

CHVM1R5-12-1500P

EVALUATION DATA

INDEX

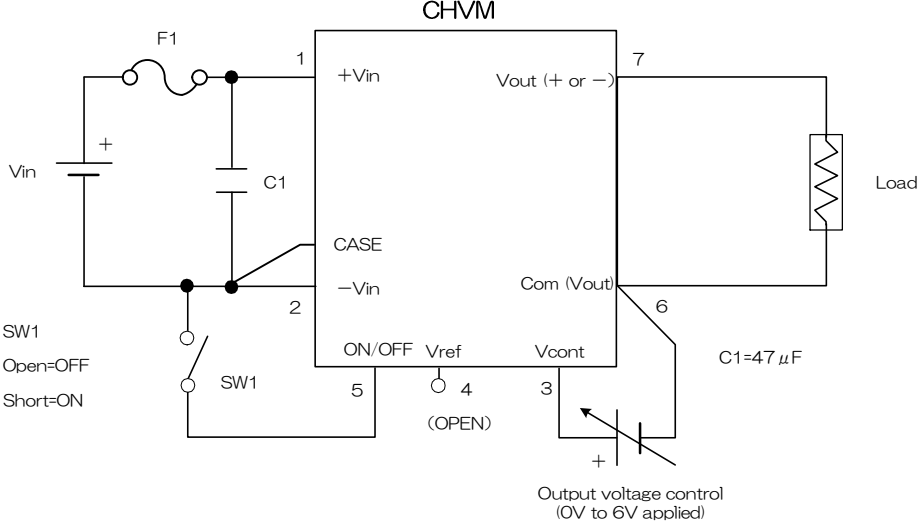
1. Test circuit·····P3
2. Steady State Characteristics·····P4,P5,P6
3. Temperature Regulation·····P7
4. Over Current Characteristics·····P8
5. Output Rise Time Characteristics·····P9,P10,P11
6. Output Fall Time Characteristics·····P12,P13,P14
7. Dynamic Load Regulation·····P15
8. Vout-Vin Characteristics····· P16
9. Output Ripple/Noise waveform·····P17

Definition

- Vin ···Input voltage
- Vout ···Output voltage
- Iout ···Output current
- Vcont ···Output voltage control
- VON-OFF ···Output voltage ON/OFF control
- Ta ···Ambient temperature
- BW ···Bandwidth

Test results are reference data based on our measurement condition.

1. Test circuit



2. Steady State Characteristics

Condition Ta : -10°C

Test Item			Load : Open			Load : 1500kΩ		
	Input Voltage	Vcont	Input Current	Output Voltage	Ripple/ Noise	Input Current	Output Voltage	Ripple/ Noise
	[V]	[V]	[mA]	[V]	[mV p-p]	[mA]	[V]	[mV p-p]
	11.0	6.0	67	1504.39	6	240	1504.22	7
		4.5	56	1127.53	4	186	1127.41	5
		3.0	47	753.07	4	130	752.95	4
		1.5	37	374.83	3	77	374.81	3
		0.0	27	0.51	2	27	0.03	2
	12.0	6.0	67	1504.51	5	240	1504.32	8
		4.5	57	1127.47	4	184	1127.28	5
		3.0	47	753.08	3	130	752.97	4
		1.5	37	374.78	3	78	374.71	3
		0.0	27	0.77	2	27	0.04	2
	13.0	6.0	67	1504.46	5	240	1504.24	8
		4.5	57	1127.31	4	184	1127.30	5
		3.0	46	753.06	3	130	752.95	4
	1.5	38	374.74	2	78	374.69	3	
	0.0	27	0.96	2	27	0.08	2	

	Spec	Data
Line reg.	-	0.04V
Load reg.	-	0.20V
Ripple/Noise	-	8mV p-p

Note : Line reg. and Load reg. were measured individually.

2. Steady State Characteristics

Condition Ta : 25°C

Test Item			Load : Open			Load : 1500kΩ		
	Input Voltage	Vcont	Input Current	Output Voltage	Ripple/ Noise	Input Current	Output Voltage	Ripple/ Noise
	[V]	[V]	[mA]	[V]	[mV p-p]	[mA]	[V]	[mV p-p]
	11.0	6.0	66	1506.88	4	230	1506.67	7
		4.5	56	1129.04	4	177	1128.83	5
		3.0	46	752.67	3	127	752.56	4
		1.5	38	375.26	2	77	375.17	3
		0.0	27	0.53	2	27	0.05	2
	12.0	6.0	66	1506.89	5	230	1506.66	7
		4.5	56	1128.97	4	177	1128.81	5
		3.0	46	752.67	3	126	752.56	4
		1.5	37	375.16	2	77	375.13	3
		0.0	27	0.75	2	27	0.05	2
	13.0	6.0	66	1506.88	5	230	1506.55	7
		4.5	56	1128.94	5	177	1128.78	5
		3.0	46	752.67	3	126	752.57	4
	1.5	38	375.14	2	77	375.07	3	
	0.0	27	0.93	2	27	0.08	2	

	Spec	Data
Line reg.	0.02% (0.3V) max.	0.03V
Load reg.	0.04% (0.6V) max	0.21V
Ripple/Noise	20mV p-p max	7mV p-p

Note : Line reg. and Load reg. were measured individually.

2. Steady State Characteristics

Condition Ta : 50°C

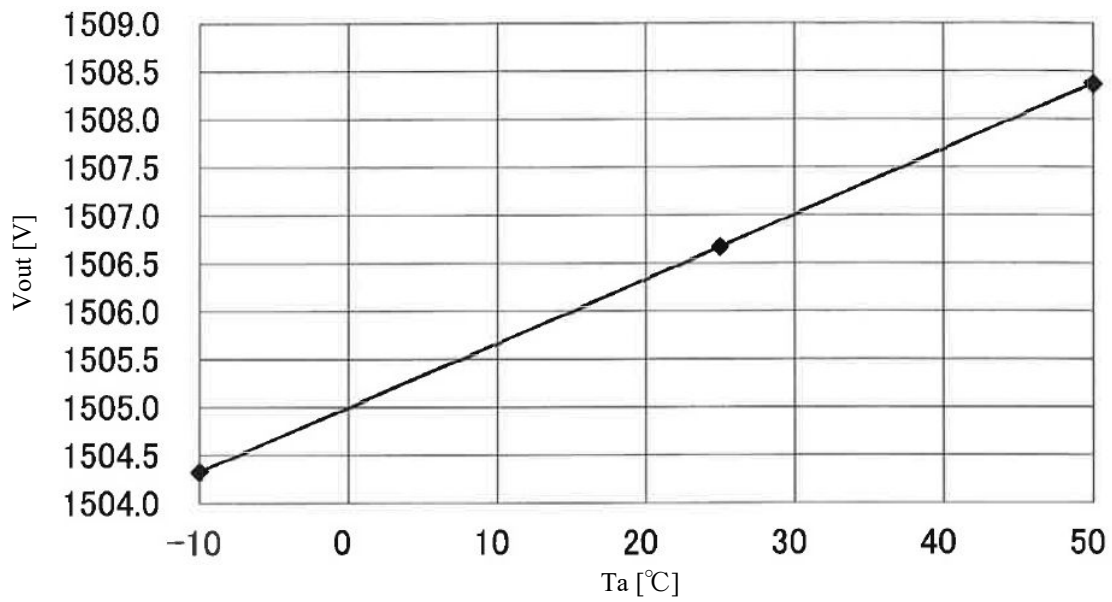
Test Item			Load : Open			Load : 1500kΩ		
	Input Voltage	Vcont	Input Current	Output Voltage	Ripple/ Noise	Input Current	Output Voltage	Ripple/ Noise
	[V]	[V]	[mA]	[V]	[mV p-p]	[mA]	[V]	[mV p-p]
	11.0	6.0	65	1508.55	5	226	1508.37	8
		4.5	56	1130.38	4	177	1130.25	5
		3.0	47	753.55	3	127	753.43	4
		1.5	39	376.61	2	79	376.56	3
		0.0	27	0.55	1	27	0.10	1
	12.0	6.0	65	1508.59	4	226	1508.36	8
		4.5	56	1130.33	3	177	1130.15	5
		3.0	47	753.53	3	127	753.42	4
		1.5	39	376.59	2	79	376.53	2
		0.0	27	0.63	1	27	0.59	1
	13.0	6.0	65	1508.56	4	226	1508.32	8
		4.5	56	1130.32	3	177	1130.15	5
		3.0	47	753.53	3	127	753.42	4
	1.5	39	376.57	2	79	376.52	2	
	0.0	27	0.74	1	27	0.13	1	

	Spec	Data
Line reg.	-	0.06V
Load reg.	-	0.22V
Ripple/Noise	-	8mV p-p

Note : Line reg. and Load reg. were measured individually.

3. Temperature Regulation

Conditions V_{in} : 12V
 Load : 1500k Ω
 V_{cont} : 6V



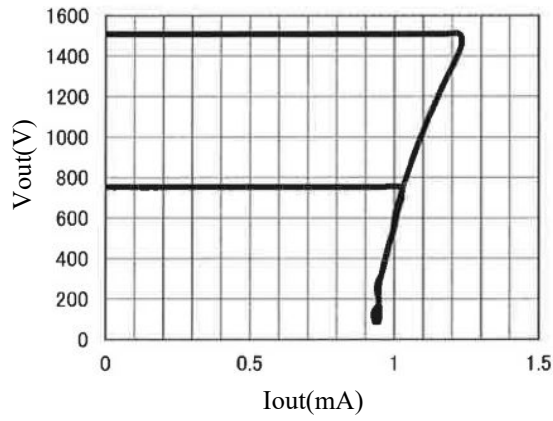
Ta [°C]	Vout [V]
-10	1504.3
25	1506.7
50	1508.4

4. Over Current Characteristics

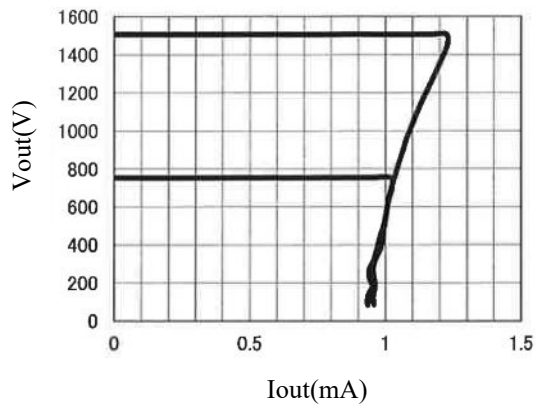
Conditions

Ta : 25°C
Vout : 750V , 1500V

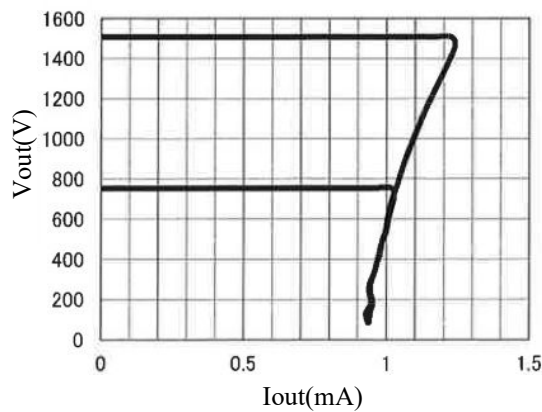
(1) Vin : 11V



(2) Vin : 12V



(3) Vin : 13V

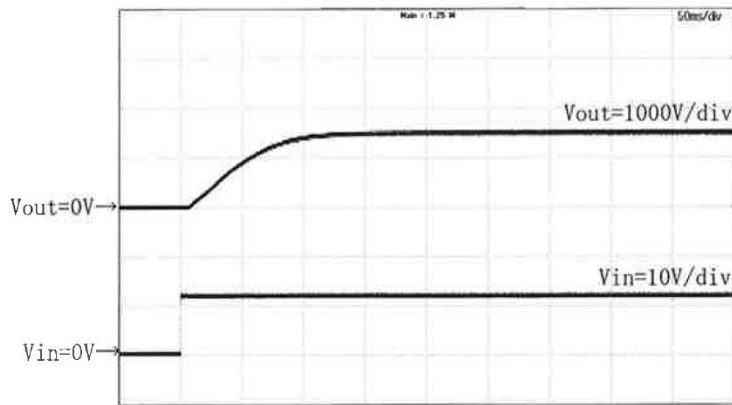


5. Output Rise Time Characteristics

Conditions

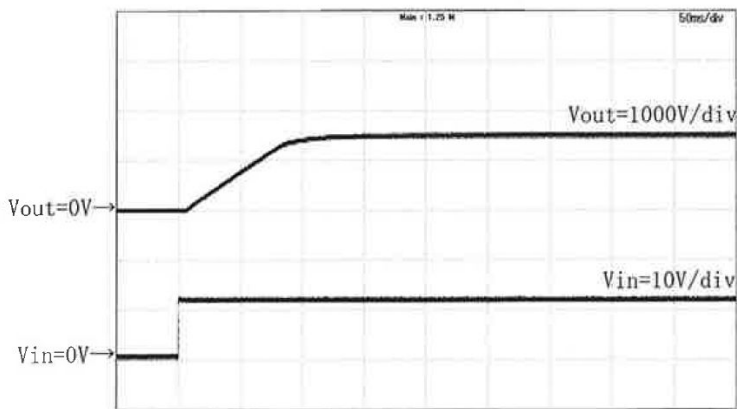
Ta : 25°C
Vin : 12V
Vout : 1500V
Vcont : 6V

(1) Load condition : 0.0mA



Time : 50ms/div

(2) Load condition : 1.0mA

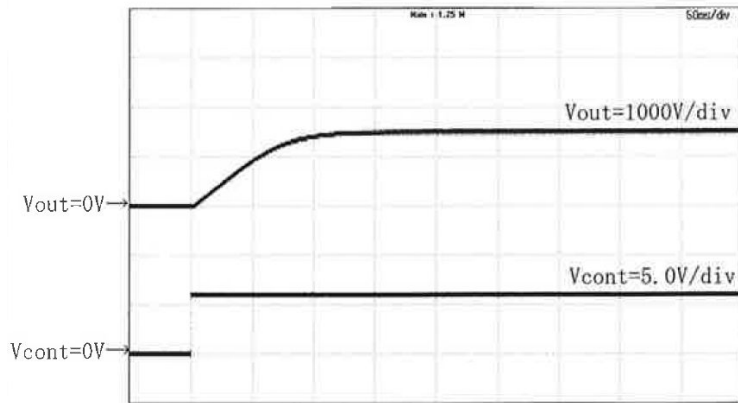


Time : 50ms/div

5. Output Rise Time Characteristics (with Vcont)

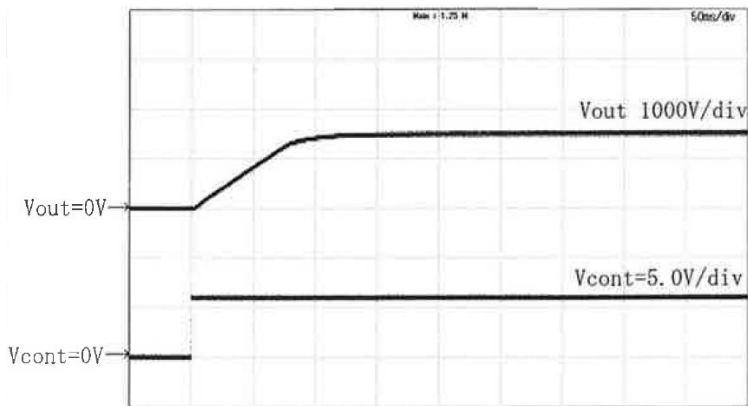
Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: 1500V
	Vcont	: 6V

(1) Load condition : 0.0mA



Time : 50ms/div

(2) Load condition : 1.0mA



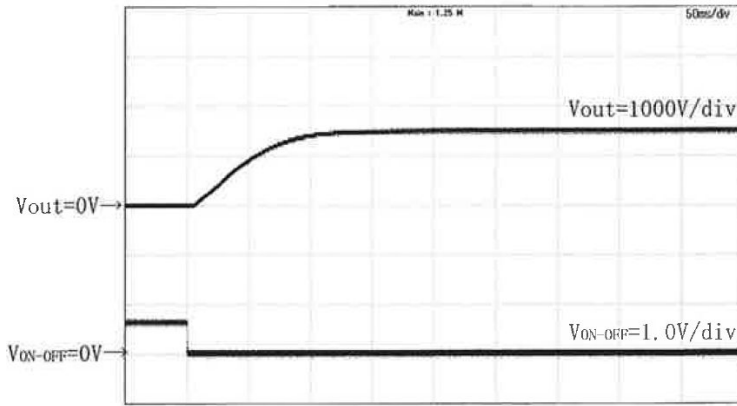
Time : 50ms/div

5. Output Rise Time Characteristics (with ON/OFF Control)

Conditions

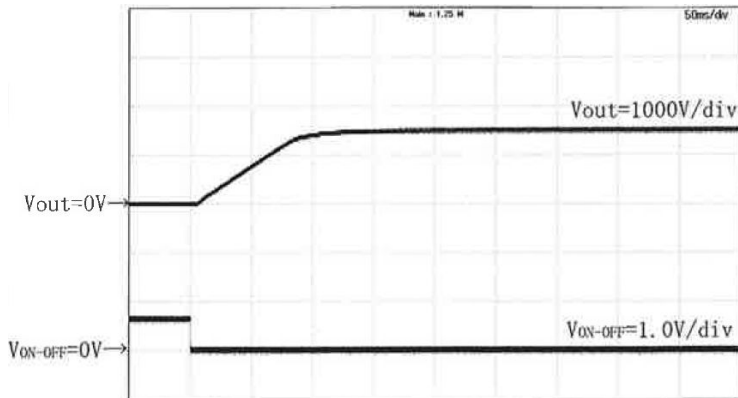
Ta : 25°C
Vin : 12V
Vout : 1500V
Vcont : 6V

(1) Load condition : 0.0mA



Time : 50ms/div

(2) Load condition : 1.0mA

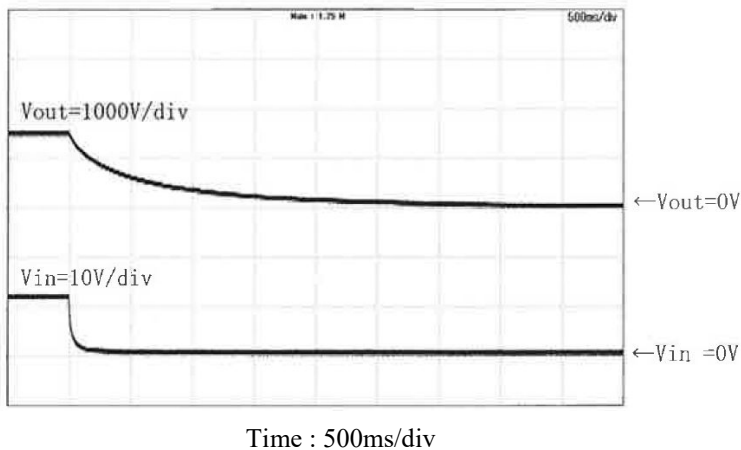


Time : 50ms/div

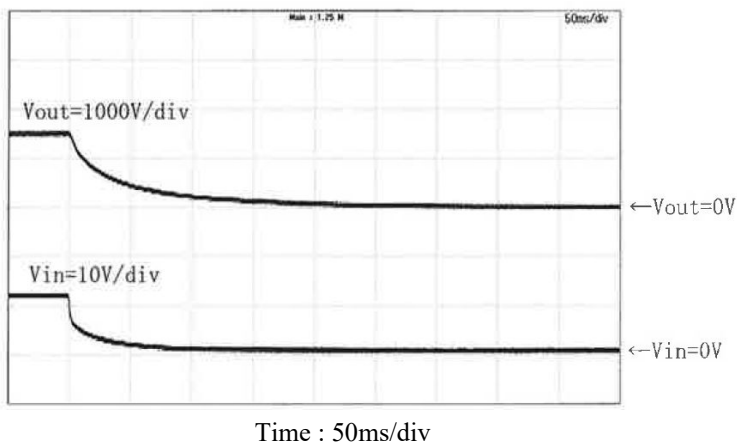
6. Output Fall Time Characteristics

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: 1500V
	Vcont	: 6V

(1) Load condition : 0.0mA



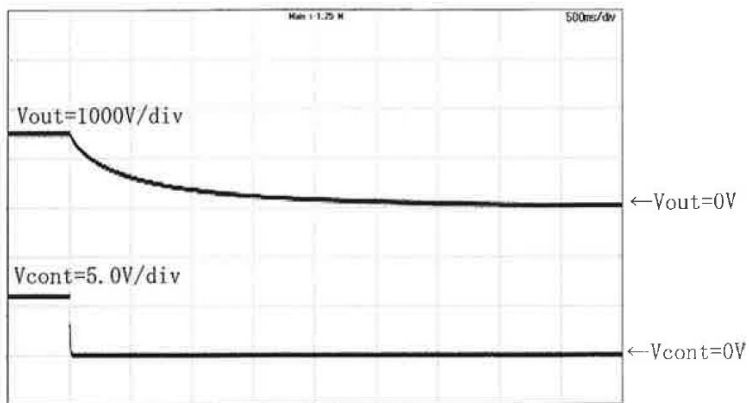
(2) Load condition : 1.0mA



6. Output Fall Time Characteristics (with Vcont)

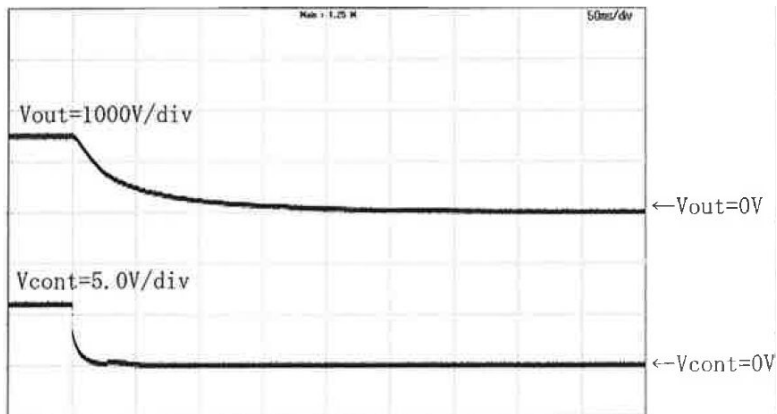
Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: 1500V
	Vcont	: 6V

(1) Load condition : 0.0mA



Time : 500ms/div

(2) Load condition : 1.0mA

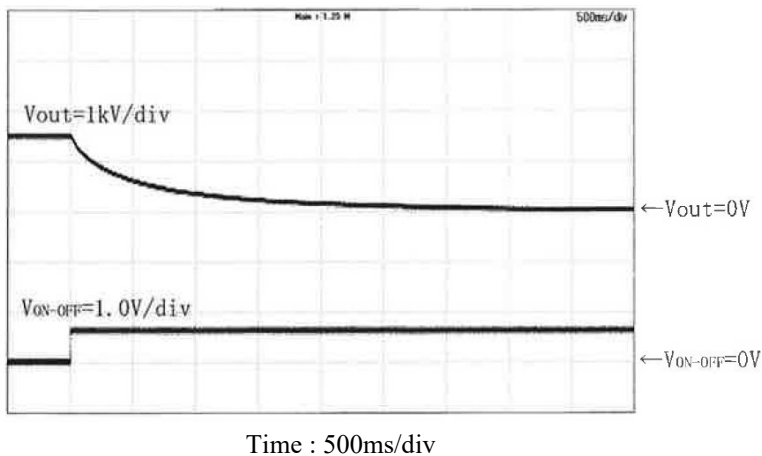


Time : 50ms/div

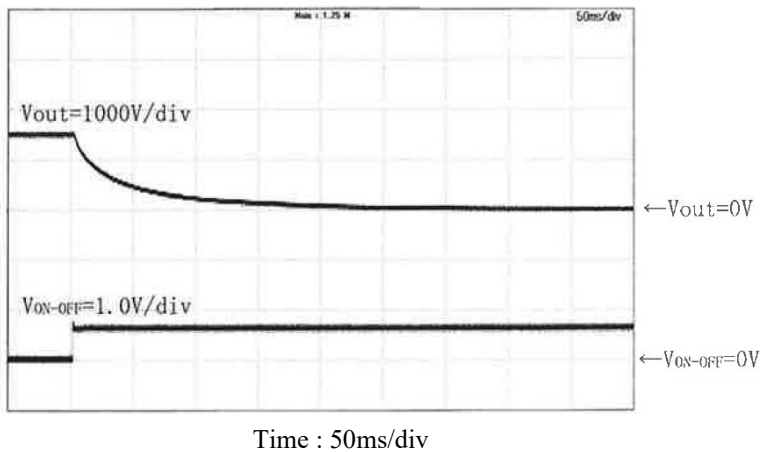
6. Output Fall Time Characteristics (with ON/OFF Control)

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: 1500V
	Vcont	: 6V

(1) Load condition : 0.0mA



(2) Load condition : 1.0mA

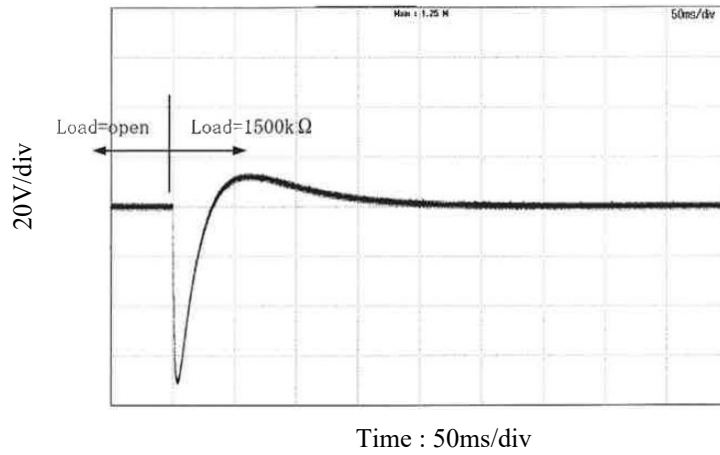


7. Dynamic Load Regulation

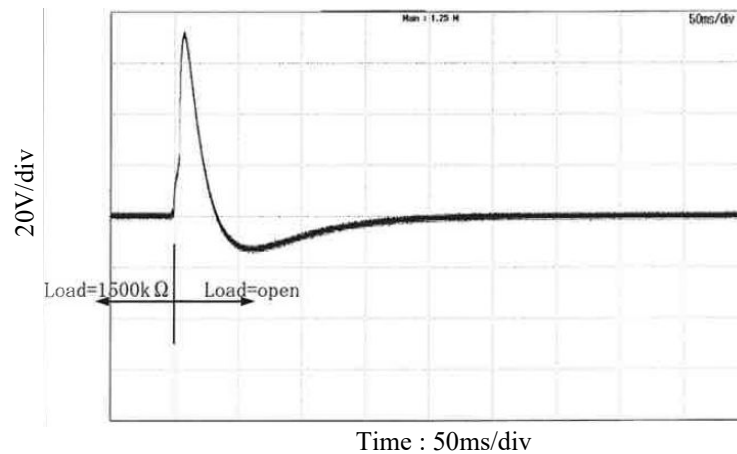
Conditions

Ta : 25°C
Vin : 12V
Vout : 1500V
Vcont : 6V

- (1) Load : open => 1500kΩ
Condition : Load input



- (2) Load : 1500kΩ => open
Condition : Load disconnection

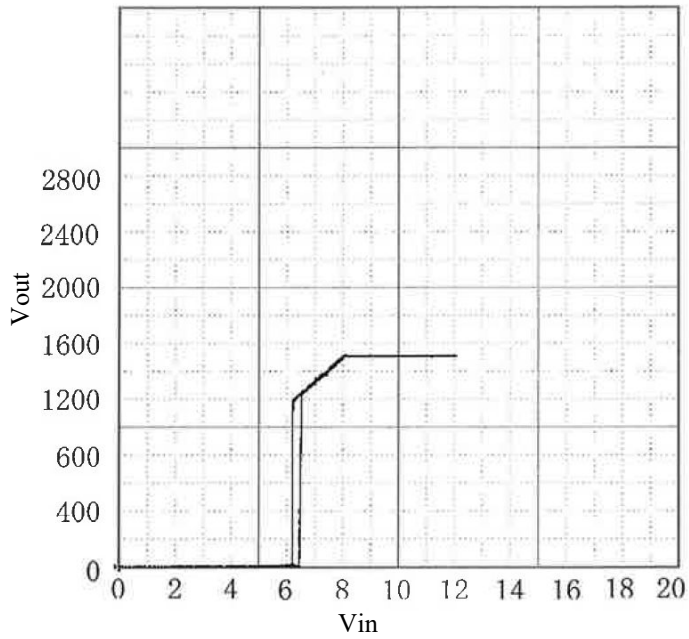


8. Vout-Vin Characteristics

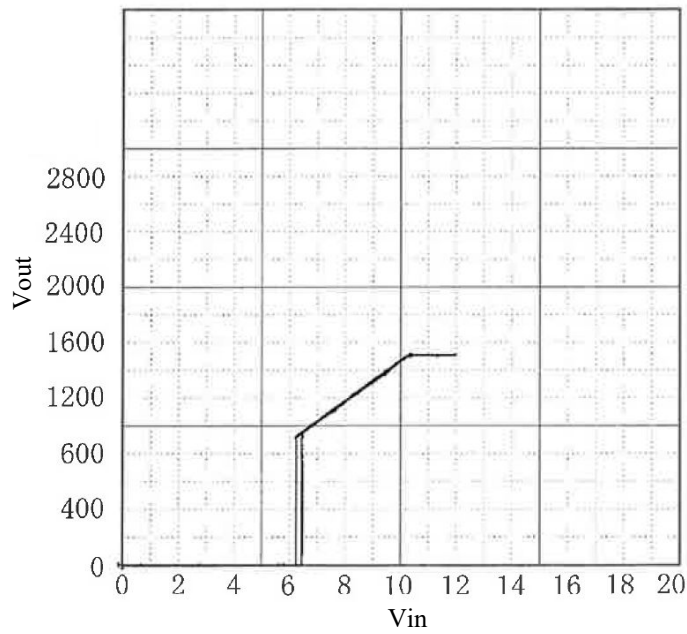
Conditions

Ta : 25°C
Vout : 1500V
Vcont : 6V

(1) Load condition : 0.0mA



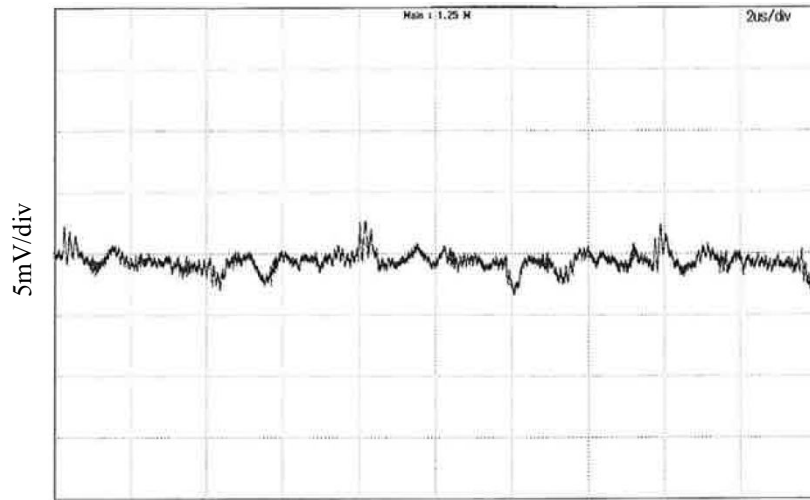
(2) Load condition : 1.0mA



9. Output Ripple/Noise waveform

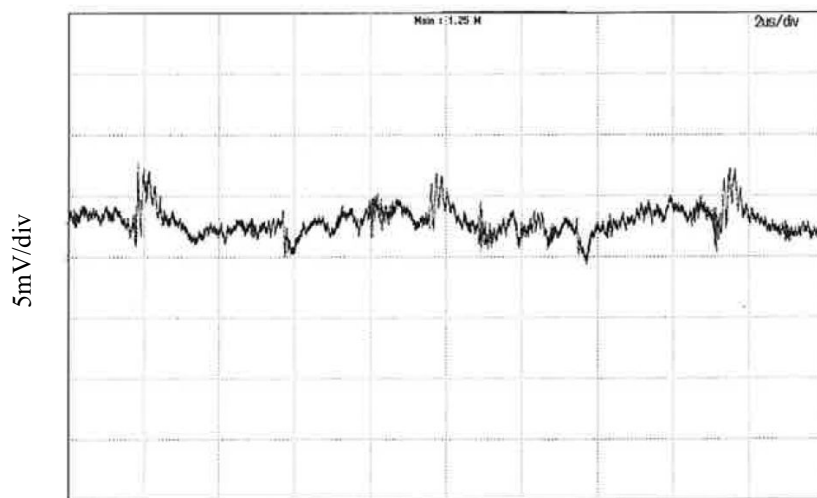
Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: 1500V
	Vcont	: 6V
	BW	: 20MHz

(1) Load condition : Output Current = 0.0mA



Time : 2μs/div

(2) Load condition : Output Current = 1.0mA



Time : 2μs/div