iJB12060A006V-***-R

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
EN	····· EN端子電圧　EN pin voltage
Iin	····· 入力電流　Input current
Io	····· 出力電流　Output current
Ta	····· 周囲温度　Ambient temperature

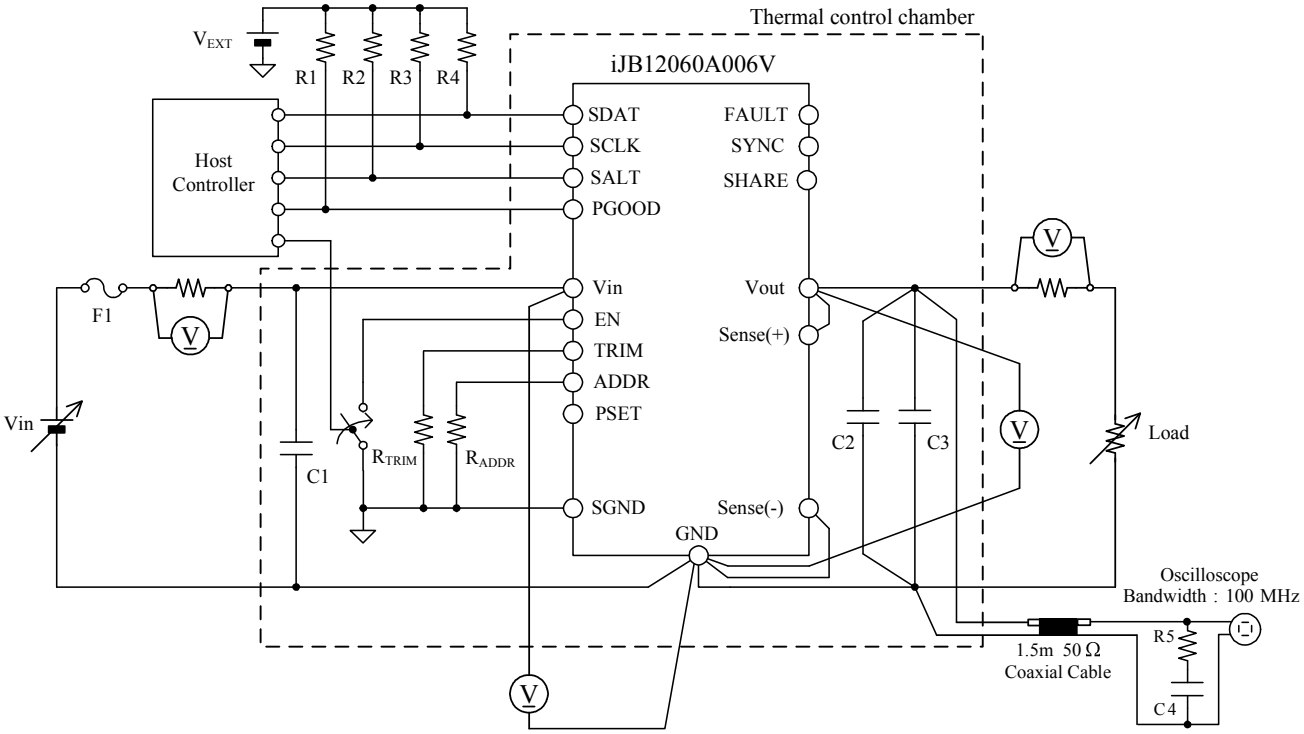
※　当社測定条件における結果であり、参考値としてお考え願います。
Test results are reference data based on our measurement condition.

1. 測定方法 Evaluation Method

1.1 測定回路 Measurement Circuits

測定回路1 Measurement Circuit 1

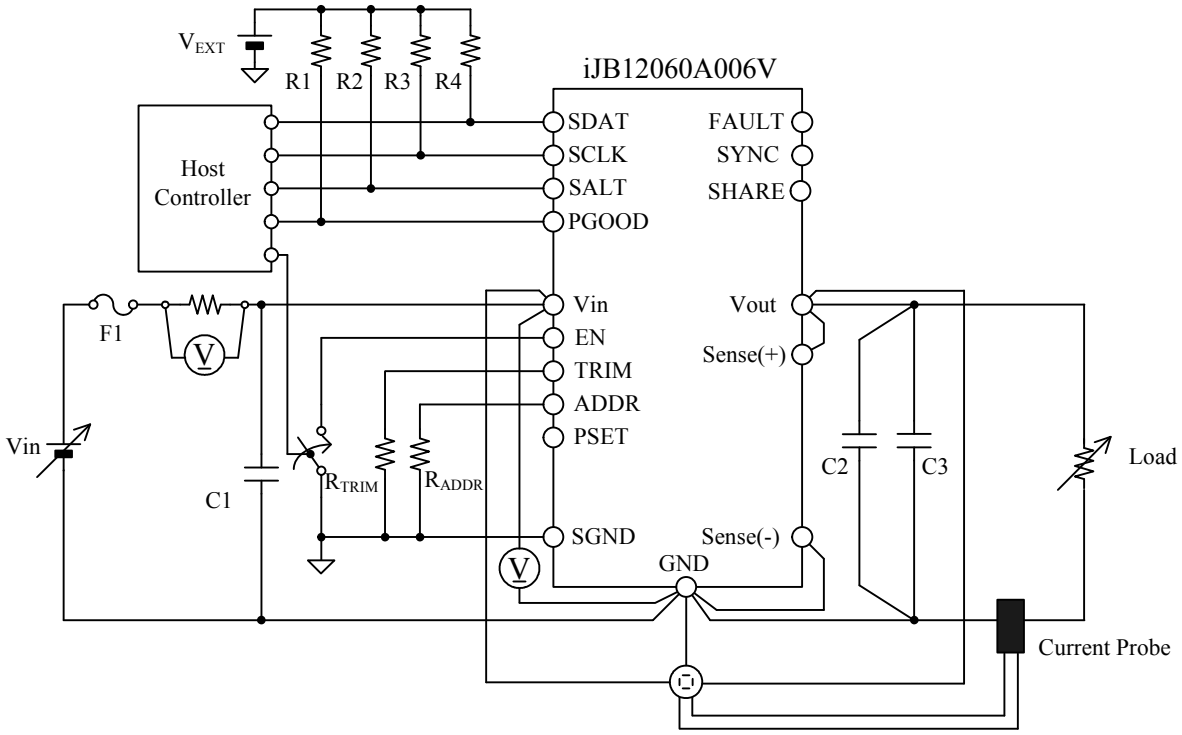
- 静特性 Steady state data
- 待機電力特性 Standby power characteristics
- 通電ドリフト特性 Warm up voltage drift characteristics
- 過電流保護特性 Over current protection (OCP) characteristics
- 出力リップルノイズ波形 Output ripple and noise waveform



C1 : 22μF Ceramic Capacitor × 6 Parallel		R1, R2, R3, R4 : 10kΩ	
C2 : 100uF Ceramic Capacitor × 10 Parallel		R_{TRIM}	: 52.3kΩ
C3 : 0.1uF Ceramic Capacitor		R_{ADDR}	: Open
C4 : 4700pF Ceramic Capacitor		R5	: 50Ω

測定回路2　Measurement Circuit 2

- 出力立ち上がり特性　　Output rise characteristics
- 出力立ち下がり特性　　Output fall characteristics
- 過電圧保護特性　　Over voltage protection (OVP) characteristics
- 過渡応答（負荷急変）特性　Dynamic load response characteristics



C1 ： 22μF Ceramic Capacitor × 6 Parallel
C2 ： 100uF Ceramic Capacitor × 10 Parallel
C3 ： 0.1uF Ceramic Capacitor
C4 ： 4700pF Ceramic Capacitor

R1, R2, R3, R4 ： 10kΩ
R_{TRIM} ： 52.3kΩ
R_{ADDR} ： Open

1.2 使用測定機器 List of equipment used

	EQUIPMENT USED	MANUFACTURER	MODEL NO.
1	DIGITAL STORAGE OSCILLOSCOPE	National Insturument	PXI-5112
2	DIGITAL MULTIMETER	Agilent	34901A
3	DIGITAL MULTIMETER	National Insturument	PXI-4070
4	CURRENT PROBE	Tektoronix	TCP303
5	DYNAMIC DUMMY LOAD	Chroma	63303
6	DC POWER SUPPLY	Chroma	62012P-80-60
7	THERMAL CONTROL	Thermonics	T-2500E
8	DIGITAL STORAGE OSCILLOSCOPE	YOKOGAWA ELECT.	DLM2054
9	DIGITAL STORAGE OSCILLOSCOPE	Lecroy	DS-4354M
10	CARBON PLATE RHEOSTATS	YAMABISHI ELECTRIC	RC-3
11	SHUNT RESISTER	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

Vo= 0.6 V

1. Line regulation and Load regulation Condition Ta : 25℃

Io \ Vin	8VDC	12VDC	14VDC	Line regulation	
0%	0.5995V	0.5990V	0.5989V	0.6mV	0.1%
50%	0.6004V	0.6000V	0.6002V	0.4mV	0.1%
100%	0.6002V	0.6001V	0.6000V	0.2mV	0.0%
Load	0.9mV	1.1mV	1.3mV		
regulation	0.2%	0.2%	0.2%		

2. Temperature drift Conditions Vin : 12VDC
Io : 100%

Ta	-40℃	+25℃	+85℃	Temperature stability	
Vo	0.6004V	0.6001V	0.5993V	1.1mV	0.2%

Vo= 1.0 V

1. Line regulation and Load regulation Condition Ta : 25℃

Io \ Vin	8VDC	12VDC	14VDC	Line regulation	
0%	0.9997V	0.9986V	0.9979V	1.8mV	0.2%
50%	1.0009V	0.9991V	0.9987V	2.2mV	0.2%
100%	1.0019V	0.9994V	0.9988V	3.1mV	0.3%
Load	2.2mV	0.8mV	0.9mV		
regulation	0.2%	0.1%	0.1%		

2. Temperature drift Conditions Vin : 12VDC
Io : 100%

Ta	-40℃	+25℃	+85℃	Temperature stability	
Vo	0.9990V	0.9994V	0.9983V	1.1mV	0.1%

Vo= 2.0 V

1. Line regulation and Load regulation Condition Ta : 25℃

Io \ Vin	10VDC	12VDC	14VDC	Line regulation	
0%	2.0050V	2.0046V	2.0018V	3.2mV	0.2%
50%	2.0075V	2.0073V	2.0045V	3.0mV	0.2%
100%	2.0077V	2.0076V	2.0060V	1.7mV	0.1%
Load	2.7mV	3.0mV	4.2mV		
regulation	0.1%	0.2%	0.2%		

2. Temperature drift Conditions Vin : 12VDC
Io : 100%

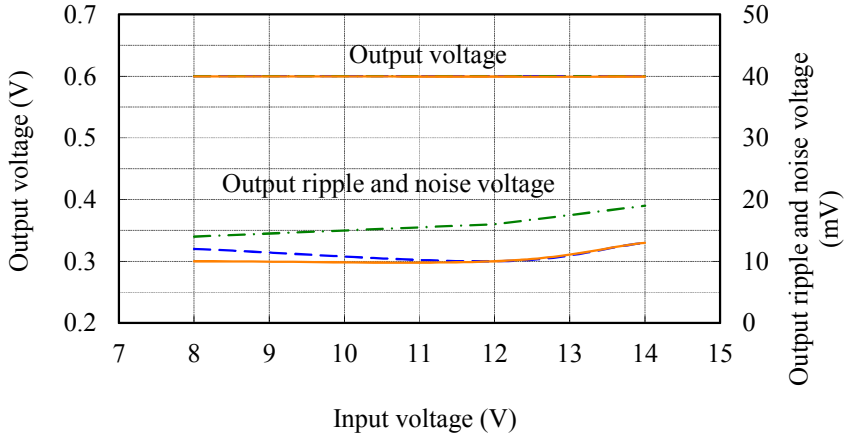
Ta	-40℃	+25℃	+85℃	Temperature stability	
Vo	2.0065V	2.0076V	2.0049V	2.7mV	0.1%

(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

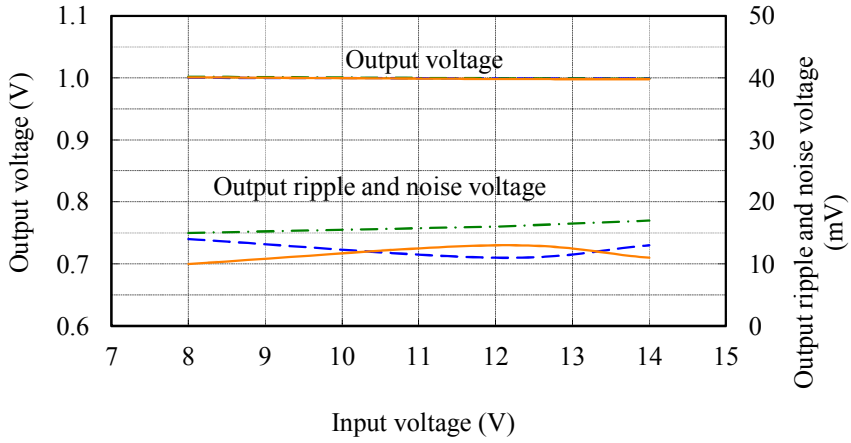
Transient Response : Standard Option

Conditions Io : 100 %
Ta : -40 ℃
: 25 ℃
: 85 ℃

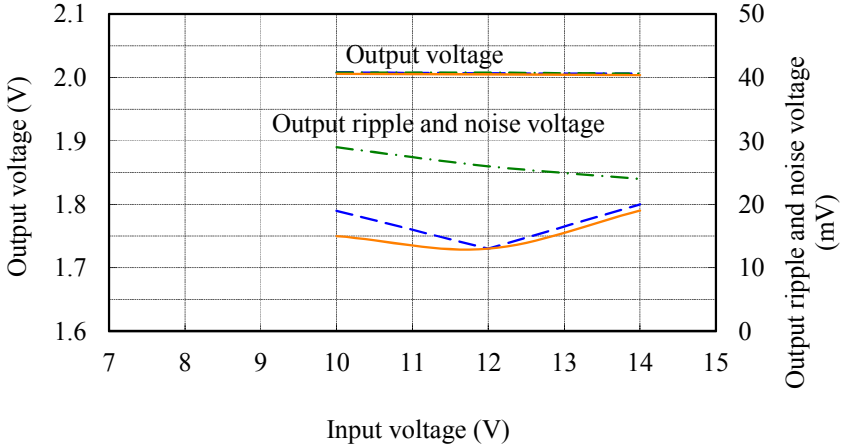
Vo= 0.6 V



Vo= 1.0 V



Vo= 2.0 V

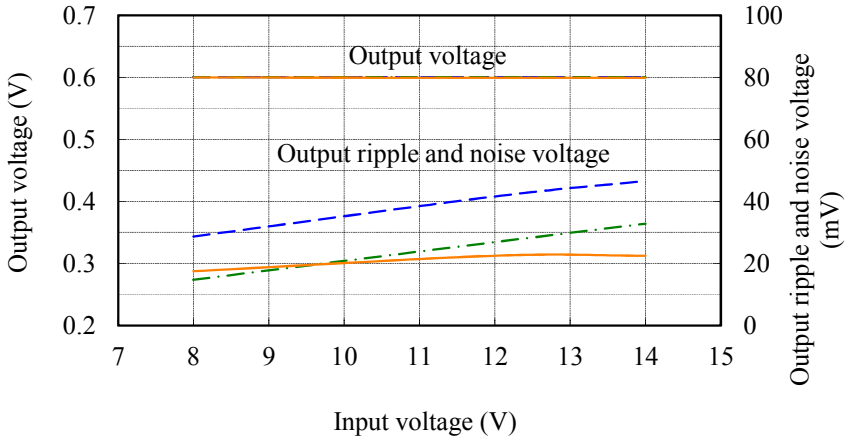


(2) 出力電圧、出力リップル・ノイズ電圧 対 入力電圧
Output voltage and Output ripple and noise voltage vs. Input voltage

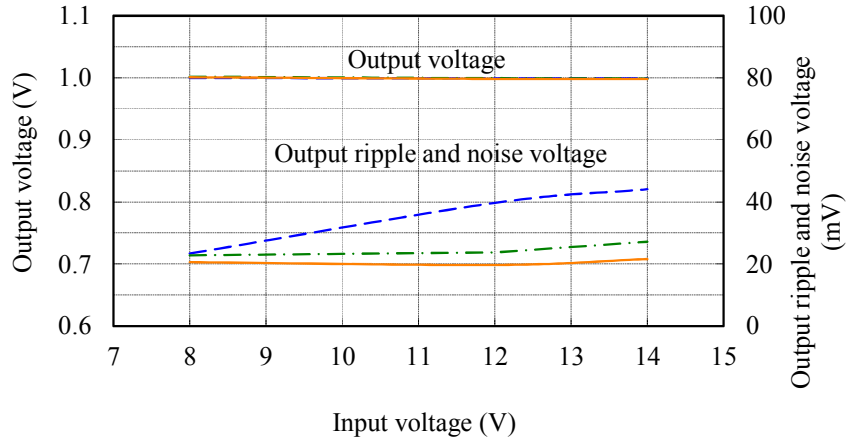
Transient Response : Enhanced Option

Conditions Io : 100 %
Ta : -40 ℃
: 25 ℃
: 85 ℃

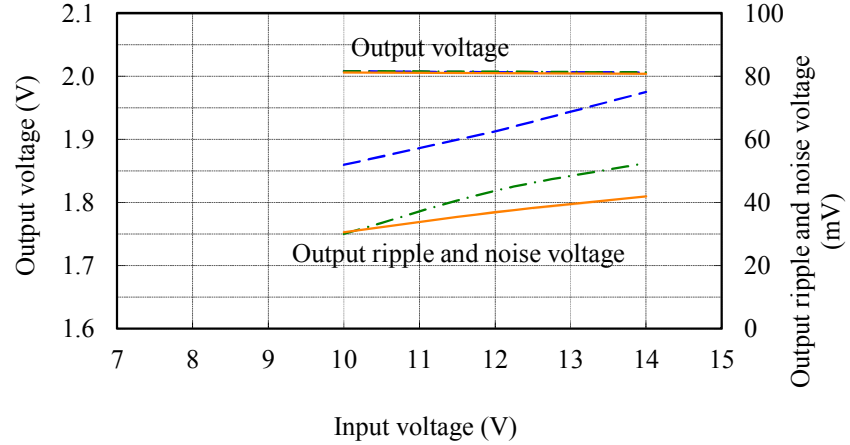
Vo= 0.6 V



Vo= 1.0 V



Vo= 2.0 V

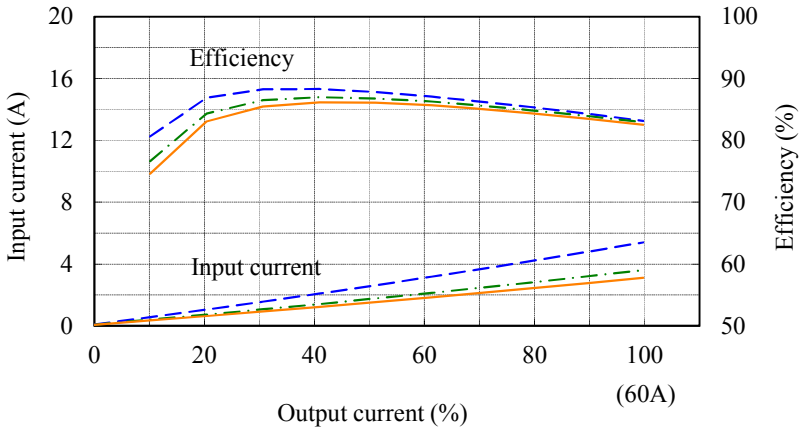


(3) 入力電流、効率 対 出力電流

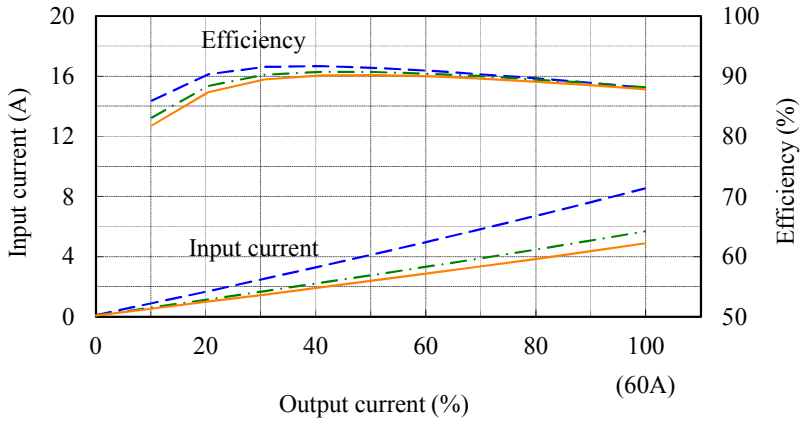
Input current and Efficiency vs. Output current

Conditions Vin : 8 VDC (Vo=0.6, 1.0V)
10 VDC (Vo=2.0V)
: 12 VDC
: 14 VDC
Ta : 25 ℃

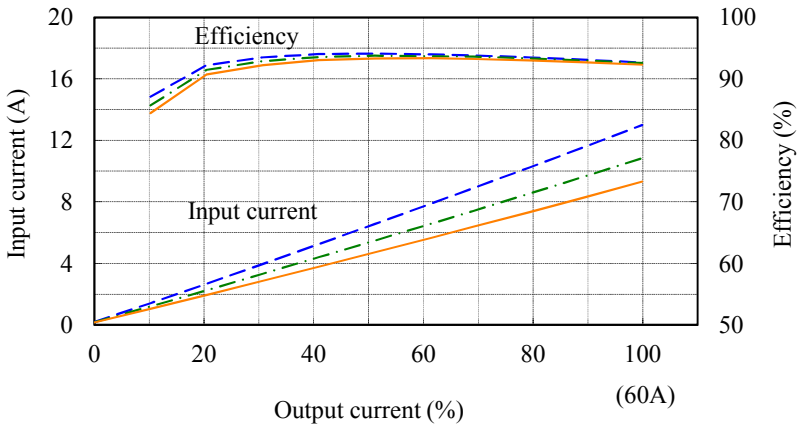
Vo= 0.6 V



Vo= 1.0 V



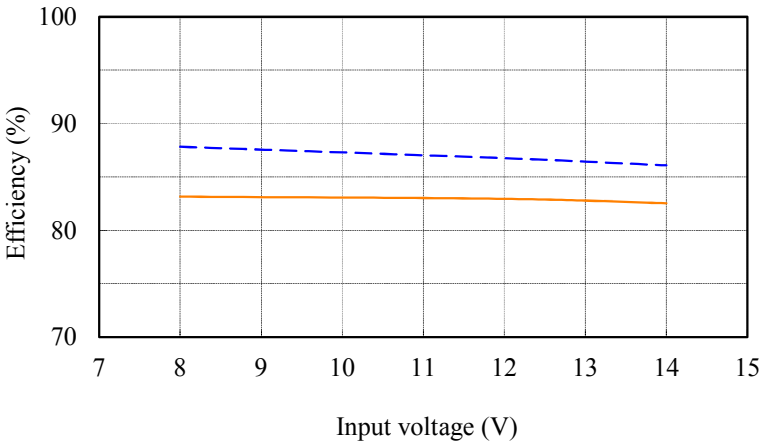
Vo= 2.0 V



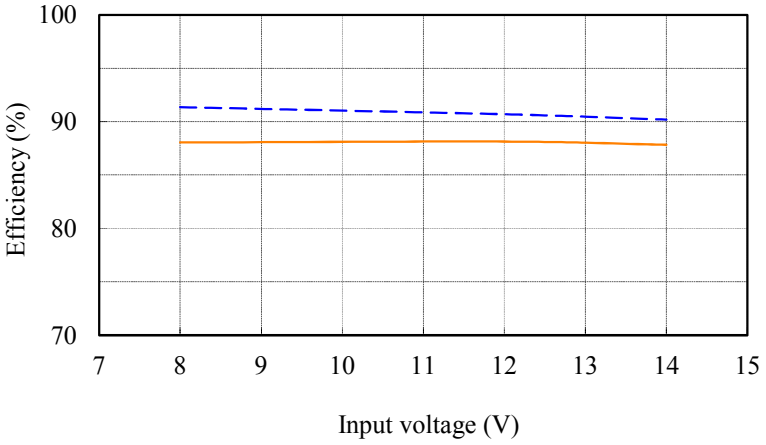
(4) 効率 対 入力電圧 Efficiency vs. Input voltage

Conditions Io : 50 %
: 100 %
Ta : 25 ℃

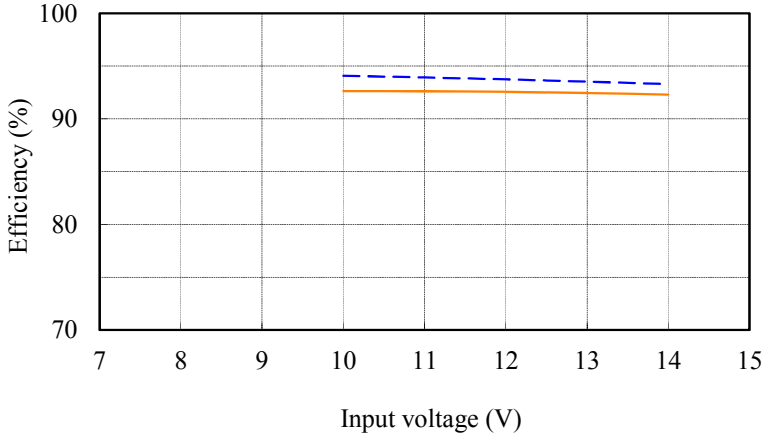
Vo= 0.6 V



Vo= 1.0 V



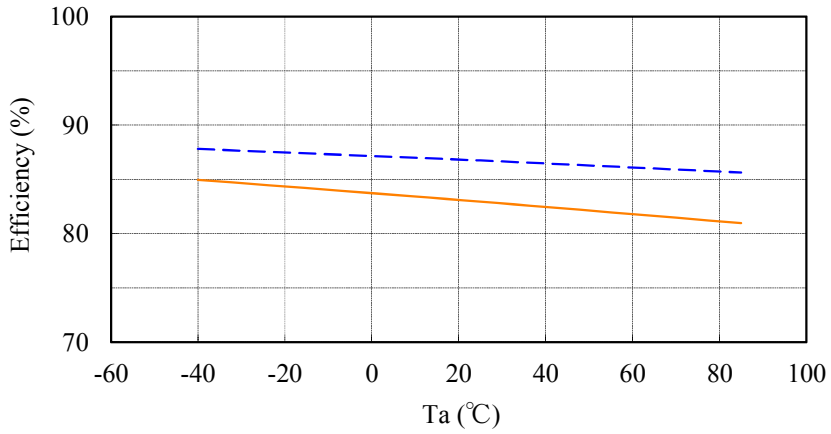
Vo= 2.0 V



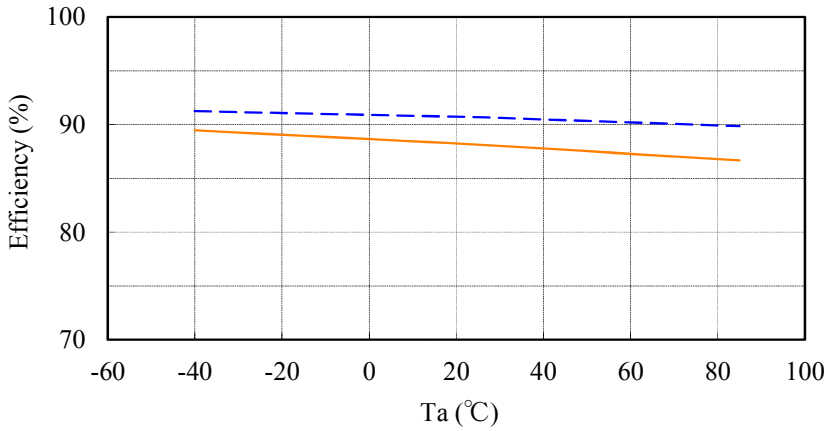
(5) 効率 対 温度 Efficiency vs. Temperature

Conditions Vin : 12 VDC
Io : 50 %
: 100 %

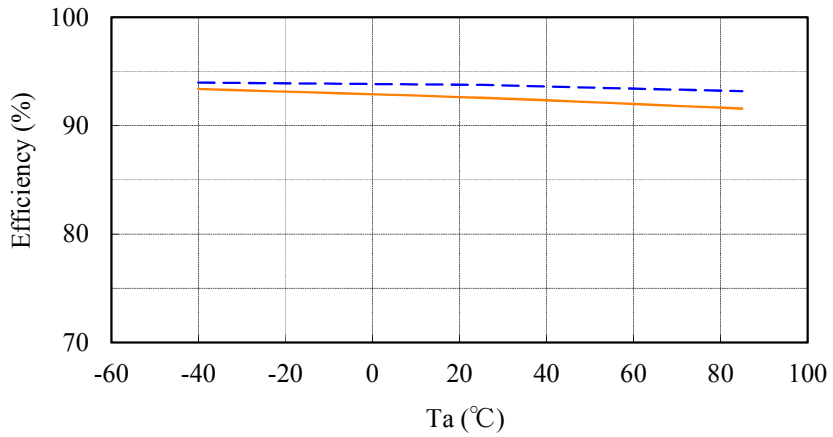
Vo= 0.6 V



Vo= 1.0 V



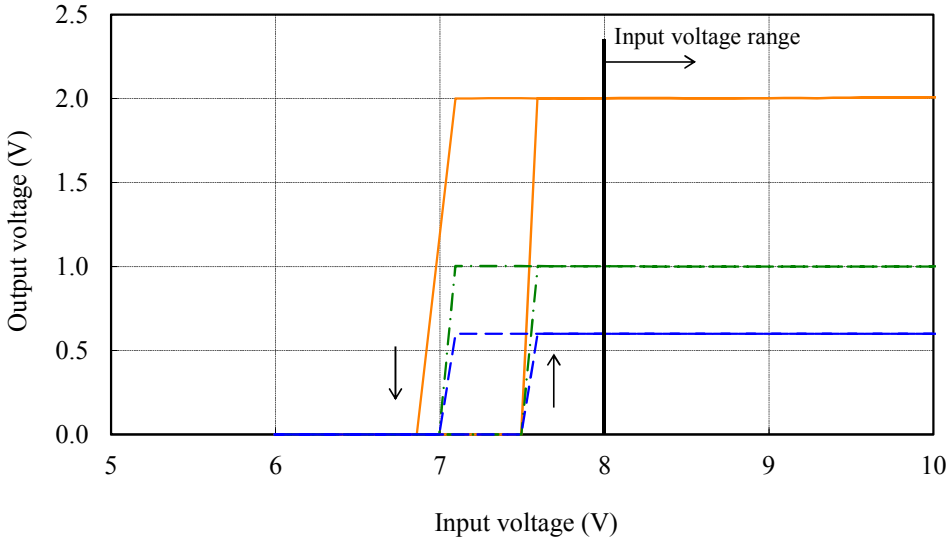
Vo= 2.0 V



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

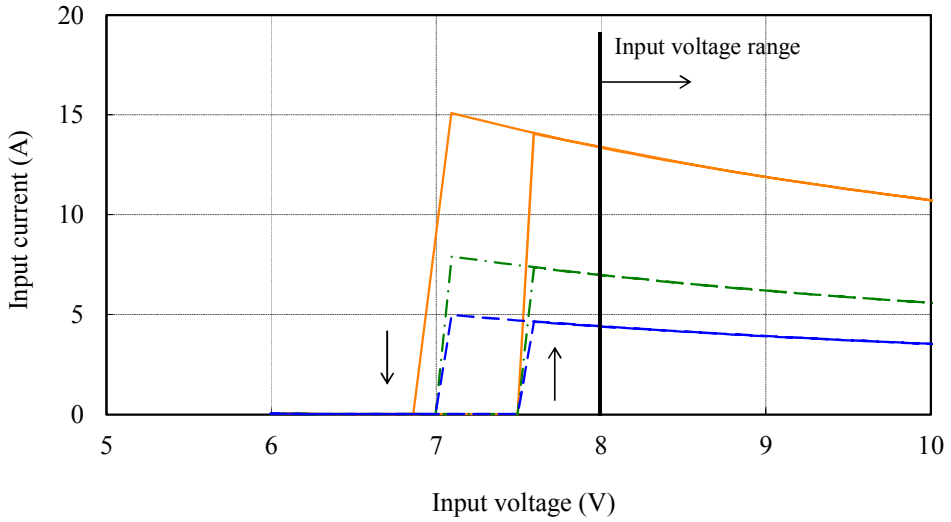
出力電圧 対 入力電圧
Output voltage vs. Input voltage

Conditions Io : 100 %
Ta : 25 ℃
Vo : 0.6 V
: 1.0 V
: 2.0 V



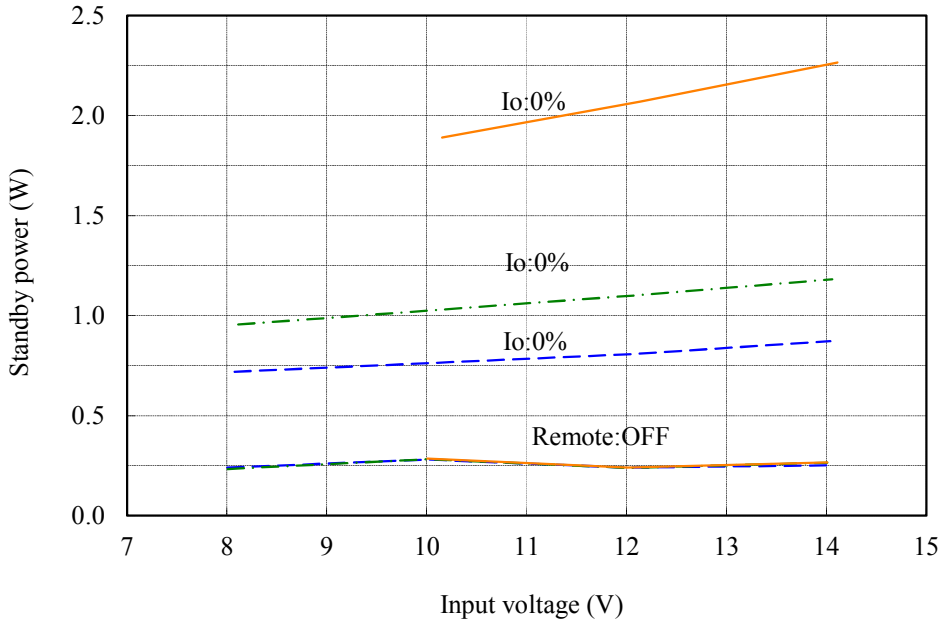
入力電流 対 入力電圧
Input current vs. Input voltage

Conditions Io : 100 %
Ta : 25 ℃
Vo : 0.6 V
: 1.0 V
: 2.0 V



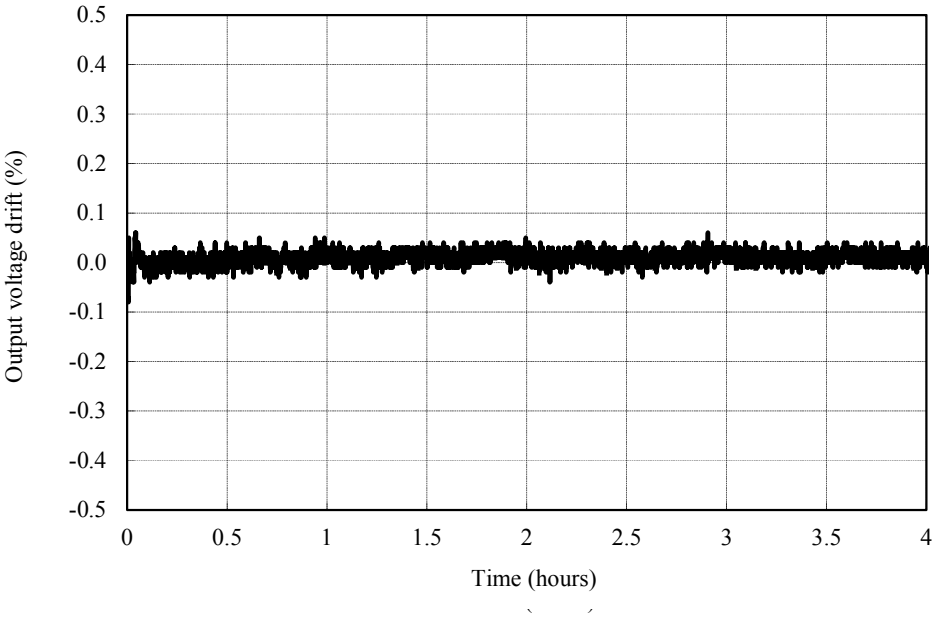
2.2 待機電力特性
Standby power characteristics

Conditions Ta : 25 ℃
Vo : 0.6 V
: 1.0 V
: 2.0 V



2.3 通電ドリフト特性
Warm up voltage drift characteristics

Conditions Vin : 12 VDC
Vo : 1.0 V
Io : 100 %
Ta : 25 ℃



2.4 過電流保護特性 Over current protection (OCP) characteristics

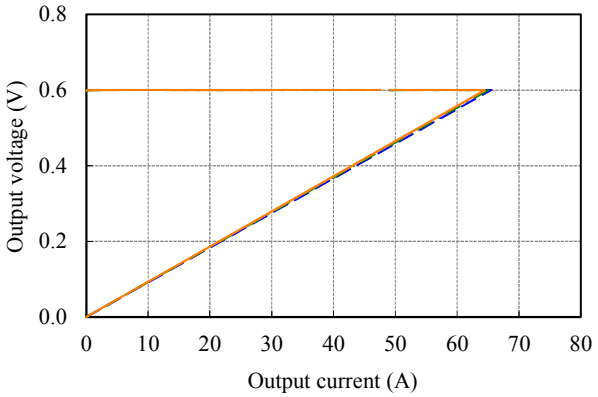
入力電圧依存性
Input voltage dependence

Conditions Vin : 8 VDC(Vo=0.6, 1.0V)
10 VDC(Vo=2.0V)
: 12 VDC
: 14 VDC
Ta : 25 ℃

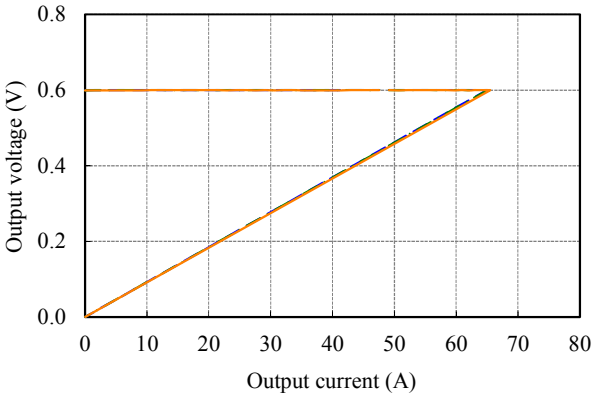
周囲温度依存性
Ambient temperature dependence

Conditions Vin : 12 VDC
Ta : -40 ℃
: 25 ℃
: 85 ℃

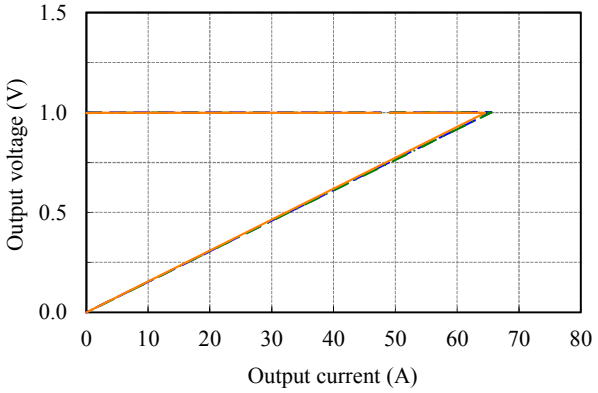
Vo= 0.6 V



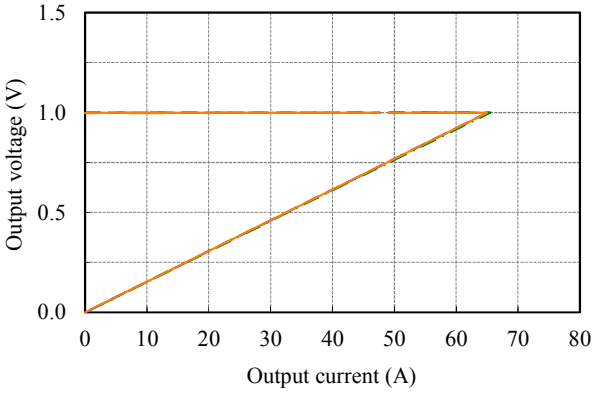
Vo= 0.6 V



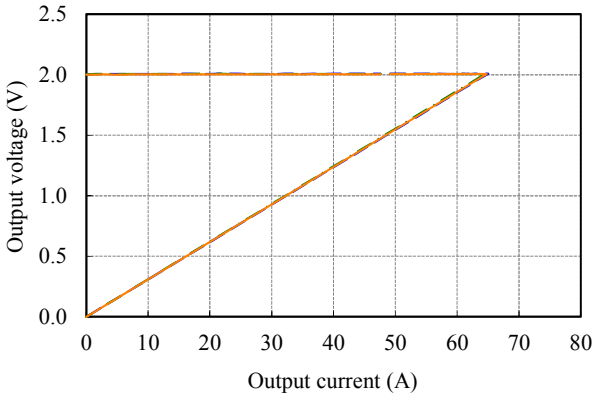
Vo= 1.0 V



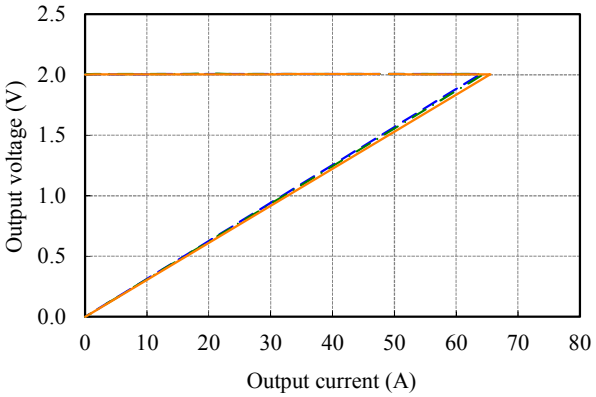
Vo= 1.0 V



Vo= 2.0 V



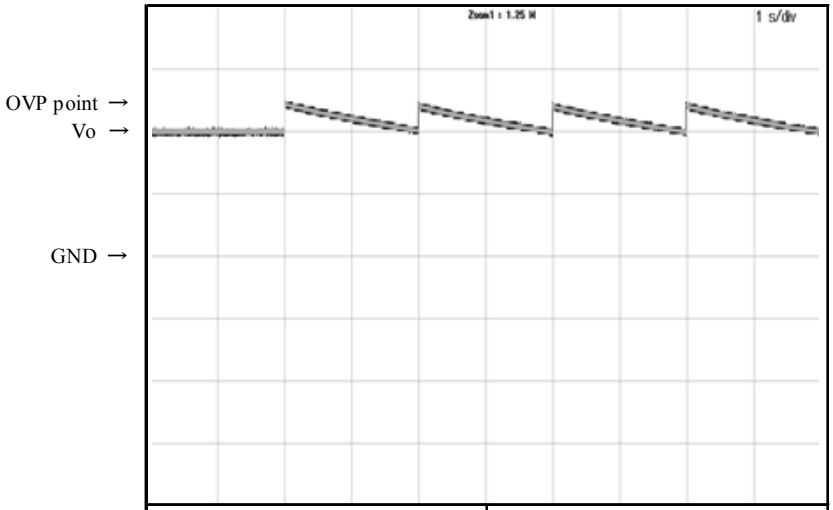
Vo= 2.0 V



2.5　過電圧保護特性 Over voltage protection (OVP) characteristics

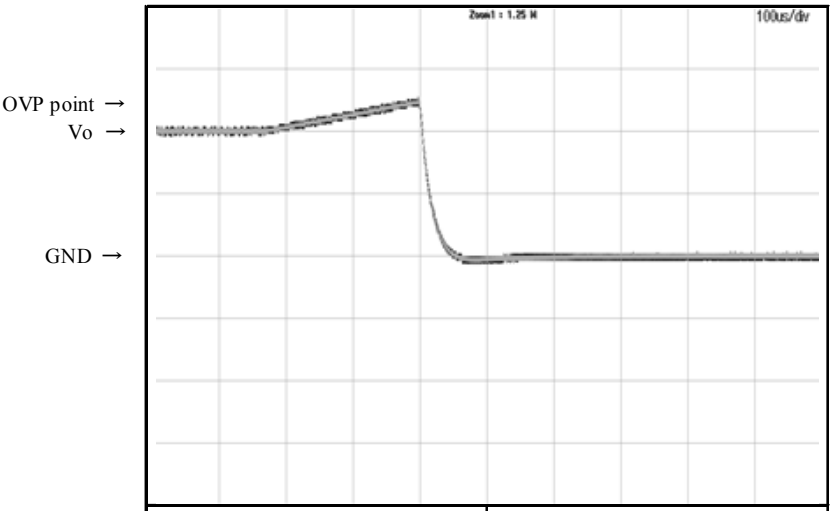
Conditions　Vin : 12 VDC
Vo : 1.0V
Ta : 25℃
OVP Setting : 1.2V

Io=0%



0.5V/DIV	1s/DIV

Io=100%

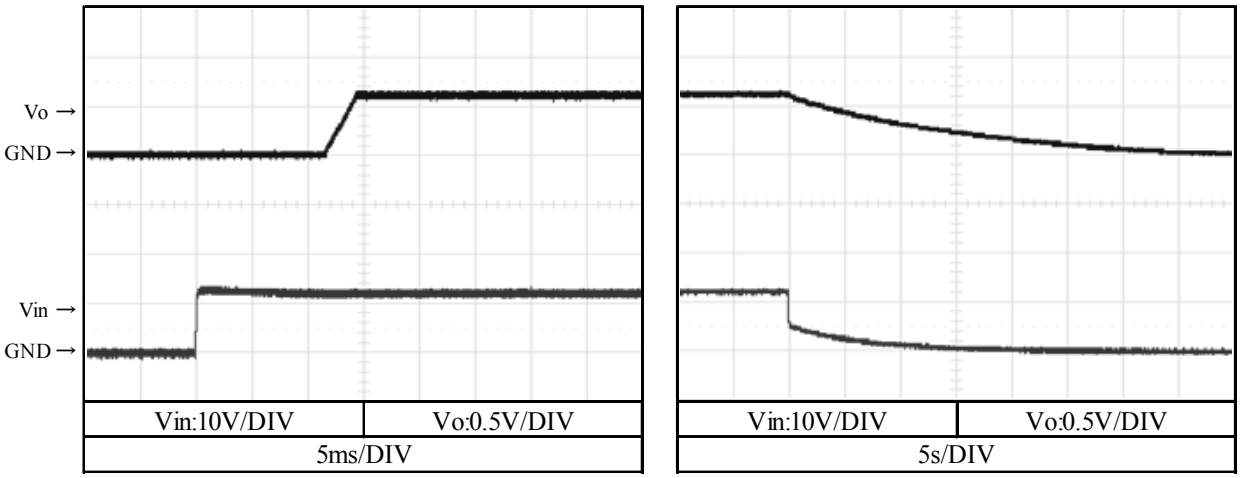


0.5V/DIV	100us/DIV

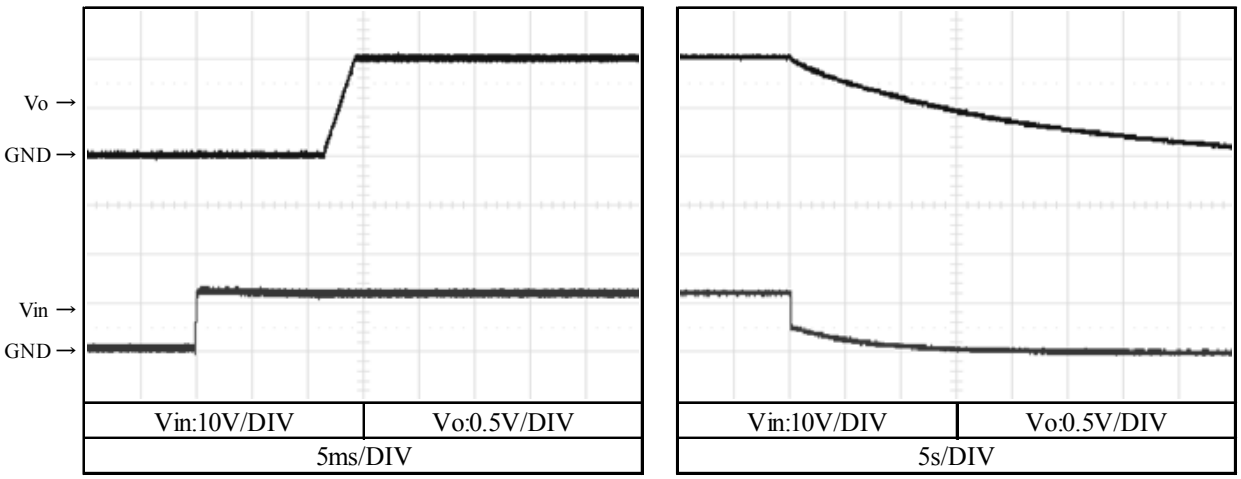
2.6　出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 12 VDC
Io : 0 %
Ta : 25 ℃

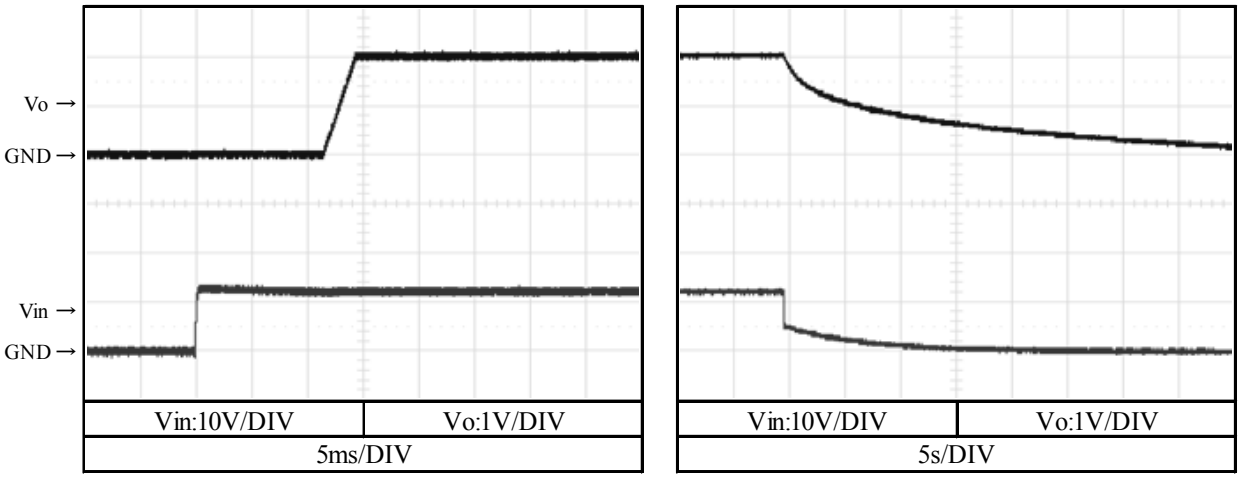
Vo= 0.6 V



Vo= 1.0 V



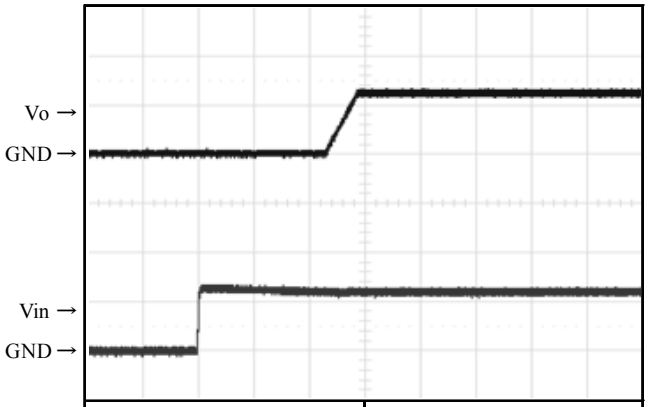
Vo= 2.0 V



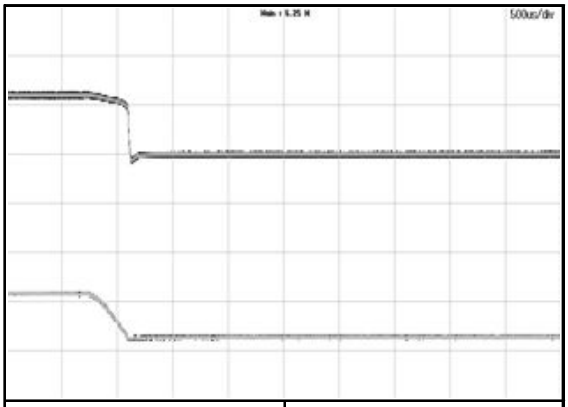
2.6　出力立ち上がり、立ち下がり特性　Output rise and fall characteristics

Conditions　Vin : 12 VDC
Io : 100 %
Ta : 25 ℃

Vo= 0.6 V

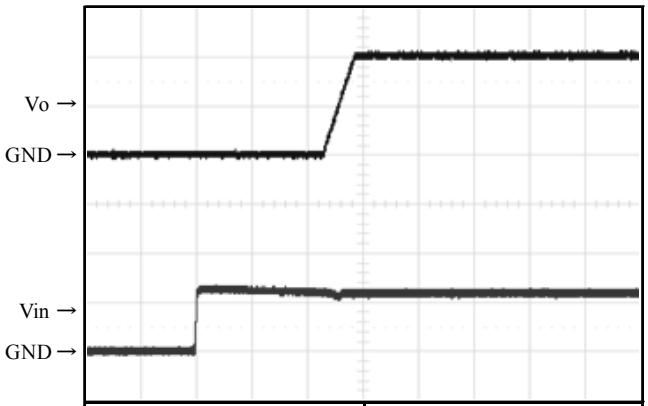


Vin:10V/DIV	Vo:0.5V/DIV
5ms/DIV	

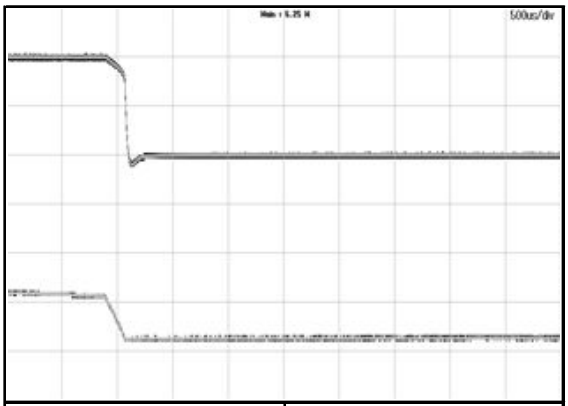


Vin:10V/DIV	Vo:0.5V/DIV
0.5ms/DIV	

Vo= 1.0 V

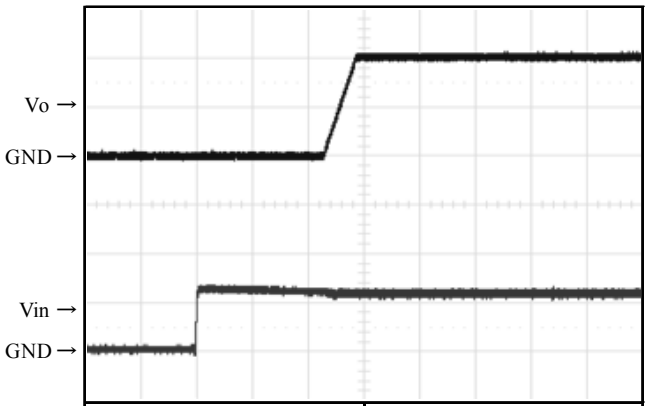


Vin:10V/DIV	Vo:0.5V/DIV
5ms/DIV	

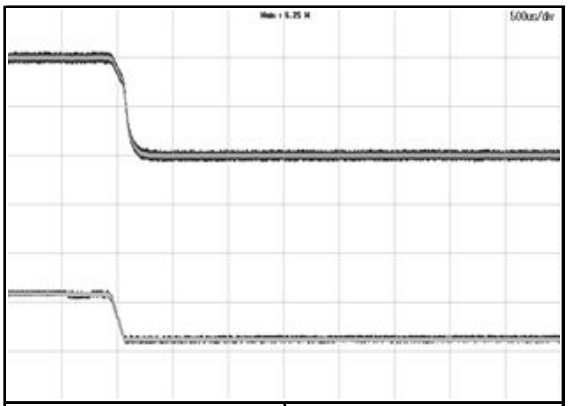


Vin:10V/DIV	Vo:0.5V/DIV
0.5ms/DIV	

Vo= 2.0 V



Vin:10V/DIV	Vo:1V/DIV
5ms/DIV	

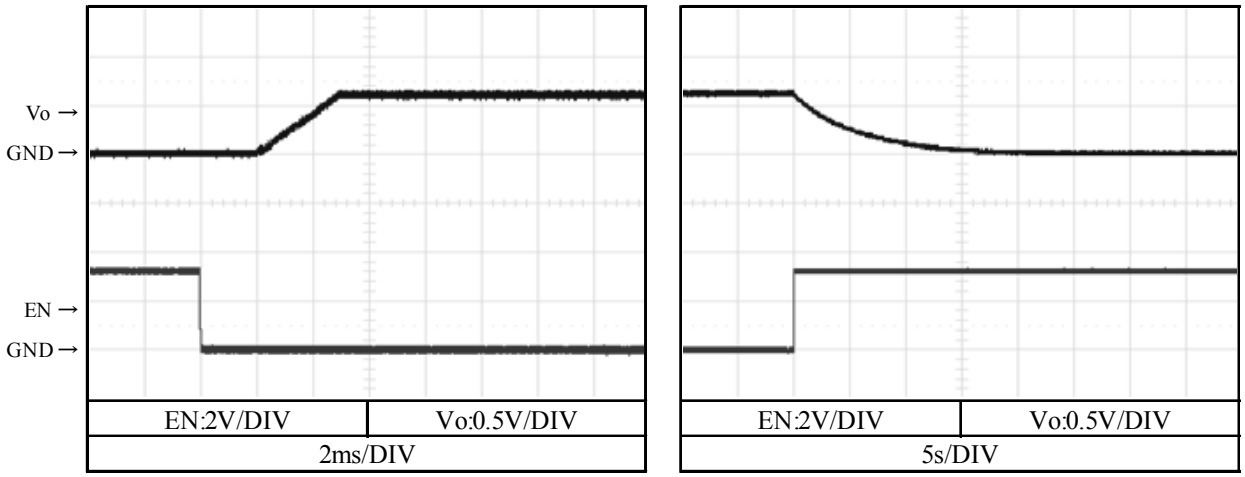


Vin:10V/DIV	Vo:1V/DIV
0.5ms/DIV	

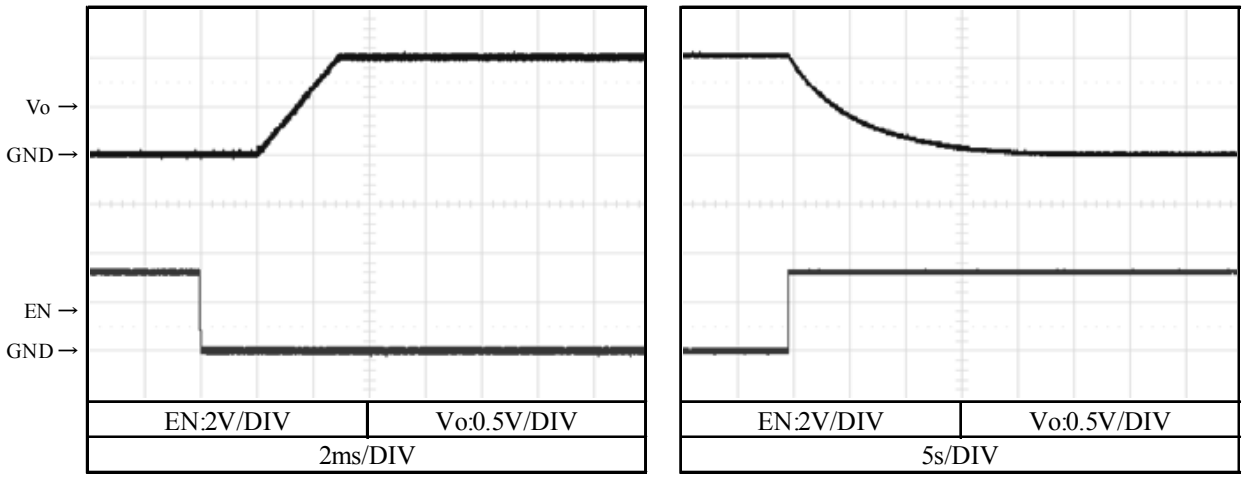
2.6 出力立ち上がり、立ち下がり特性 (リモートON/OFF時)
Output rise and fall characteristics with Remote ON/OFF

Conditions Vin : 12 VDC
Io : 0 %
Ta : 25 ℃

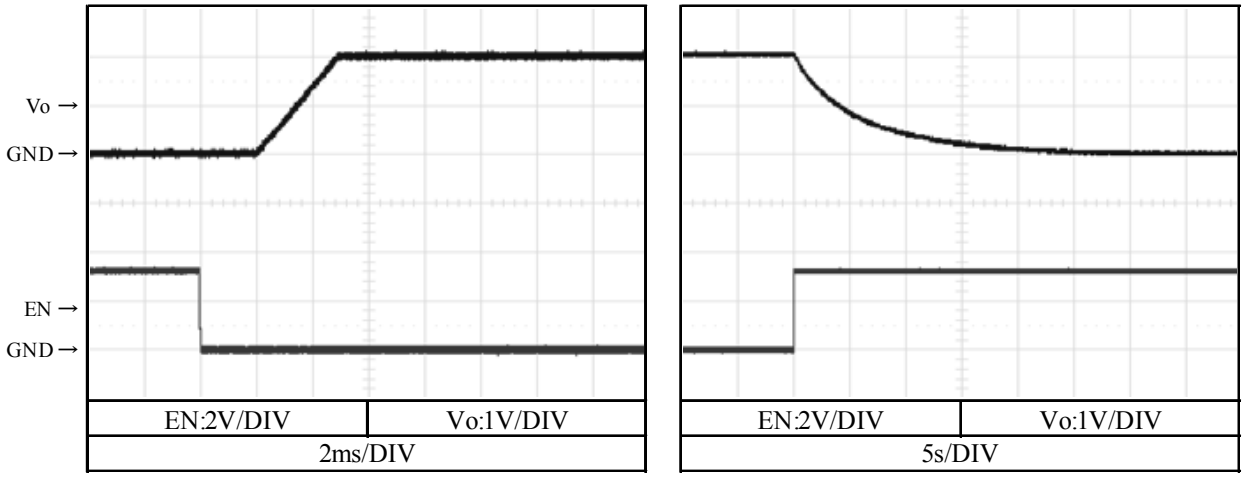
Vo= 0.6 V



Vo= 1.0 V



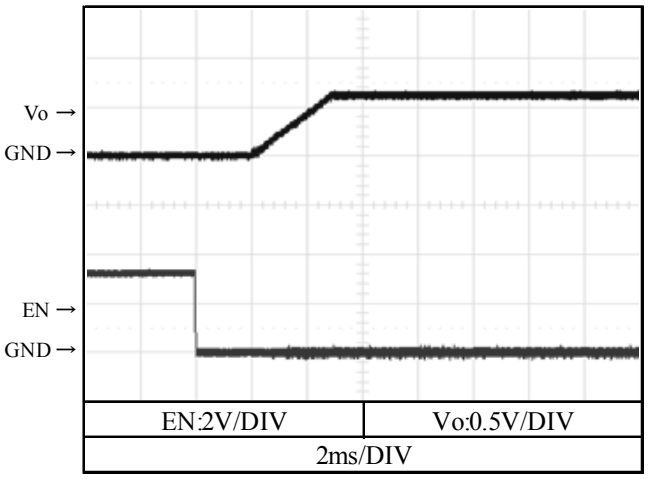
Vo= 2.0 V



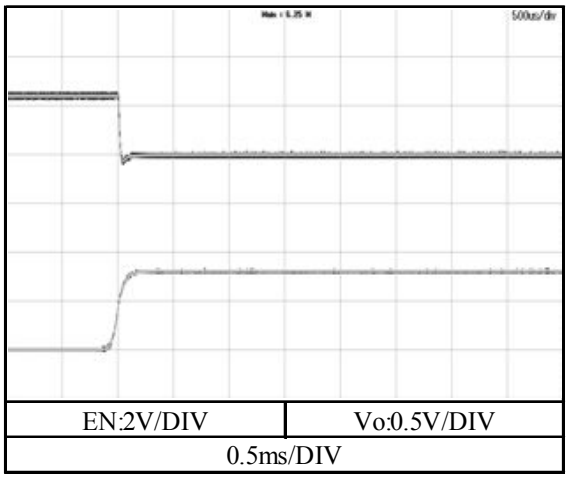
2.6 出力立ち上がり、立ち下がり特性 (リモートON/OFF時)
Output rise and fall characteristics with Remote ON/OFF

Conditions Vin : 12 VDC
Io : 100 %
Ta : 25 ℃

Vo= 0.6 V

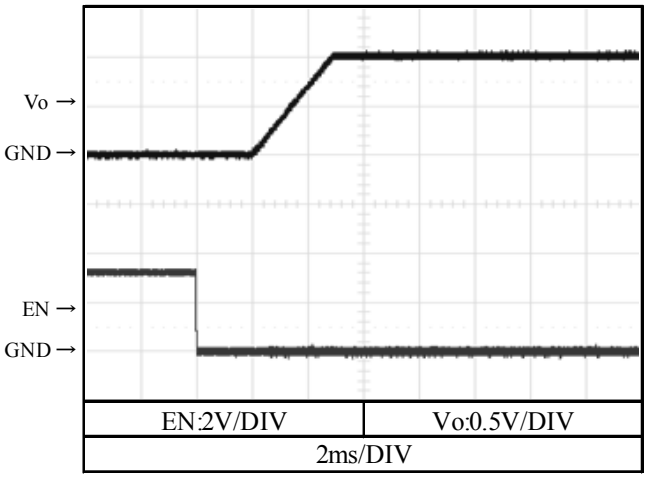


EN:2V/DIV	Vo:0.5V/DIV
2ms/DIV	

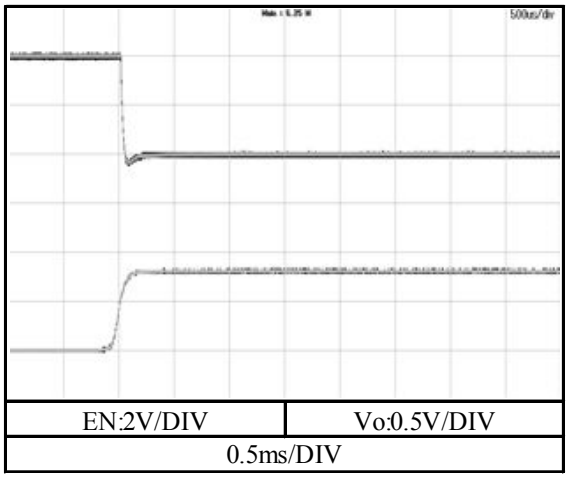


EN:2V/DIV	Vo:0.5V/DIV
0.5ms/DIV	

Vo= 1.0 V

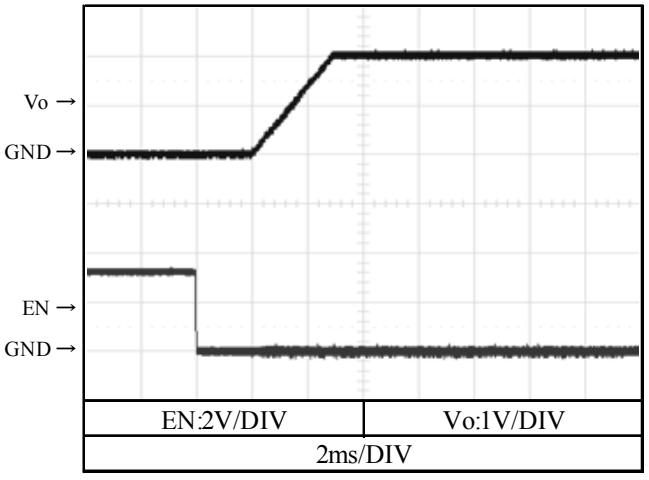


EN:2V/DIV	Vo:0.5V/DIV
2ms/DIV	

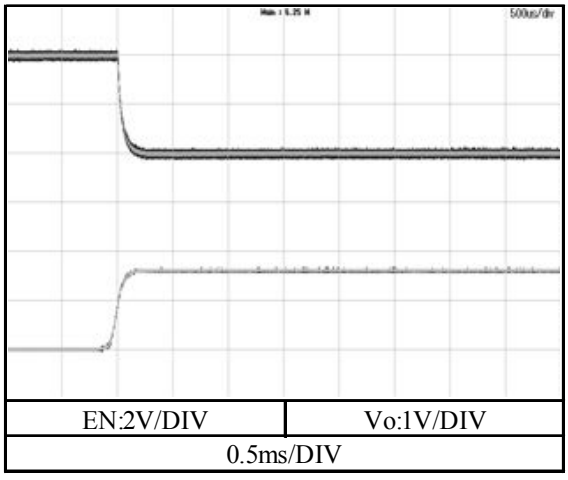


EN:2V/DIV	Vo:0.5V/DIV
0.5ms/DIV	

Vo= 2.0 V



EN:2V/DIV	Vo:1V/DIV
2ms/DIV	



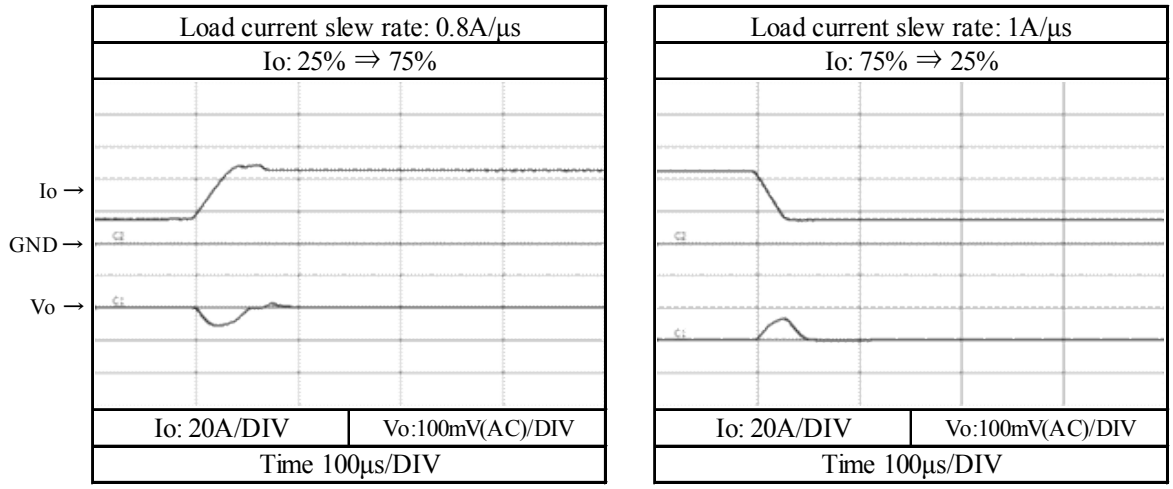
EN:2V/DIV	Vo:1V/DIV
0.5ms/DIV	

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

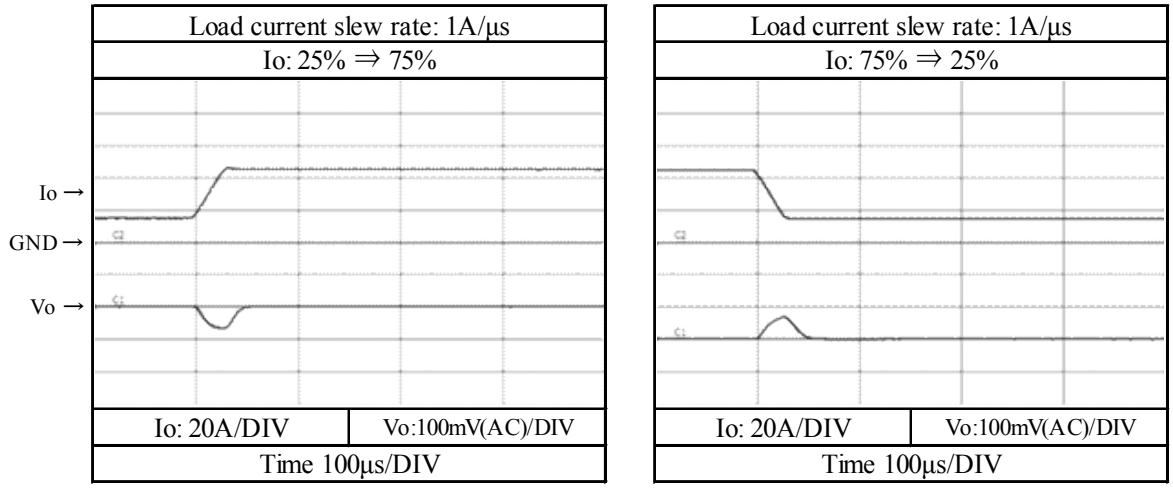
Transient Response : Standard Option

Conditions　Vin : 12 VDC
Ta : 25 ℃

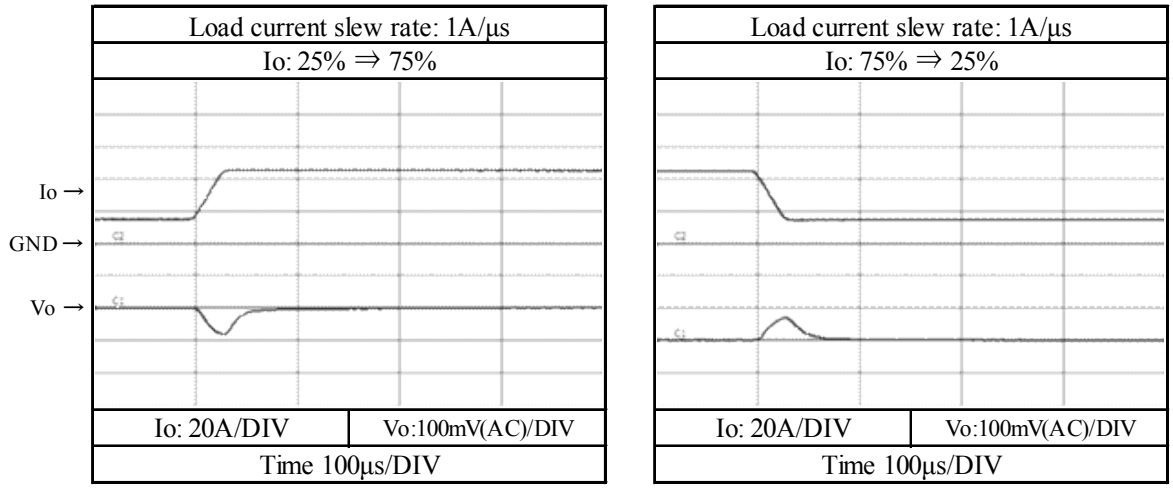
Vo=0.6V



Vo=1.0V



Vo=2.0V

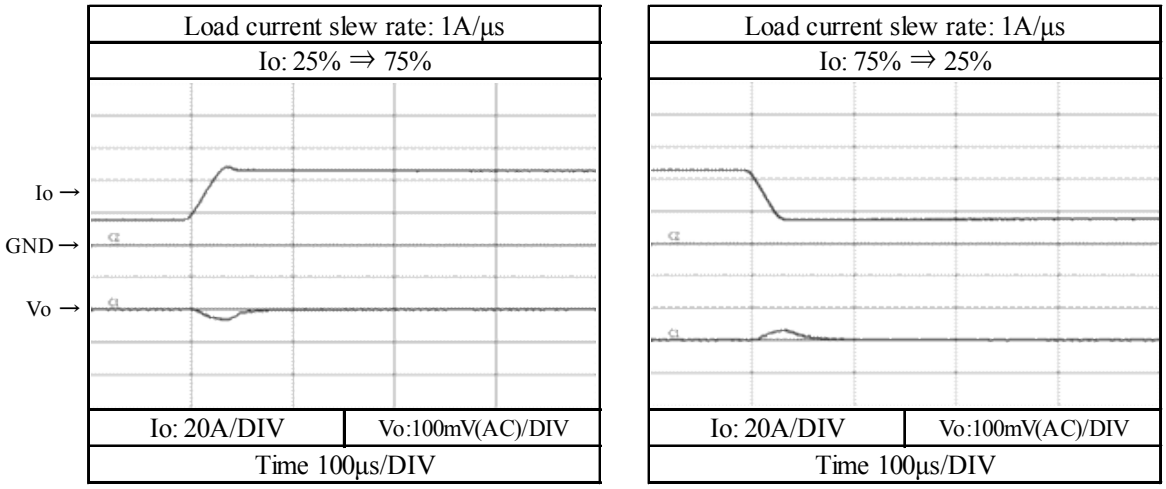


2.7　過渡応答(負荷急変)特性　Dynamic load response characteristics

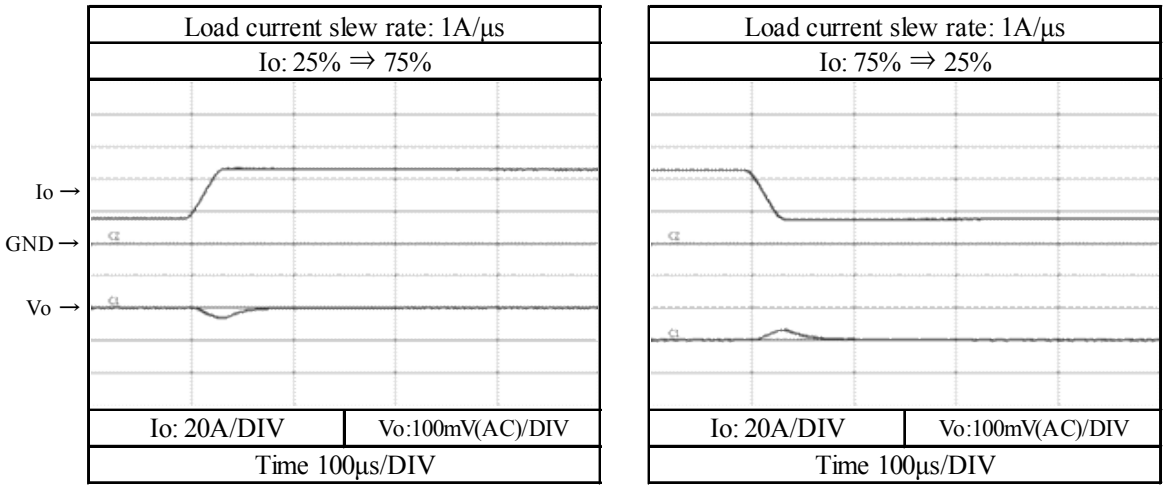
Transient Response : Enhanced Option

Conditions　Vin : 12 VDC
Ta : 25 ℃

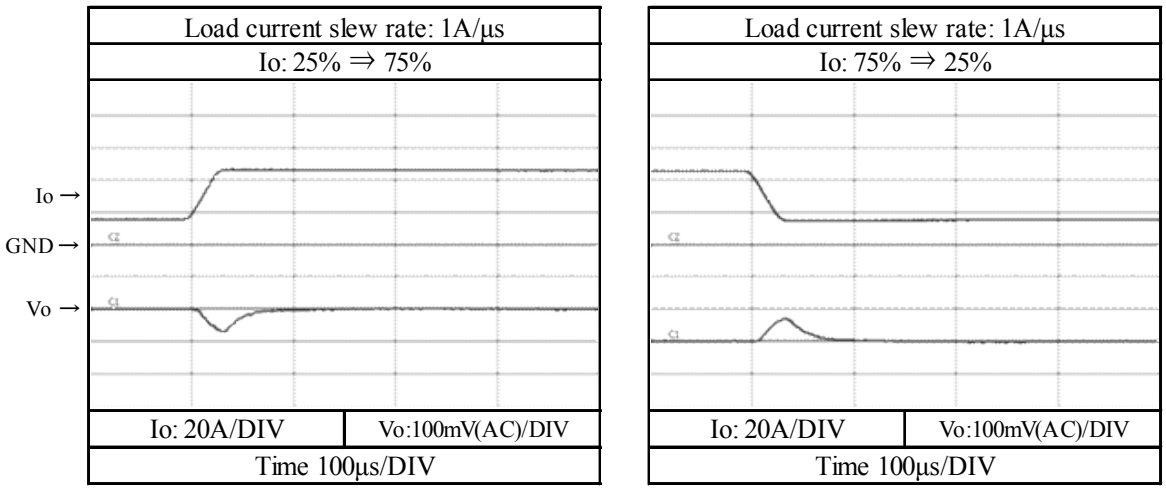
Vo=0.6V



Vo=1.0V



Vo=2.0V

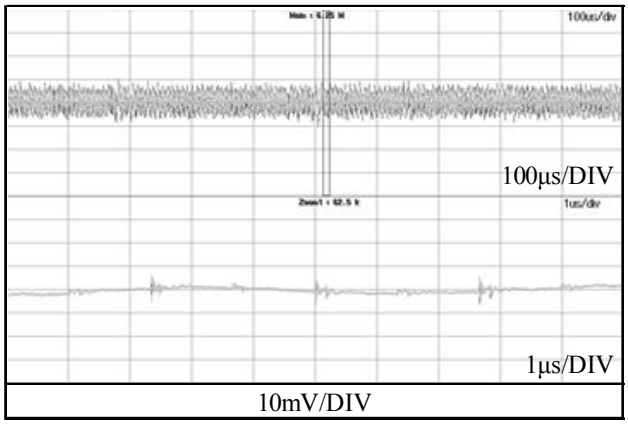


2.8　出力リップル、ノイズ波形　Output ripple and noise waveform

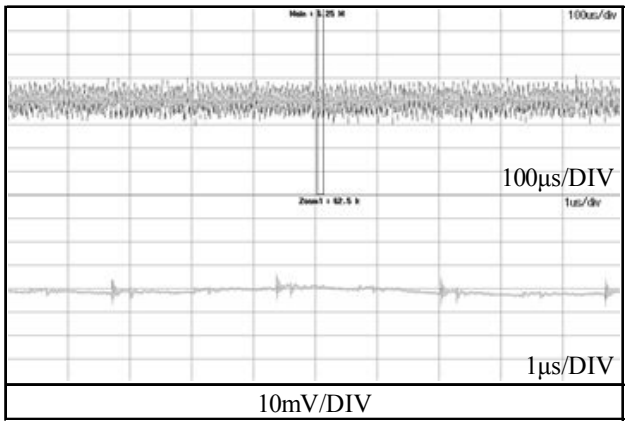
Transient Response : Standard Option

Conditions　Vin : 12 VDC
Io : 100 %
Ta : 25 ℃

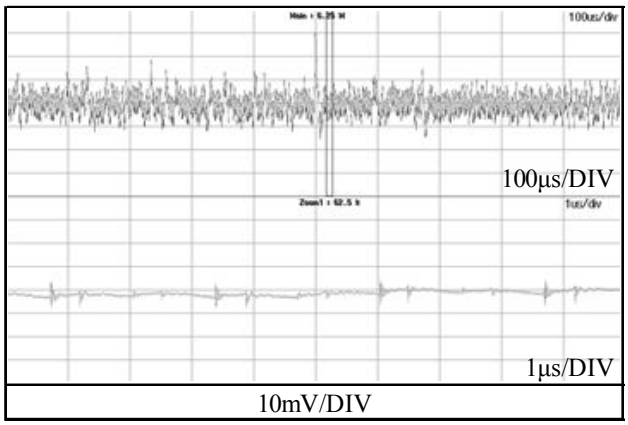
Vo=0.6V



Vo=1.0V



Vo=2.0V

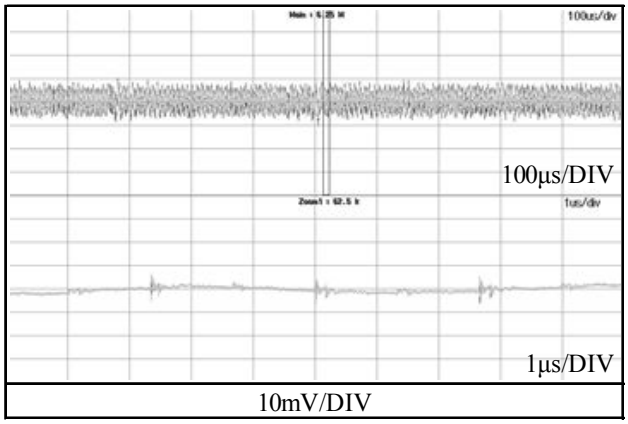


2.8　出力リップル、ノイズ波形　Output ripple and noise waveform

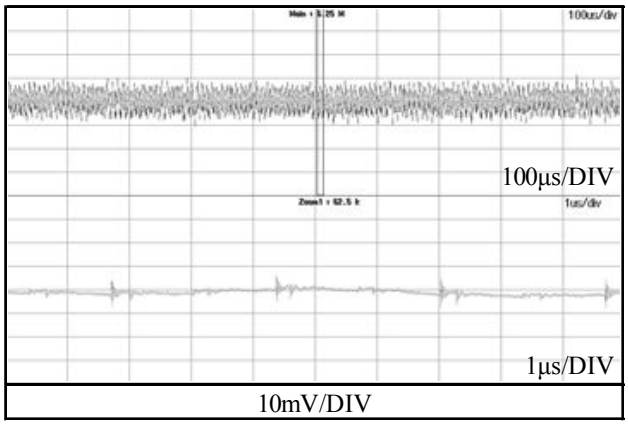
Transient Response : Enhanced Option

Conditions　Vin : 12 VDC
Io : 100 %
Ta : 25 ℃

Vo=0.6V



Vo=1.0V



Vo=2.0V