

CHVM1R5-12-1000N

EVALUATION DATA

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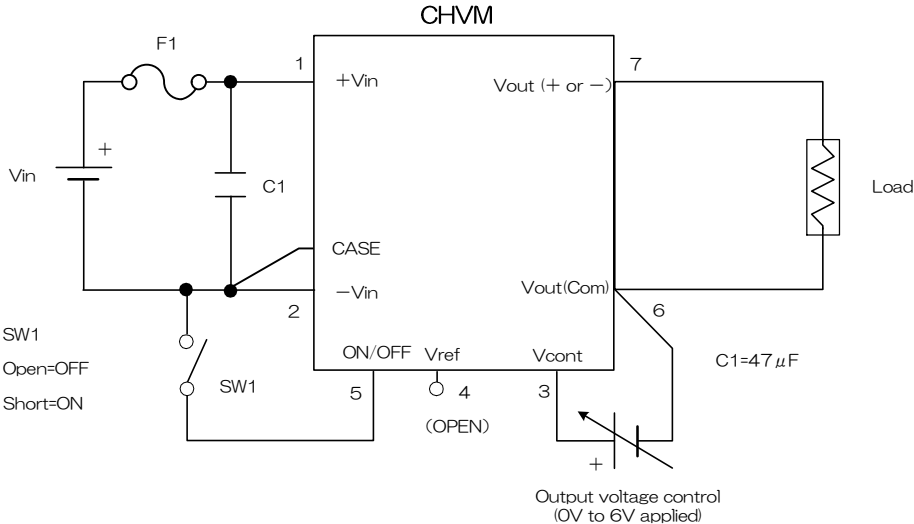
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Definition

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 : 667kΩ		
	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	53	-997.87	2	217	-997.75	4
		4.5	47	-748.09	2	169	-747.99	3
		3.0	41	-499.02	1	122	-498.95	2
		1.5	34	-249.62	1	75	-249.57	1
		0.0	27	-0.51	1	27	-0.03	1
	12.0	6.0	53	-997.93	2	218	-997.78	5
		4.5	47	-748.07	2	169	-747.95	3
		3.0	40	-499.02	1	122	-498.94	2
		1.5	34	-249.61	1	74	-249.57	1
		0.0	28	-0.55	1	27	-0.03	1
	13.0	6.0	53	-997.88	2	217	-997.74	4
		4.5	47	-748.05	2	169	-747.94	3
		3.0	40	-499.02	2	122	-498.94	2
	1.5	35	-249.61	1	75	-249.57	1	
	0.0	28	-0.57	1	27	-0.04	1	

	Spec	Data
Line reg.	-	0.02V
Load reg.	-	0.15V
Ripple/Noise	-	5mV p-p

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

2. Steady State Characteristics

Condition Ta : 25°C

Test Item			Load : Open			Load : 667kΩ		
	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	48	-999.10	2	214	-999.09	5
		4.5	43	-748.84	2	167	-748.72	4
		3.0	37	-499.41	2	121	-499.32	3
		1.5	33	-249.75	1	75	-249.71	2
		0.0	27	-0.66	1	27	-0.05	1
	12.0	6.0	48	-999.25	3	215	-999.11	5
		4.5	43	-748.81	2	167	-748.68	4
		3.0	38	-499.40	2	121	-499.32	3
		1.5	33	-249.74	1	75	-249.70	2
		0.0	27	-0.73	1	27	-0.05	1
	13.0	6.0	48	-999.24	2	214	-999.07	5
		4.5	43	-748.80	2	166	-748.67	4
		3.0	37	-499.40	2	121	-499.31	3
	1.5	33	-249.73	1	75	-249.69	2	
	0.0	27	-0.78	1	27	-0.06	1	

	Spec	Data
Line reg.	0.02% (0.2V) max.	0.03V
Load reg.	0.04% (0.4V) max	0.17V
Ripple/Noise	15mV p-p max	5mV p-p

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

2. Steady State Characteristics

Condition Ta : 50°C

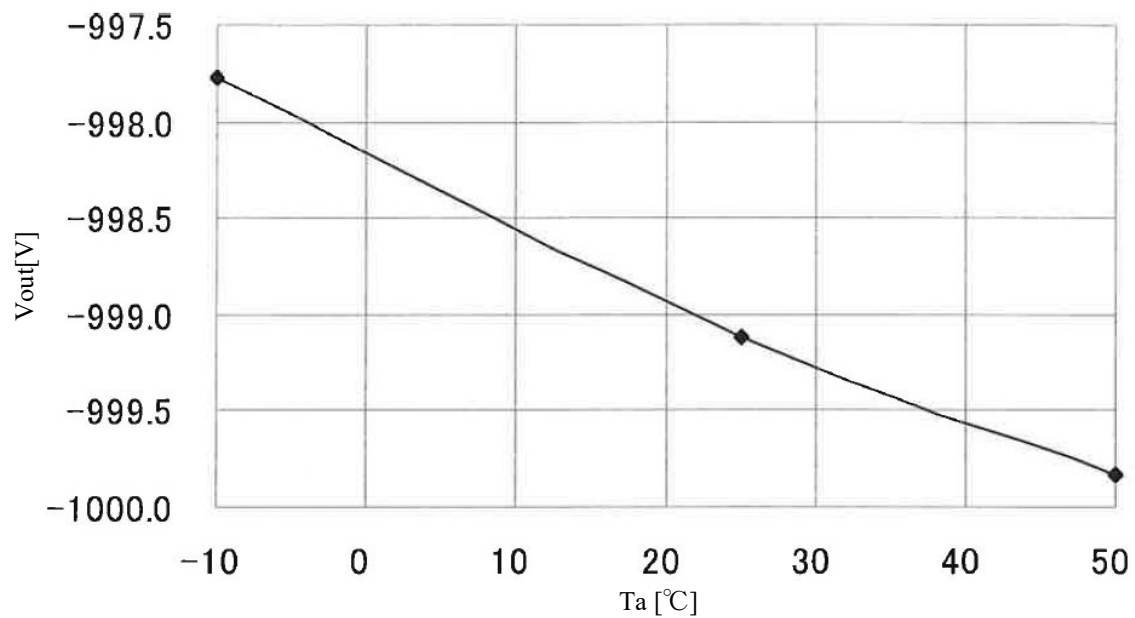
Test Item			Load : Open			Load : 667kΩ		
	Input Voltage	Vcont	Input Current	Output Voltage	Ripple/ Noise	Input Current	Output Voltage	Ripple/ Noise
	[V]	[V]	[mA]	[V]	[mV p-p]	[mA]	[V]	[mV p-p]
	11.0	6.0	45	-1000.02	2	213	-999.83	7
		4.5	40	-749.41	2	167	-749.28	5
		3.0	36	-499.70	1	121	-499.65	4
		1.5	32	-249.85	1	75	-249.80	2
		0.0	27	-0.62	1	27	-0.05	1
	12.0	6.0	45	-1000.00	2	212	-999.83	7
		4.5	41	-749.39	2	167	-749.26	5
		3.0	36	-499.71	2	121	-499.61	4
		1.5	32	-249.84	1	75	-249.80	2
		0.0	27	-0.69	1	27	-0.06	1
	13.0	6.0	45	-999.99	2	213	-999.81	7
		4.5	41	-749.37	2	167	-749.24	5
		3.0	36	-499.71	1	121	-499.62	4
	1.5	33	-249.84	1	75	-249.79	2	
	0.0	27	-0.74	1	27	-0.07	1	

	Spec	Data
Line reg.	-	0.03V
Load reg.	-	0.18V
Ripple/Noise	-	7mV p-p

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

3. Temperature Regulation

Conditions V_{in} : 12V
 $Load$: 667k Ω
 V_{cont} : 6V



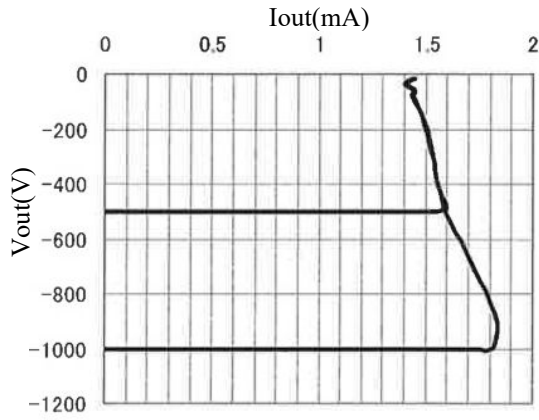
Ta [°C]	Vout [V]
-10	-997.8
25	-999.1
50	-999.8

4. Over Current Characteristics

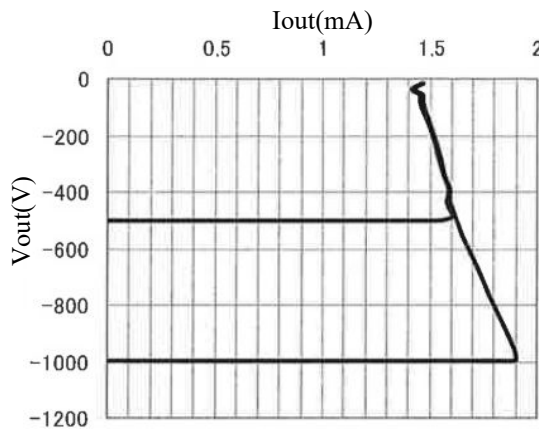
Conditions

Ta : 25°C
Vout : -500V , -1000V

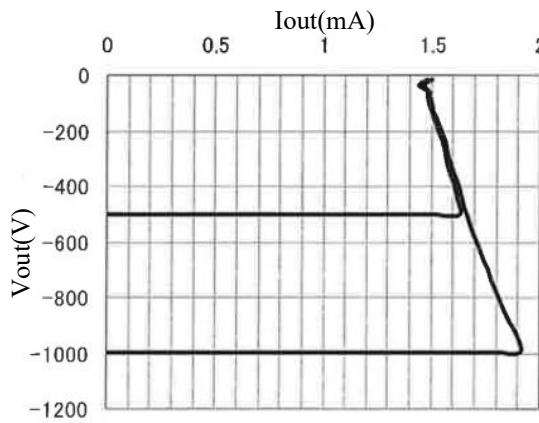
(1) Vin : 11V



(2) Vin : 12V



(3) Vin : 13V

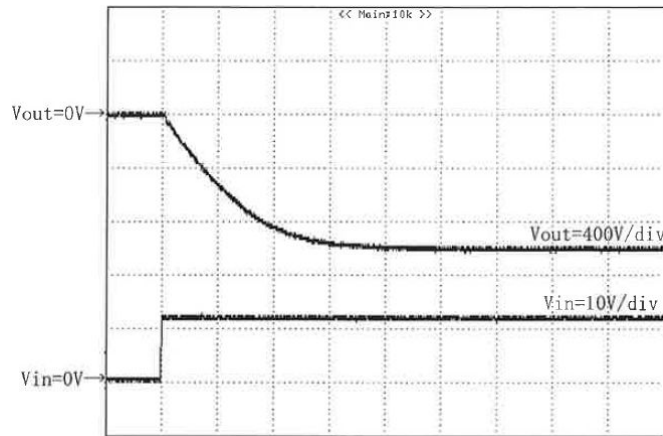


5. Output Rise Time Characteristics

Conditions

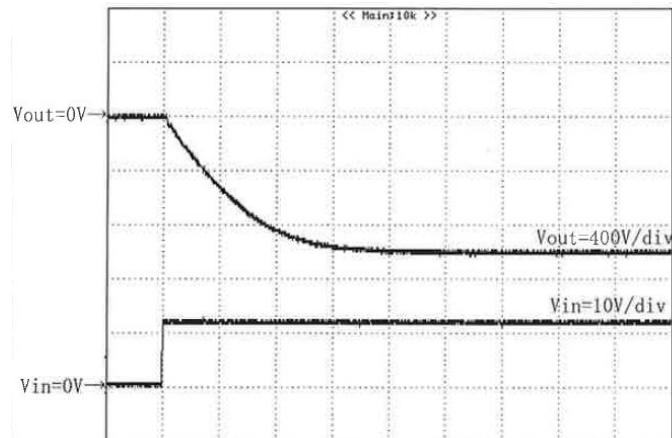
Ta : 25°C
Vin : 12V
Vout : -1000V
Vcont : 6V

(1) Load condition : 0.0mA



Time : 100ms/div

(2) Load condition : 1.5mA

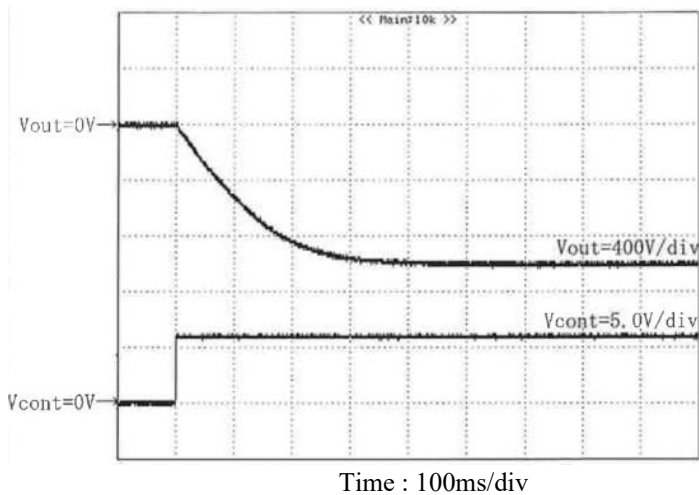


Time : 100ms/div

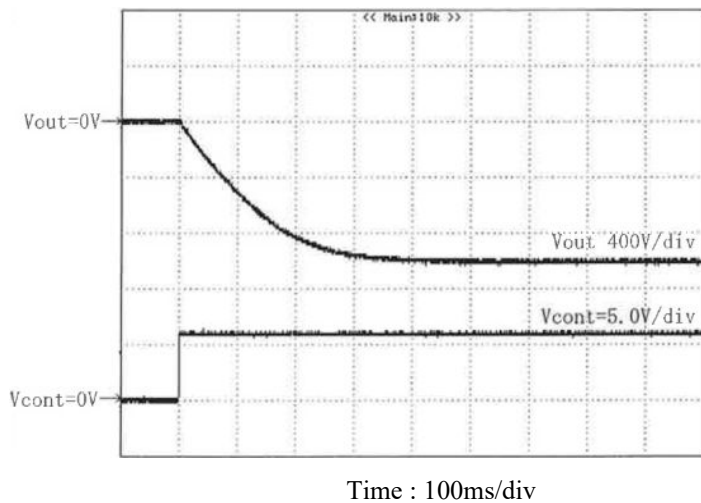
5. Output Rise Time Characteristics (with Vcont)

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -1000V
	Vcont	: 6V

(1) Load condition : 0.0mA



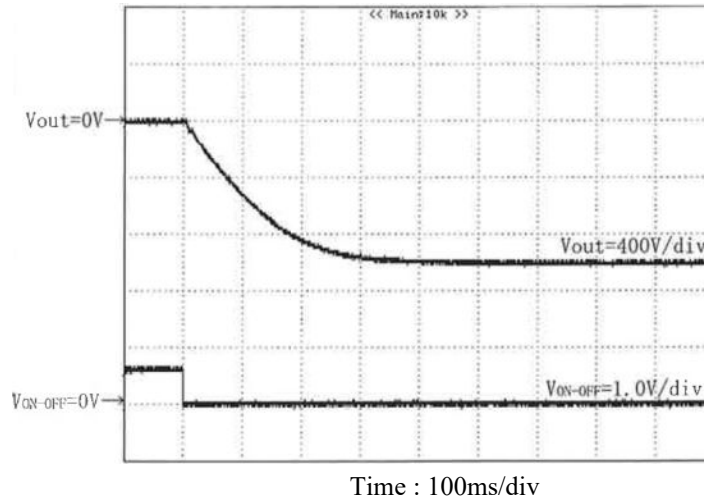
(2) Load condition : 1.5mA



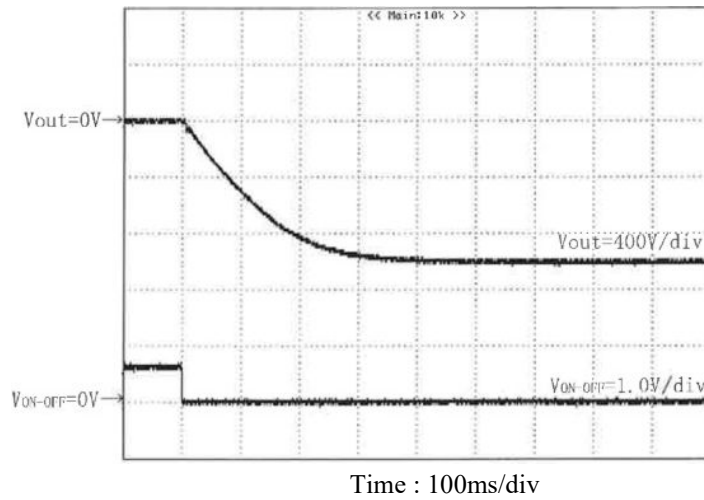
5. Output Rise Time Characteristics (with ON/OFF Control)

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -1000V
	Vcont	: 6V

(1) Load condition : 0.0mA



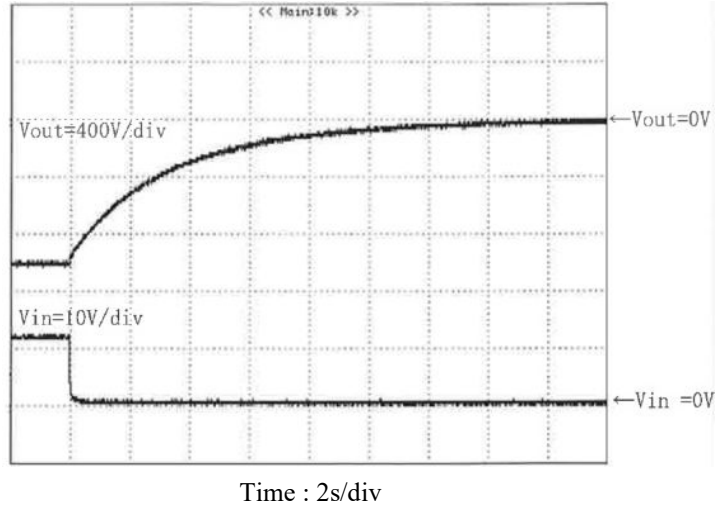
(2) Load condition : 1.5mA



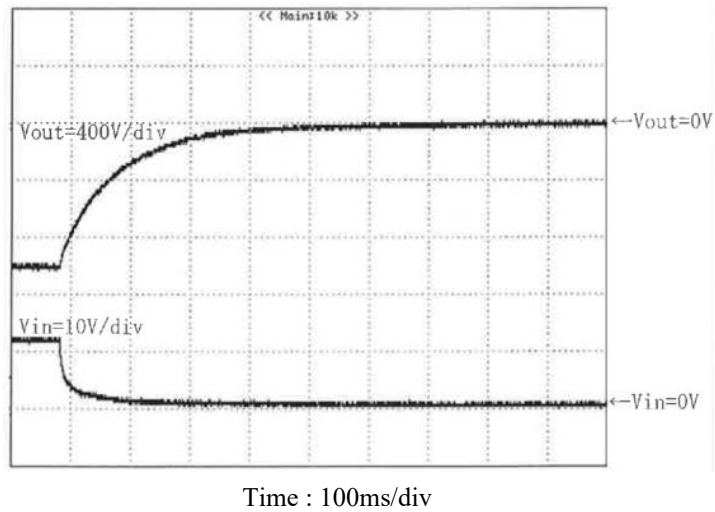
6. Output Fall Time Characteristics

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -1000V
	Vcont	: 6V

(1) Load condition : 0.0mA



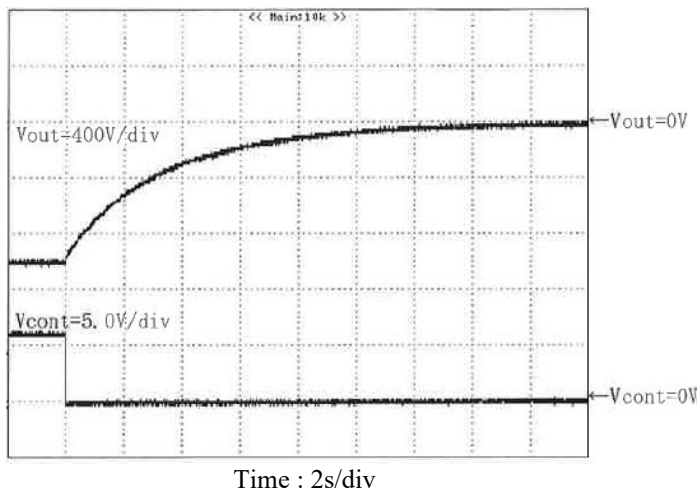
(2) Load condition : 1.5mA



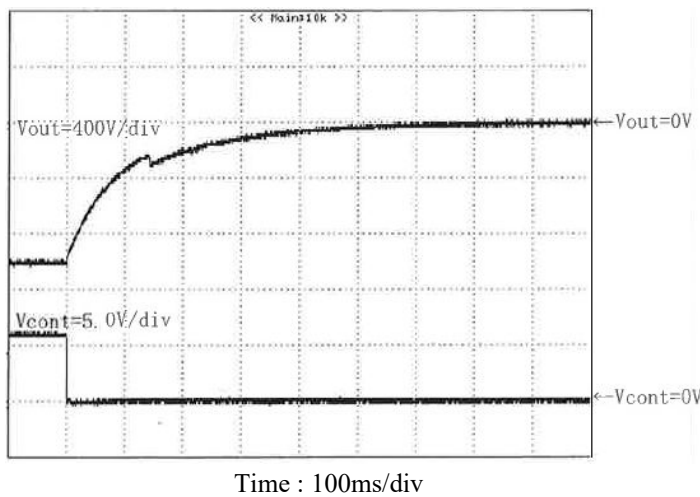
6. Output Fall Time Characteristics (with Vcont)

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -1000V
	Vcont	: 6V

(1) Load condition : 0.0mA



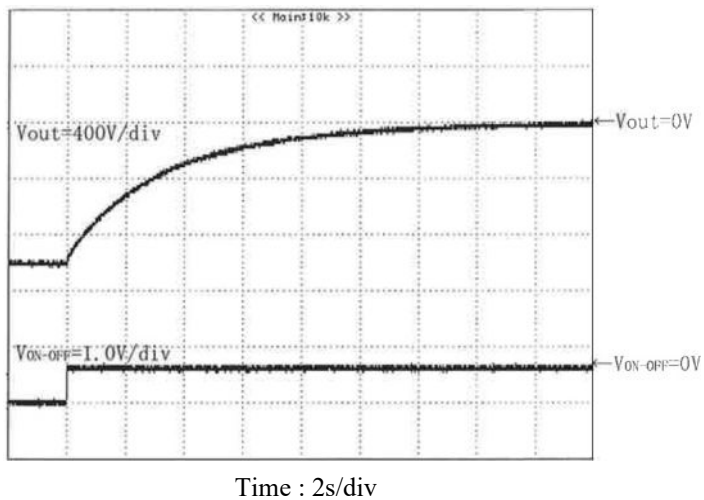
(2) Load condition : 1.5mA



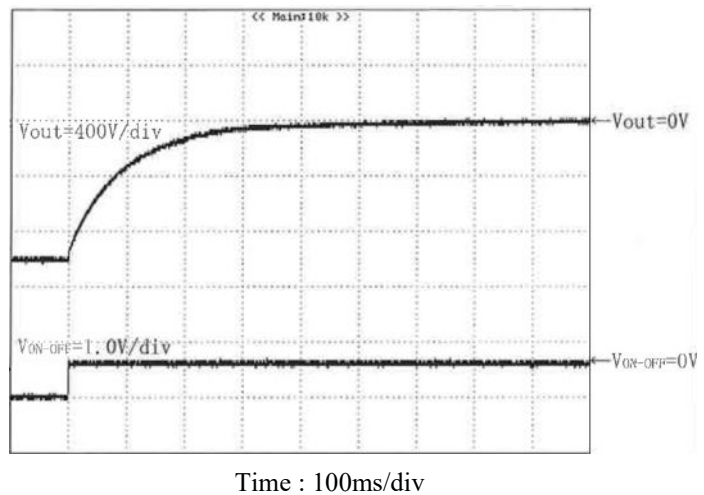
6. Output Fall Time Characteristics (with ON/OFF Control)

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -1000V
	Vcont	: 6V

(1) Load condition : 0.0mA



(2) Load condition : 1.5mA

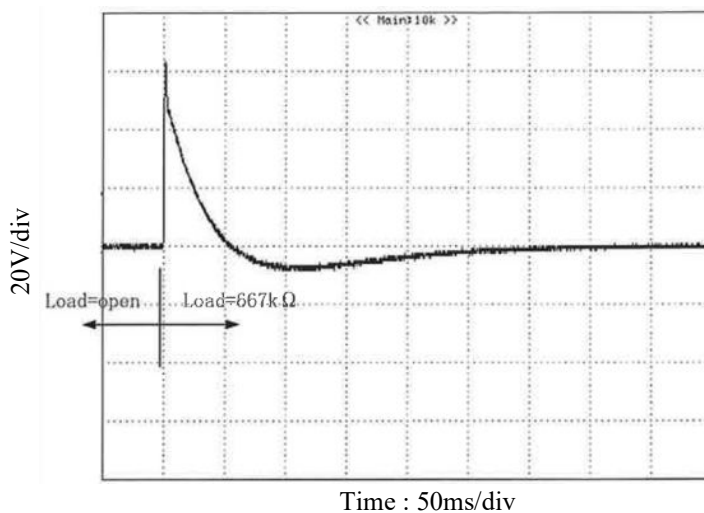


7. Dynamic Load Regulation

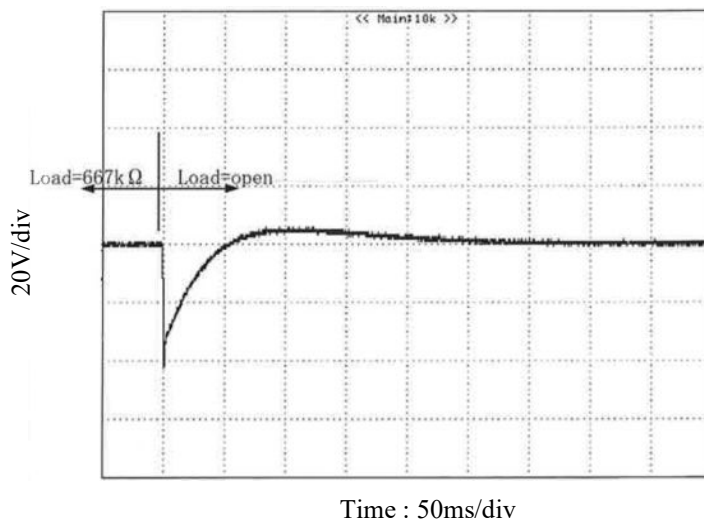
Conditions

Ta : 25°C
Vin : 12V
Vout : -1000V
Vcont : 6V

- (1) Load : open => 667kΩ
Condition : Load input



- (2) Load : 667kΩ => open
Condition : Load disconnection

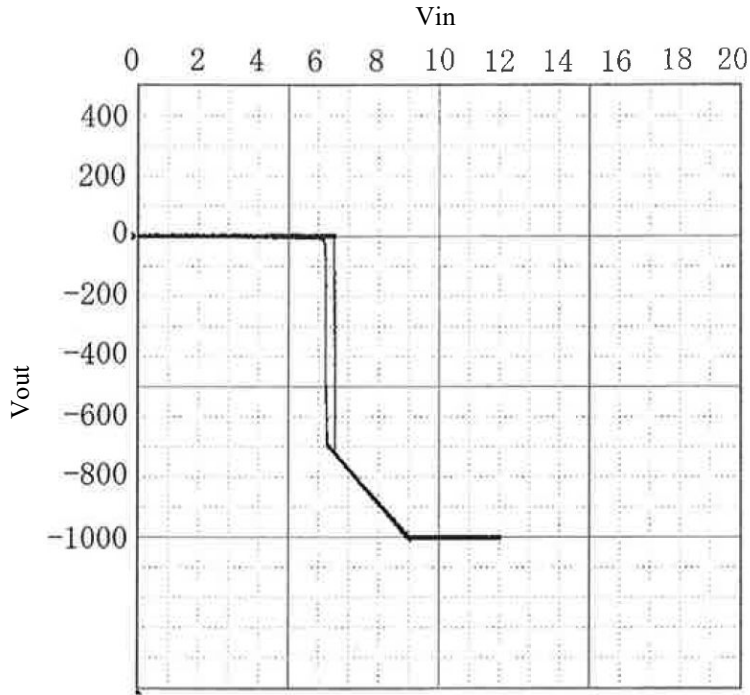


8. Vout-Vin Characteristics

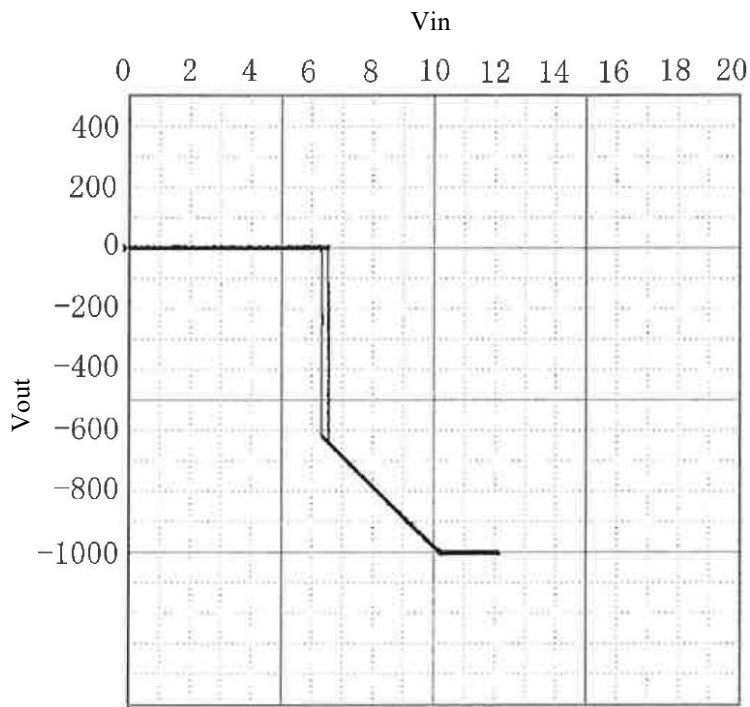
Conditions

Ta : 25°C
Vout : -1000V
Vcont : 6V

(1) Load condition : 0.0mA



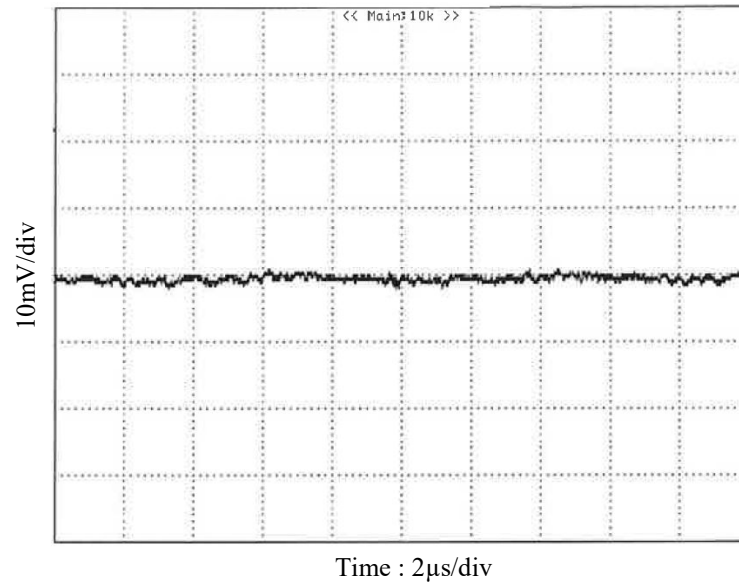
(2) Load condition : 1.5mA



9. Output Ripple/Noise waveform

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -1000V
	Vcont	: 6V
	BW	: 20MHz

(1) Load condition : Output Current = 0.0mA



(2) Load condition : Output Current = 1.5mA

