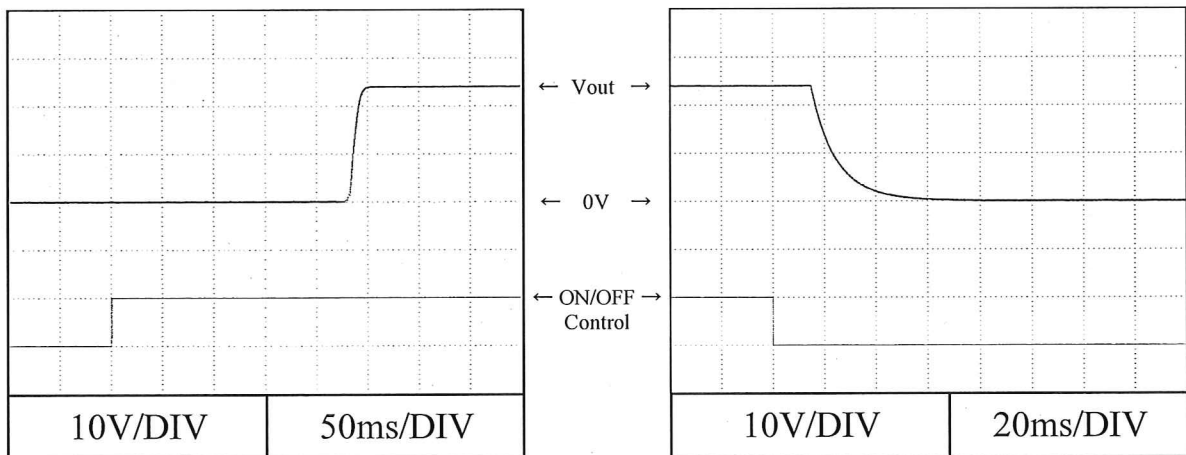
Conditions V_{in} : 100 VAC
 I_{out} : 100 %
 T_a : 25 °C

準標準品 ZWS300BAF-*/R にて対応
For option model ZWS300BAF-*/R

12V



24V

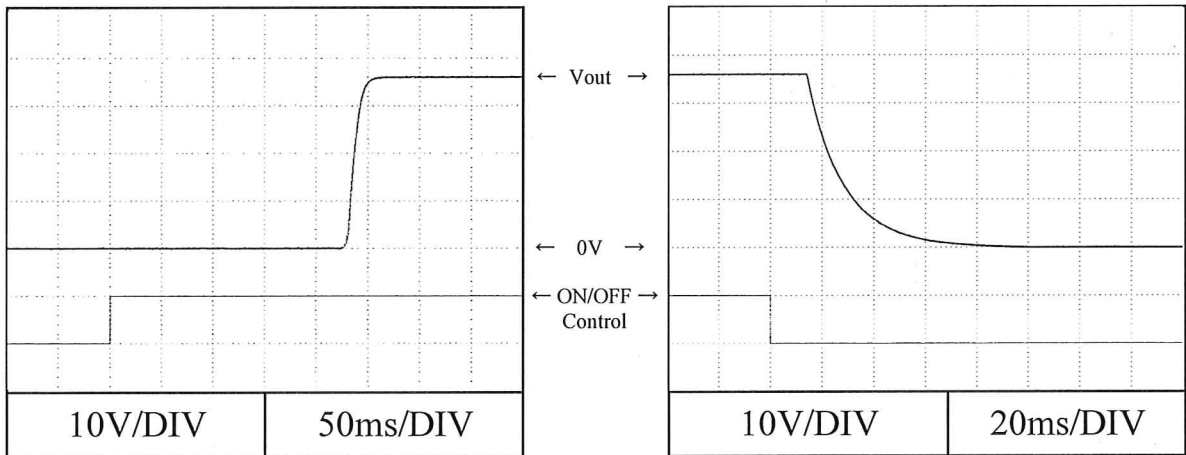


ZWS300BAF

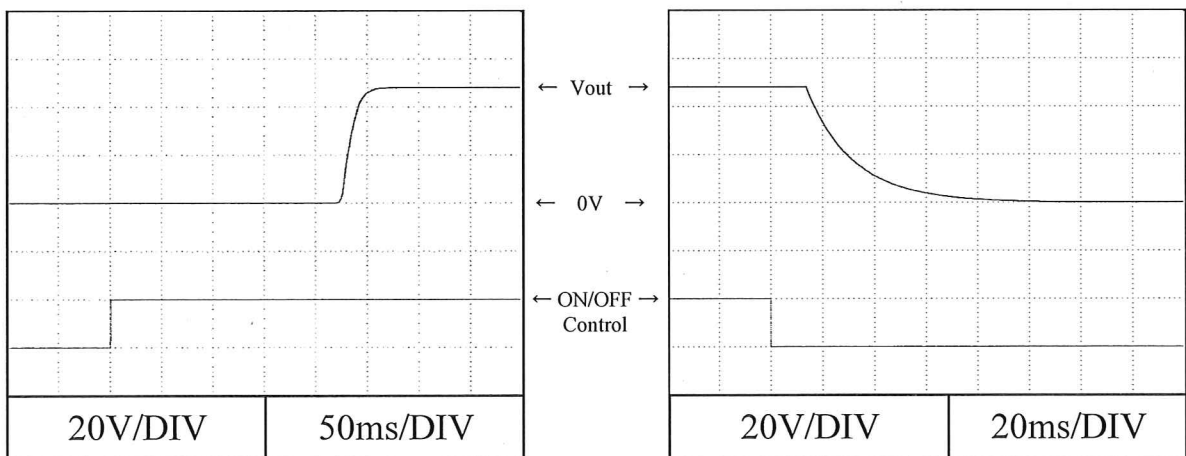
Conditions V_{in} : 100 VAC
 I_{out} : 100 %
 T_a : 25 °C

準標準品 ZWS300BAF-*/R にて対応
For option model ZWS300BAF-*/R

36V



48V

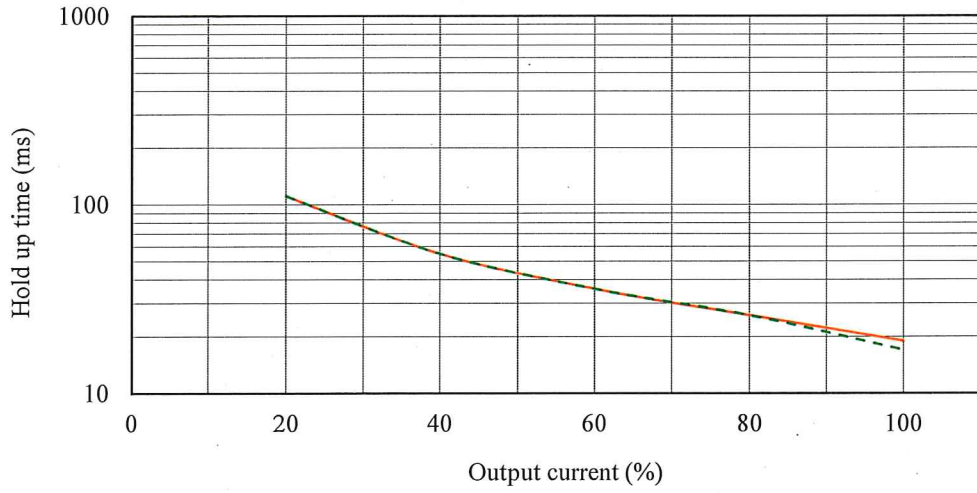


2.7 出力保持時間特性

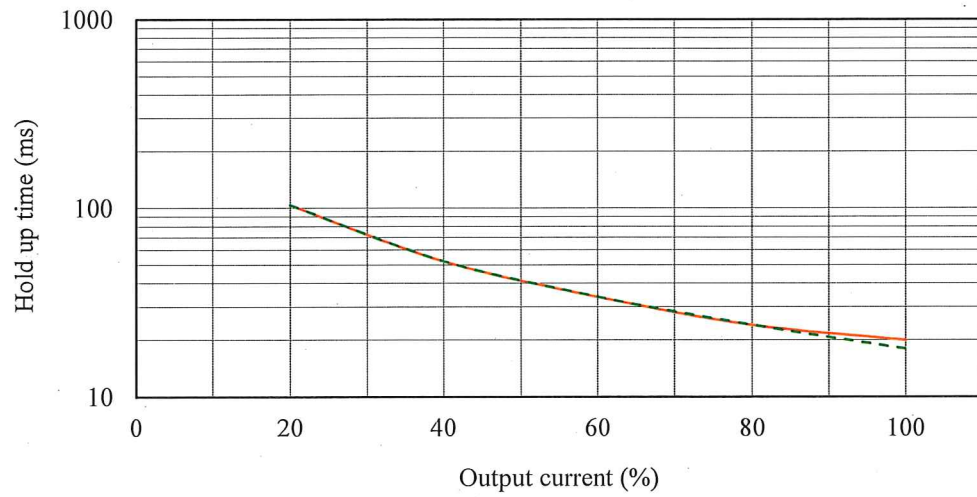
Hold up time characteristics

Conditions Vin : 100 VAC -----
200 VAC ————
Ta : 25 °C

12V



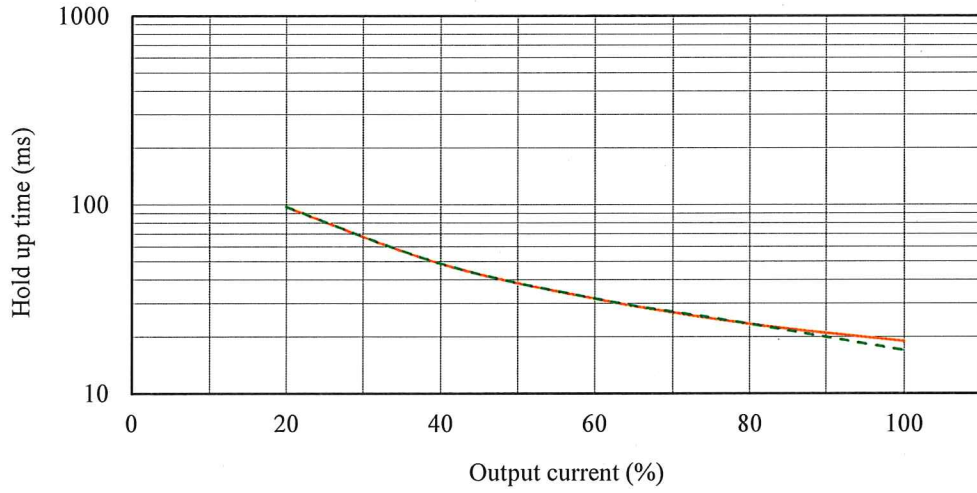
24V



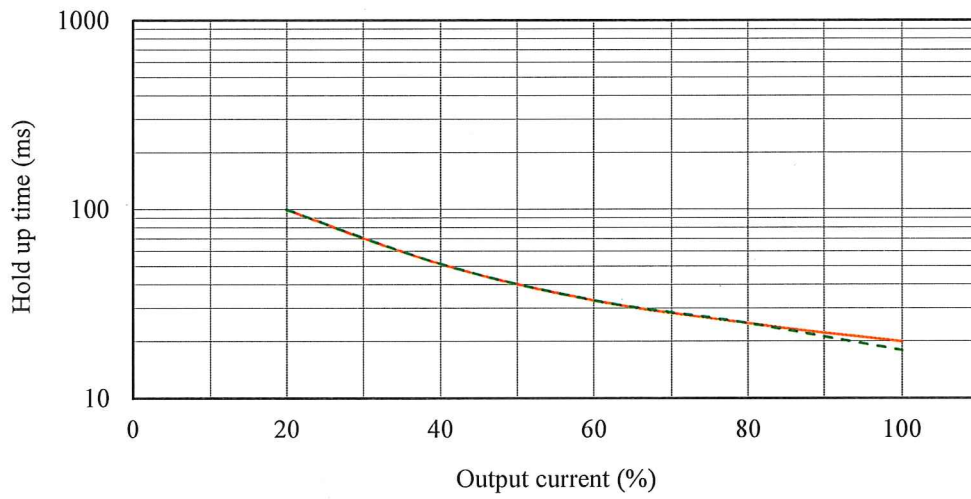
ZWS300BAF

Conditions Vin : 100 VAC -----
200 VAC -----
Ta : 25 °C

36V

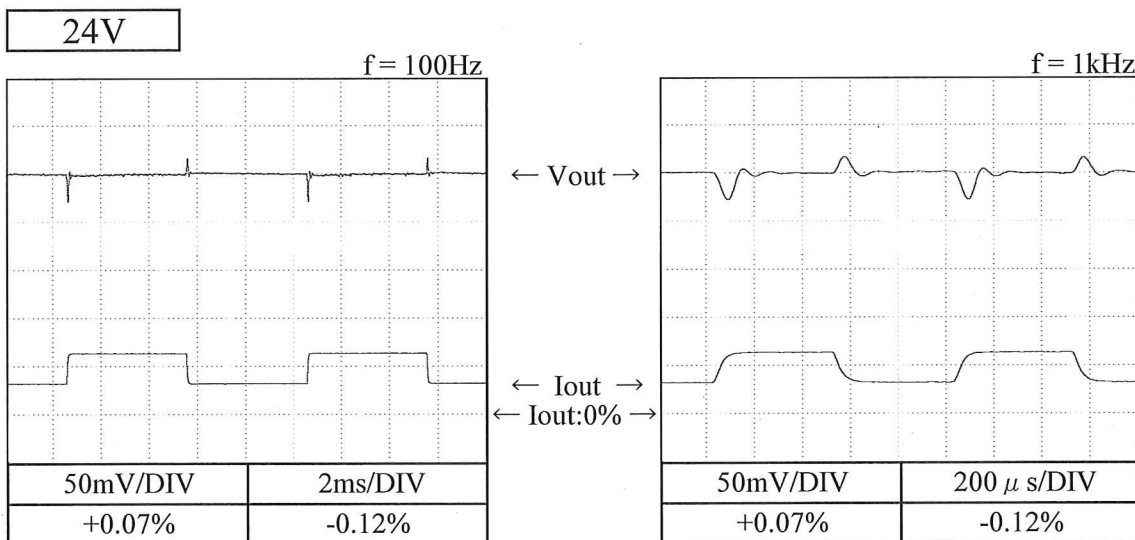
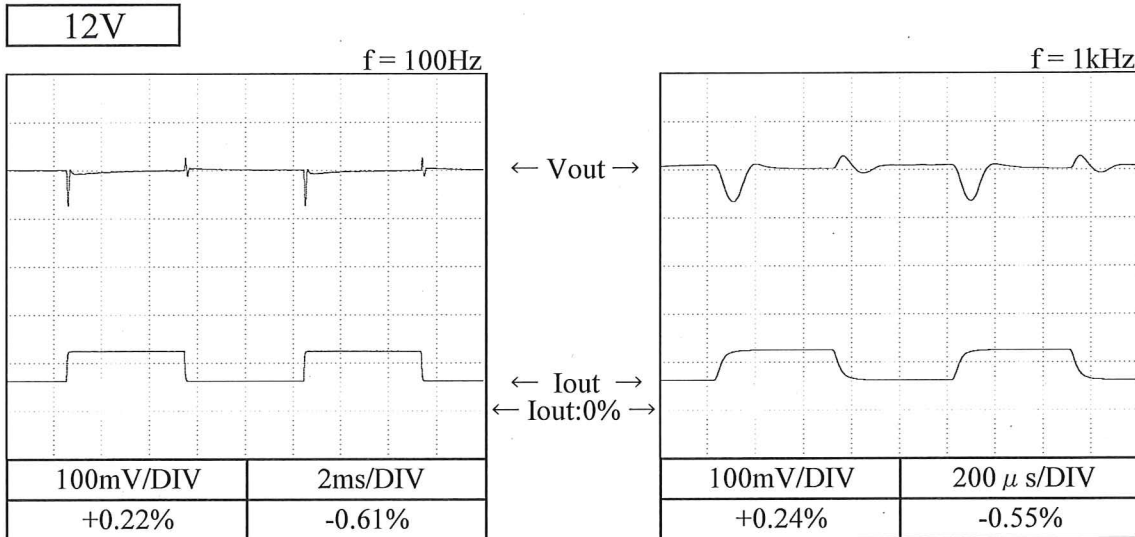


48V



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

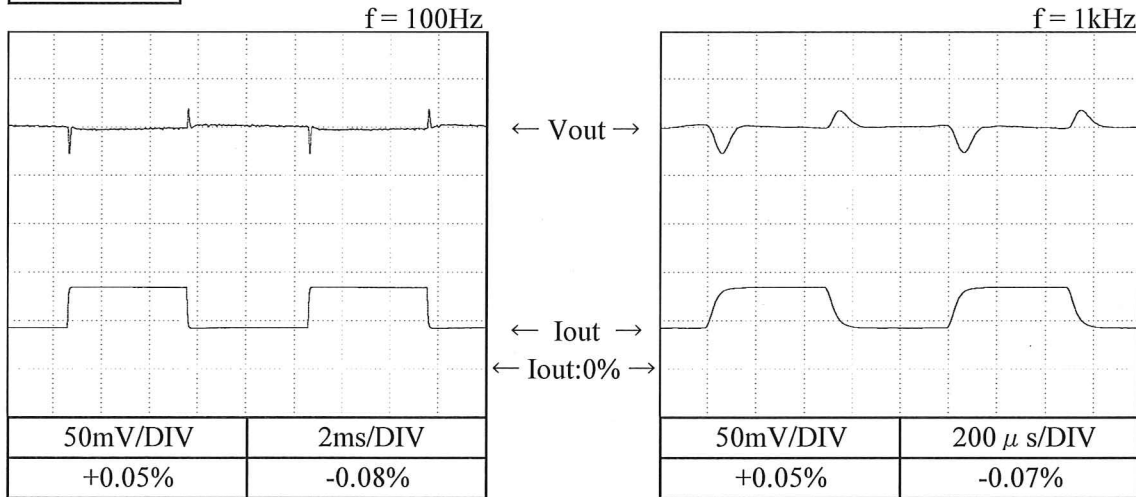
Conditions Vin : 100 VAC
Iout : 50 % ↔ 100 %
(tr = tf = 50us)
Ta : 25 °C



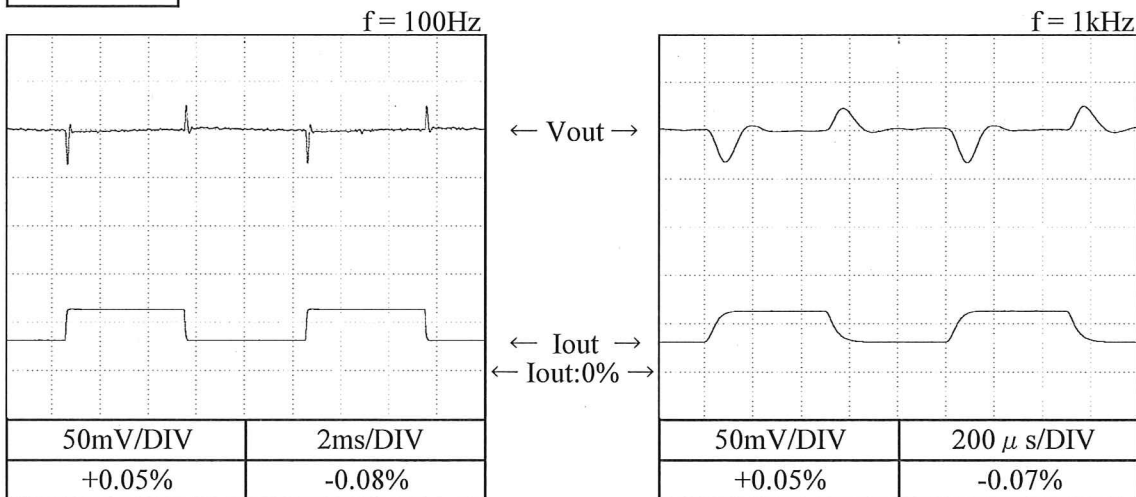
ZWS300BAF

Conditions Vin : 100 VAC
 Iout : 50 % ↔ 100 %
 (tr = tf = 50us)
 Ta : 25 °C

36V



48V



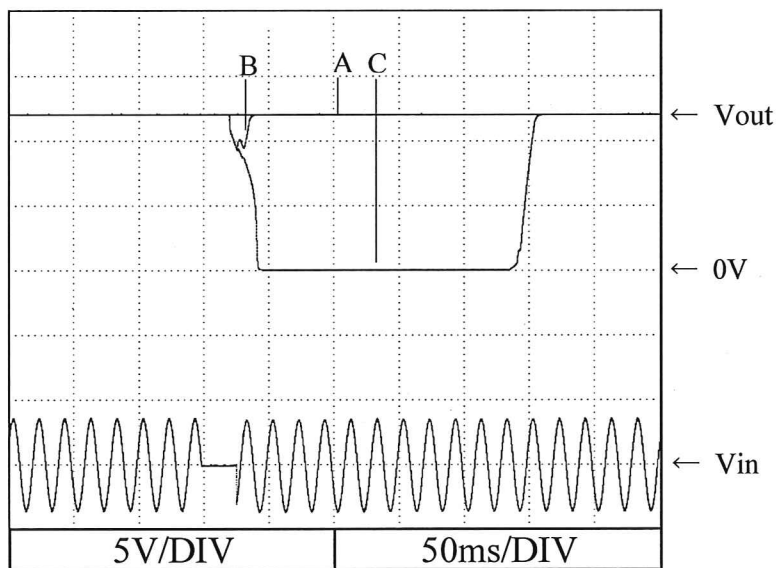
2.9 入力電圧瞬停特性

Response to brown out characteristics

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

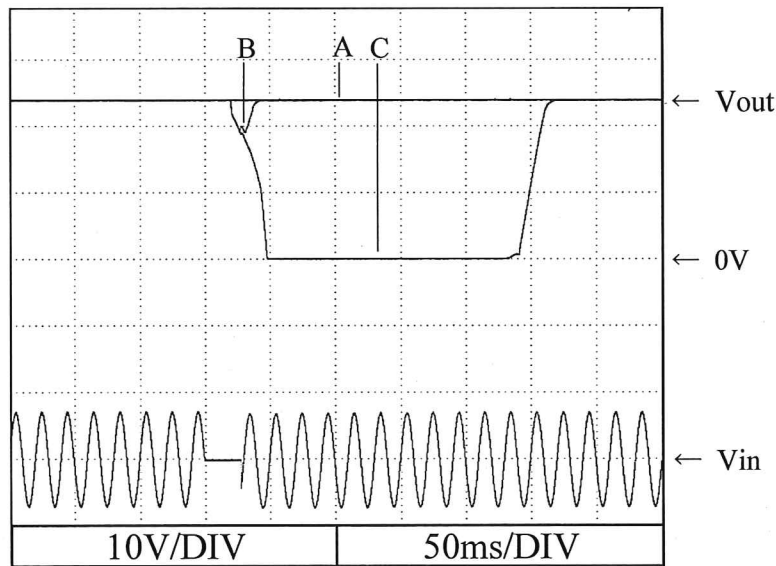
12V

A = 17ms
B = 26ms
C = 27ms



24V

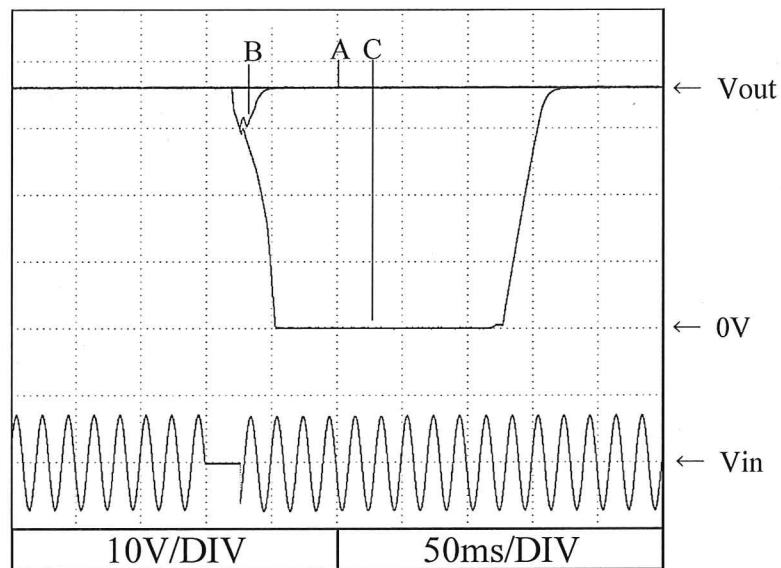
A = 18ms
B = 27ms
C = 28ms



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

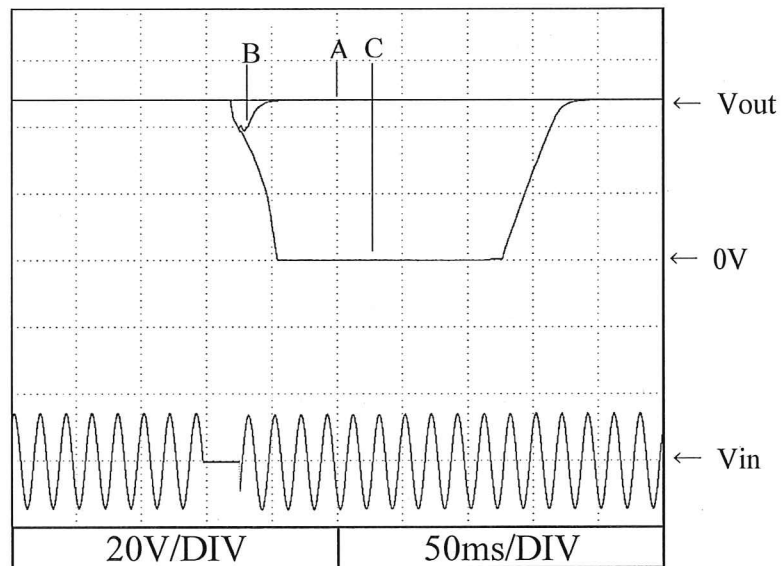
36V

A = 17ms
B = 26ms
C = 27ms



48V

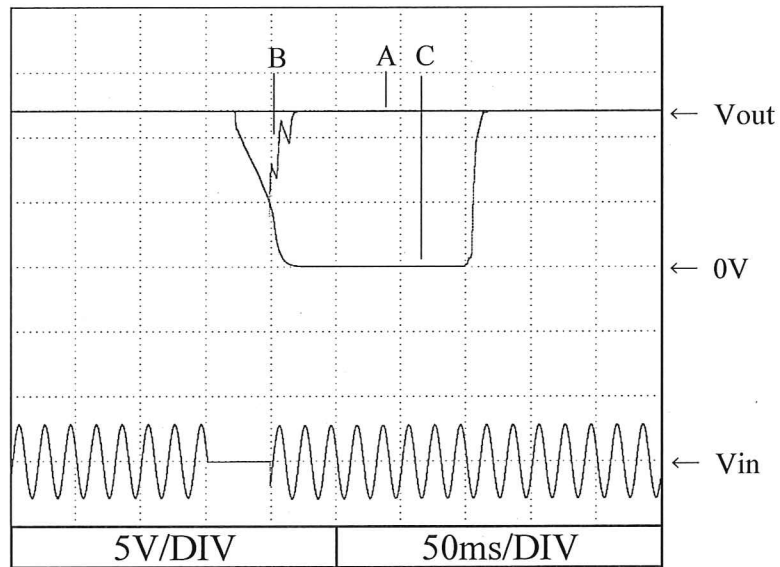
A = 18ms
B = 27ms
C = 28ms



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

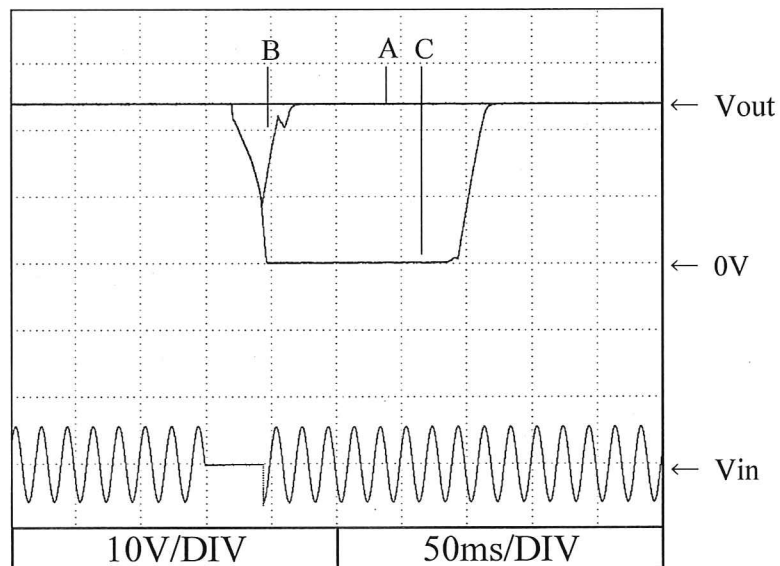
12V

A = 19ms
B = 47ms
C = 48ms



24V

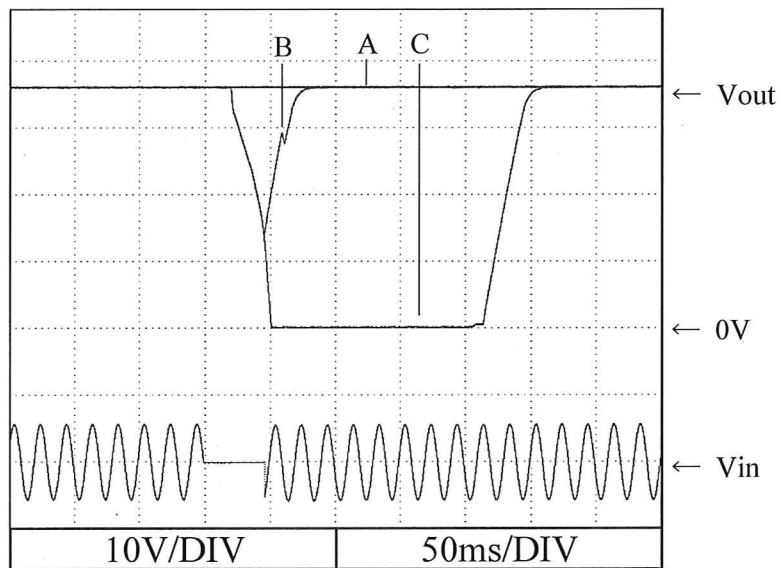
A = 20ms
B = 44ms
C = 45ms



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

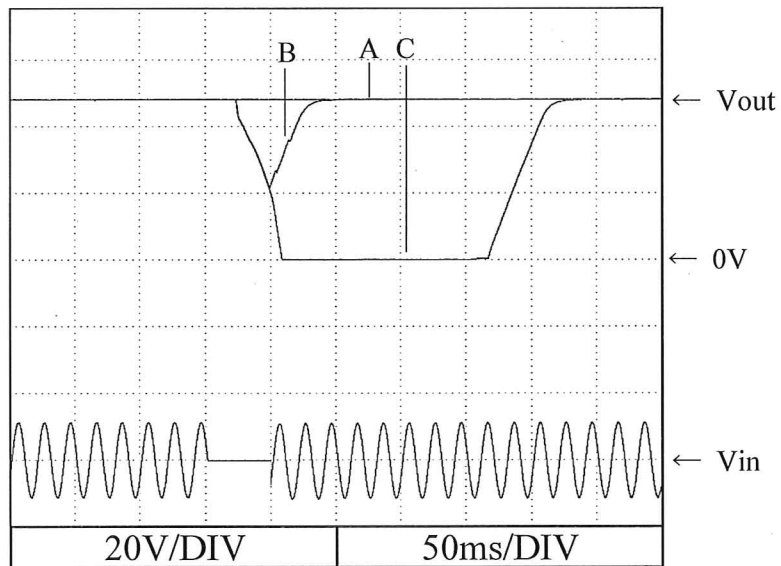
36V

A = 19ms
B = 46ms
C = 47ms



48V

A = 20ms
B = 47ms
C = 48ms



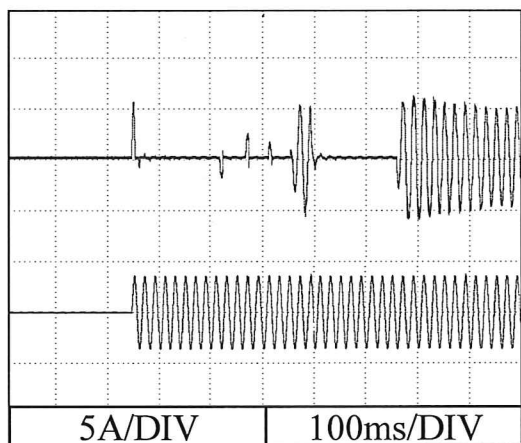
2.10 入力サージ電流 (突入電流) 波形

Inrush current waveform

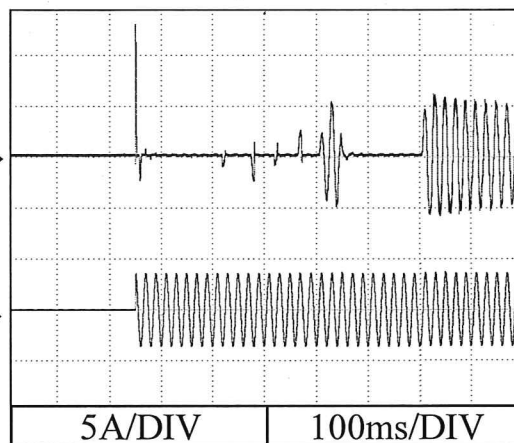
24V

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

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

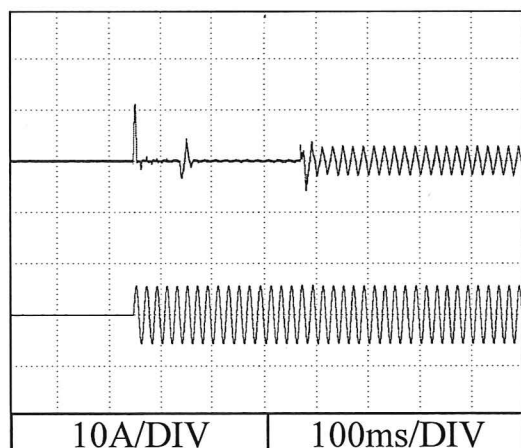


Switch on phase angle of input AC voltage
 $\phi = 90^\circ$

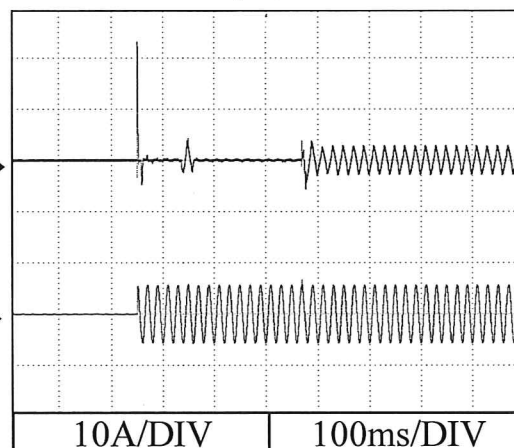


Conditions Vin : 200 VAC
Iout : 100 %
Ta : 25 °C

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



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



2.11 高調波成分

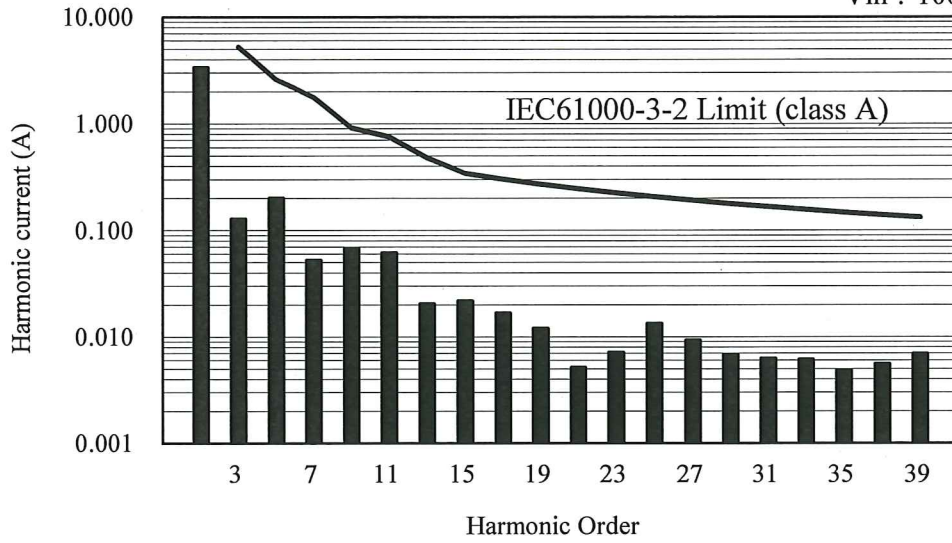
Input current harmonics

Conditions Iout : 100 %

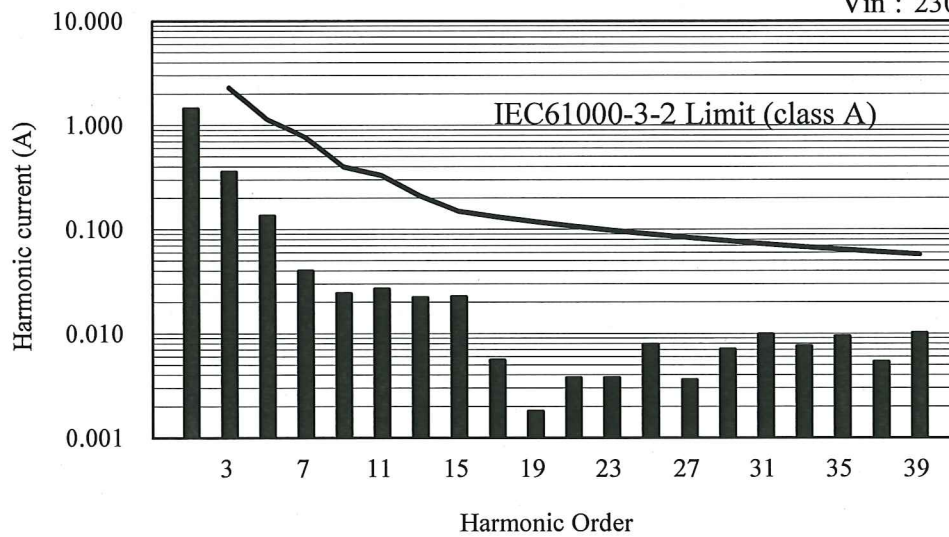
Ta : 25 °C

24V

Vin : 100 VAC



Vin : 230 VAC



2.12 入力電流波形

Input current waveform

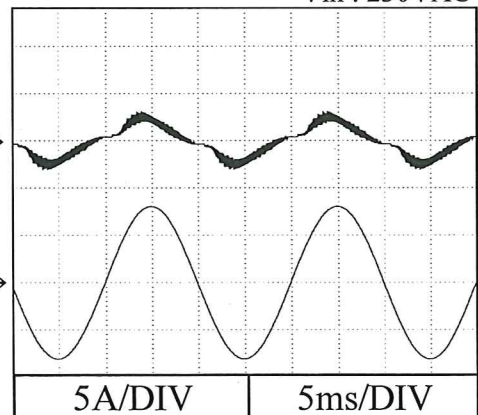
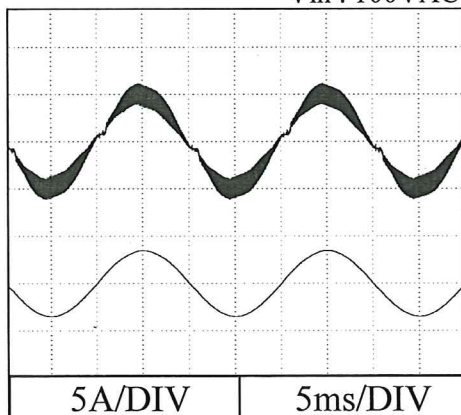
Conditions Iout : 100 %

Ta : 25 °C

24V

Vin : 100VAC

Vin : 230VAC

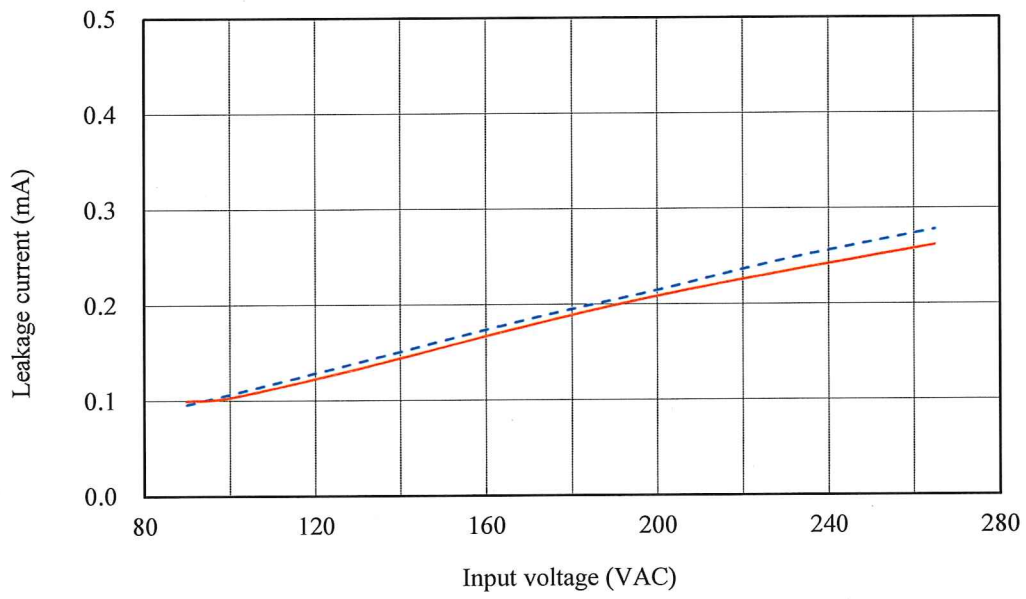


2.13 リーク電流特性
Leakage current characteristics

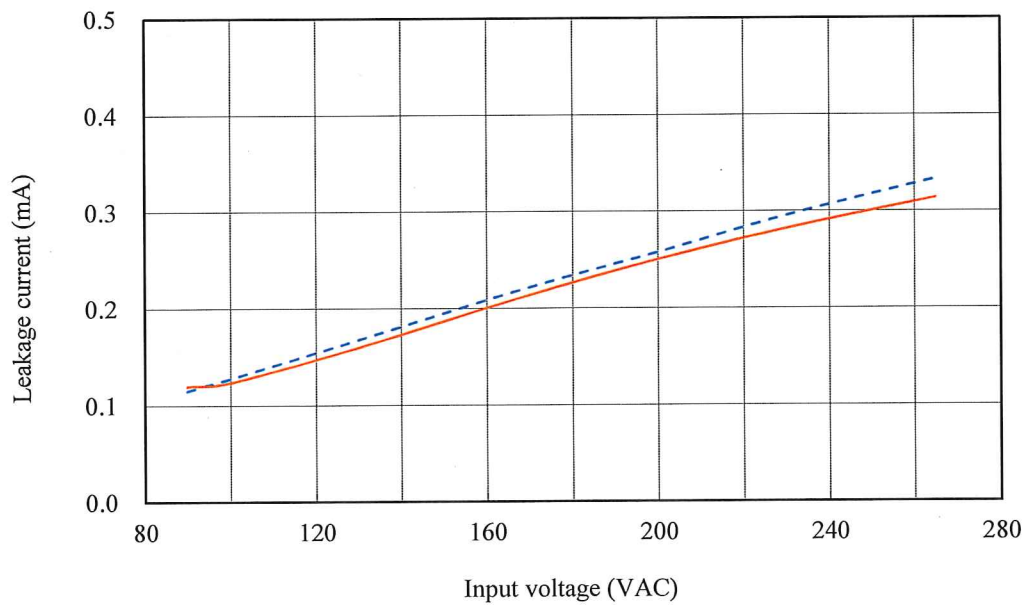
Conditions Iout : 0 % -----
 100 % _____
 Ta : 25 °C
Equipment used : 3156 (HIOKI)

12V

f : 50 Hz



f : 60 Hz

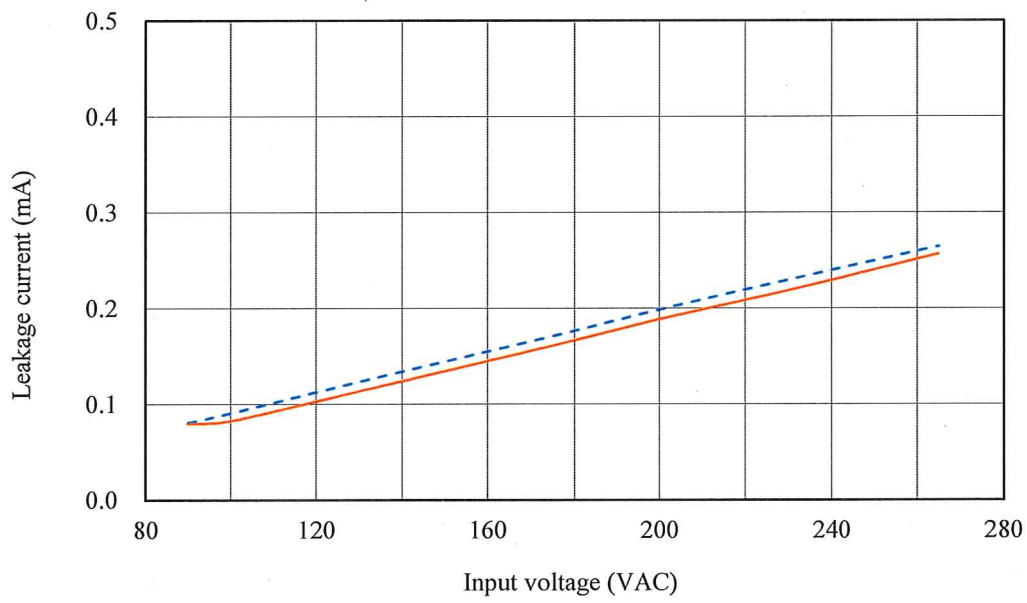


ZWS300BAF

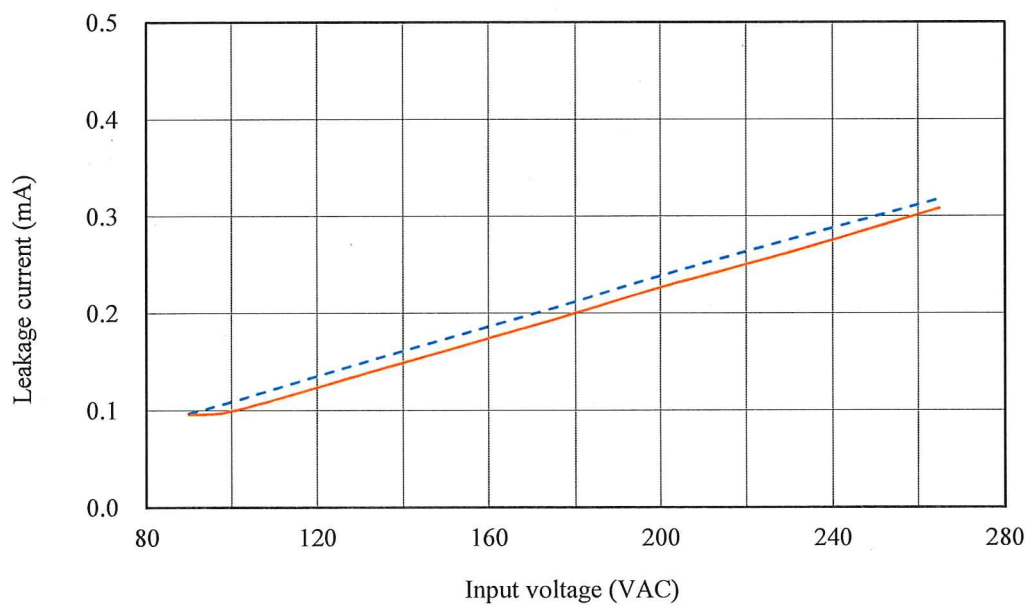
Conditions Iout : 0 % ———
100 % - - - -
Ta : 25 °C
Equipment used : 3156 (HIOKI)

24V

f : 50 Hz



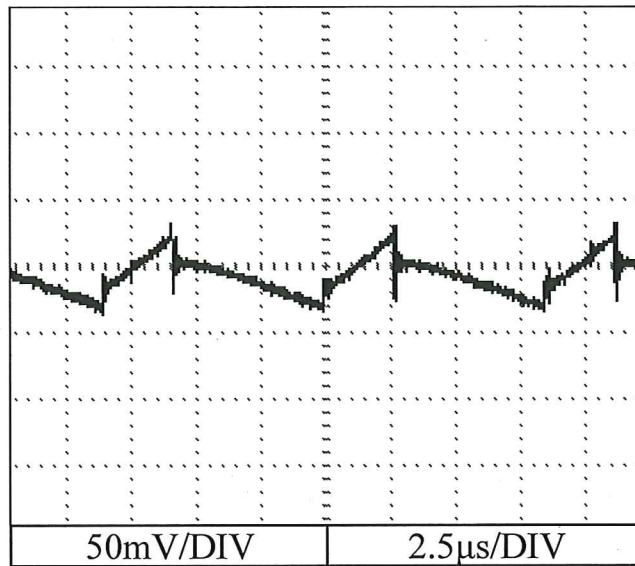
f : 60 Hz



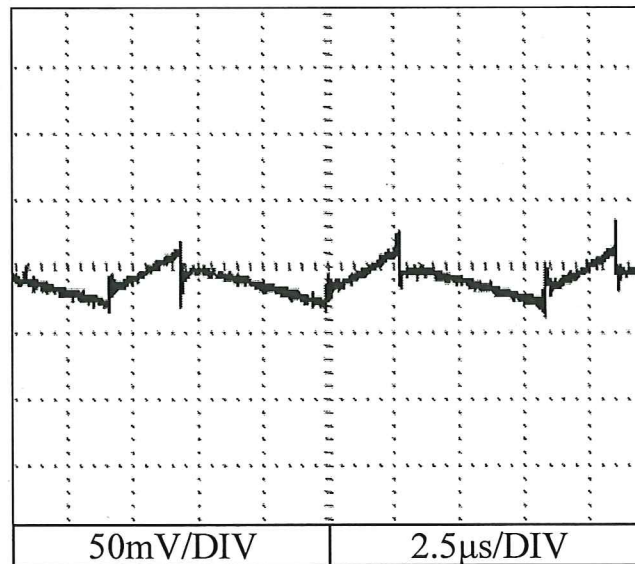
2.14 出力リップル、ノイズ波形 Output ripple and noise waveform

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

12V



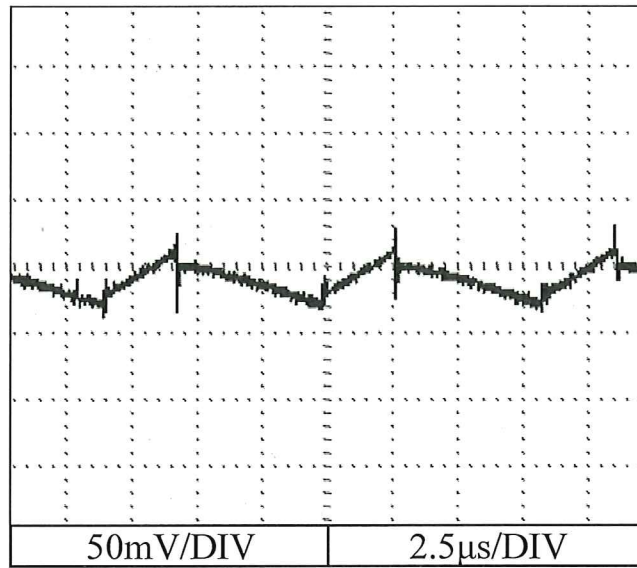
24V



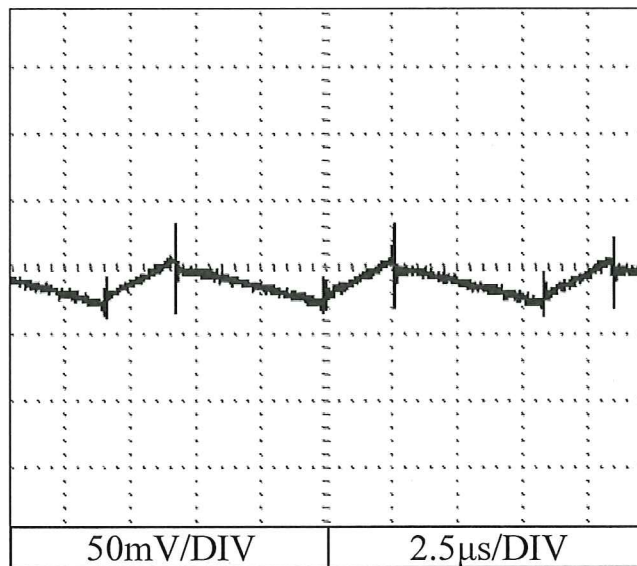
ZWS300BAF

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

36V



48V



2.15 EMI 特性

Electro-Magnetic Interference characteristics

Conditions Vin : 230 VAC

Iout : 100 %

Ta : 25 °C

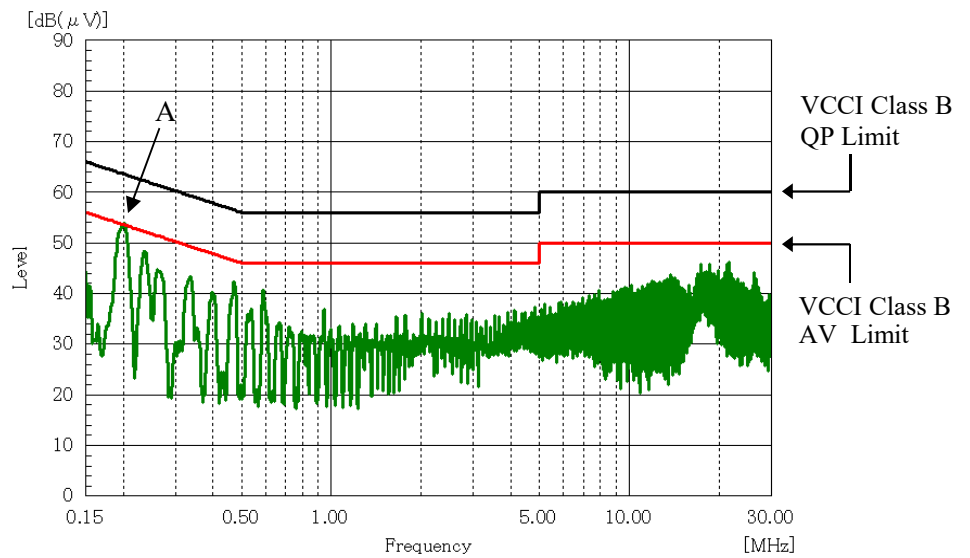
雑音端子電圧

Conducted Emission

12V

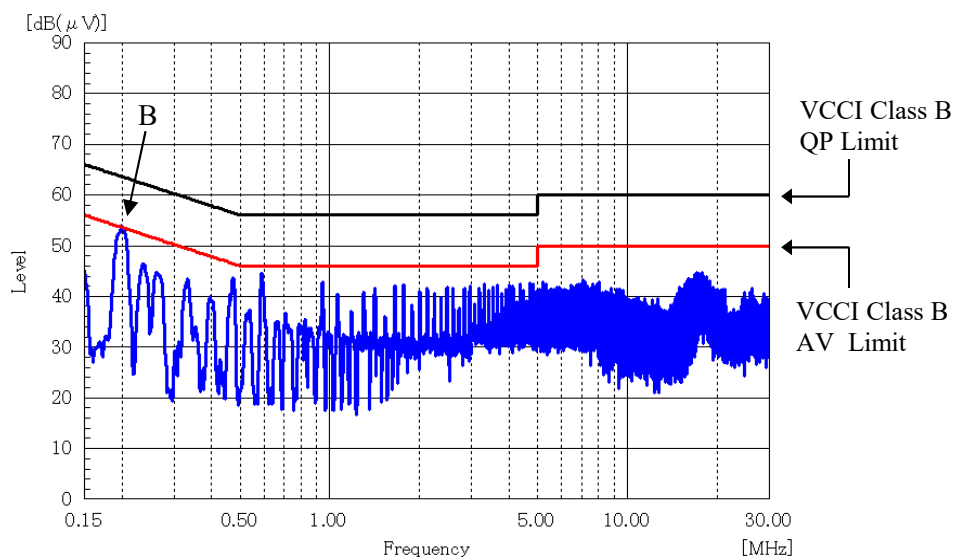
Phase : N

| Ref. Data | Point A (198kHz) | |
|-----------|------------------|--------------|
| | Limit (dB) | Measure (dB) |
| QP | 63.7 | 51.0 |
| AV | 53.7 | 45.9 |



Phase : L

| Ref. Data | Point B (196kHz) | |
|-----------|------------------|--------------|
| | Limit (dB) | Measure (dB) |
| QP | 63.8 | 51.3 |
| AV | 53.8 | 43.5 |



EN55011-B,EN55032-B,FCC-Bの限界値はVCCI class Bの限界値と同じ
Limit of EN55011-B,EN55032-B,FCC-B are same as its VCCI class B.

ZWS300BAF

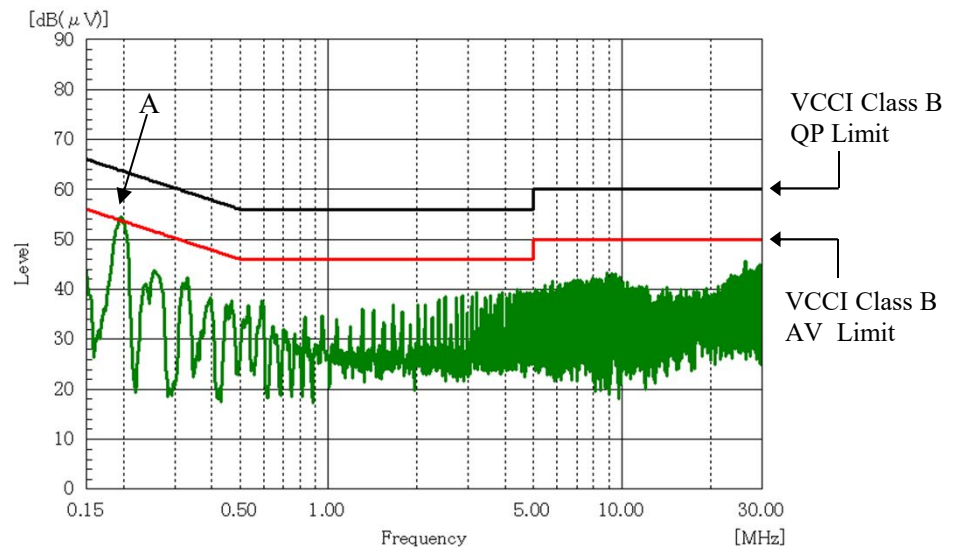
Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 °C

雑音端子電圧
Conducted Emission

24V

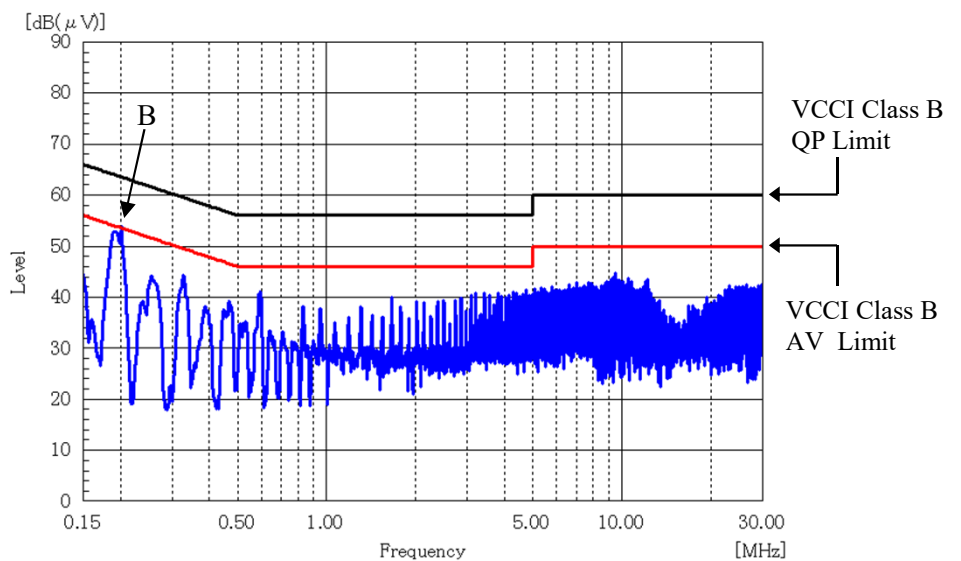
Phase : N

| Point A (193kHz) | | |
|---------------------|------------|--------------|
| Ref. Data | Limit (dB) | Measure (dB) |
| QP | 63.9 | 50.9 |
| AV | 53.9 | 43.0 |



Phase : L

| Point B (193kHz) | | |
|---------------------|------------|--------------|
| Ref. Data | Limit (dB) | Measure (dB) |
| QP | 63.9 | 51.2 |
| AV | 53.9 | 43.4 |



EN55011-B,EN55032-B,FCC-Bの限界値はVCCI class Bの限界値と同じ
Limit of EN55011-B,EN55032-B,FCC-B are same as its VCCI class B.

ZWS300BAF

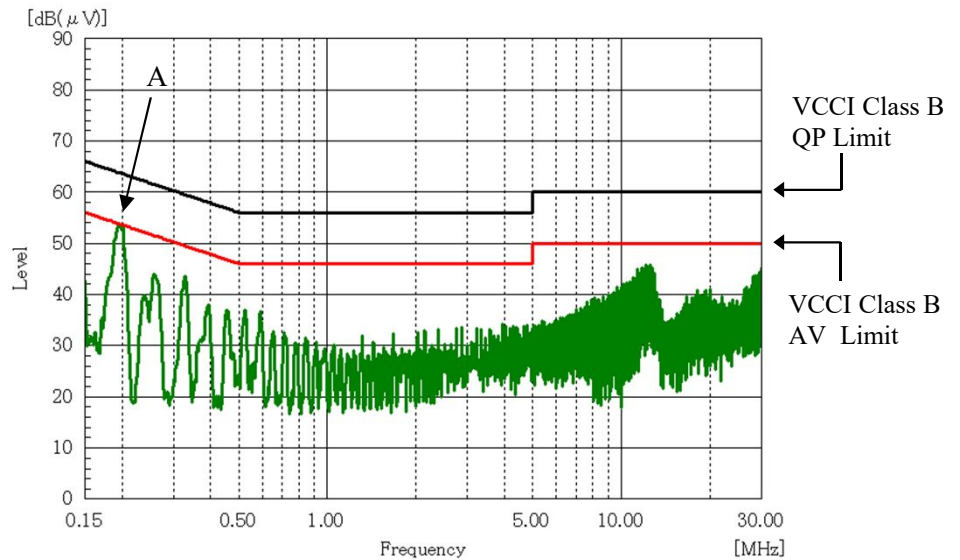
Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 °C

雑音端子電圧
Conducted Emission

36V

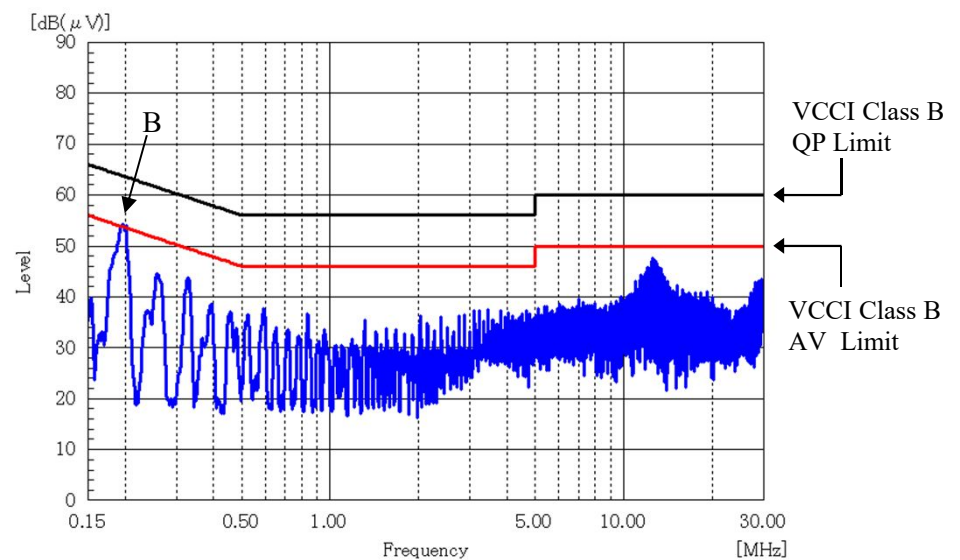
Phase : N

| Point A (195kHz) | | |
|---------------------|------------|--------------|
| Ref. Data | Limit (dB) | Measure (dB) |
| QP | 63.8 | 51.2 |
| AV | 53.8 | 46.3 |



Phase : L

| Point B (196kHz) | | |
|---------------------|------------|--------------|
| Ref. Data | Limit (dB) | Measure (dB) |
| QP | 63.8 | 51.9 |
| AV | 53.8 | 46.8 |



EN55011-B,EN55032-B,FCC-Bの限界値はVCCI class Bの限界値と同じ
Limit of EN55011-B,EN55032-B,FCC-B are same as its VCCI class B.

ZWS300BAF

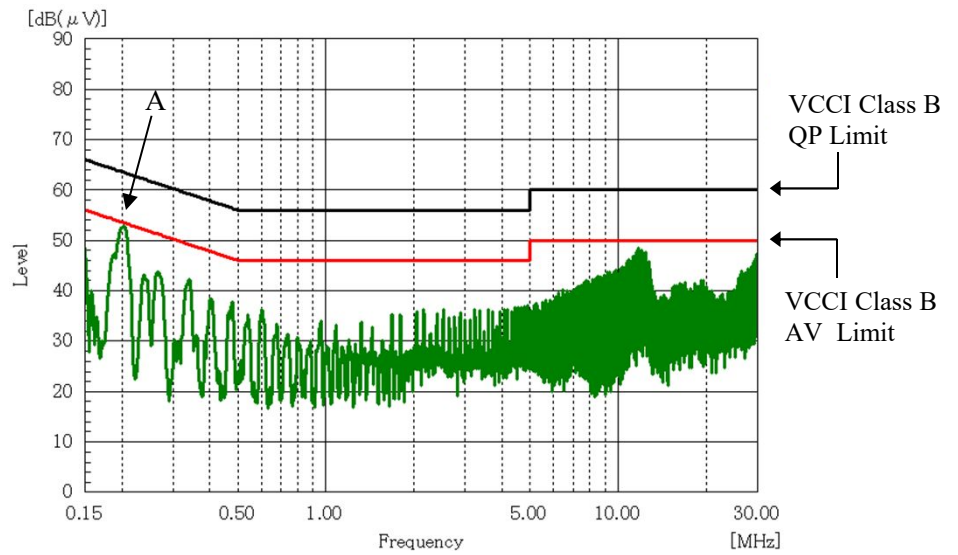
Conditions Vin : 230 VAC
Iout : 100 %
Ta : 25 °C

雑音端子電圧
Conducted Emission

48V

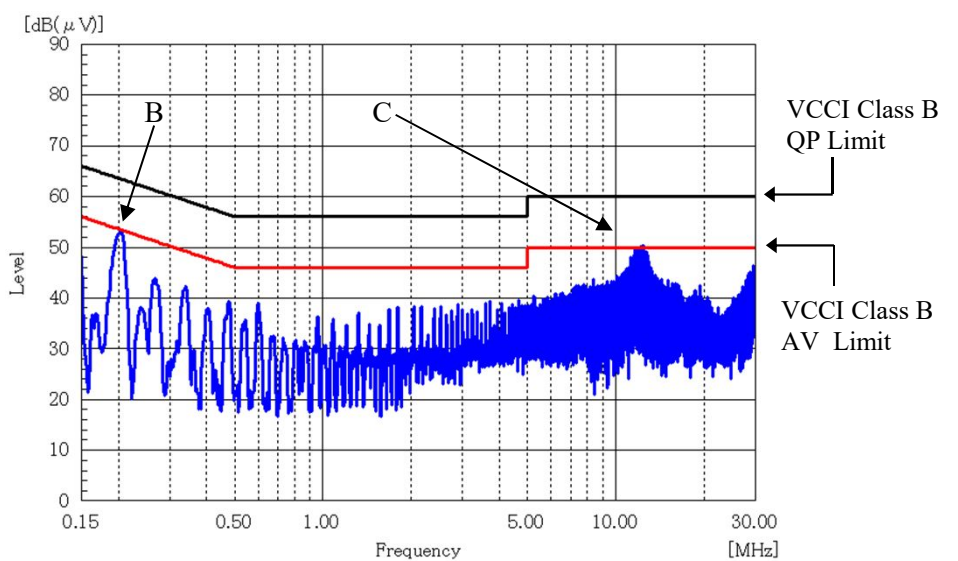
Phase : N

| Point A (199kHz) | | |
|---------------------|------------|--------------|
| Ref. Data | Limit (dB) | Measure (dB) |
| QP | 63.6 | 50.8 |
| AV | 53.6 | 45.1 |



| Point B (199kHz) | | |
|---------------------|------------|--------------|
| Ref. Data | Limit (dB) | Measure (dB) |
| QP | 63.6 | 50.8 |
| AV | 53.6 | 45.3 |

Phase : L

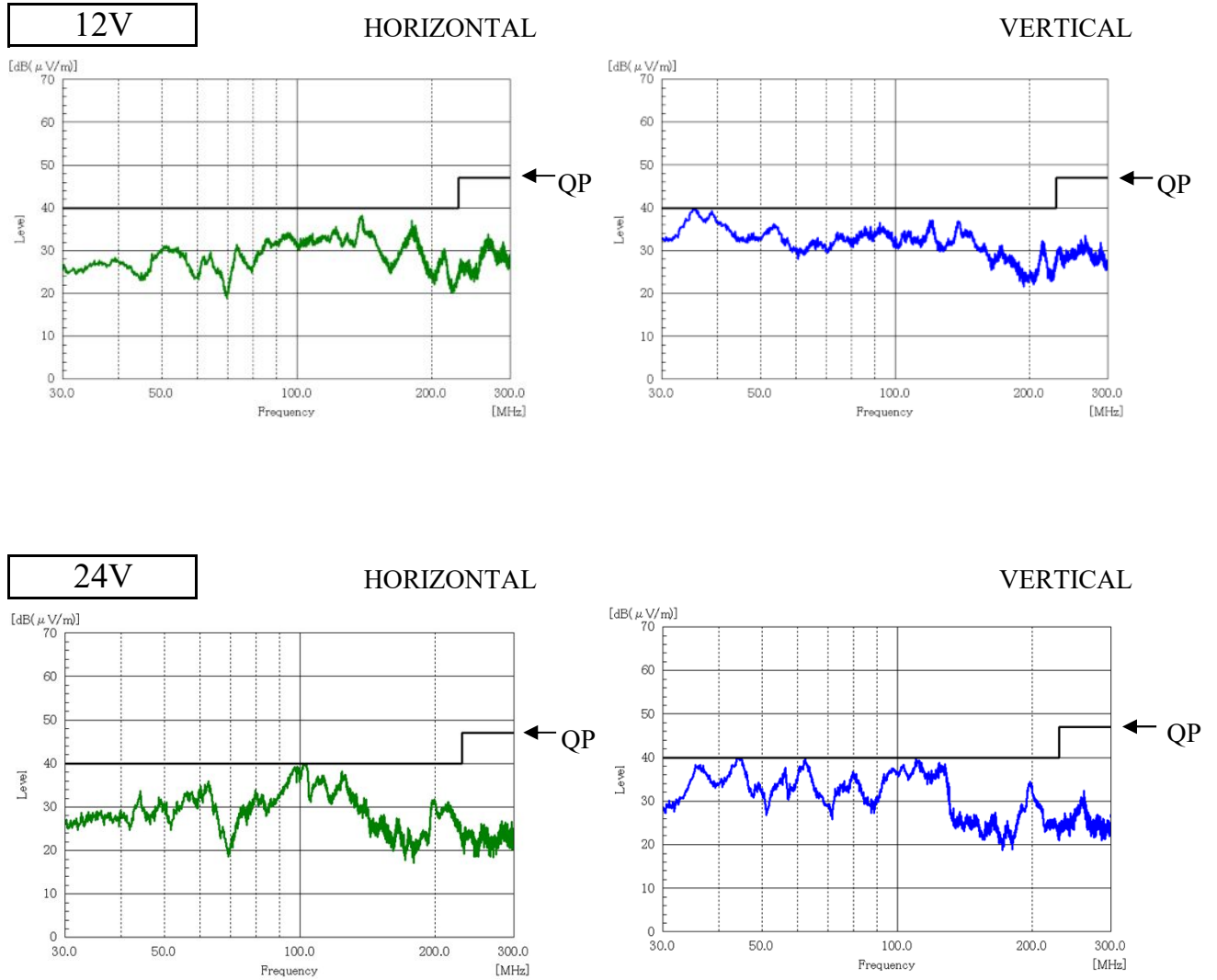


| Point C (12.4MHz) | | |
|----------------------|------------|--------------|
| Ref. Data | Limit (dB) | Measure (dB) |
| QP | 60.0 | 45.0 |
| AV | 50.0 | 41.3 |

EN55011-B,EN55032-B,FCC-Bの限界値はVCCI class Bの限界値と同じ
Limit of EN55011-B,EN55032-B,FCC-B are same as its VCCI class B.

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

雑音電界強度 Radiated Emission



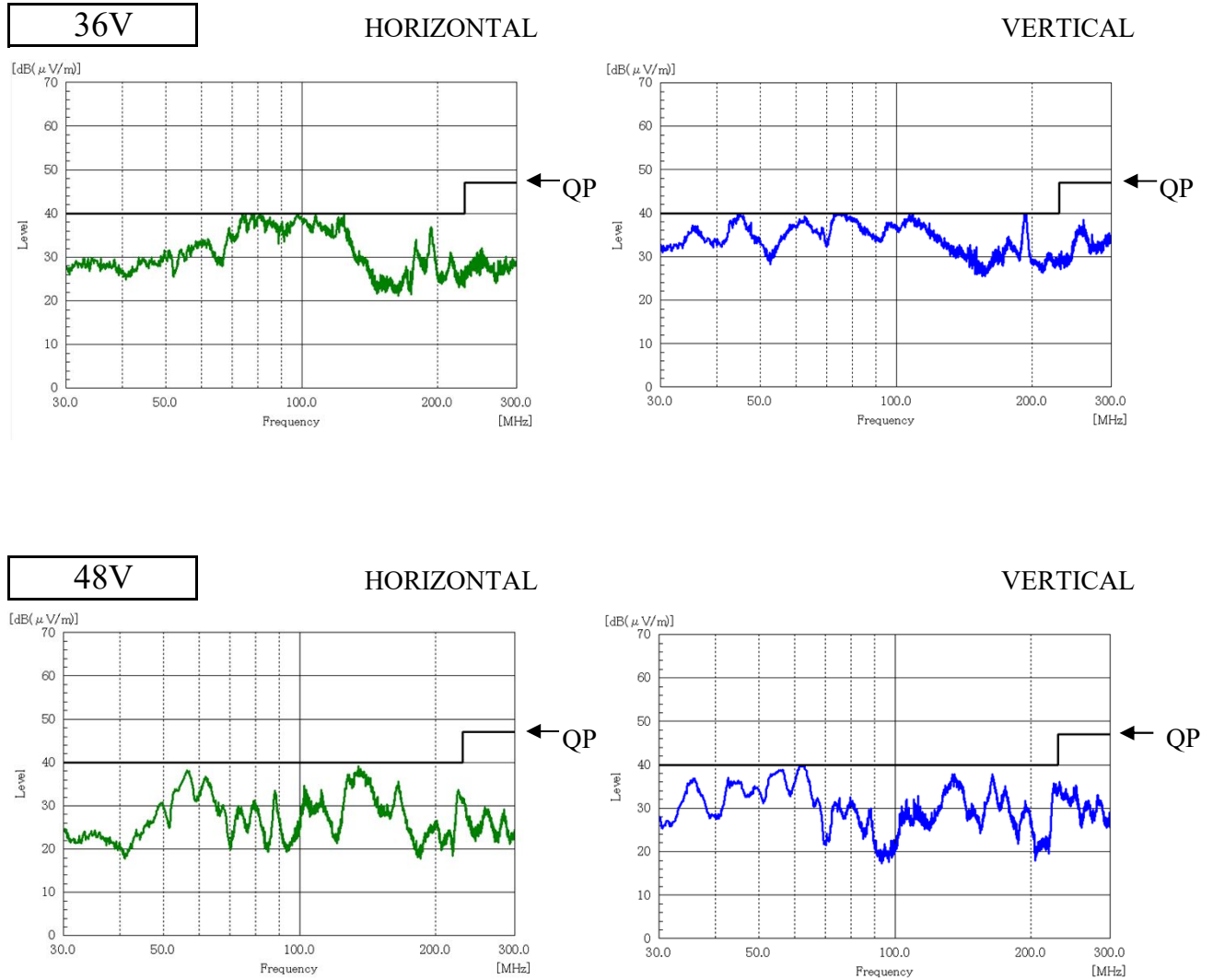
EN55011-B,EN55032-Bの限界値はVCCI class Bの限界値と同じ
Limit of EN55011-B,EN55032-B are same as its VCCI class B.

表示はピーク値
Indication is peak values.

ZWS300BAF

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

雑音電界強度
Radiated Emission



EN55011-B,EN55032-Bの限界値はVCCI class Bの限界値と同じ
Limit of EN55011-B,EN55032-B are same as its VCCI class B.

表示はピーク値
Indication is peak values.