PH300A280-＊

EVALUATION DATA

型式データ

INDEX

使用記号　Terminology used

	定義 Definition		
Vin	‥‥‥‥	入力電圧	Input voltage
Vo	‥‥‥‥	出力電圧	Output voltage
Vcnt	‥‥‥‥	CNT電圧	CNT voltage
Iin	‥‥‥‥	入力電流	Input current
Io	‥‥‥‥	出力電流	Output current
Tbp	‥‥‥‥	ベースプレート温度	Base-plate temperature
Ta	‥‥‥‥	周囲温度	Ambient temperature
f	‥‥‥‥	周波数	Frequency

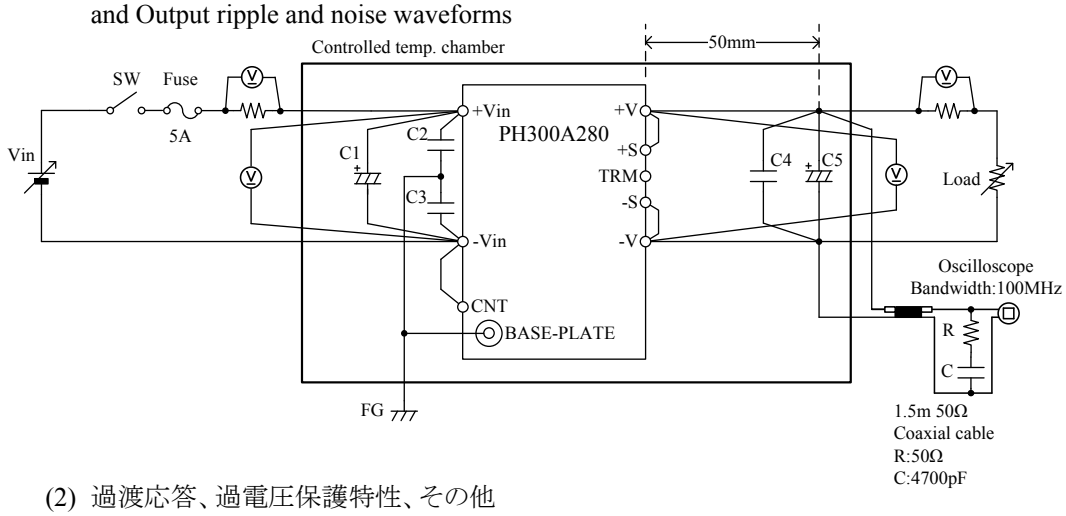
※ 当社測定条件における結果であり、参考値としてお考え願います。
Test results are reference data based on our measurement condition.

1. 測定方法 Evaluation Method

1-1. 測定回路 Measurement Circuitts

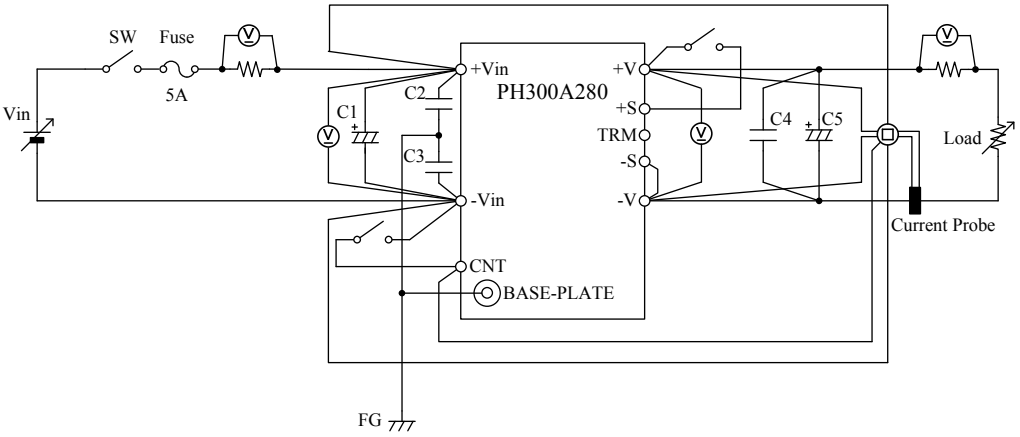
(1) 静特性、過電流保護特性、出力リップル・ノイズ波形

Steady state characteristics, Over current protection (OCP) characteristics, and Output ripple and noise waveforms



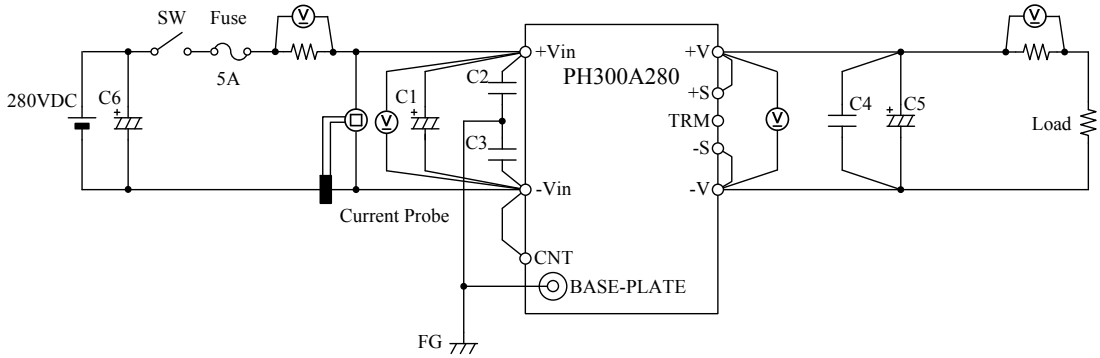
(2) 過渡応答、過電圧保護特性、その他

Dynamic response, Over voltage protection (OVP) characteristics and Other characteristics



(3) 入力サージ電流（突入電流）特性

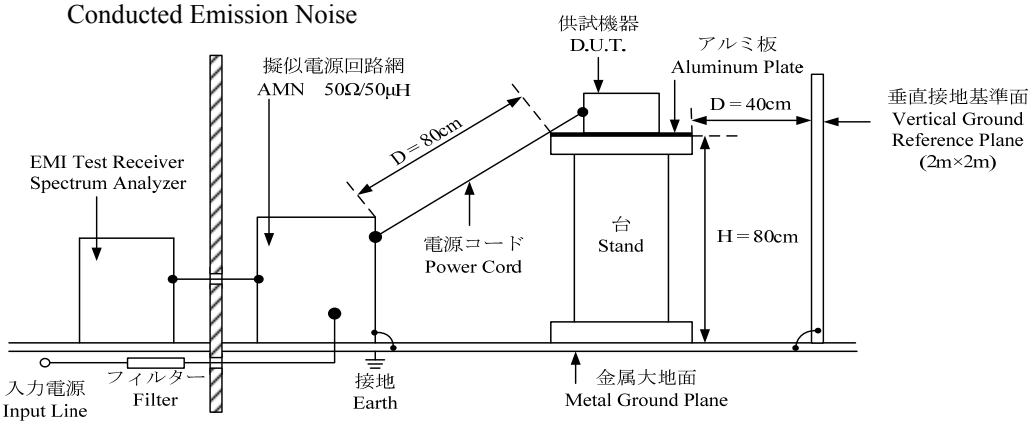
Inrush current characteristics



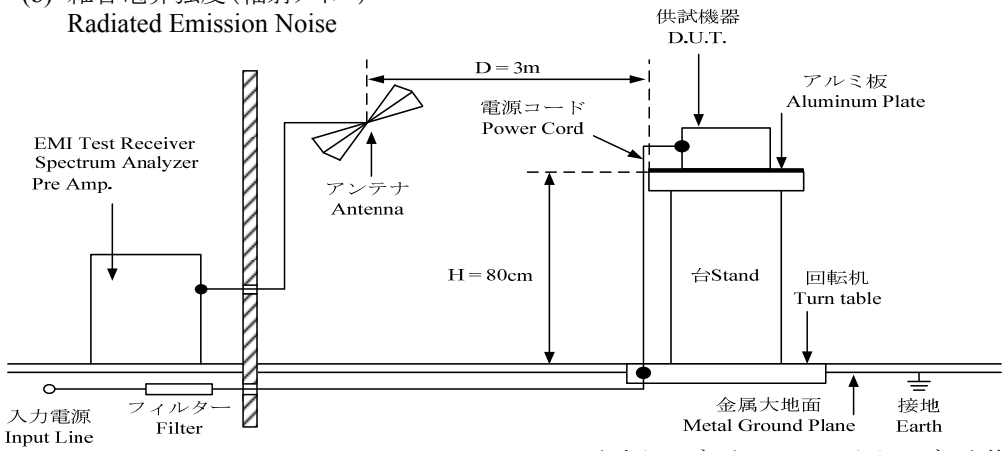
C1	:	22uF Electrolytic Capacitor	(EKXJ451ELL220MJ35S, Nippon Chemi-Con)
C2, C3	:	2200pF Ceramic Capacitor	(DE1E3KX222M, MURATA Manufacturing)
C4	:	2.2uF Ceramic Capacitor	(C3225X7R2A225K , TDK)
C5	:	5V- 2200uF Electrolytic Capacitor	(ELXY100ELL222MK25S, Nippon Chermi-Con)
		12V- 1000uF Electrolytic Capacitor	(ELXY250ELL102MK25S, Nippon Chermi-Con)
		24V- 470uF Electrolytic Capacitor	(ELXY500ELL471MK25S, Nippon Chermi-Con)
		28V- 470uF Electrolytic Capacitor	(ELXY500ELL471MK25S, Nippon Chermi-Con)
		48V- 470uF ×2series Electrolytic Capacitor	(ELXY500ELL471MK25S×2series, Nippon Chermi-Con)
C6	:	19000uF Electrolytic Capacitor	(ELXS451VSN561MA50S×34parallel, Nippon Chemi-Con)

(4) EMI特性　Electro-Magnetic Interference characteristics

(a) 雑音端子電圧(帰還ノイズ)
Conducted Emission Noise

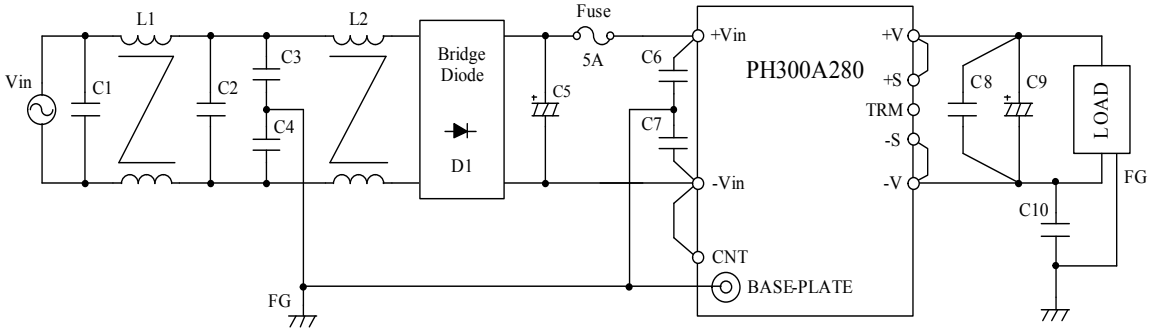


(b) 雑音電界強度(輻射ノイズ)
Radiated Emission Noise



＊ 入出力ケーブルとしてシールドケーブルを使用
Shielded cable used to input and output cable.

VCCI class A 対応アプリケーションシステム
VCCI class A application system



C1, C2	:	0.68μF Film Capacitor	(ECQUAAF684M, Panasonic)
C3, C4, C6, C7	:	4700pF Ceramic Capacitor	(DE2E3KY472M, MURATA Manufacturing)
C5	:	560μF Electrolytic Capacitor	(ELXS451VSN561MA50S, Nippon Chemi-Con)
C8	:	2.2μF Ceramic Capacitor	(C3225X7R2A225K , TDK)
C9	:	5V- 2200μF Electrolytic Capacitor	(ELXY100ELL222MK25S, Nippon Chermi-Con)
		12V- 1000μF Electrolytic Capacitor	(ELXY250ELL102MK25S, Nippon Chermi-Con)
		24V- 470μF Electrolytic Capacitor	(ELXY500ELL471MK25S, Nippon Chermi-Con)
		28V- 470μF Electrolytic Capacitor	(ELXY500ELL471MK25S, Nippon Chermi-Con)
		48V- 470μF ×2series Electrolytic Capacitor	(ELXY500ELL471MK25S×2series, Nippon Chermi-Con)
C10	:	0.022μF Film Capacitor	(MMC0630K223, NISSEI)
D1	:	KBJ1006G	(Lite-On Technology)
L1	:	1mH	(SC-05-10J, NEC TOKIN)
L2	:	3mH	(SC-05-30J, NEC TOKIN)

1-2. 使用測定機器 List of equipment used

	EQUIPMENT USED	MANUFACTURER	MODEL NO.
1	AMN	SCHWARZBECK	NNLK8121
2	ANTENNA	TESEQ	CBL6111D
3	CONTROLLED TEMP. CHAMBER	ESPEC CORP.	SH-662
4	CURRENT PROBE	YOKOGAWA ELECT.	701930 / 701931 / 701933
5	CURRENT PROBE AMPLIFIER	YOKOGAWA ELECT.	700938 / 701934
6	CVCF	KIKUSUI	PCR2000L / PCR4000L
7	CVCF	NF	ES10000S
8	DC POWER SUPPLY	TDK-Lambda	Gen600-5.5
9	DIGITAL MULTIMETER	Agilent	34970A
10	DIGITAL POWER METER	YOKOGAWA ELECT.	WT110 / WT210
11	DIGITAL STORAGE OSCILLOSCOPE	YOKOGAWA ELECT.	DLM2054
12	DYNAMIC DUMMY LOAD	Chroma	63030
13	DYNAMIC DUMMY LOAD	FUJITSU DENSO	EUL-600αXH
14	EMI TEST RECEIVER / SPECTRUM ANALYZER	ROHDE & SCHWARZ	ESCI
15	PRE AMP.	SONOMA	310N
16	SHUNT RESISTOR	YOKOGAWA ELECT.	2215

2. 特性データ Characteristics

2-1. 静特性 Steady state data

(1) 入力変動、負荷変動、温度変動 Line regulation, Load regulation, Temperature drift

5V

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

Io \ Vin	200VDC	280VDC	380VDC	425VDC	Line regulation	
0%	4.996V	4.996V	4.996V	4.996V	0mV	0.000%
50%	4.996V	4.996V	4.996V	4.996V	0mV	0.000%
100%	4.996V	4.996V	4.996V	4.996V	0mV	0.000%
Load regulation	0mV	0mV	0mV	0mV		
	0.000%	0.000%	0.000%	0.000%		

2. Temperature drift　　Conditions Vin=280VDC Io =100%

Tbp	-40℃	+25℃	+100℃	Temperature stability	
Vo	5.001V	4.996V	4.993V	8mV	0.160%

12V

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

Io \ Vin	200VDC	280VDC	380VDC	425VDC	Line regulation	
0%	12.018V	12.017V	12.017V	12.017V	1mV	0.008%
50%	12.017V	12.017V	12.017V	12.017V	0mV	0.000%
100%	12.017V	12.016V	12.017V	12.017V	1mV	0.008%
Load regulation	1mV	1mV	0mV	0mV		
	0.008%	0.008%	0.000%	0.000%		

2. Temperature drift　　Conditions Vin=280VDC Io =100%

Tbp	-40℃	+25℃	+100℃	Temperature stability	
Vo	12.045V	12.016V	12.008V	37mV	0.308%

(1) 入力変動、負荷変動、温度変動　Line regulation, Load regulation, Temperature drift

24V

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

Io \ Vin	200VDC	280VDC	380VDC	425VDC	Line regulation	
0%	24.108V	24.108V	24.108V	24.108V	0mV	0.000%
50%	24.107V	24.107V	24.106V	24.106V	1mV	0.004%
100%	24.106V	24.106V	24.106V	24.105V	1mV	0.004%
Load regulation	2mV	2mV	2mV	3mV		
	0.008%	0.008%	0.008%	0.013%		

2. Temperature drift　　Conditions　Vin=280VDC
Io =100%

Tbp	-40℃	+25℃	+100℃	Temperature stability	
Vo	24.169V	24.106V	24.054V	115mV	0.479%

28V

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

Io \ Vin	200VDC	280VDC	380VDC	425VDC	Line regulation	
0%	28.017V	28.017V	28.017V	28.017V	0mV	0.000%
50%	28.016V	28.016V	28.016V	28.016V	0mV	0.000%
100%	28.016V	28.016V	28.016V	28.016V	0mV	0.000%
Load regulation	1mV	1mV	1mV	1mV		
	0.004%	0.004%	0.004%	0.004%		

2. Temperature drift　　Conditions　Vin=280VDC
Io =100%

Tbp	-40℃	+25℃	+100℃	Temperature stability	
Vo	28.058V	28.016V	28.055V	42mV	0.150%

(1) 入力変動、負荷変動、温度変動　Line regulation, Load regulation, Temperature drift

48V

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

Io \ Vin	200VDC	280VDC	380VDC	425VDC	Line regulation	
0%	48.138V	48.138V	48.138V	48.138V	0mV	0.000%
50%	48.136V	48.137V	48.137V	48.136V	1mV	0.002%
100%	48.136V	48.137V	48.136V	48.137V	1mV	0.002%
Load regulation	2mV	1mV	2mV	2mV		
	0.004%	0.002%	0.004%	0.004%		

2. Temperature drift　　Conditions　Vin=280VDC
Io =100%

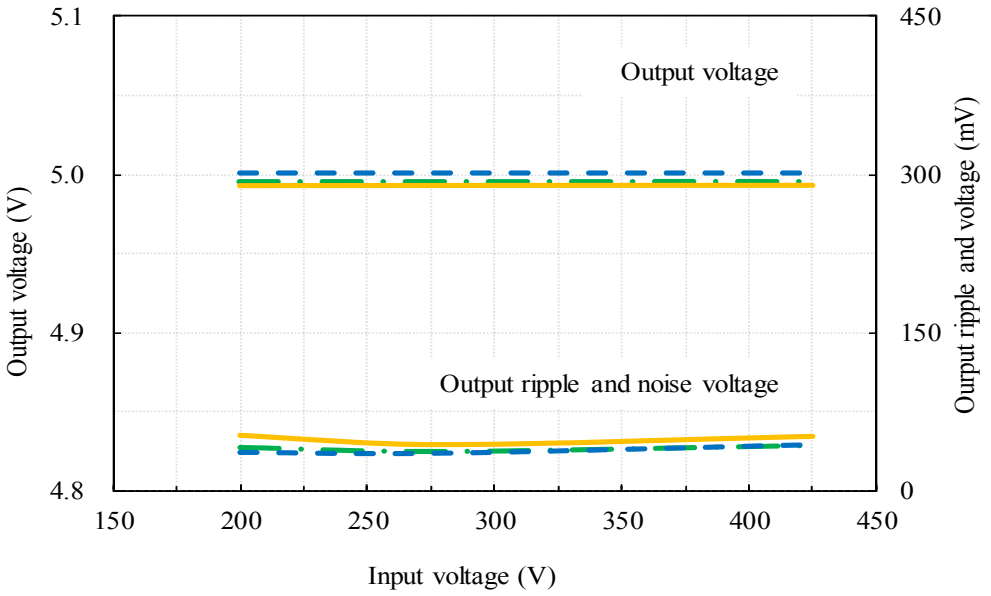
Tbp	-40℃	+25℃	+100℃	Temperature stability	
Vo	48.205V	48.137V	48.118V	87mV	0.181%

(2) 出力電圧、出力リップル・ノイズ電圧 対 入力電圧

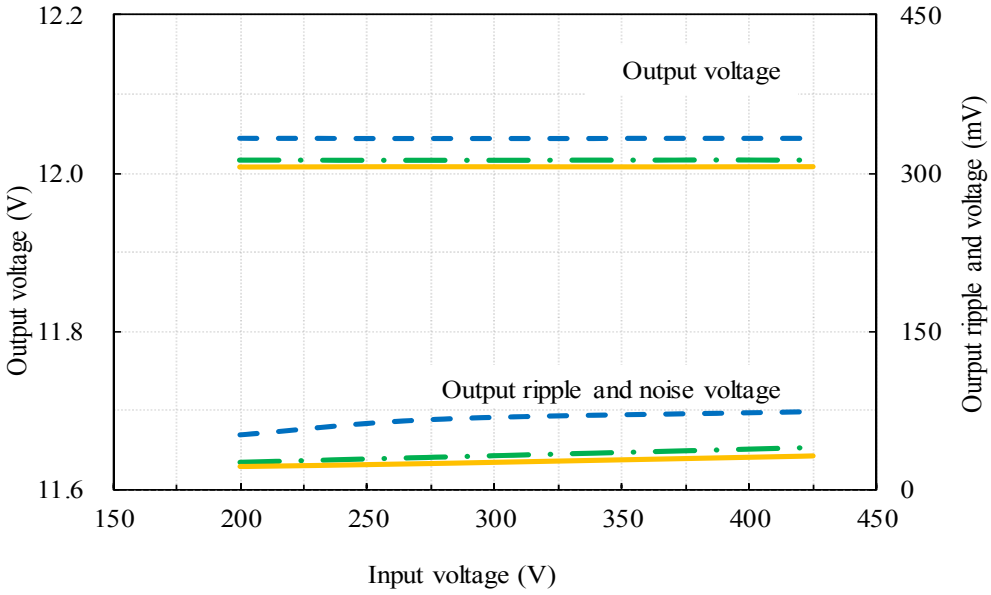
Output voltage and Output ripple and noise voltage vs. Input voltage

Conditions Io : 100 %
Tbp: -40 ℃
25 ℃
100 ℃

5V



12V

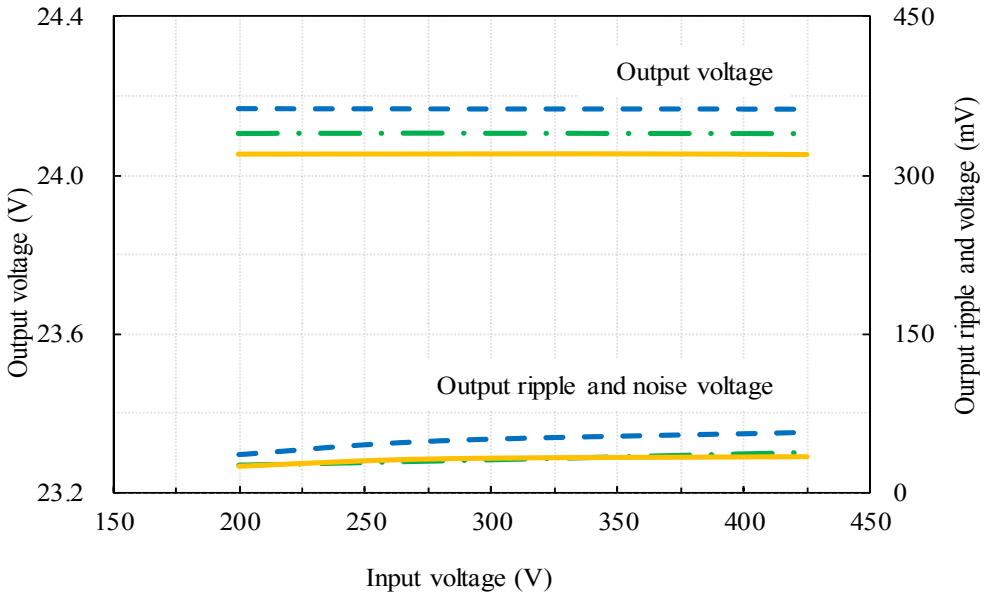


(2) 出力電圧、出力リップル・ノイズ電圧 対 入力電圧

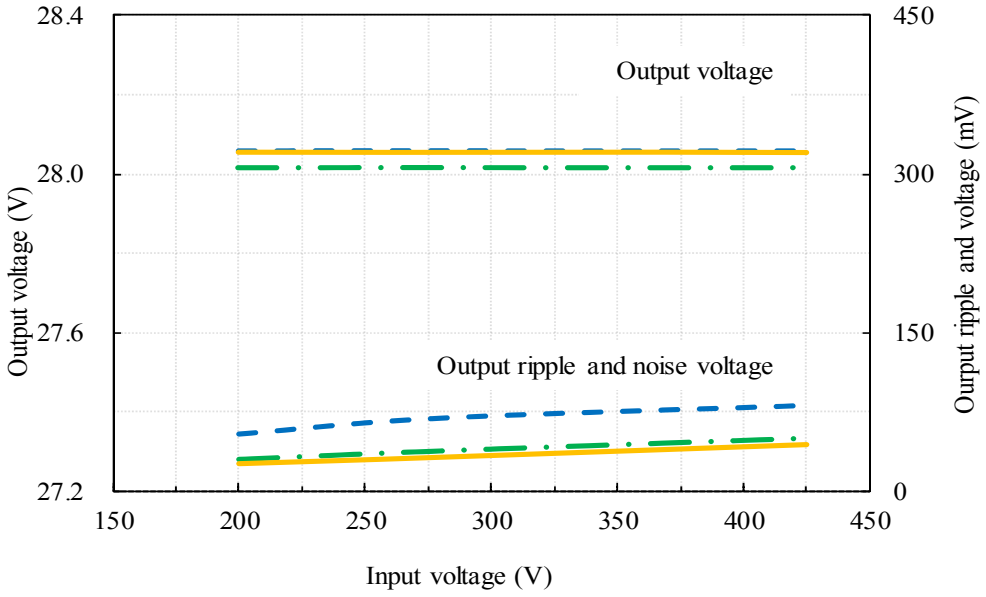
Output voltage and Output ripple and noise voltage vs. Input voltage

Conditions Io : 100 %
Tbp: -40 ºC
25 ºC
100 ºC

24V



28V

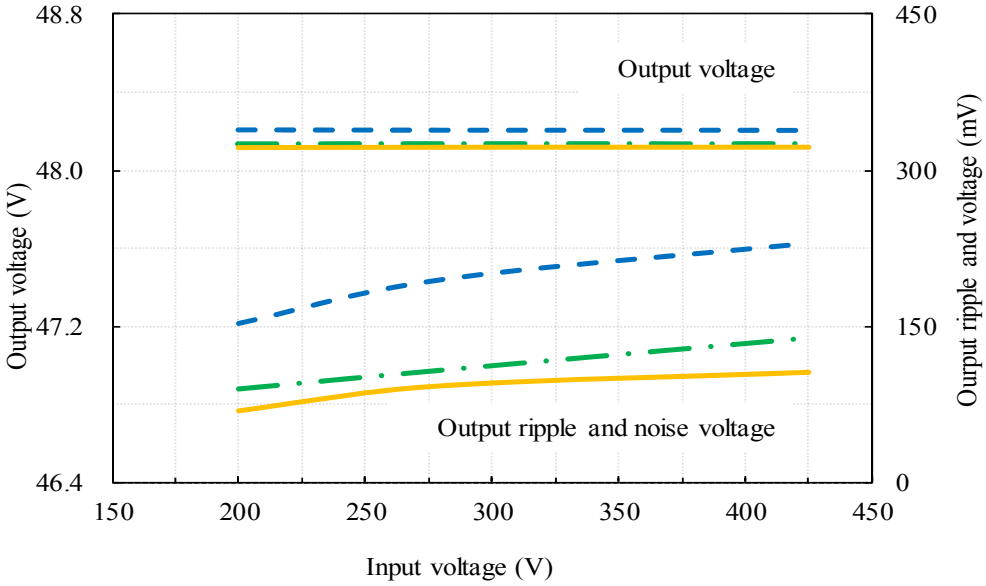


(2) 出力電圧、出力リップル・ノイズ電圧 対 入力電圧

Output voltage and Output ripple and noise voltage vs. Input voltage

Conditions Io : 100 %
Tbp: -40 ºC
25 ºC
100 ºC

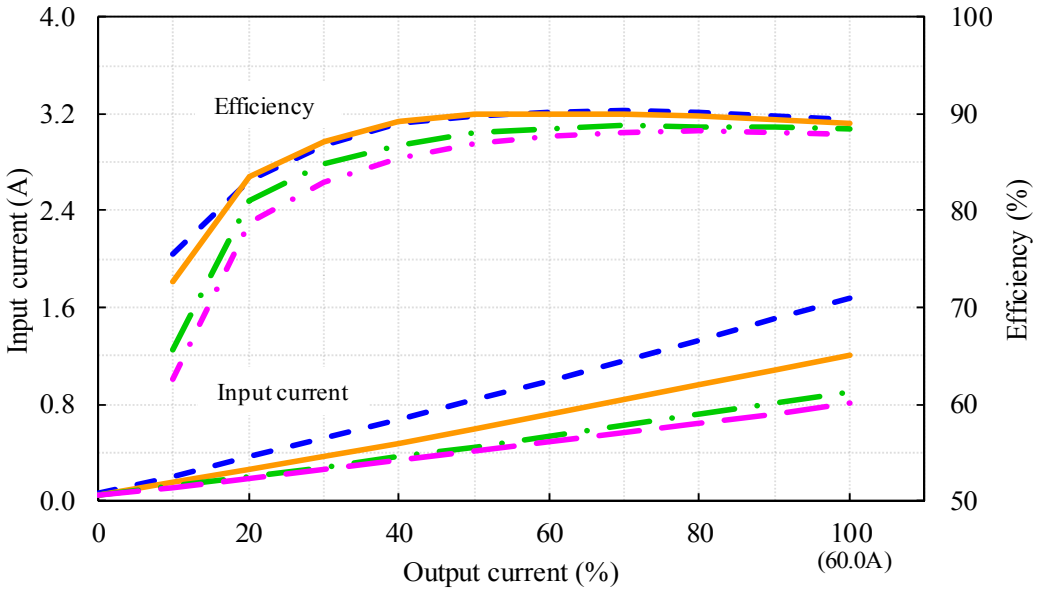
48V



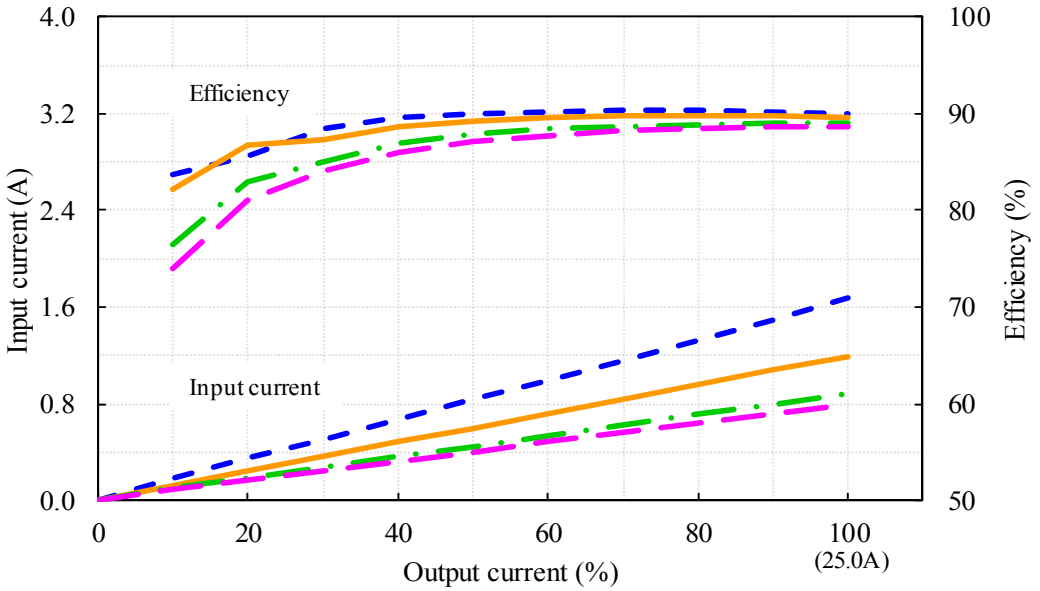
(3) 入力電流、効率 対 出力電流　Input current and Efficiency vs. Output current

Conditions　Vin : 200 VDC
280 VDC
380 VDC
425 VDC
Tbp : 25 ℃

5V



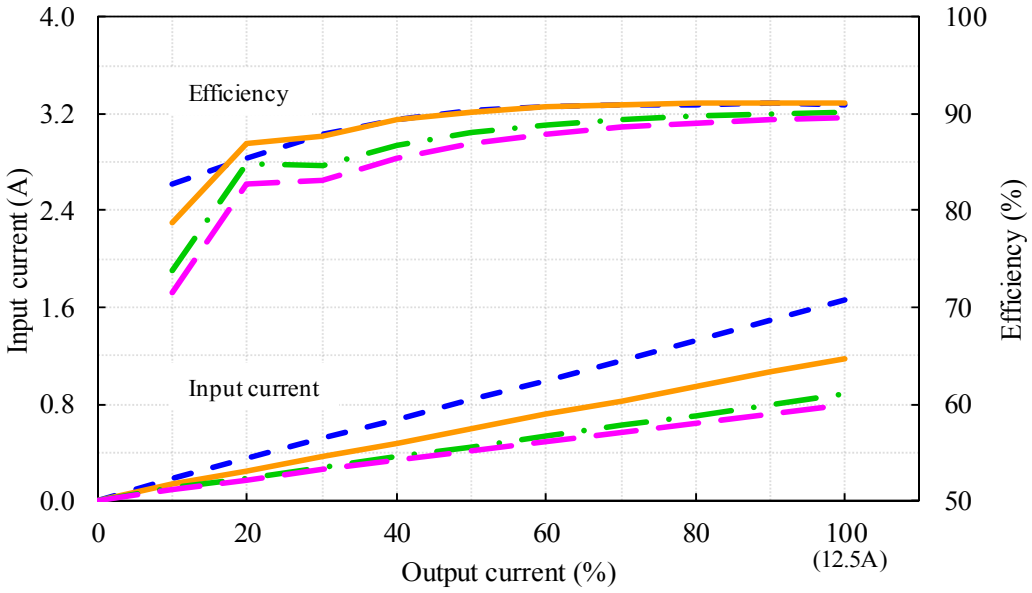
12V



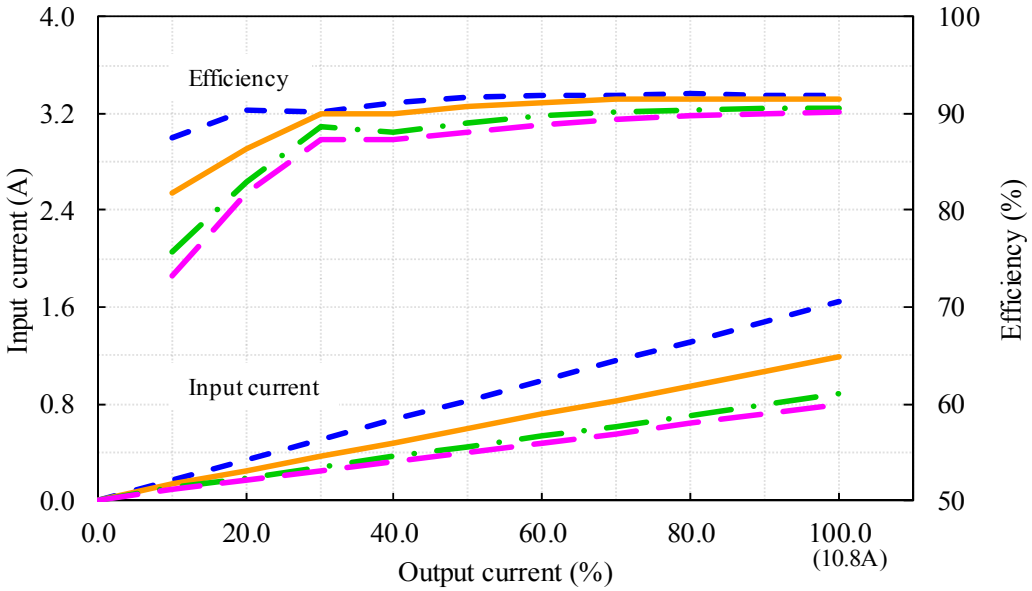
(3) 入力電流、効率 対 出力電流　Input current and Efficiency vs. Output current

Conditions　Vin : 200 VDC
280 VDC
380 VDC
425 VDC
Tbp : 25 ℃

24V



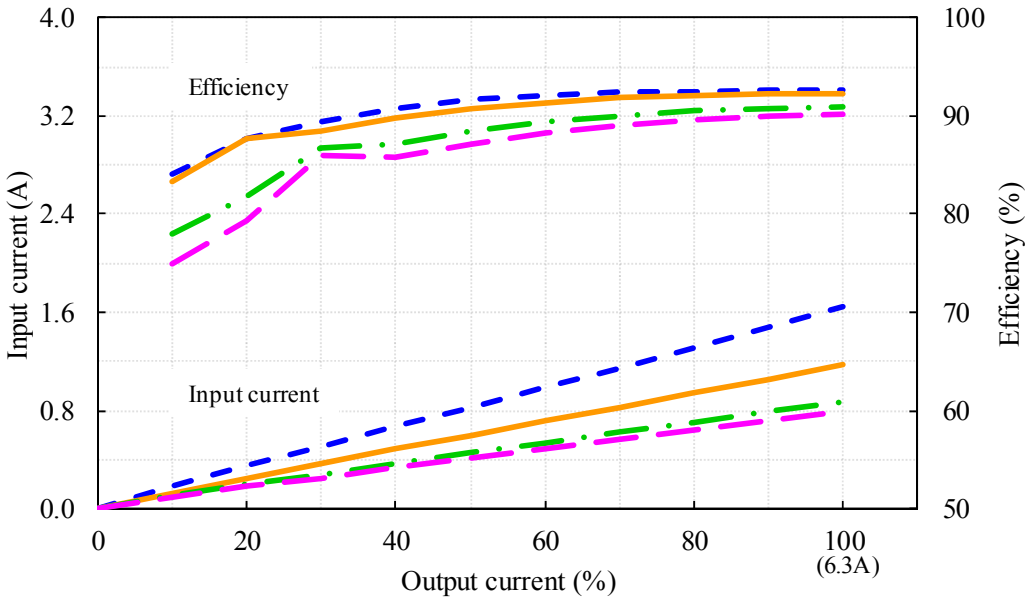
28V



(3) 入力電流、効率 対 出力電流　Input current and Efficiency vs. Output current

Conditions　Vin : 200 VDC
280 VDC
380 VDC
425 VDC
Tbp : 25 ℃

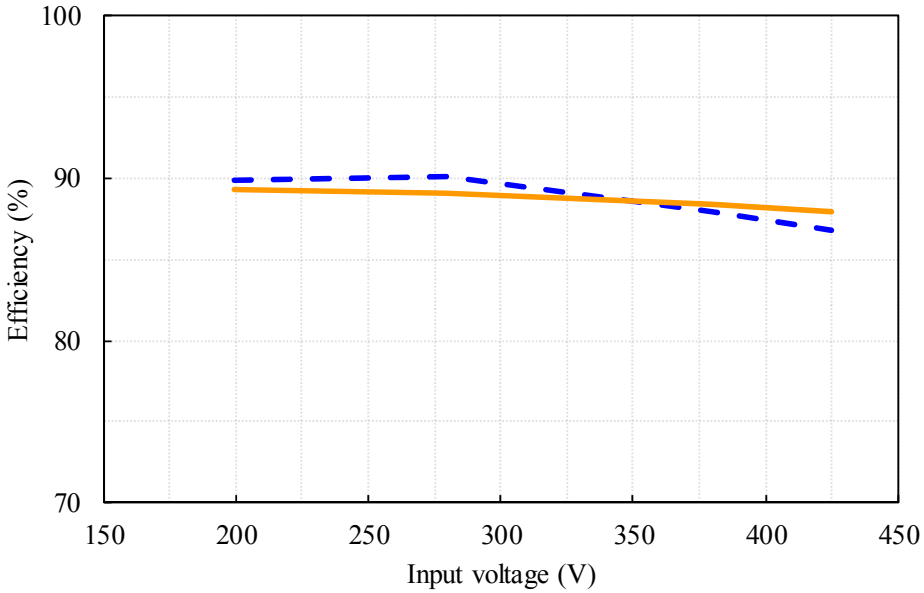
48V



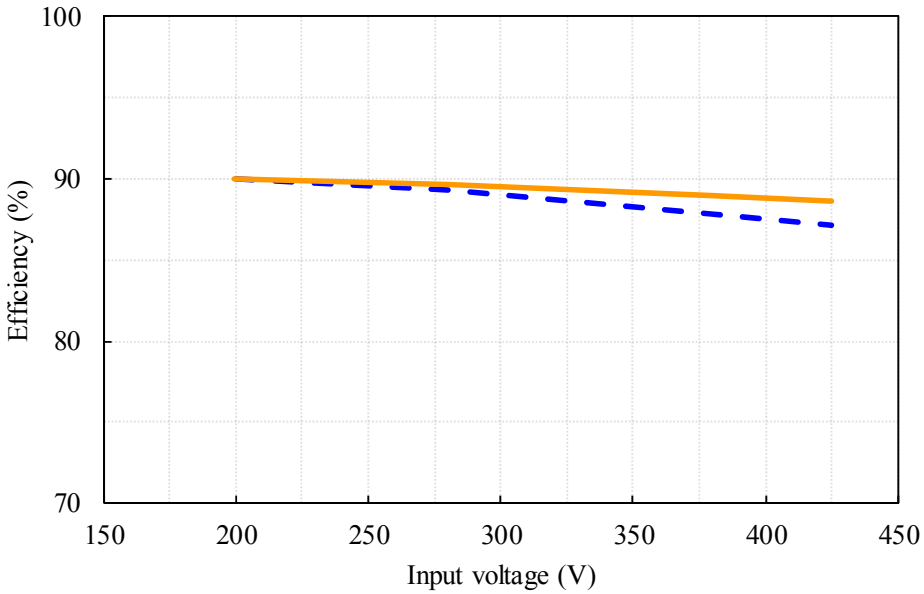
(4) 効率 対 入力電圧　Efficiency vs. Input voltage

Conditions　Io : 50 % ---------
100 % ——
Tbp: 25 ℃

5V



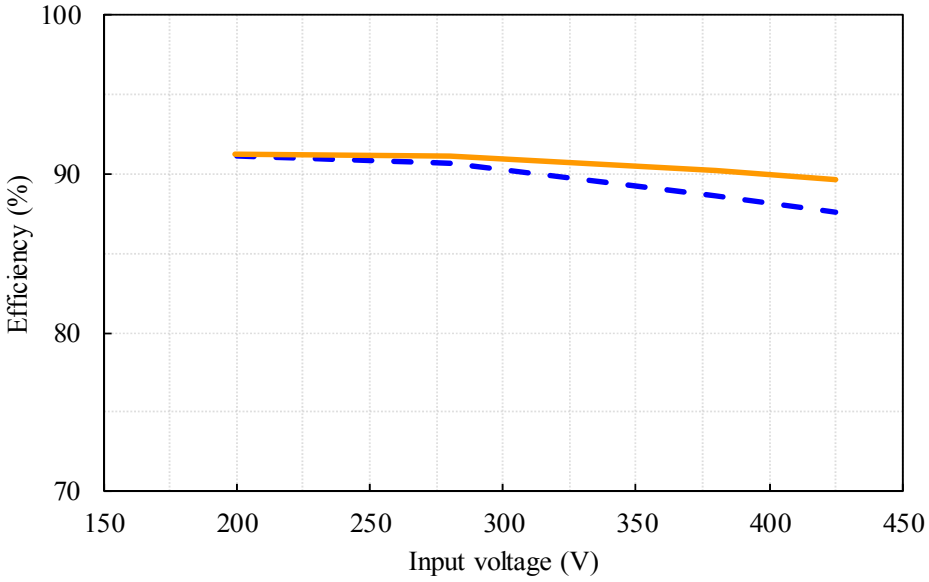
12V



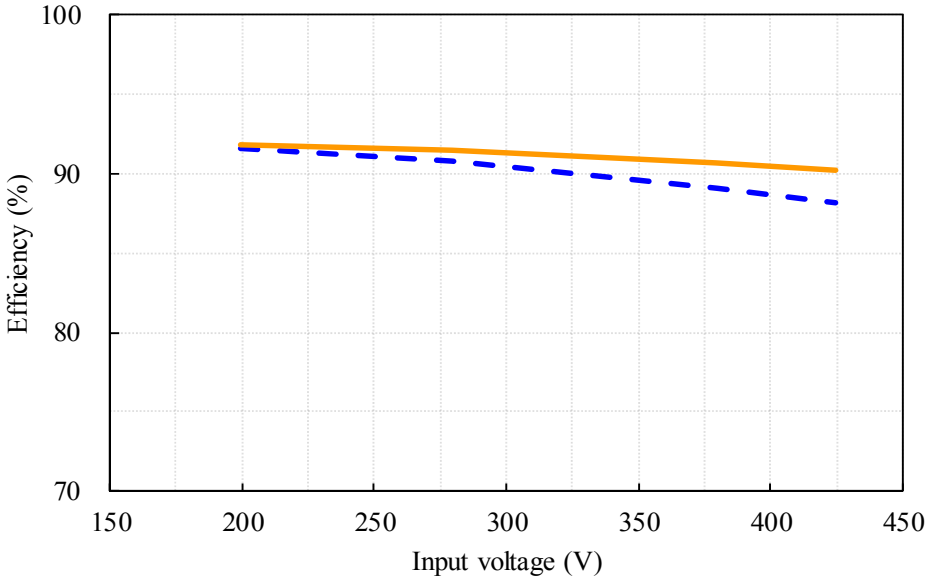
(4) 効率 対 入力電圧　Efficiency vs. Input voltage

Conditions　Io : 50 %
100 %
Tbp: 25 ℃

24V



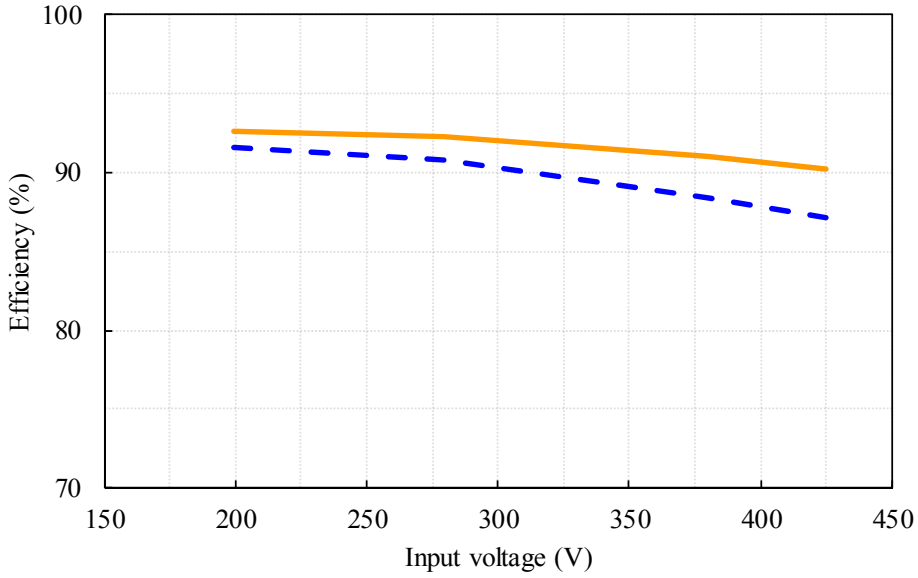
28V



(4) 効率 対 入力電圧　Efficiency vs. Input voltage

Conditions　Io : 50 %
100 %
Tbp: 25 ℃

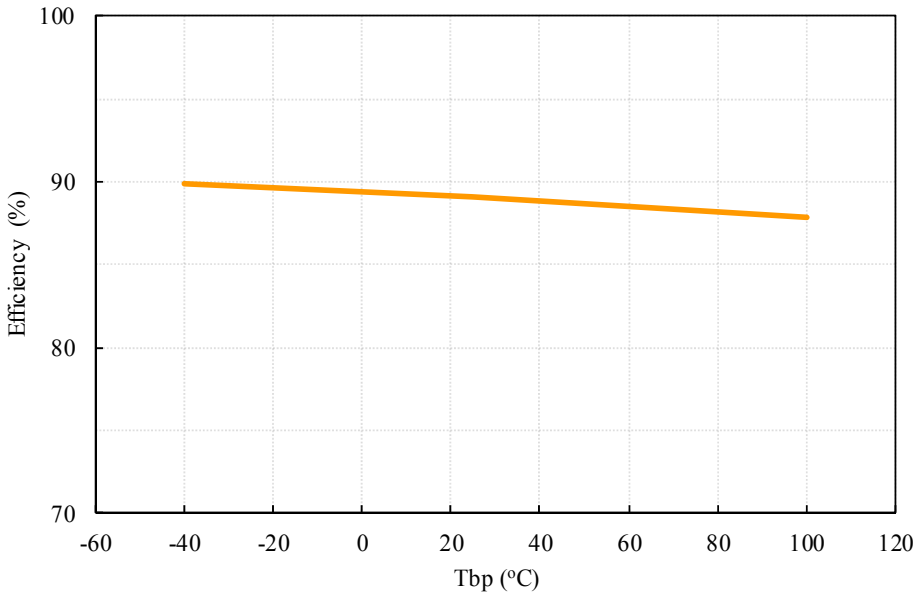
48V



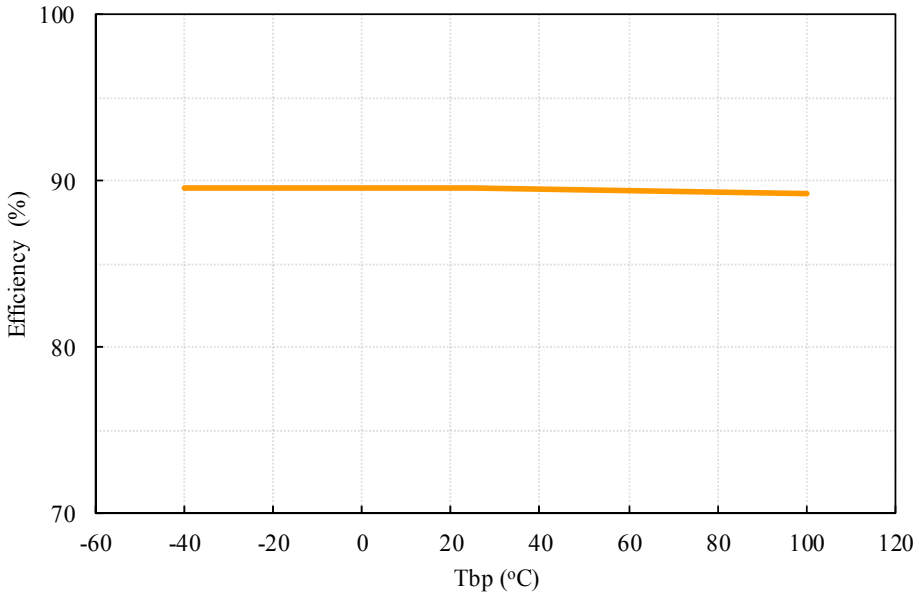
(5) 効率 対 ベースプレート温度　Efficiency vs. Base-plate temperature

Conditions　Vin : 280 VDC
Io　: 100 %

5V



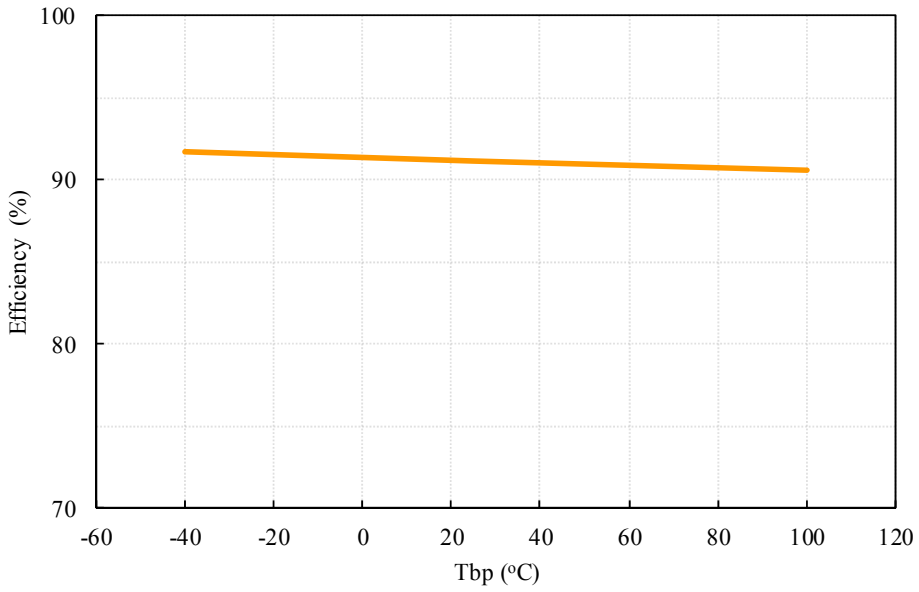
12V



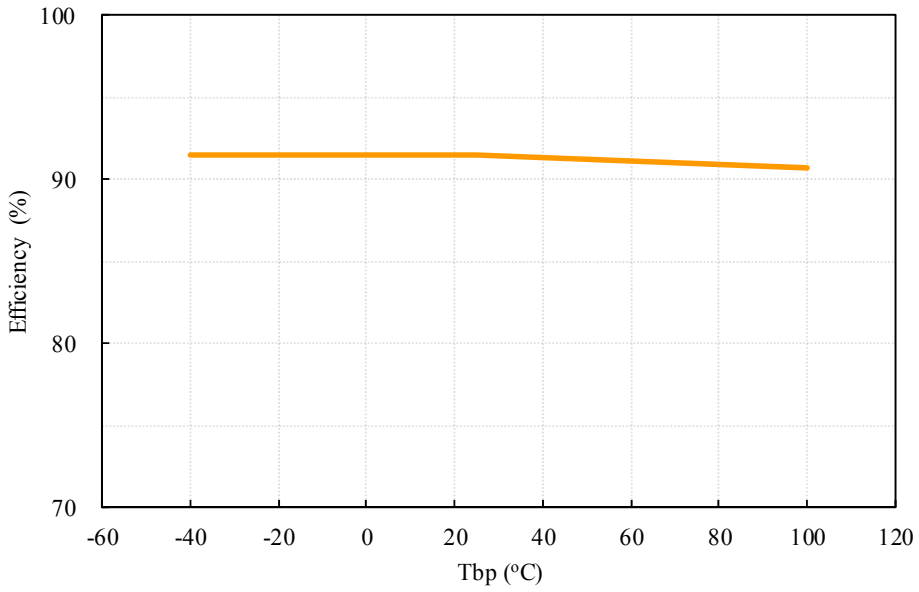
(5) 効率 対 ベースプレート温度　Efficiency vs. Base-plate temperature

Conditions　Vin : 280 VDC
Io　: 100 %

24V



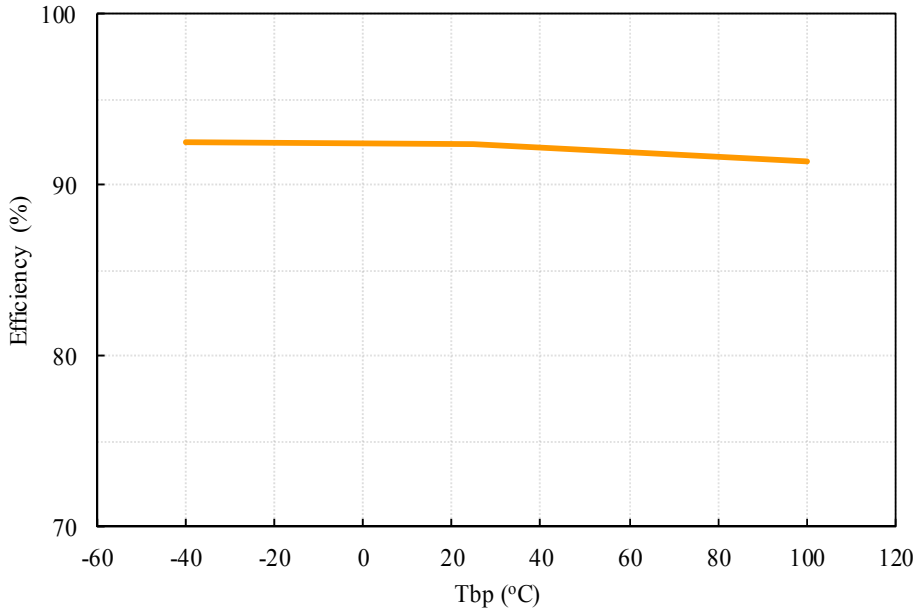
28V



(5) 効率 対 ベースプレート温度　Efficiency vs. Base-plate temperature

Conditions　Vin : 280 VDC
Io　: 100 %

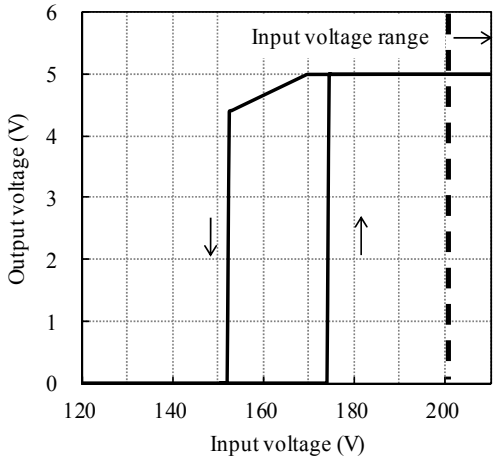
48V



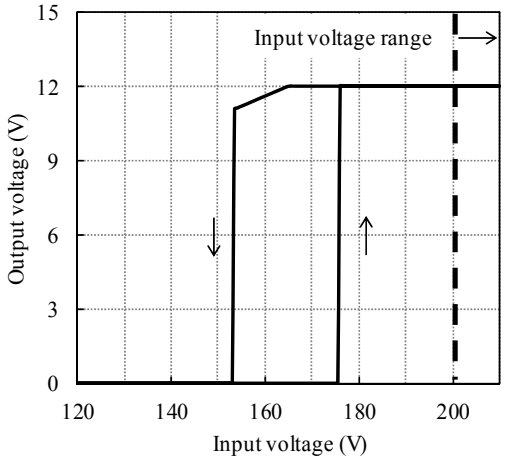
(6) 起動、停止電圧特性　Start and Stop voltage characteristics

出力電圧 対 入力電圧
Output voltage vs. Input voltage
Conditions　Io：100 %
Tbp：　25 ºC

5V

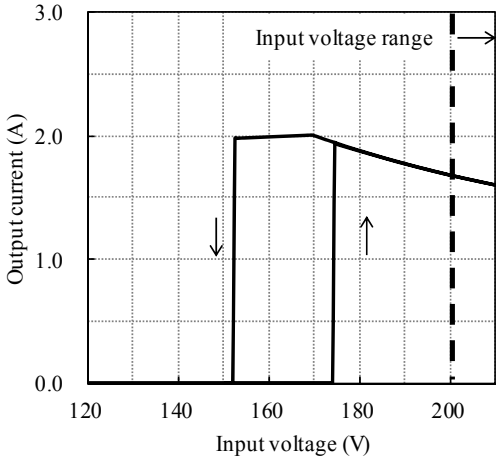


12V

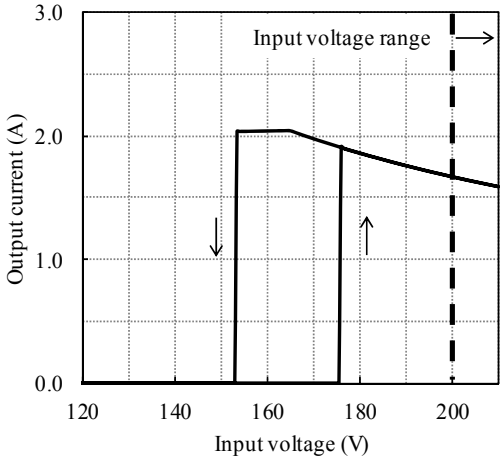


入力電流 対 入力電圧
Input current vs. Input voltage
Conditions　Io：100 %
Tbp：　25 ºC

5V



12V

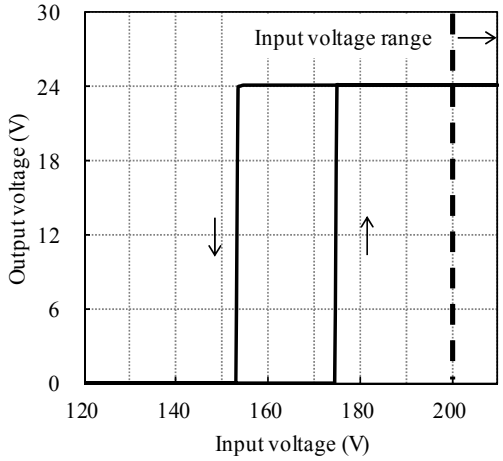


(6) 起動、停止電圧特性　Start and Stop voltage characteristics

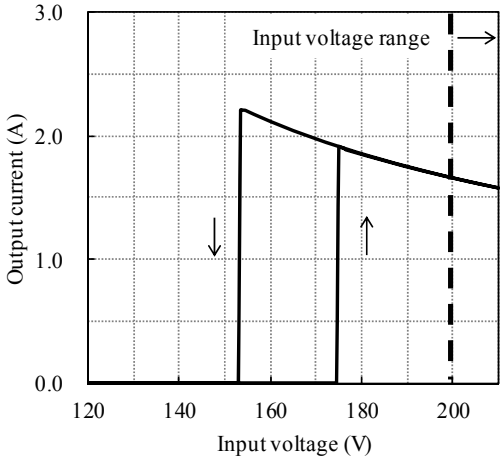
出力電圧 対 入力電圧
Output voltage vs. Input voltage
Conditions　Io：100 %
Tbp：　25 ºC

入力電流 対 入力電圧
Input current vs. Input voltage
Conditions　Io：100 %
Tbp：　25 ºC

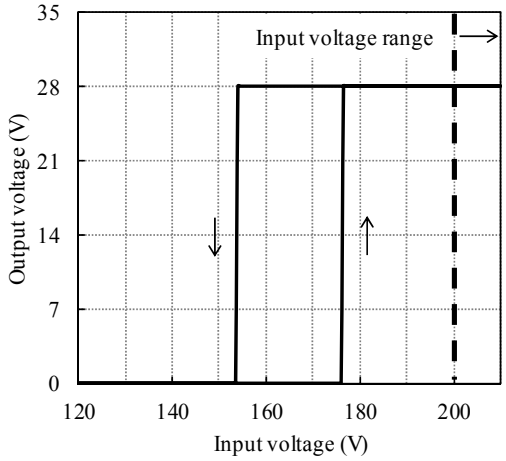
24V



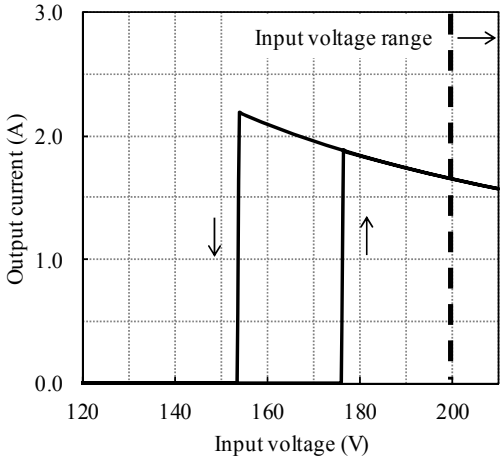
24V



28V



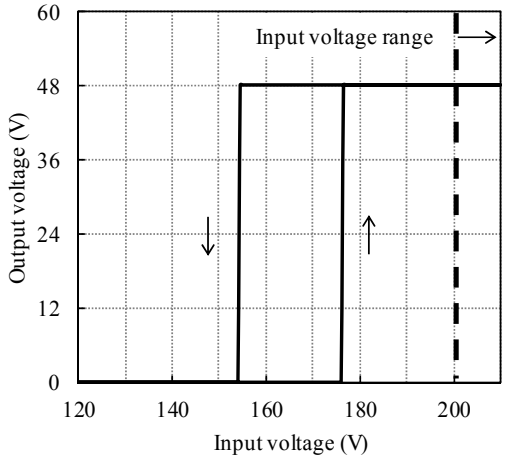
28V



(6) 起動、停止電圧特性　Start and Stop voltage characteristics

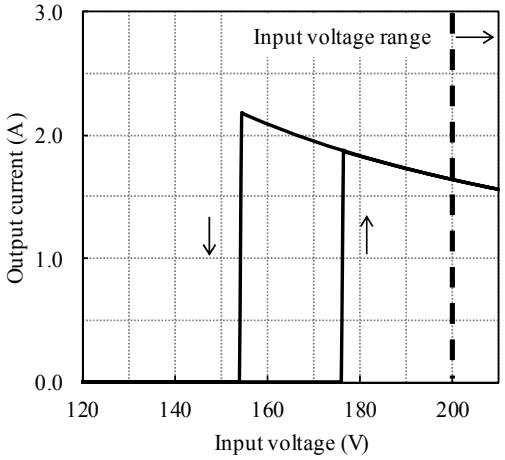
出力電圧 対 入力電圧
Output voltage vs. Input voltage
Conditions　Io：100 %
Tbp：　25 ºC

48V



入力電流 対 入力電圧
Input current vs. Input voltage
Conditions　Io：100 %
Tbp：　25 ºC

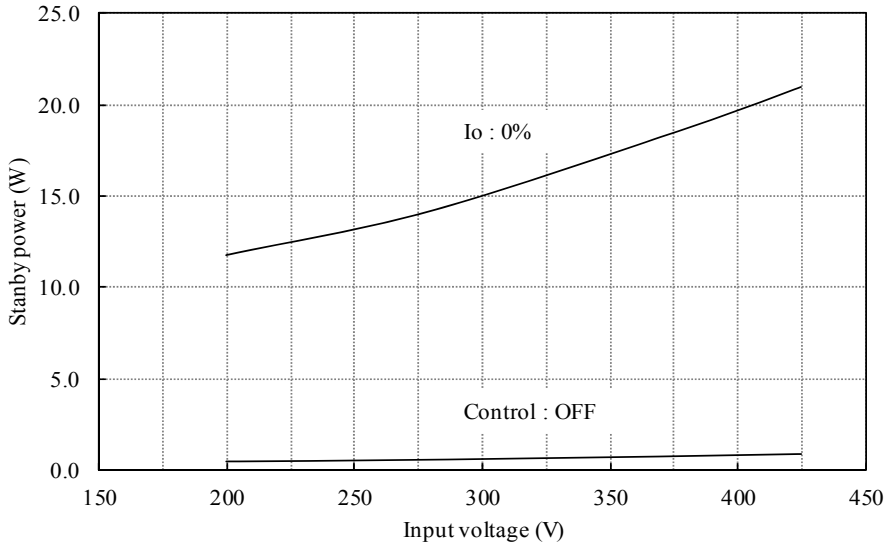
48V



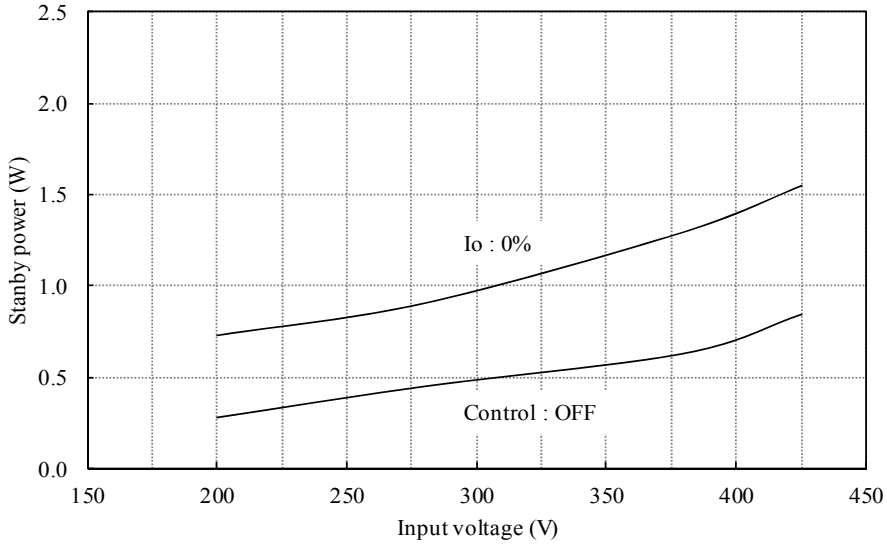
2-2. 待機電力特性　Standby power characteristics

Condition　Tbp: 25 ºC

5V



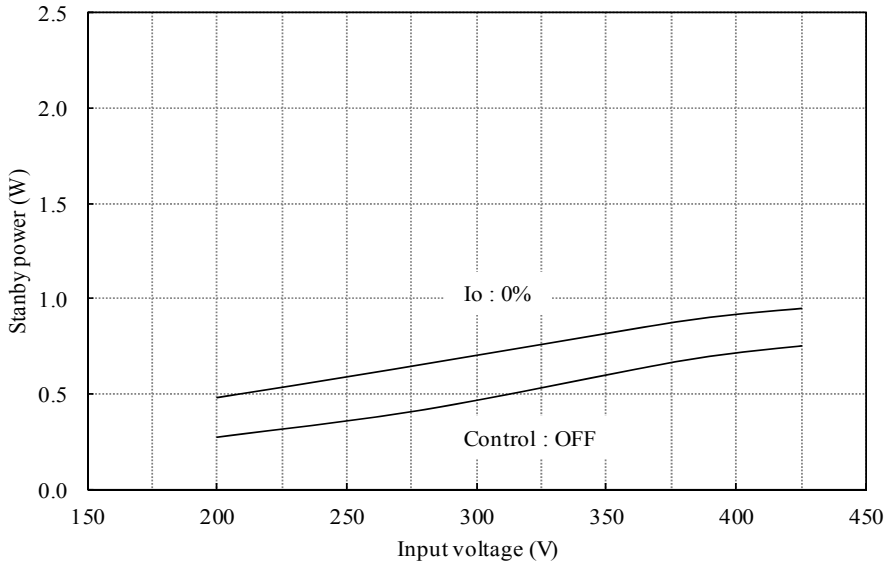
12V



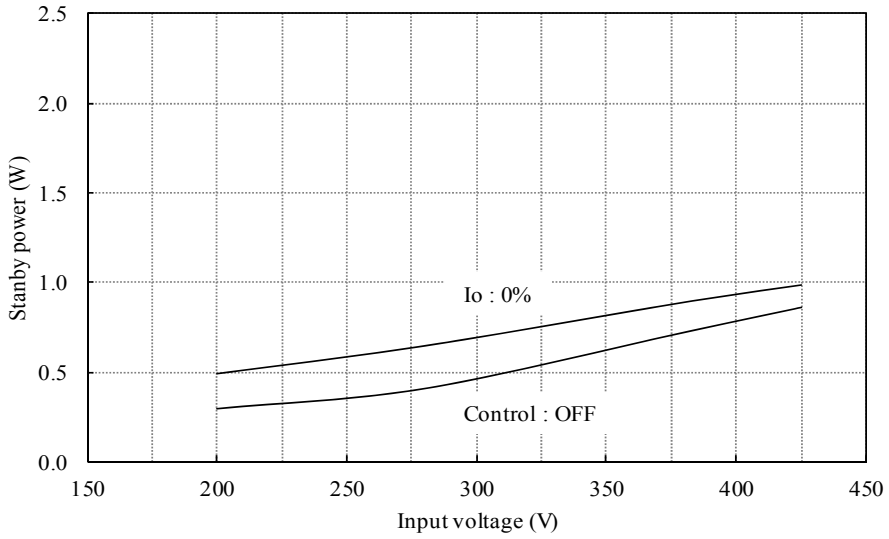
2-2. 待機電力特性　Standby power characteristics

Condition　Tbp: 25 ºC

24V



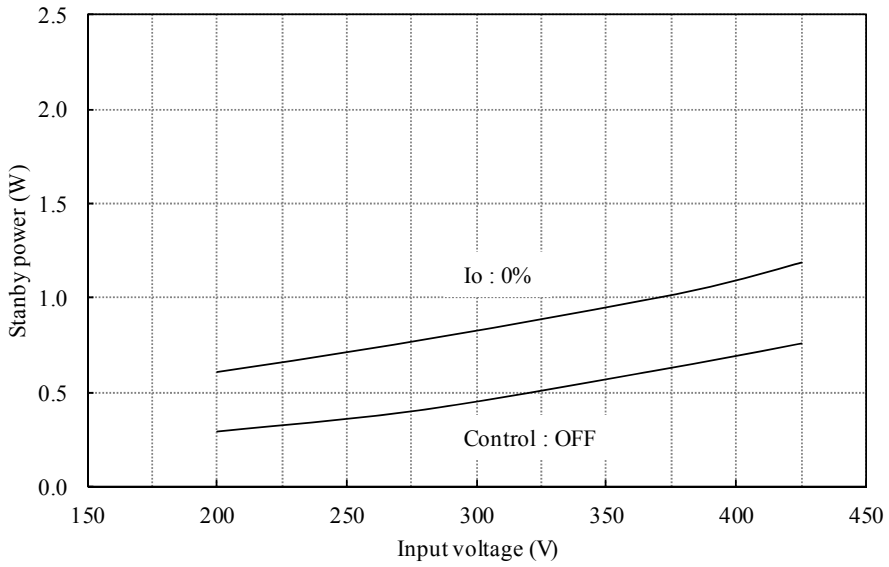
28V



2-2. 待機電力特性　Standby power characteristics

Condition　Tbp: 25 ºC

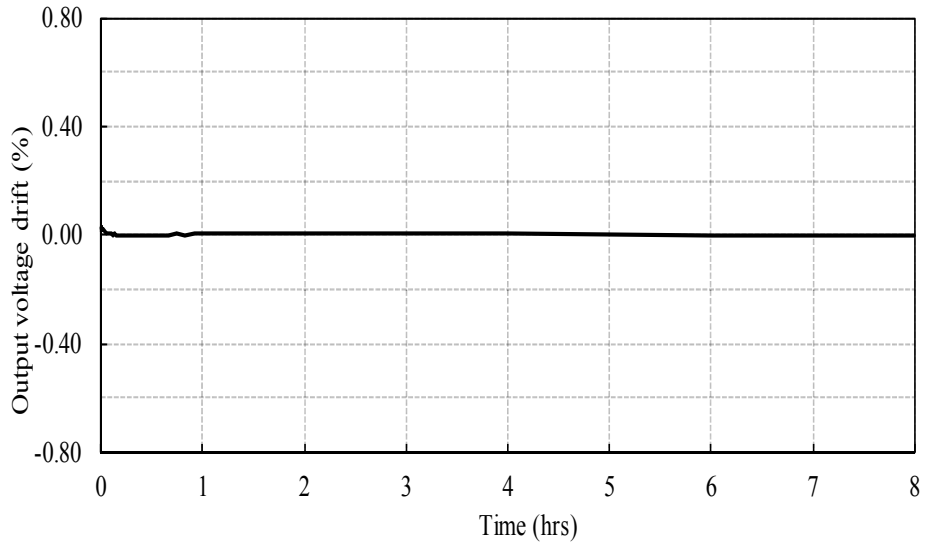
48V



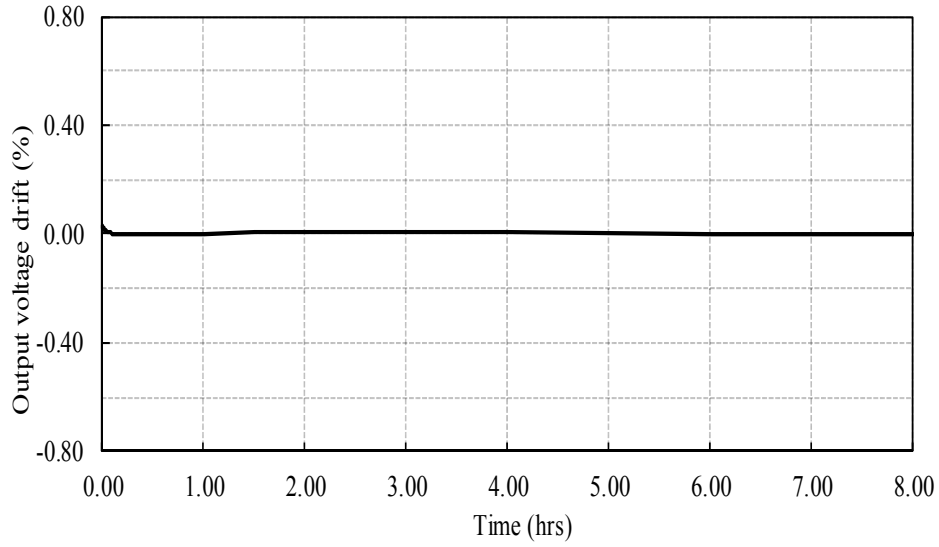
2-3. 通電ドリフト特性　　Warm up voltage drift characteristics

Conditions　Vin : 280 VDC
Io : 100 %
Ta : 25 ºC

5V



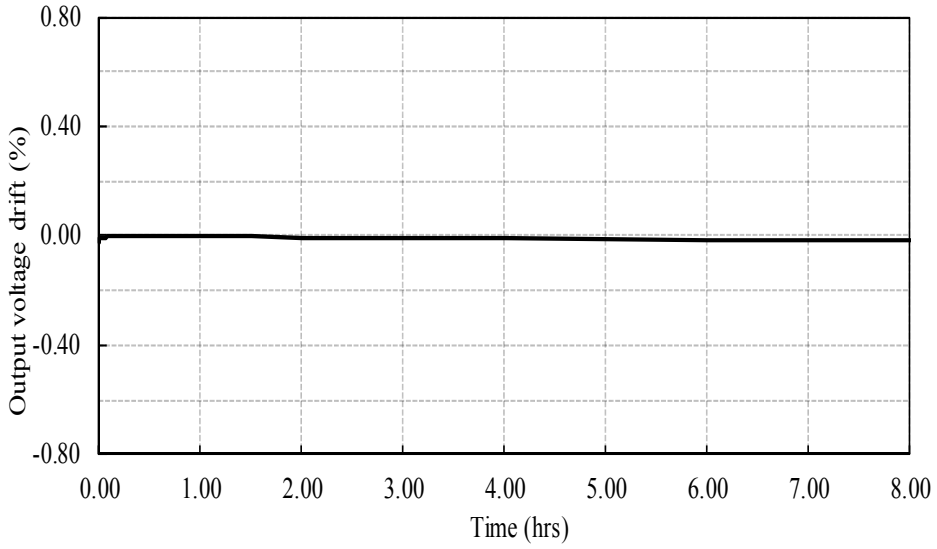
12V



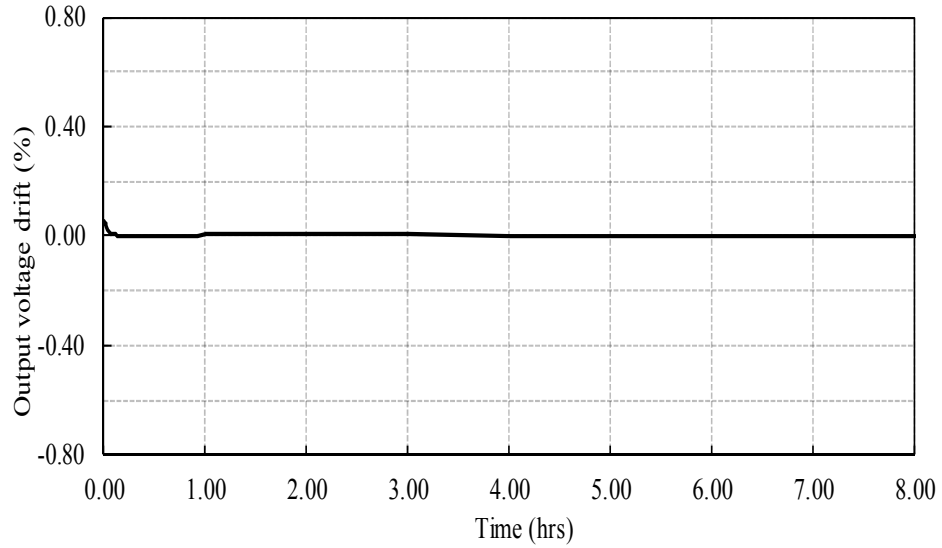
2-3. 通電ドリフト特性　　Warm up voltage drift characteristics

Conditions　Vin : 280 VDC
Io : 100 %
Ta : 25 ºC

24V



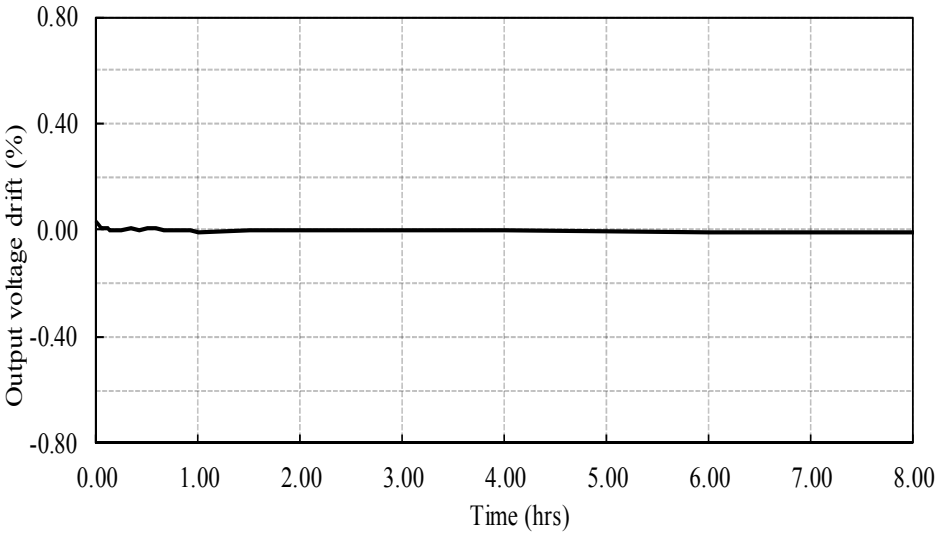
28V



2-3. 通電ドリフト特性　　Warm up voltage drift characteristics

Conditions　Vin : 280 VDC
Io : 100 %
Ta : 25 ºC

48V

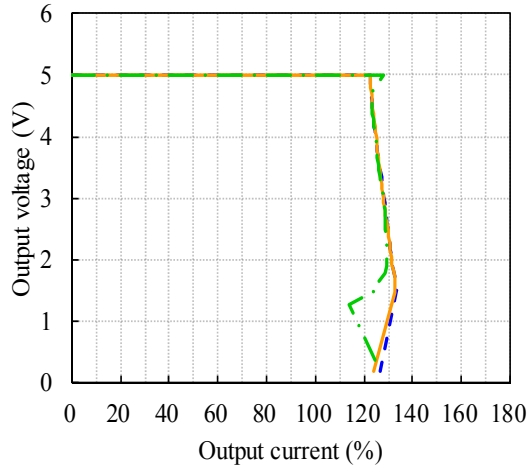


2-4. 過電流保護特性　Over current protection (OCP) characteristics

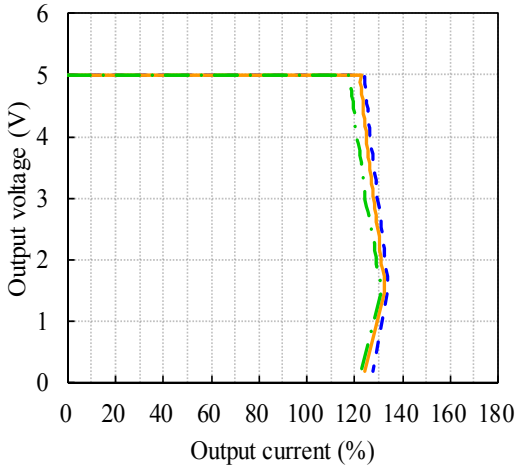
入力電圧依存性
Input voltage dependence
Conditions　Vin : 200 VDC
280 VDC
425 VDC
Tbp : 25 ℃

ベースプレート温度依存性
Base-plate temperature dependence
Conditions　Vin : 280 VDC
Tbp : -40 ℃
25 ℃
100 ℃

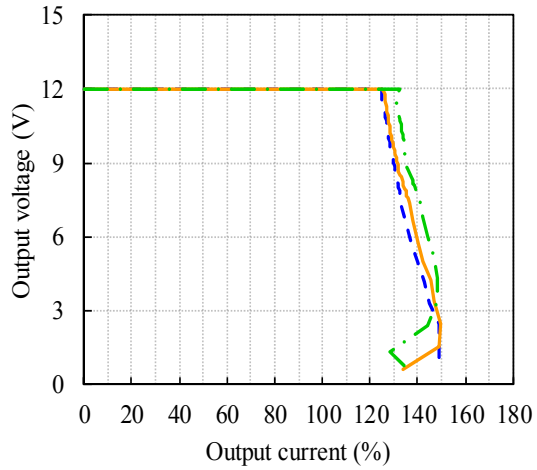
5V



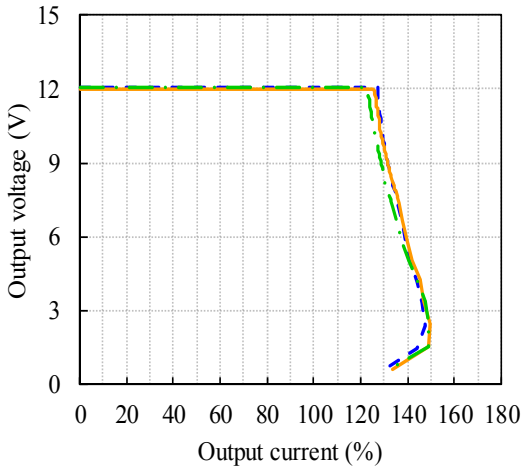
5V



12V



12V

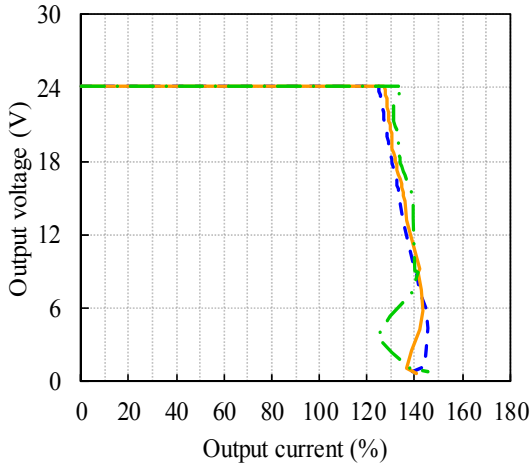


2-4. 過電流保護特性　Over current protection (OCP) characteristics

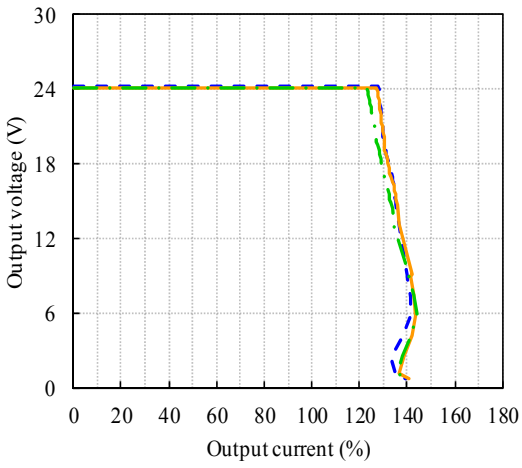
入力電圧依存性
Input voltage dependence
Conditions　Vin : 200 VDC
280 VDC
425 VDC
Tbp : 25 ℃

ベースプレート温度依存性
Base-plate temperature dependence
Conditions　Vin : 280 VDC
Tbp : -40 ℃
25 ℃
100 ℃

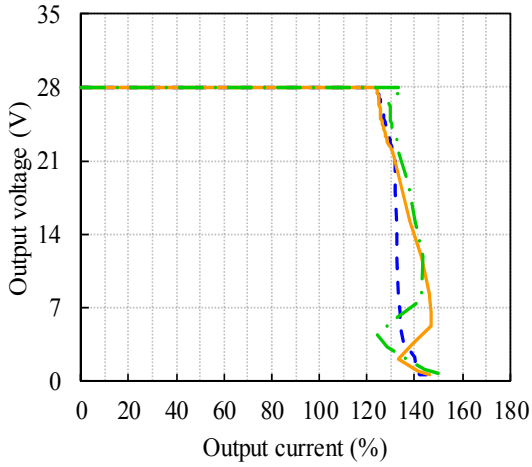
24V



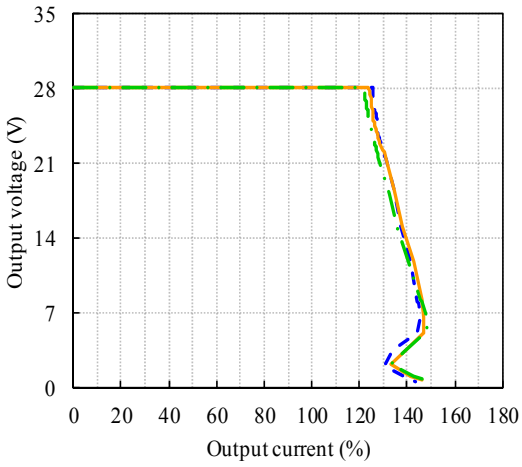
24V



28V



28V

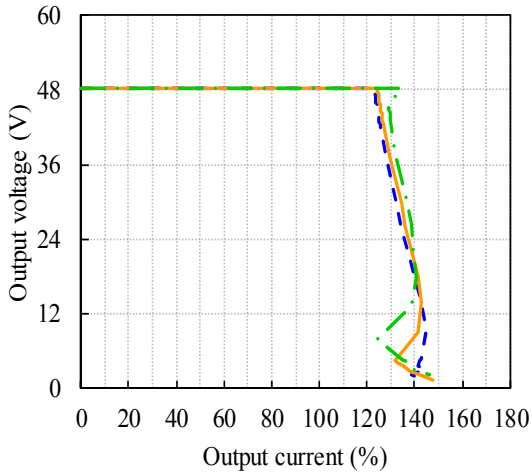


2-4. 過電流保護特性　Over current protection (OCP) characteristics

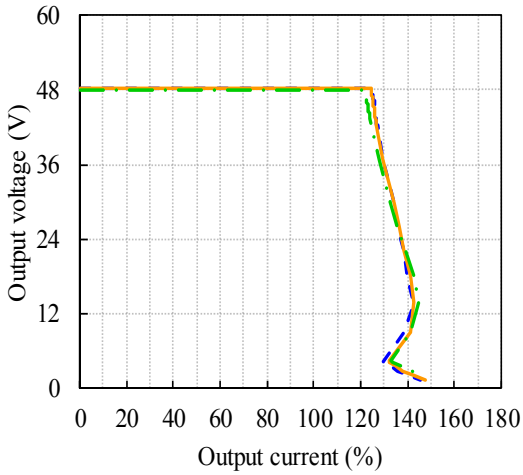
入力電圧依存性
Input voltage dependence
Conditions　Vin : 200 VDC
280 VDC
425 VDC
Tbp : 25 ℃

ベースプレート温度依存性
Base-plate temperature dependence
Conditions　Vin : 280 VDC
Tbp : -40 ℃
25 ℃
100 ℃

48V



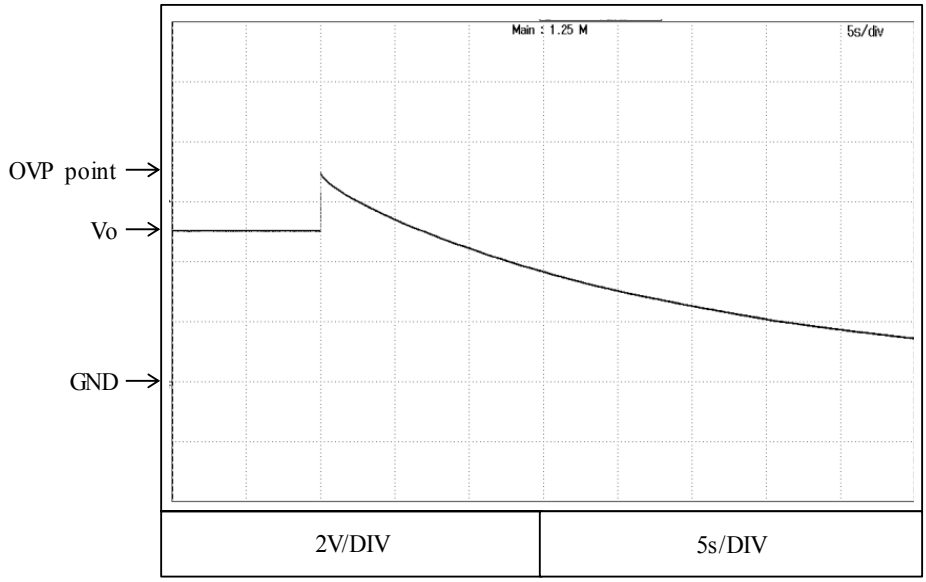
48V



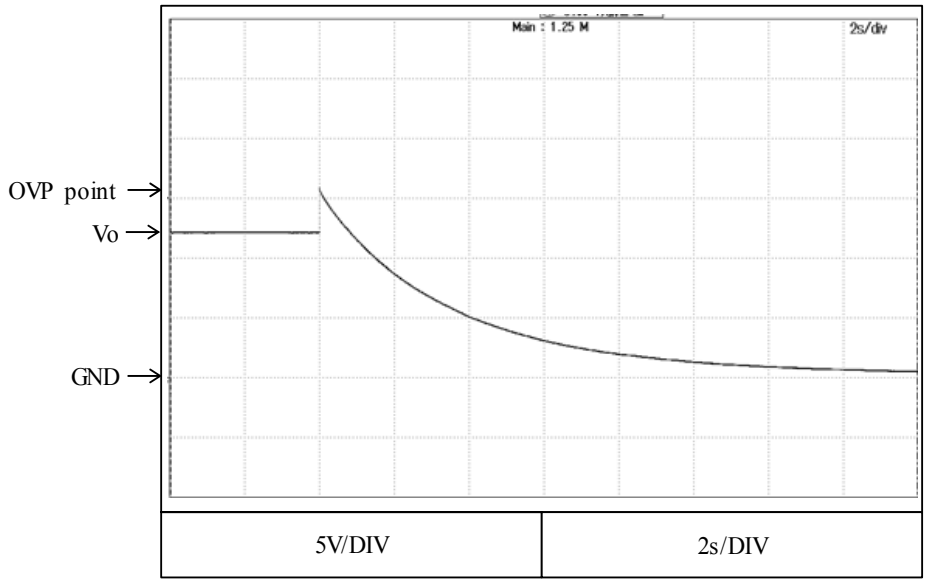
2-5. 過電圧保護特性　Over voltage protection (OVP) characteristics

Conditions　Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

5V



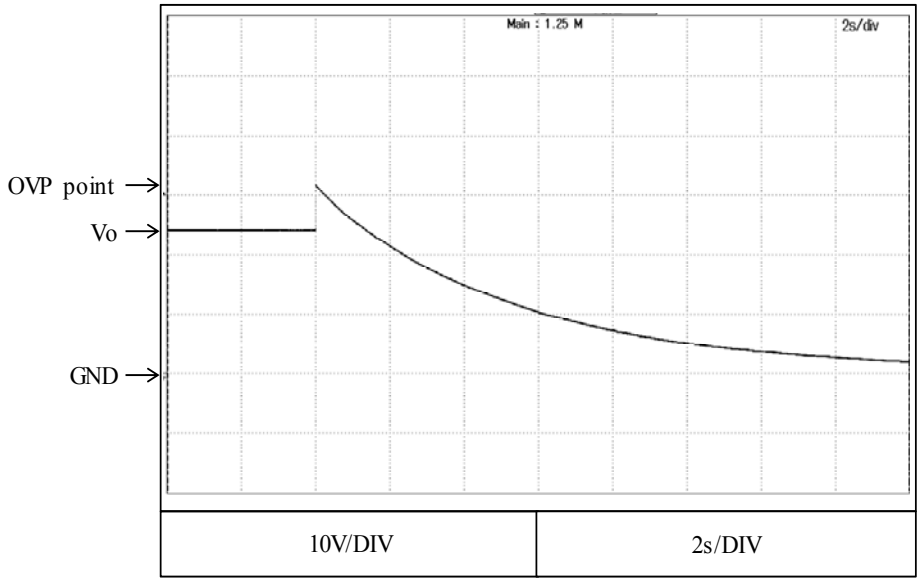
12V



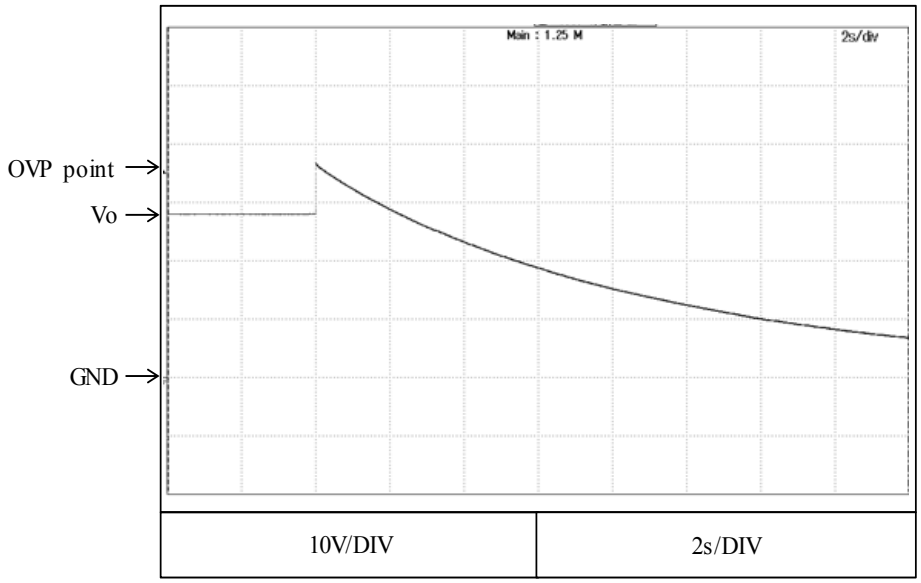
2-5. 過電圧保護特性　Over voltage protection (OVP) characteristics

Conditions　Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

24V



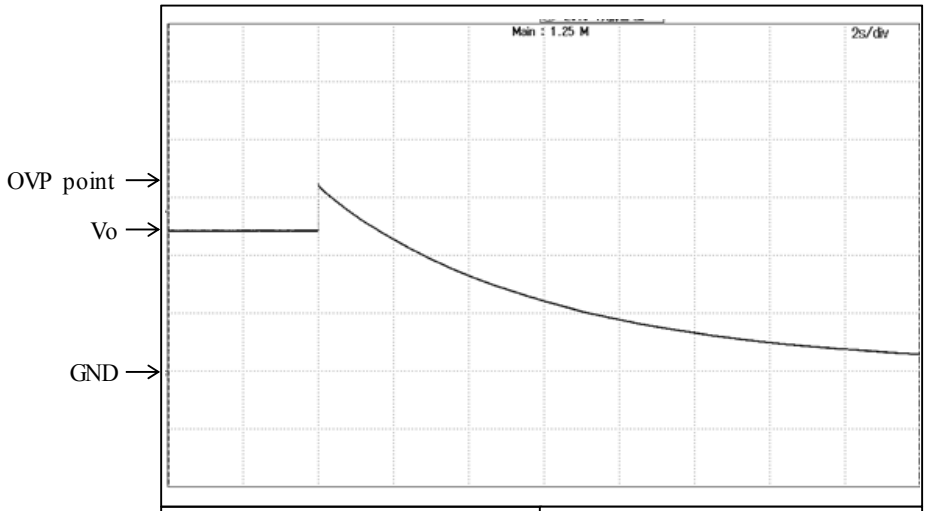
28V



2-5. 過電圧保護特性　Over voltage protection (OVP) characteristics

Conditions　Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

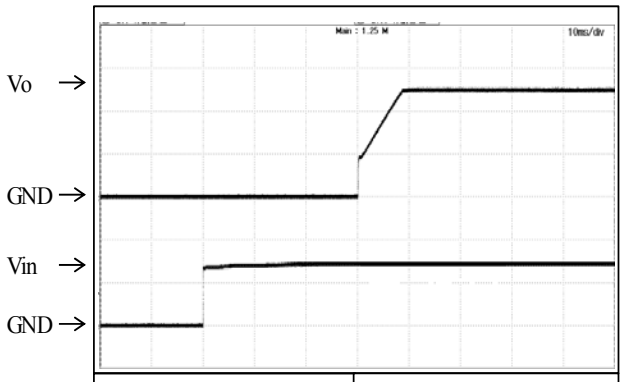
48V



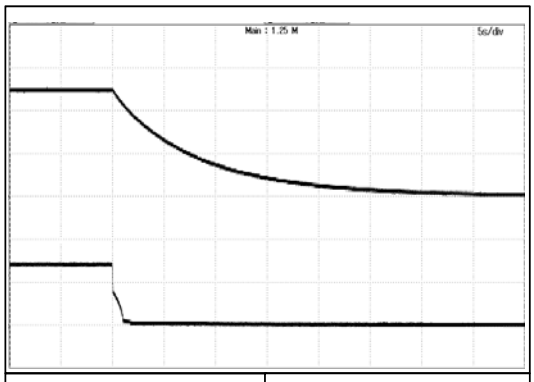
2-6. 出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

5V

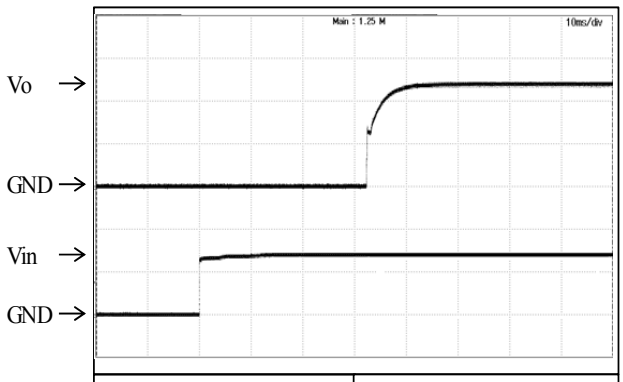


Vin:200V/DIV	Vo:2V/DIV
10ms/DIV	



Vin:200V/DIV	Vo:2V/DIV
5s/DIV	

12V



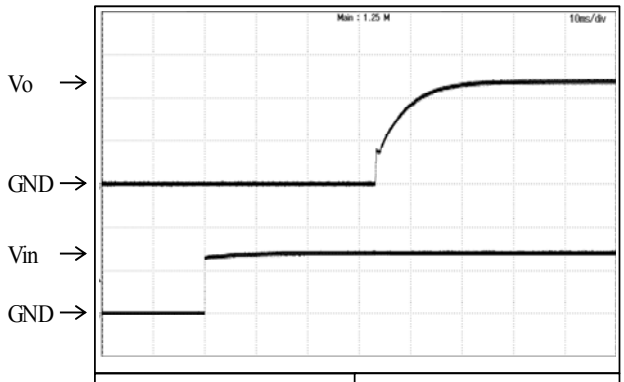
Vin:200V/DIV	Vo:5V/DIV
10ms/DIV	

Vin:200V/DIV	Vo:5V/DIV
5s/DIV	

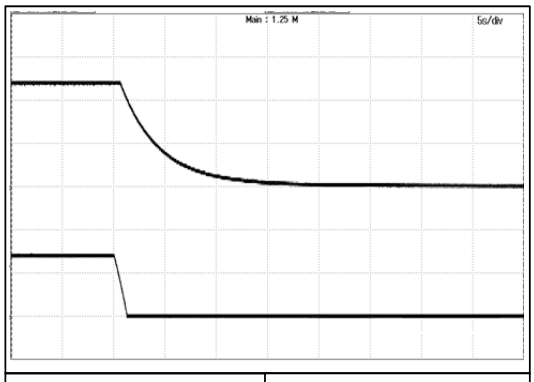
2-6. 出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

24V

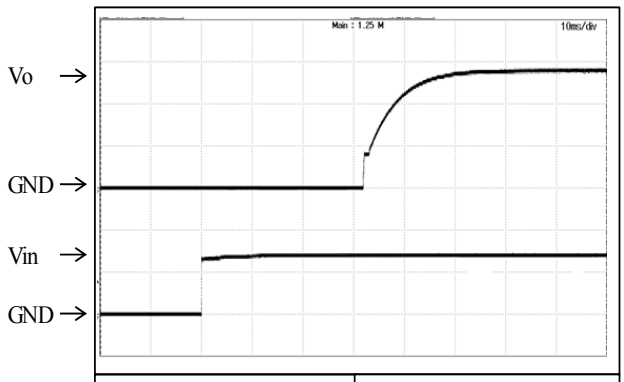


Vin:200V/DIV	Vo:10V/DIV
10ms/DIV	

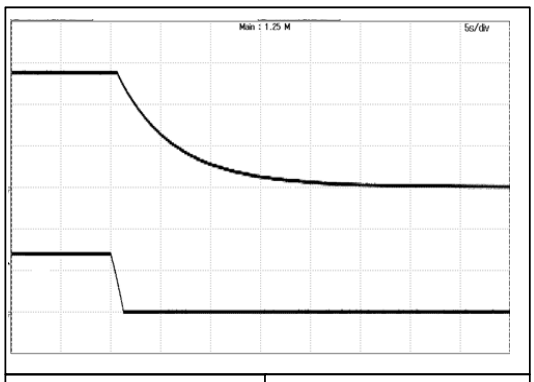


Vin:200V/DIV	Vo:10V/DIV
5s/DIV	

28V



Vin:200V/DIV	Vo:10V/DIV
10ms/DIV	

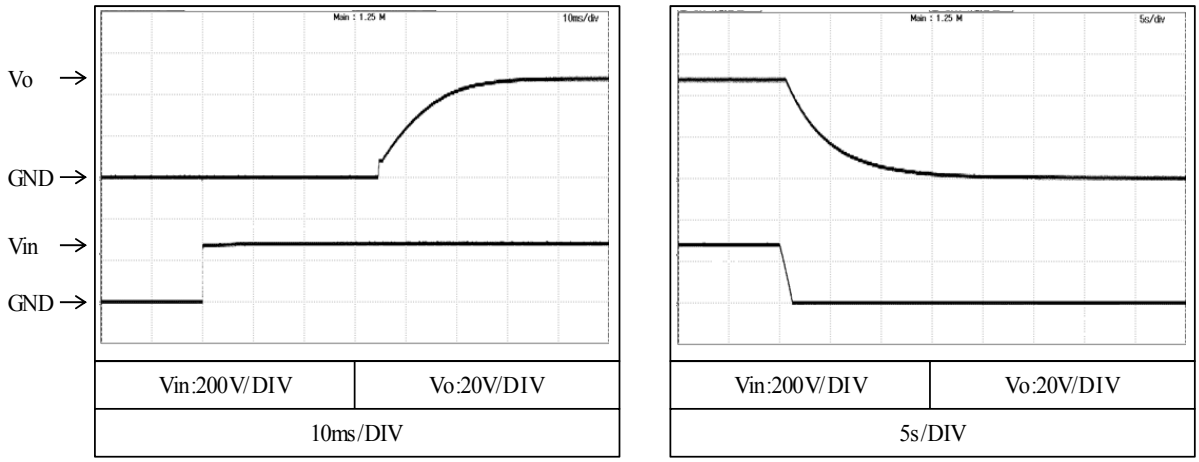


Vin:200V/DIV	Vo:10V/DIV
5s/DIV	

2-6. 出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

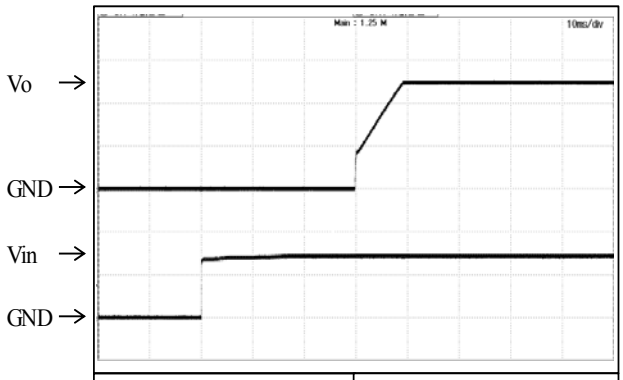
48V



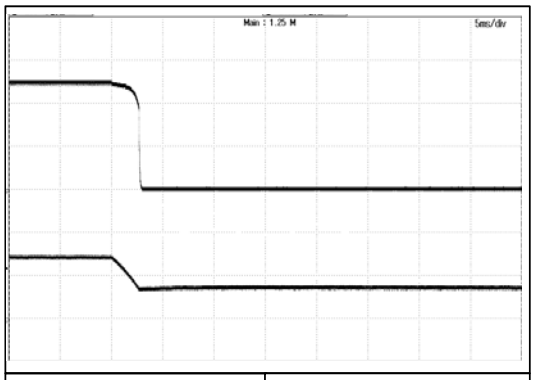
2-6. 出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 280 VDC
Io　: 100 %
Tbp : 25 ºC

5V

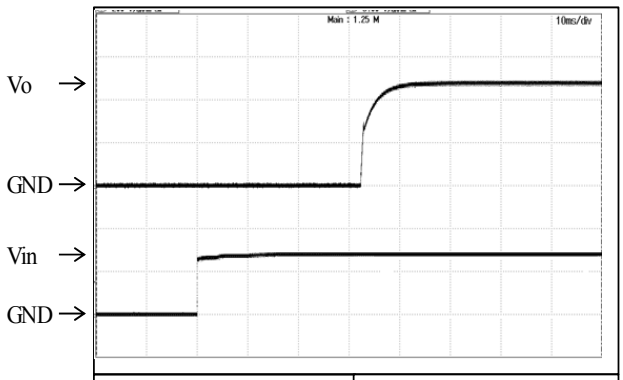


Vin:200V/DIV	Vo:2V/DIV
10ms/DIV	

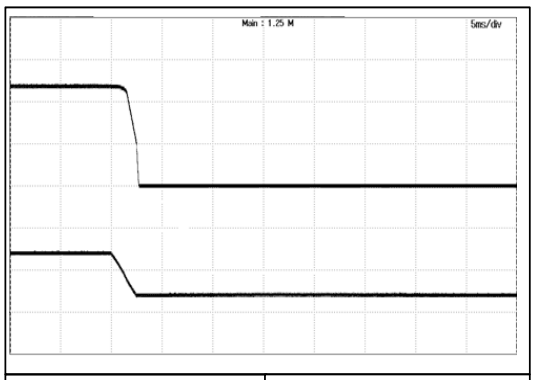


Vin:200V/DIV	Vo:2V/DIV
5ms/DIV	

12V



Vin:200V/DIV	Vo:5V/DIV
10ms/DIV	

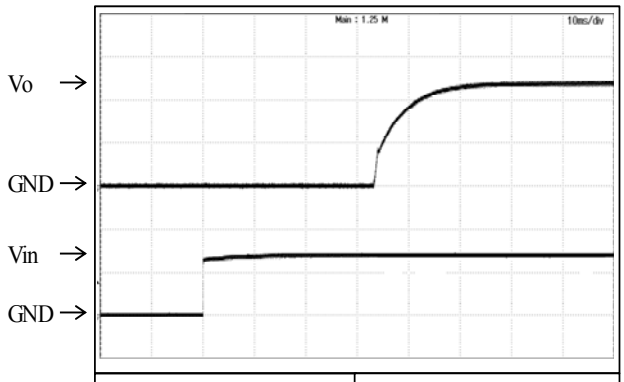


Vin:200V/DIV	Vo:5V/DIV
5ms/DIV	

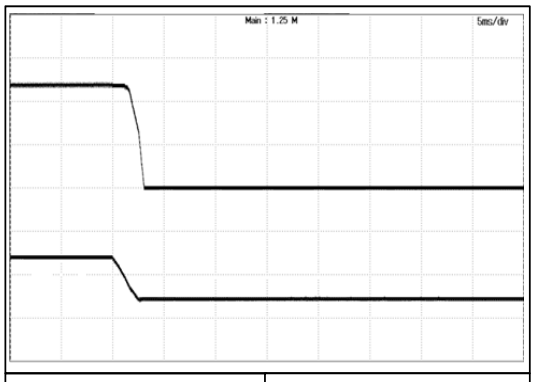
2-6. 出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

24V

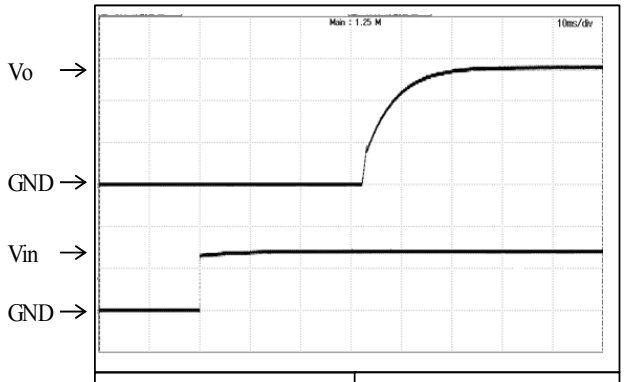


Vin:200V/DIV	Vo:10V/DIV
10ms/DIV	

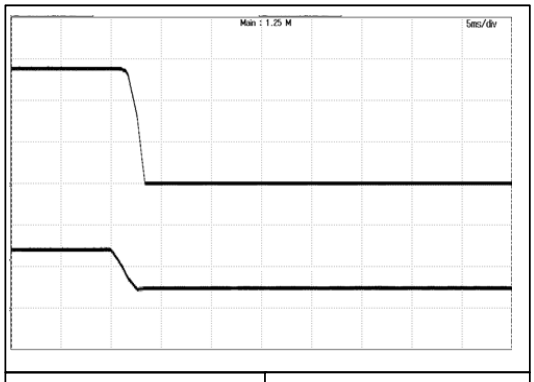


Vin:200V/DIV	Vo:10V/DIV
5ms/DIV	

28V



Vin:200V/DIV	Vo:10V/DIV
10ms/DIV	

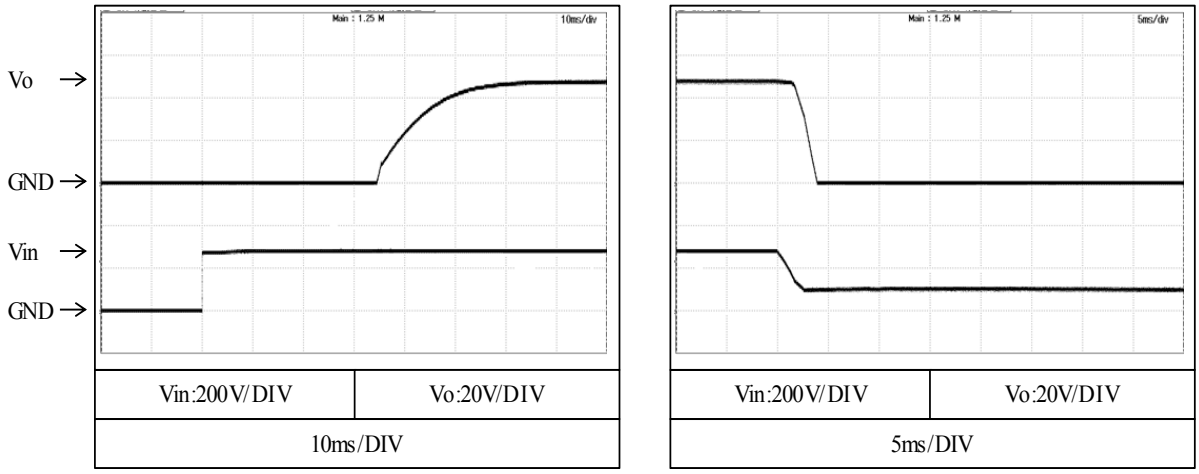


Vin:200V/DIV	Vo:10V/DIV
5ms/DIV	

2-6. 出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

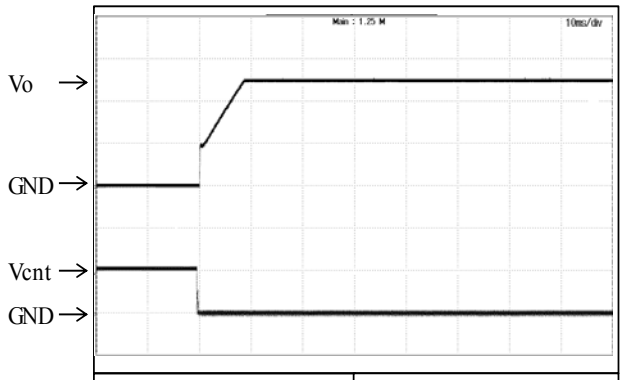
48V



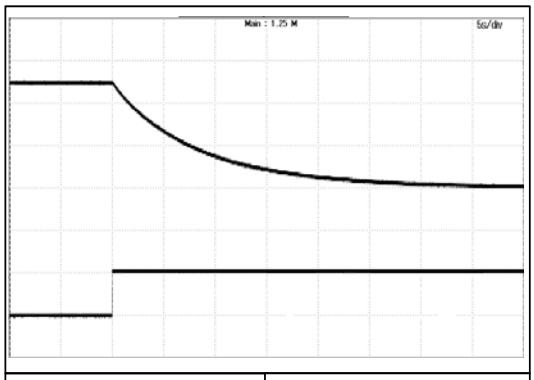
2-6. 出力立ち上がり、立ち下がり特性 (ON/OFFコントロール時)
Output rise and fall characteristics with ON/OFF CONTROL

Conditions Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

5V

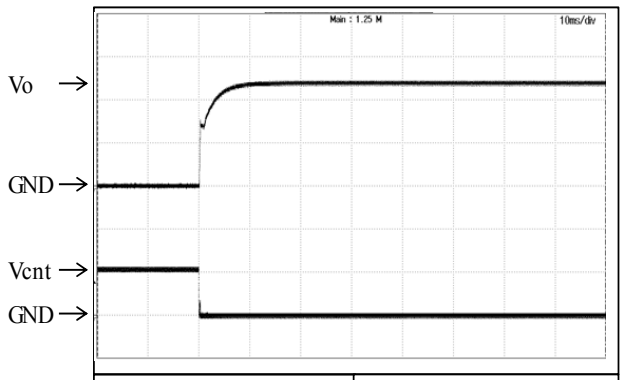


Vcnt:5V/DIV	Vo:2V/DIV
10ms/DIV	

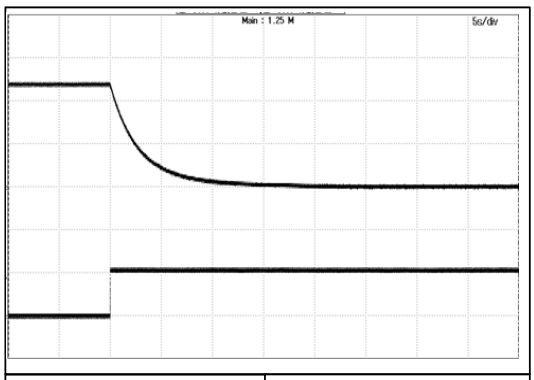


Vcnt:5V/DIV	Vo:2V/DIV
5s/DIV	

12V



Vcnt:5V/DIV	Vo:5V/DIV
10ms/DIV	

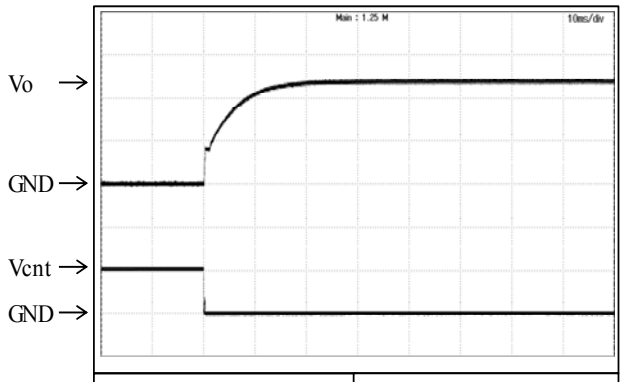


Vcnt:5V/DIV	Vo:5V/DIV
5s/DIV	

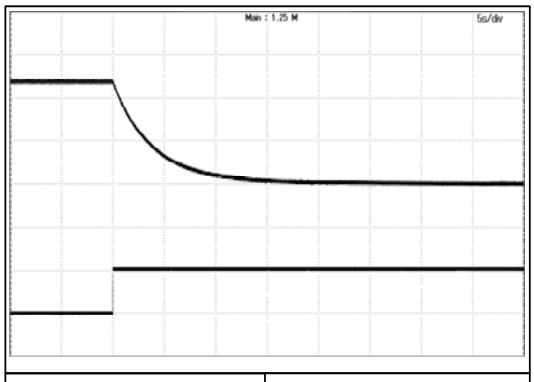
2-6. 出力立ち上がり、立ち下がり特性 (ON/OFFコントロール時)
Output rise and fall characteristics with ON/OFF CONTROL

Conditions Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

24V

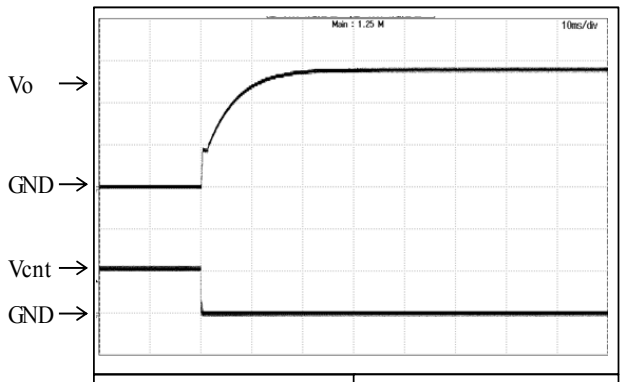


Vcnt:5V/DIV	Vo:10V/DIV
10ms/DIV	

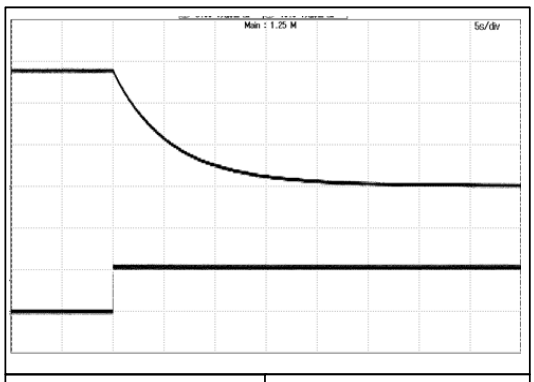


Vcnt:5V/DIV	Vo:10V/DIV
5s/DIV	

28V



Vcnt:5V/DIV	Vo:10V/DIV
10ms/DIV	

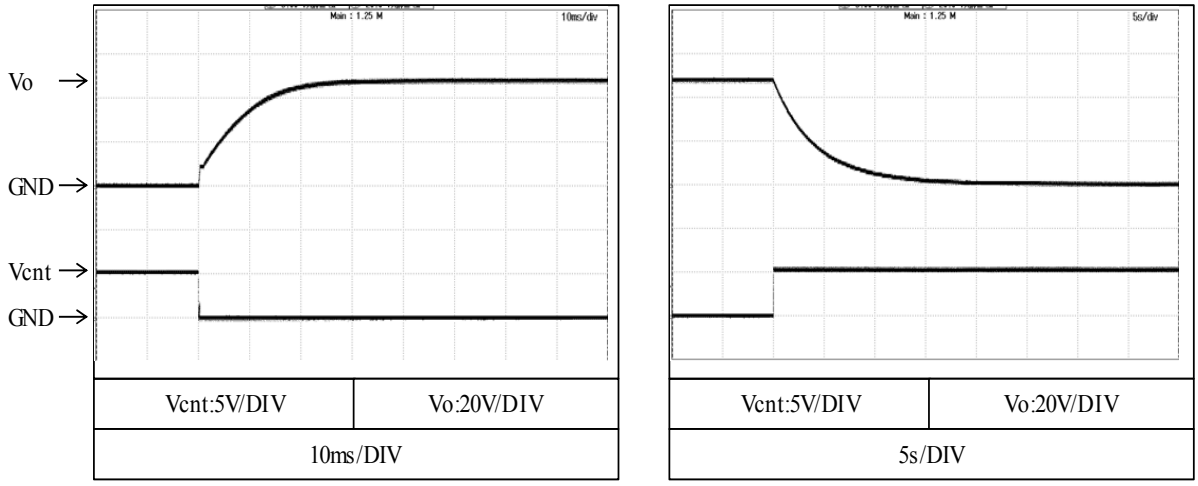


Vcnt:5V/DIV	Vo:10V/DIV
5s/DIV	

2-6. 出力立ち上がり、立ち下がり特性 (ON/OFFコントロール時)
Output rise and fall characteristics with ON/OFF CONTROL

Conditions Vin : 280 VDC
Io : 0 %
Tbp : 25 ºC

48V

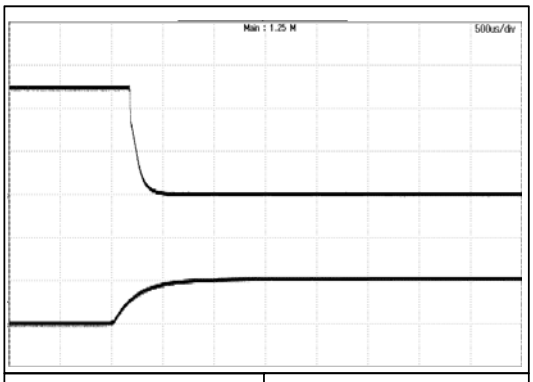


2-6. 出力立ち上がり、立ち下がり特性 (ON/OFFコントロール時)
Output rise and fall characteristics with ON/OFF CONTROL

Conditions Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

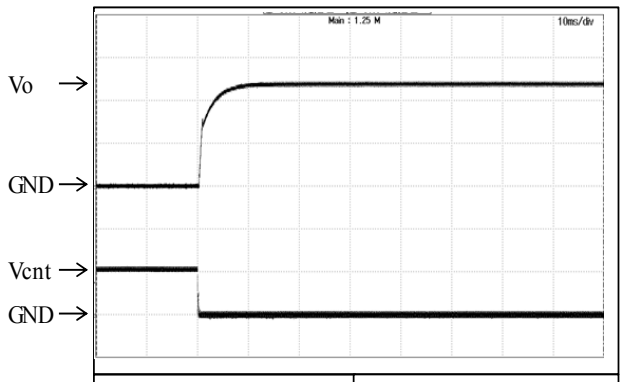
5V

Vcnt:5V/DIV	Vo:2V/DIV
10ms/DIV	

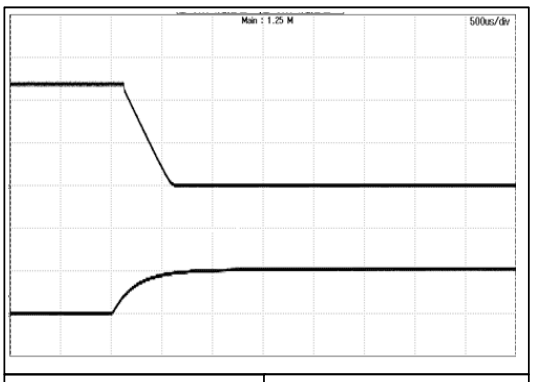


Vcnt:5V/DIV	Vo:2V/DIV
500µs/DIV	

12V



Vcnt:5V/DIV	Vo:5V/DIV
10ms/DIV	

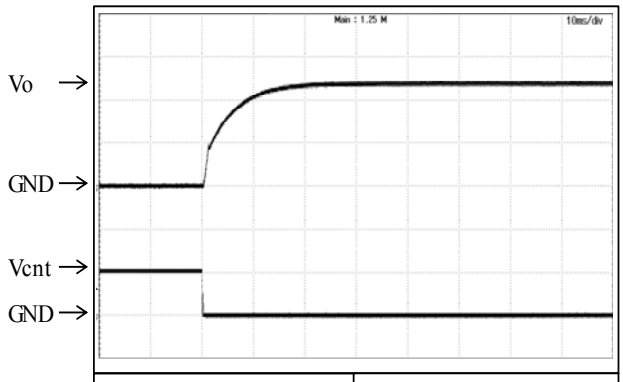


Vcnt:5V/DIV	Vo:5V/DIV
500µs/DIV	

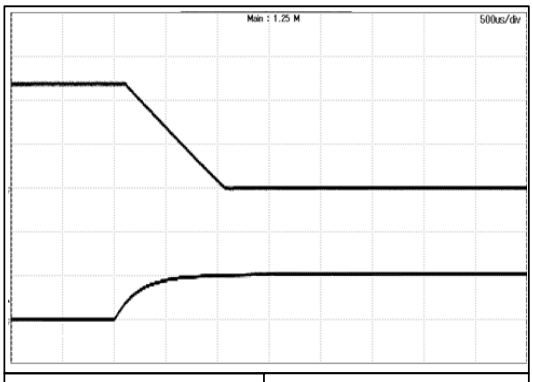
2-6. 出力立ち上がり、立ち下がり特性 (ON/OFFコントロール時)
Output rise and fall characteristics with ON/OFF CONTROL

Conditions Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

24V

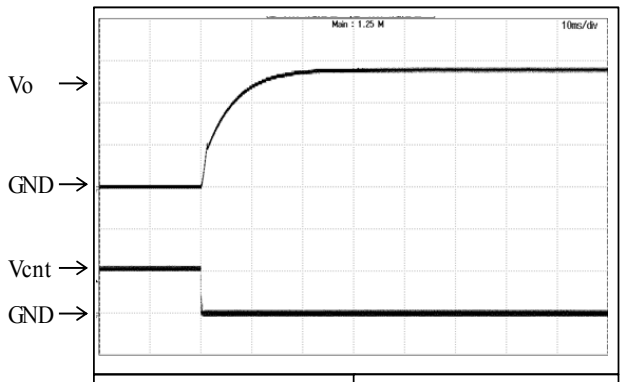


Vcnt:5V/DIV	Vo:10V/DIV
10ms/DIV	

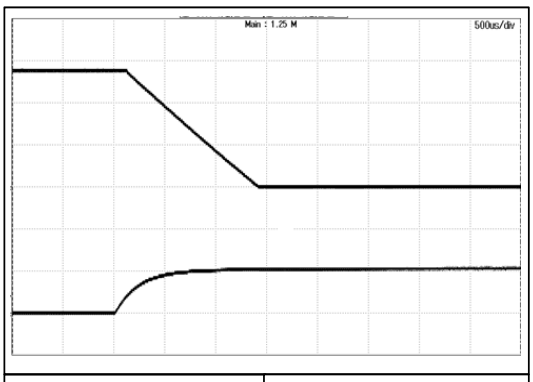


Vcnt:5V/DIV	Vo:10V/DIV
500µs/DIV	

28V



Vcnt:5V/DIV	Vo:10V/DIV
10ms/DIV	

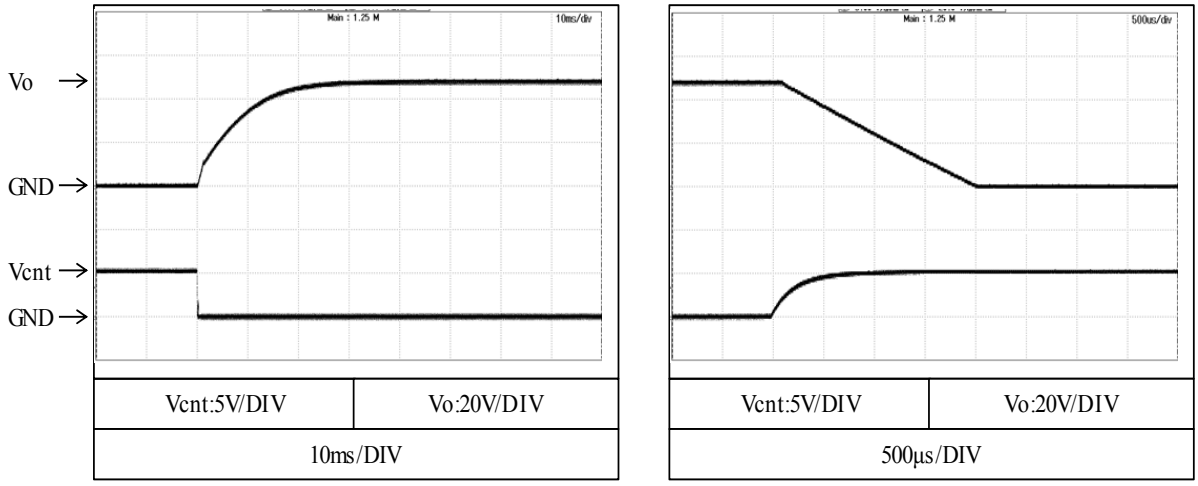


Vcnt:5V/DIV	Vo:10V/DIV
500µs/DIV	

2-6. 出力立ち上がり、立ち下がり特性 (ON/OFFコントロール時)
Output rise and fall characteristics with ON/OFF CONTROL

Conditions Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

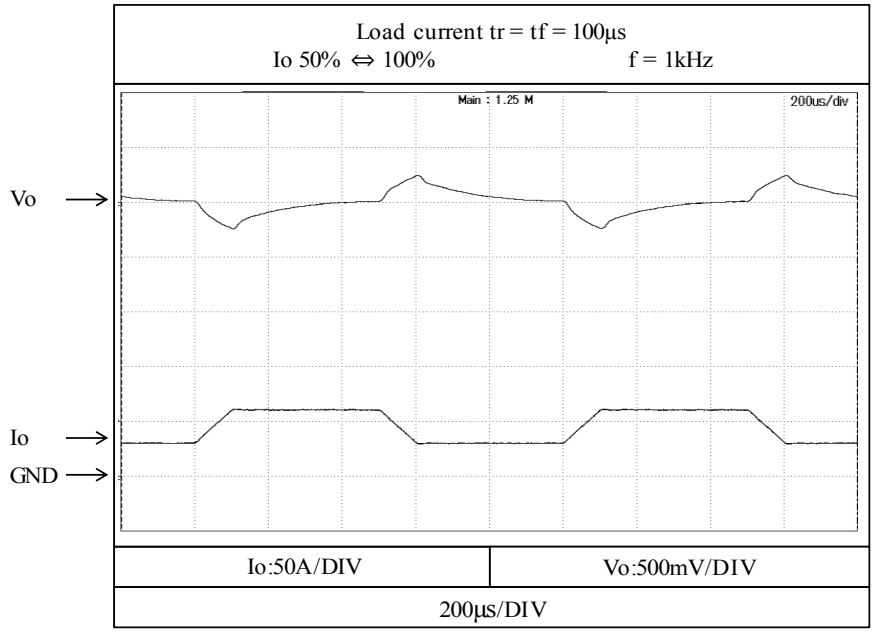
48V



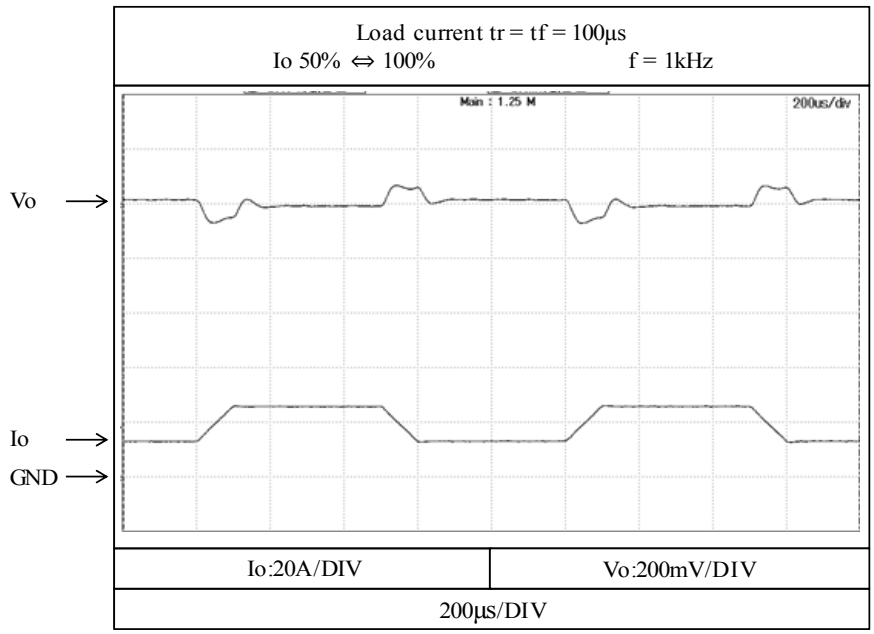
2-7. 過渡応答(負荷急変)特性　Dynamic load response characteristics

Conditions　Vin : 280 VDC
Tbp : 25 ℃

5V



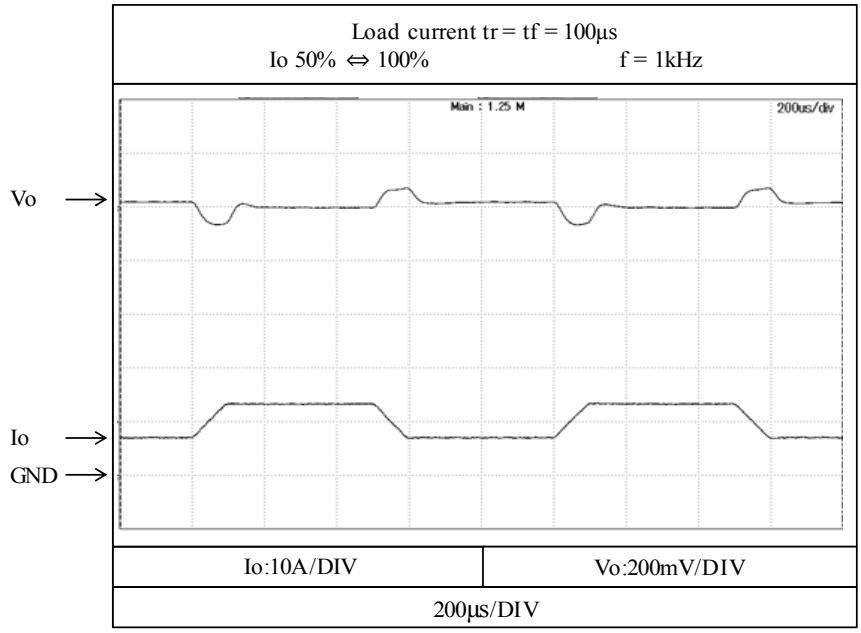
12V



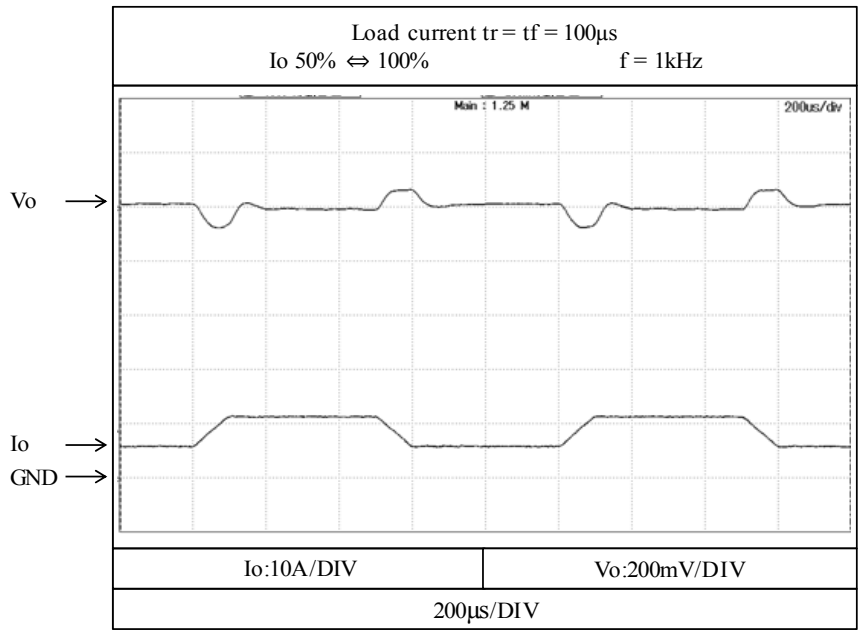
2-7. 過渡応答(負荷急変)特性　Dynamic load response characteristics

Conditions　Vin : 280 VDC
Tbp : 25 ℃

24V



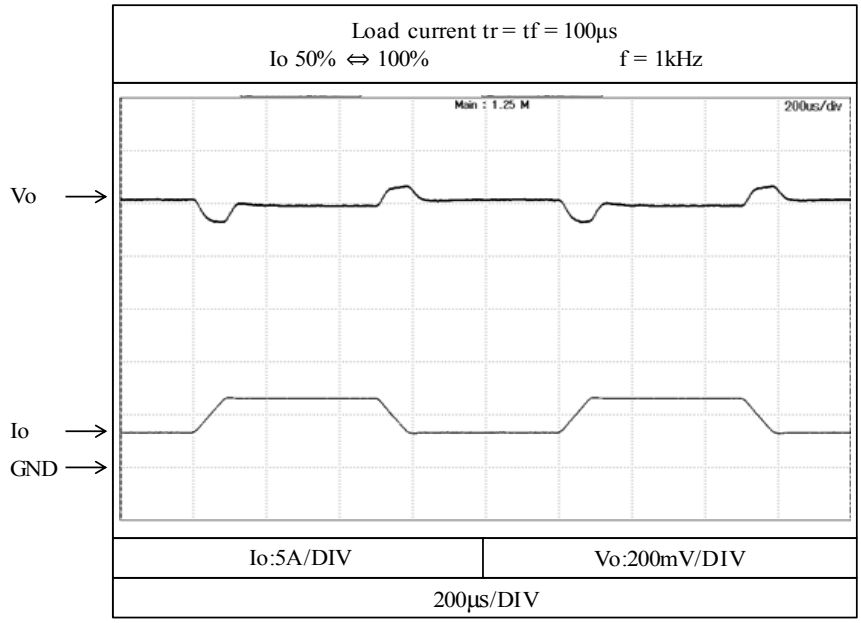
28V



2-7. 過渡応答(負荷急変)特性　Dynamic load response characteristics

Conditions　Vin : 280 VDC
Tbp : 25 ℃

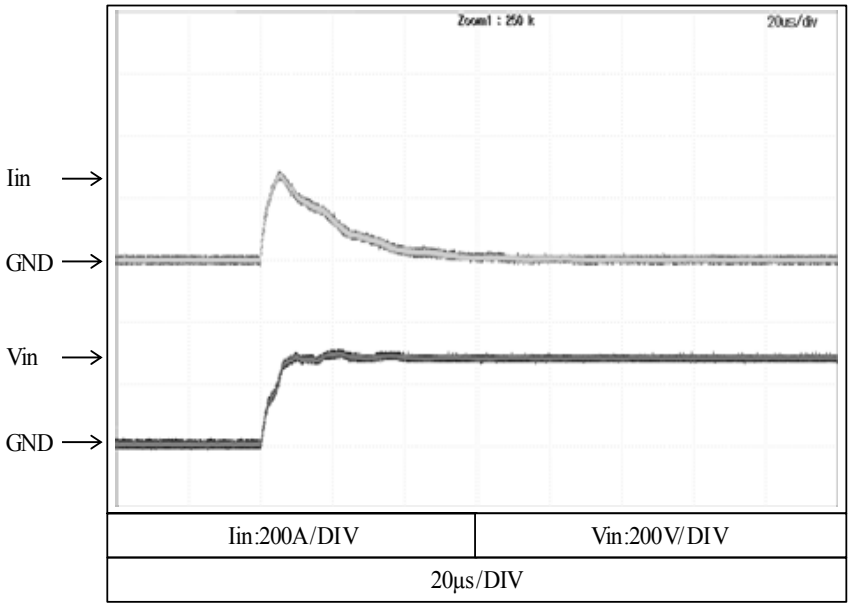
48V



2-8. 入力サージ電流(突入電流)特性　Inrush current characteristics

Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

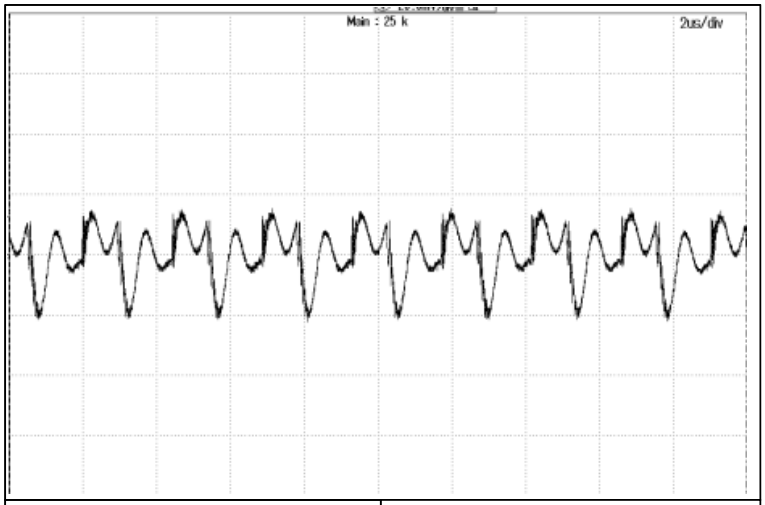
24V



2-9. 出力リップル・ノイズ特性　Output ripple and noise waveform

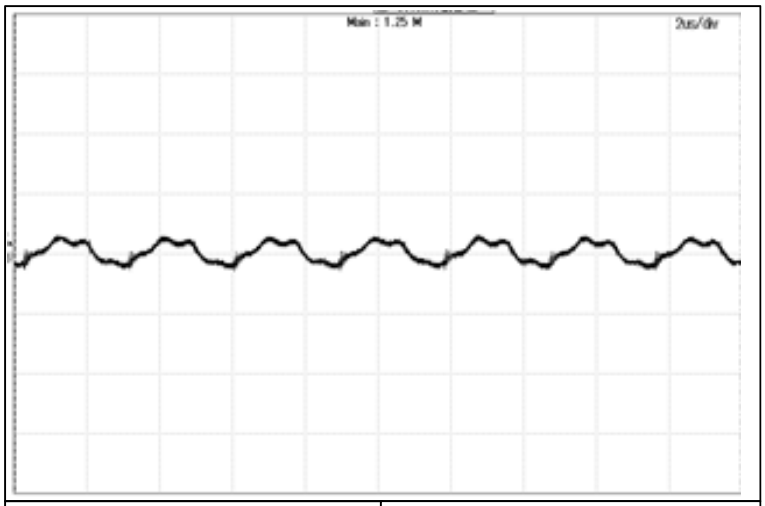
Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

5V



20mV/DIV	2μs/DIV

12V

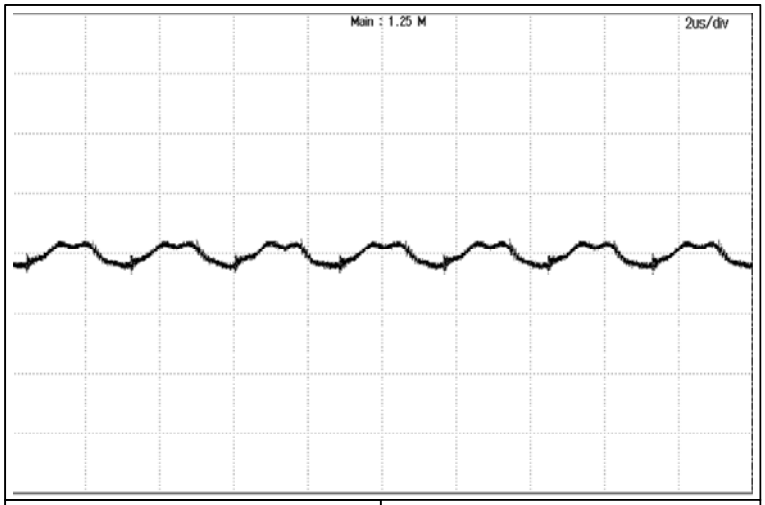


50mV/DIV	2μs/DIV

2-9. 出力リップル・ノイズ特性　Output ripple and noise waveform

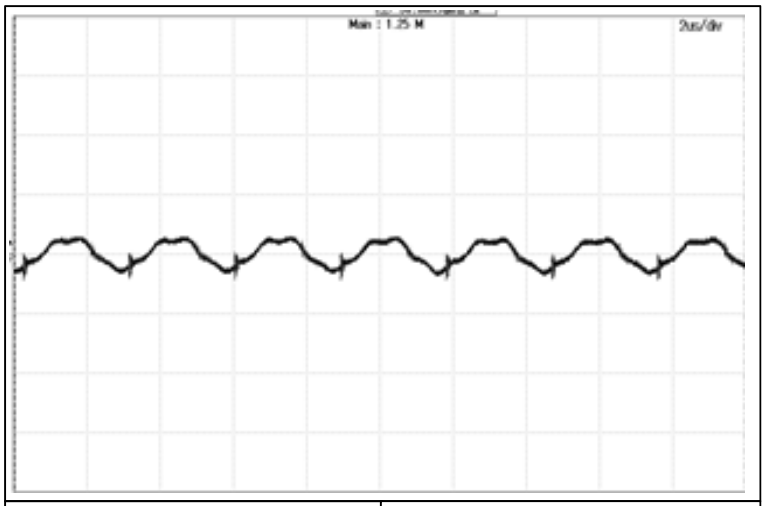
Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

24V



50mV/DIV	2μs/DIV

28V

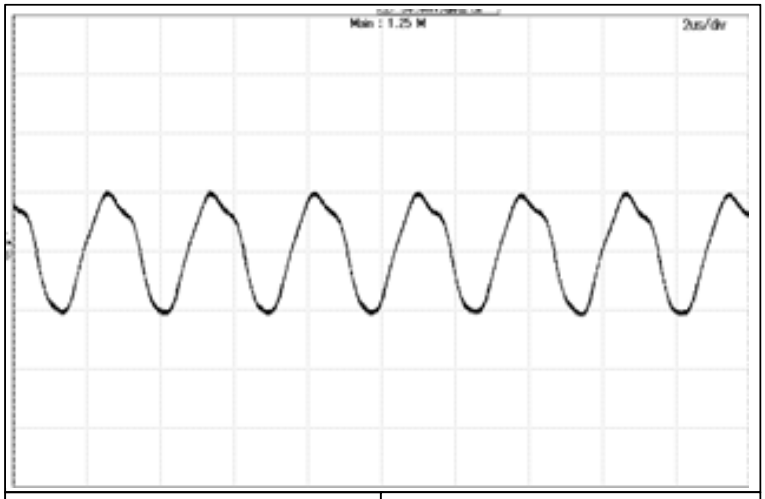


50mV/DIV	2μs/DIV

2-9. 出力リップル・ノイズ特性　Output ripple and noise waveform

Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

48V



50mV/DIV	2μs/DIV

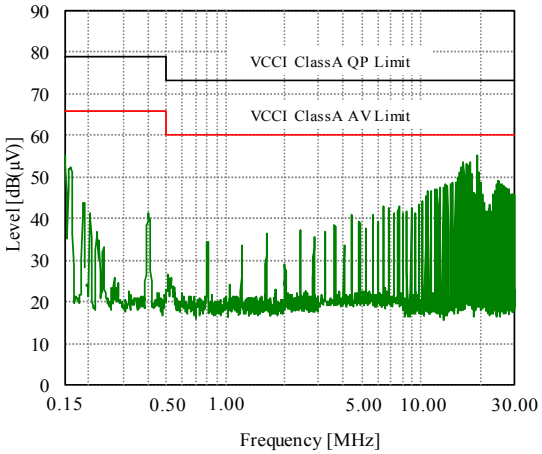
2-10. EMI特性　Electro-Magnetic Interference characteristics

(a) 雑音端子電圧 （帰還ノイズ）
Conducted Emission Noise

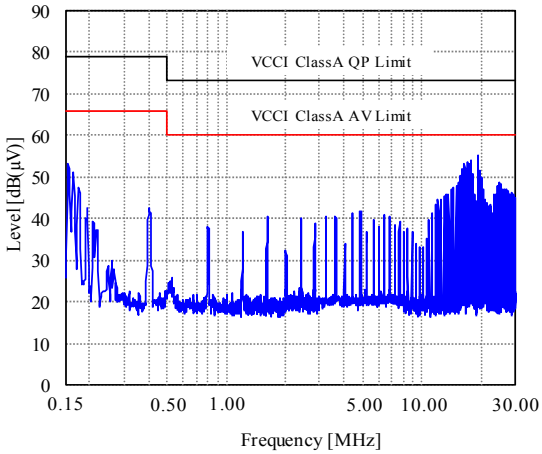
Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ℃

5V

L

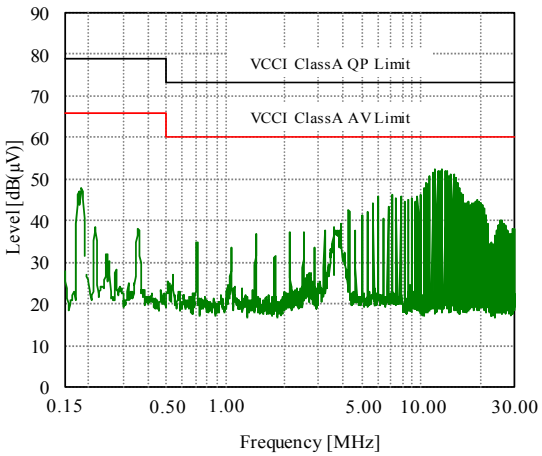


N

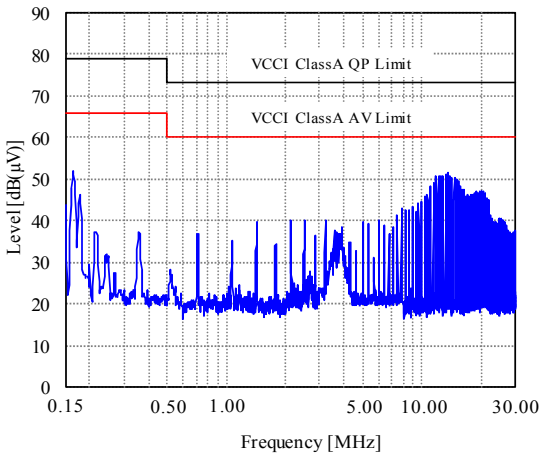


12V

L



N



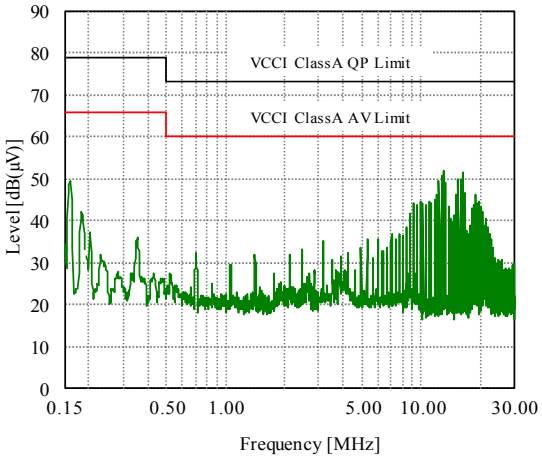
2-10. EMI特性　Electro-Magnetic Interference characteristics

(a) 雑音端子電圧 （帰還ノイズ）
Conducted Emission Noise

Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

24V

L



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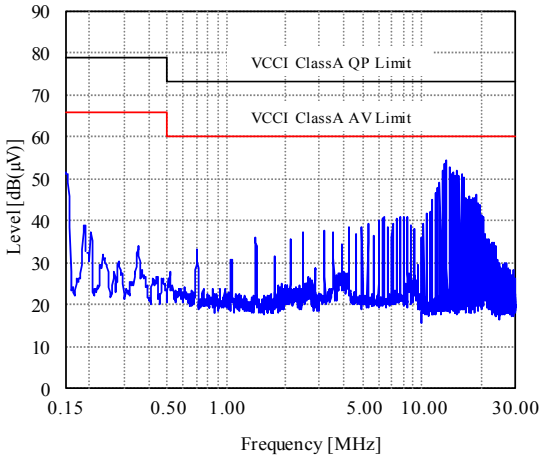
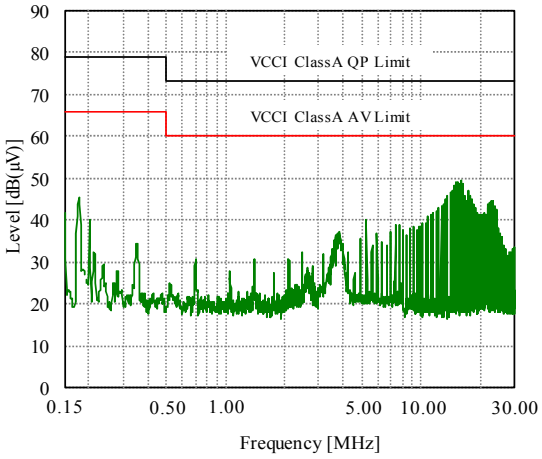


28V

L



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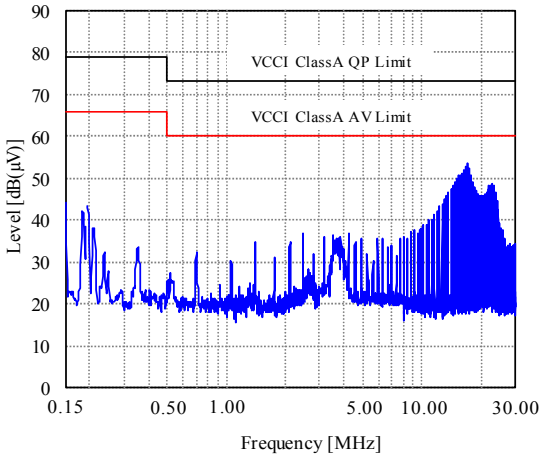


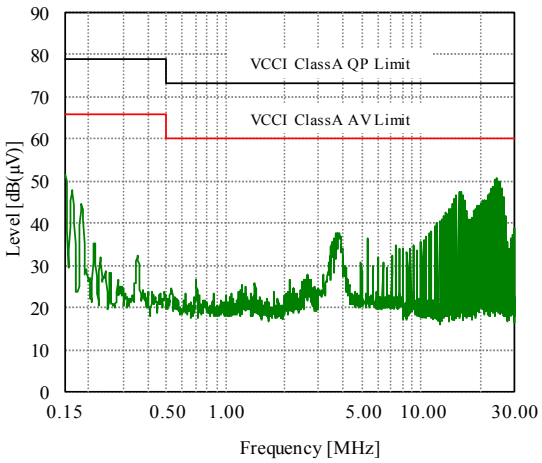
2-10. EMI特性　Electro-Magnetic Interference characteristics

(a) 雑音端子電圧 （帰還ノイズ）
Conducted Emission Noise

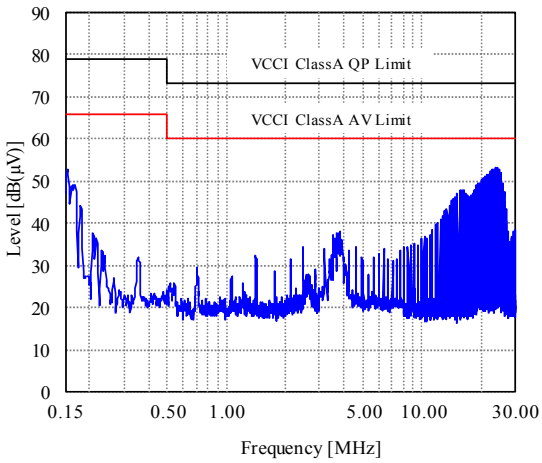
Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ºC

48V

L



N



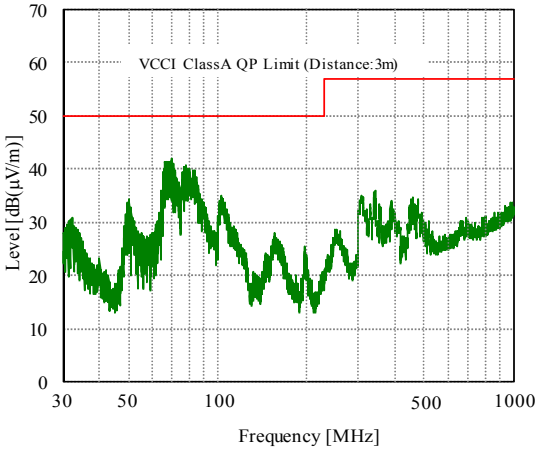
2-10. EMI特性　Electro-Magnetic Interference characteristics

(b) 雑音電界強度 （輻射ノイズ）
Radiated Emission Noise

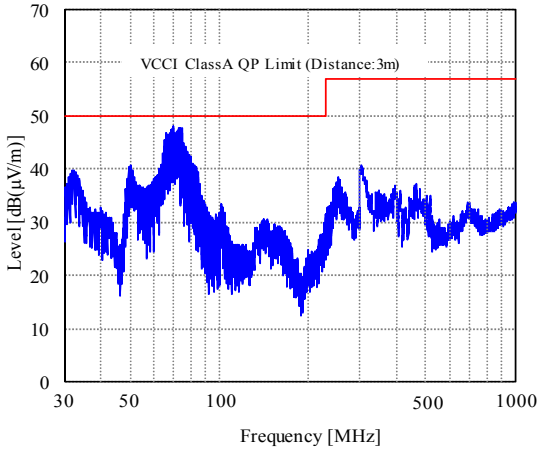
Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ℃

5V

HORIZONTAL

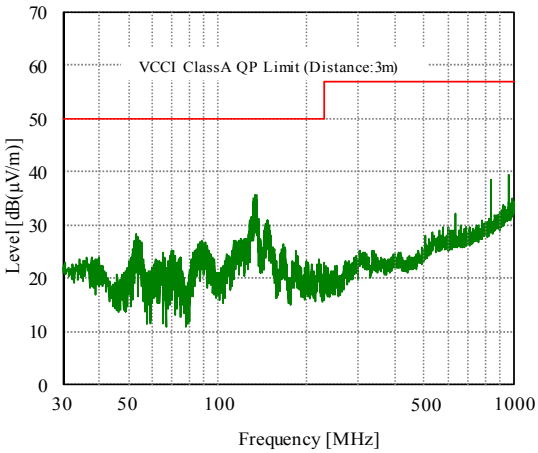


VERTICAL

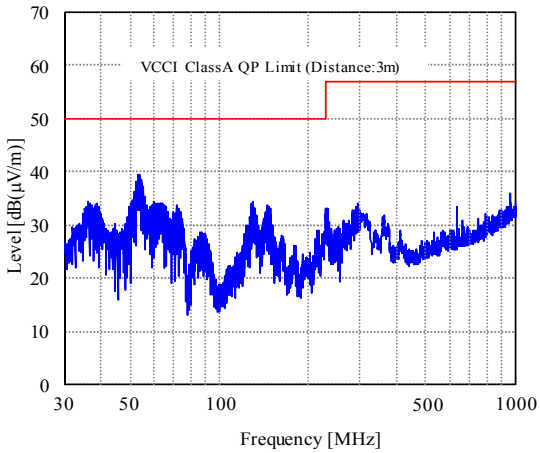


12V

HORIZONTAL



VERTICAL



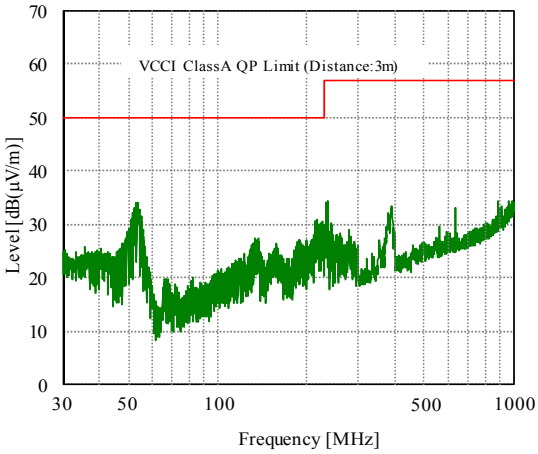
2-10. EMI特性　Electro-Magnetic Interference characteristics

(b) 雑音電界強度 （輻射ノイズ）
Radiated Emission Noise

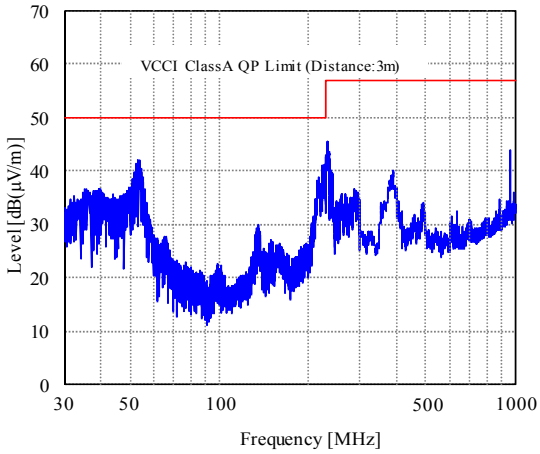
Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ℃

24V

HORIZONTAL

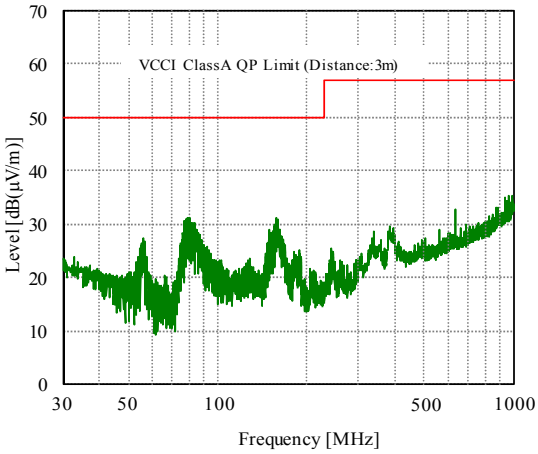


VERTICAL

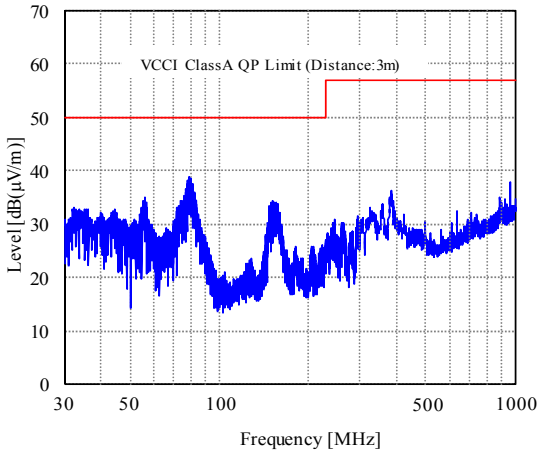


28V

HORIZONTAL



VERTICAL



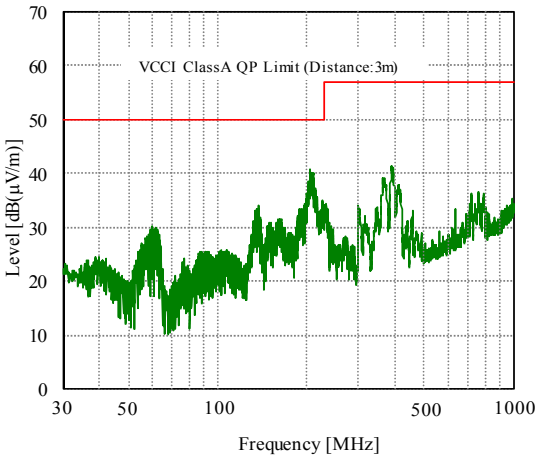
2-10. EMI特性　Electro-Magnetic Interference characteristics

(b) 雑音電界強度 （輻射ノイズ）
Radiated Emission Noise

Conditions　Vin : 280 VDC
Io : 100 %
Tbp : 25 ℃

48V

HORIZONTAL



VERTICAL