

**CHVM1R5-12-1000P**

**EVALUATION DATA**

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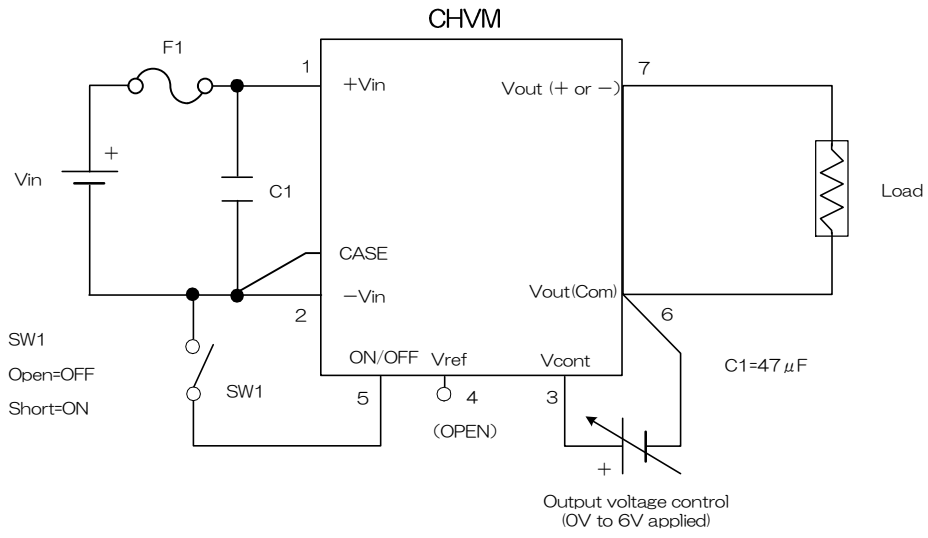
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## Definition

- 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	V <sub>cont</sub>	Input Current	Output Voltage	Ripple/ Noise	Input Current	Output Voltage	Ripple/ Noise
	[V]	[V]	[mA]	[V]	[mV <sub>p-p</sub> ]	[mA]	[V]	[mV <sub>p-p</sub> ]
	11.0	6.0	53	1002.07	5	217	1001.94	5
		4.5	47	750.88	4	169	750.75	4
		3.0	40	500.74	2	121	500.65	3
		1.5	33	250.41	1	74	250.36	2
		0.0	27	2.84	1	27	0.45	1
	12.0	6.0	53	1002.06	5	217	1001.93	5
		4.5	47	750.87	4	169	750.76	4
		3.0	40	500.71	2	121	500.63	3
		1.5	33	250.40	1	74	250.36	2
		0.0	27	2.86	1	27	0.45	1
	13.0	6.0	53	1002.05	5	217	1001.91	5
		4.5	47	750.85	4	169	750.74	4
		3.0	40	500.72	2	121	500.63	3
	1.5	33	250.39	1	74	250.34	2	
	0.0	27	2.88	1	27	0.46	1	

	Spec	Data
Line reg.	-	0.03V
Load reg.	-	0.15V
Ripple/Noise	-	5mV <sub>p-p</sub>

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	49	1003.12	5	215	1002.98	7
		4.5	44	751.65	4	167	751.51	6
		3.0	37	501.19	3	121	501.11	5
		1.5	33	250.60	2	75	250.55	3
		0.0	27	2.53	1	27	0.41	1
	12.0	6.0	50	1003.11	5	215	1002.96	7
		4.5	44	751.60	4	167	751.48	6
		3.0	37	501.23	3	121	501.13	5
		1.5	33	250.58	2	75	250.54	3
		0.0	27	2.57	1	27	0.41	1
	13.0	6.0	50	1003.09	5	215	1002.94	7
		4.5	44	751.59	4	168	751.47	6
		3.0	37	501.33	3	121	501.26	5
	1.5	33	250.57	2	75	250.53	3	
	0.0	27	2.59	1	27	0.42	1	

	Spec	Data
Line reg.	0.02% (0.2V) max.	0.04V
Load reg.	0.04% (0.4V) max	0.14V
Ripple/Noise	15mV p-p max	7mV p-p

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

## 2. Steady State Characteristics

Condition Ta : 50°C

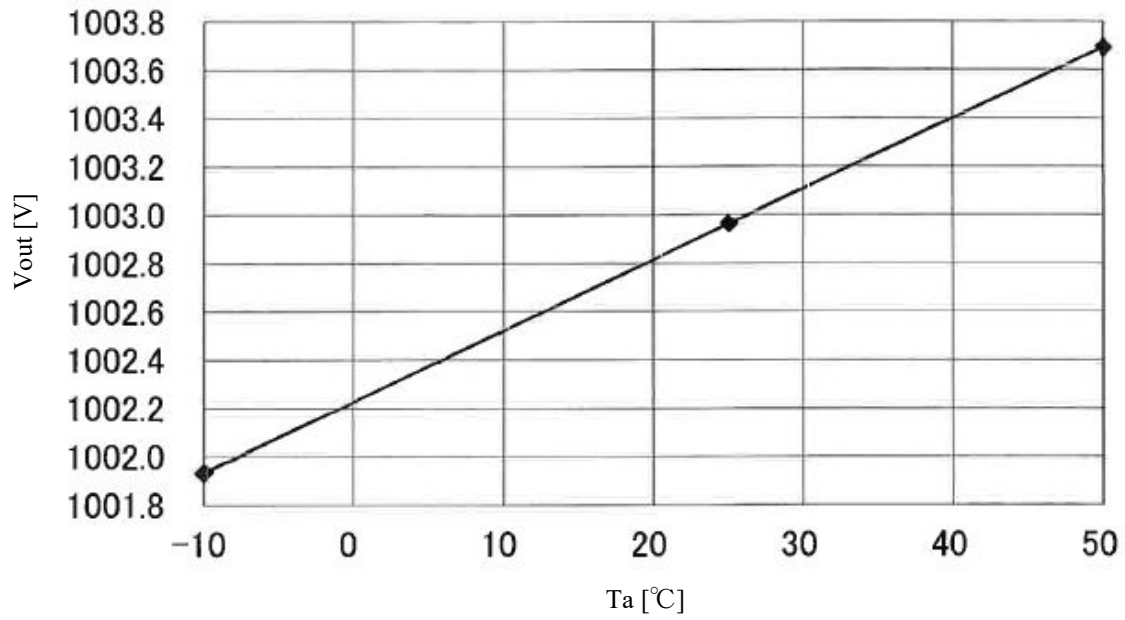
Test Item			Load : Open			Load : 667kΩ		
	Input Voltage	Vcont	Input Current	Output Voltage	Ripple/ Noise	Input Current	Output Voltage	Ripple/ Noise
	[V]	[V]	[mA]	[V]	[mV p-p]	[mA]	[V]	[mV p-p]
	11.0	6.0	47	1003.86	7	221	1003.73	10
		4.5	42	752.14	5	173	752.02	8
		3.0	37	501.58	4	126	501.49	7
		1.5	33	250.28	2	78	250.21	4
		0.0	27	2.23	1	27	0.31	1
	12.0	6.0	48	1003.82	7	221	1003.69	10
		4.5	42	752.09	5	173	751.96	8
		3.0	38	501.58	4	125	501.48	7
		1.5	33	250.23	2	78	250.18	4
		0.0	27	2.31	1	27	0.31	1
	13.0	6.0	48	1003.83	7	221	1003.68	10
		4.5	43	752.08	5	172	751.94	8
		3.0	37	501.55	4	126	501.45	7
	1.5	33	250.18	2	78	250.13	4	
	0.0	27	2.32	1	27	0.31	1	

	Spec	Data
Line reg.	-	0.041V
Load reg.	-	0.13V
Ripple/Noise	-	10mV p-p

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

### 3. Temperature Regulation

Conditions            Vin     : 12V  
                         Load    : 667kΩ  
                         Vcont    : 6V



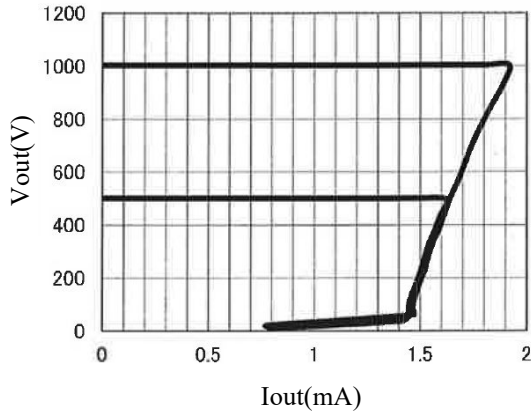
Ta [°C]	Vout [V]
-10	1001.9
25	1003.0
50	1003.7

## 4. Over Current Characteristics

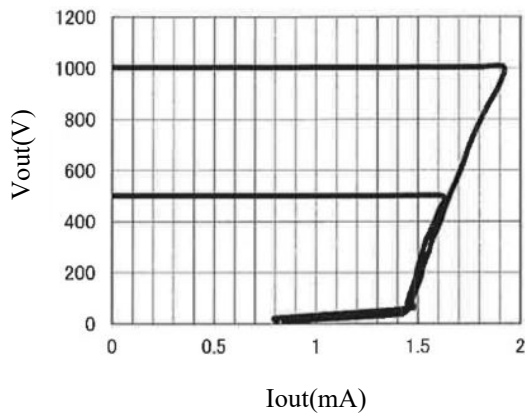
Conditions

Ta : 25°C  
Vout : 500V, 1000V

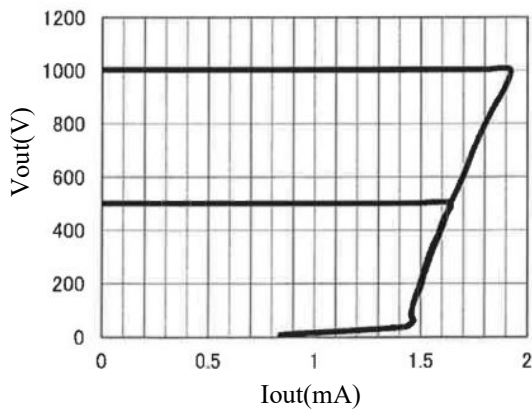
(1) Vin : 11V



(2) Vin : 12V



(3) Vin : 13V



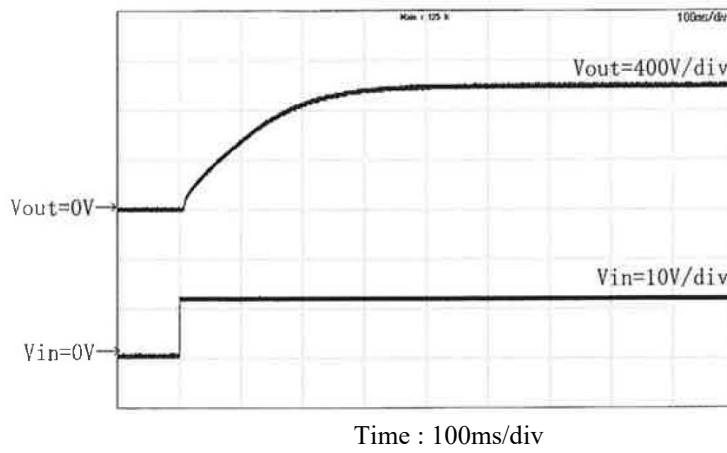


## 5. Output Rise Time Characteristics

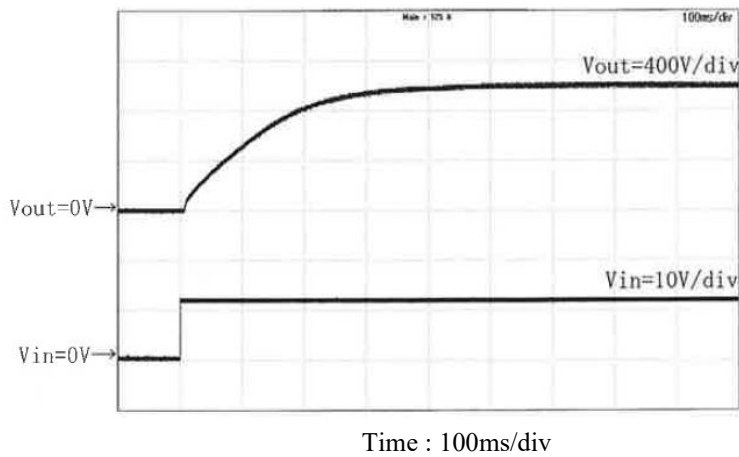
Conditions

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

(1) Load condition : 0.0mA



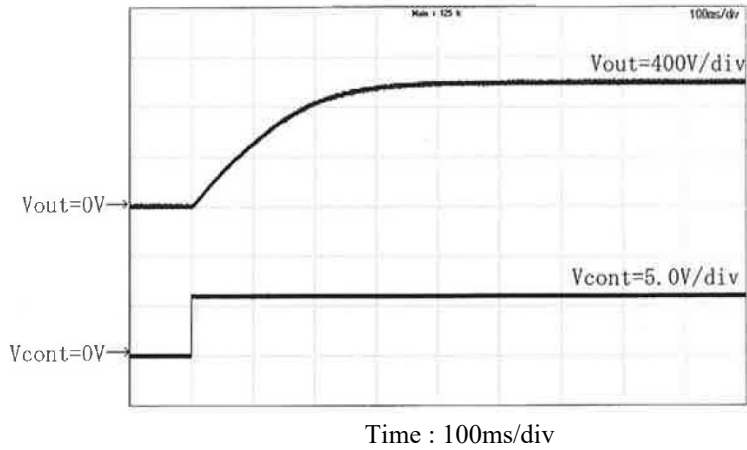
(2) Load condition : 1.5mA



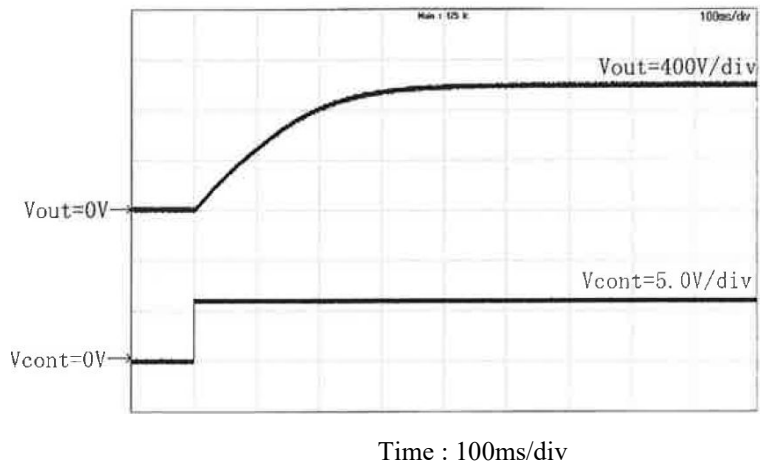
## 5. Output Rise Time Characteristics (with Vcont)

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

(1) Load condition : 0.0mA



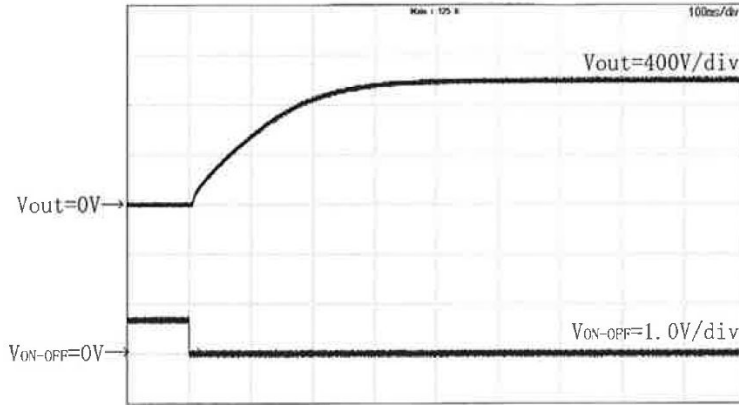
(2) Load condition : 1.5mA



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

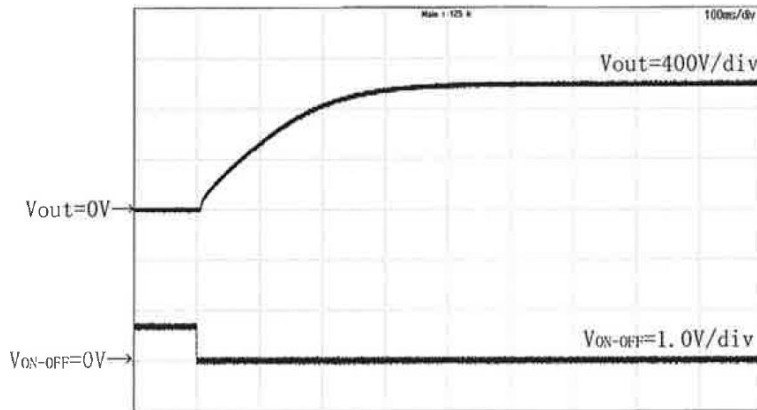
Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: 1000V
	Vcont	: 6V

(1) Load condition : 0.0mA



Time : 100ms/div

(2) Load condition : 1.5mA

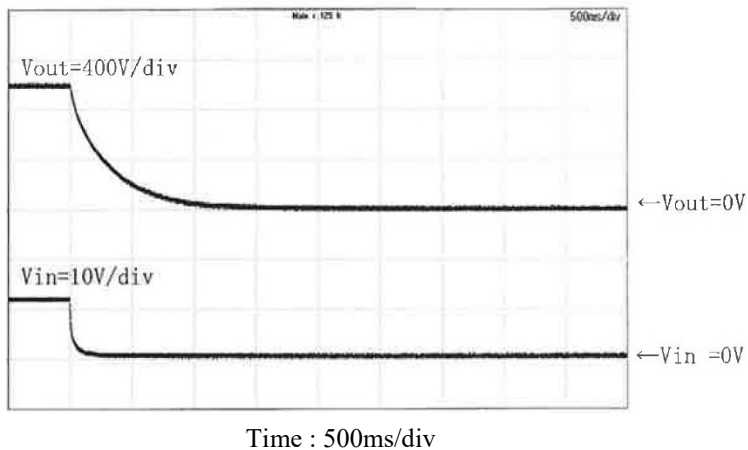


Time : 100ms/div

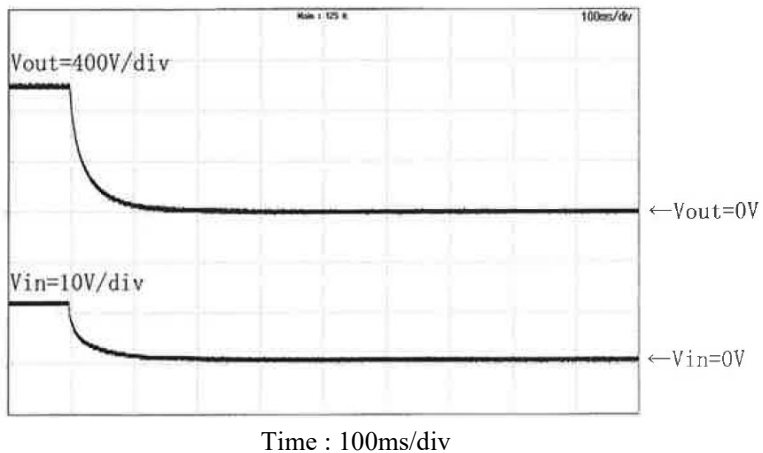
## 6. Output Fall Time Characteristics

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

(1) Load condition : 0.0mA



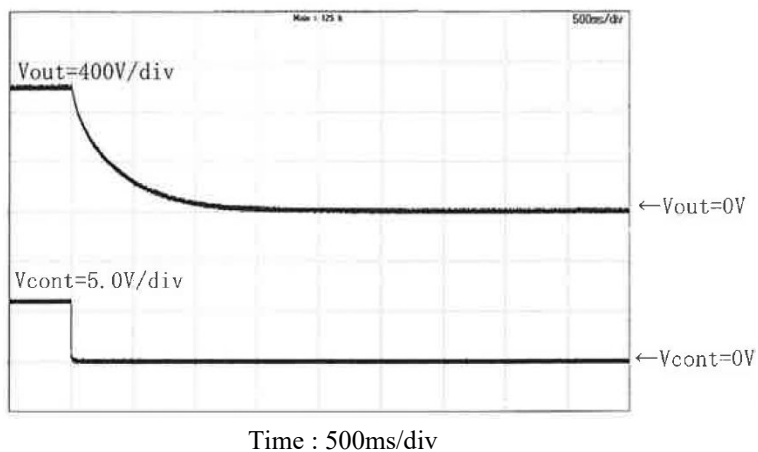
(2) Load condition : 1.5mA



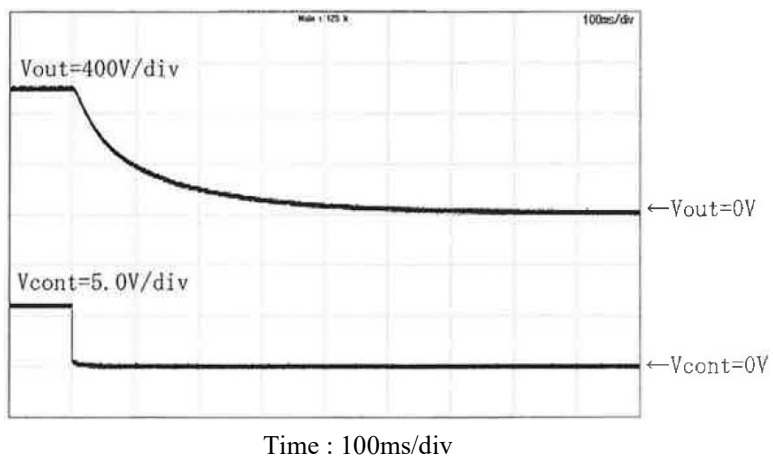
## 6. Output Fall Time Characteristics (with Vcont)

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

(1) Load condition : 0.0mA



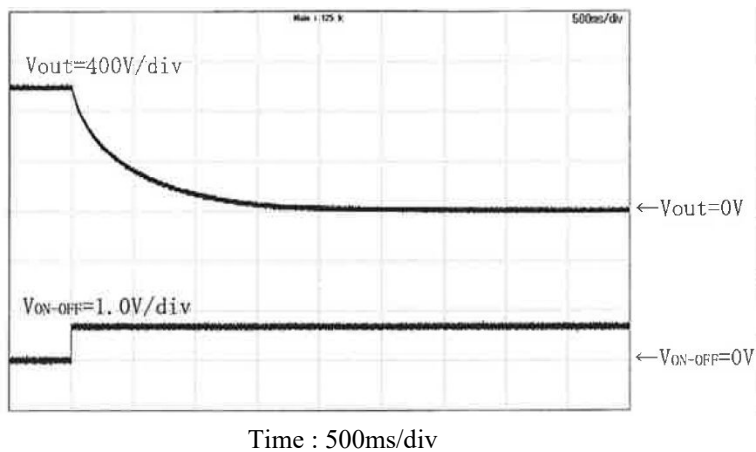
(2) Load condition : 1.5mA



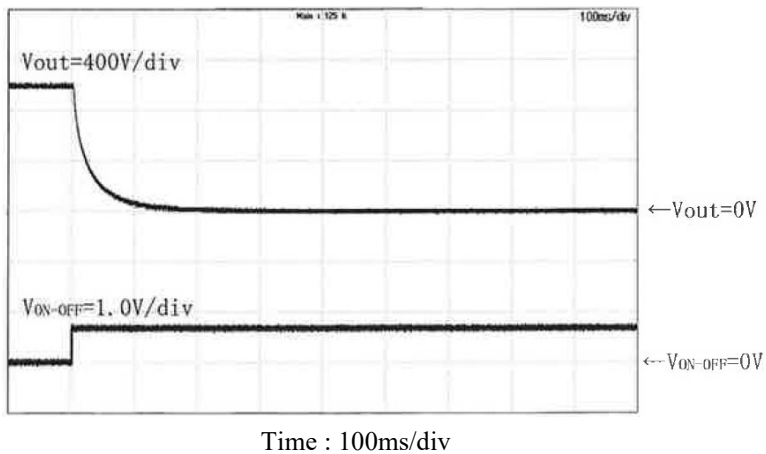
## 6. Output Fall Time Characteristics (with ON/OFF Control)

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

(1) Load condition : 0.0mA



(2) Load condition : 1.5mA

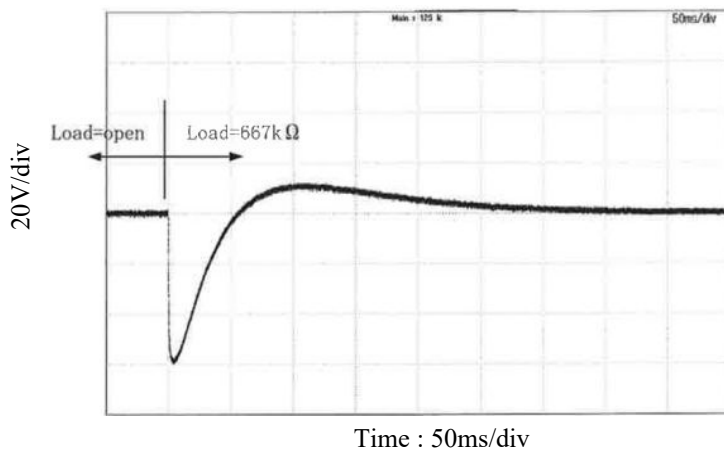


## 7. Dynamic Load Regulation

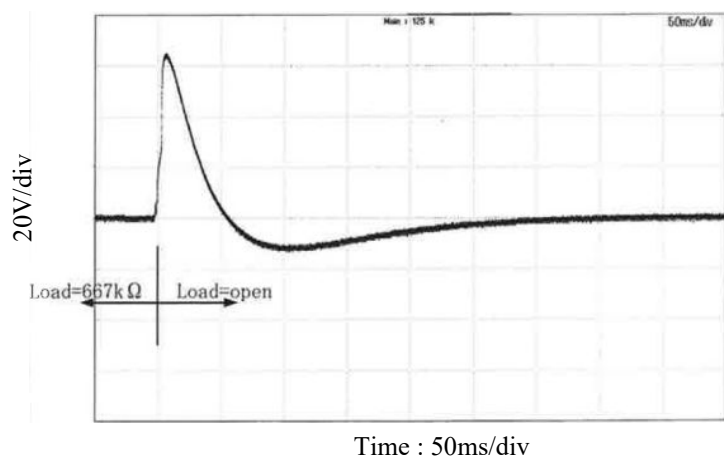
Conditions

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

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



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

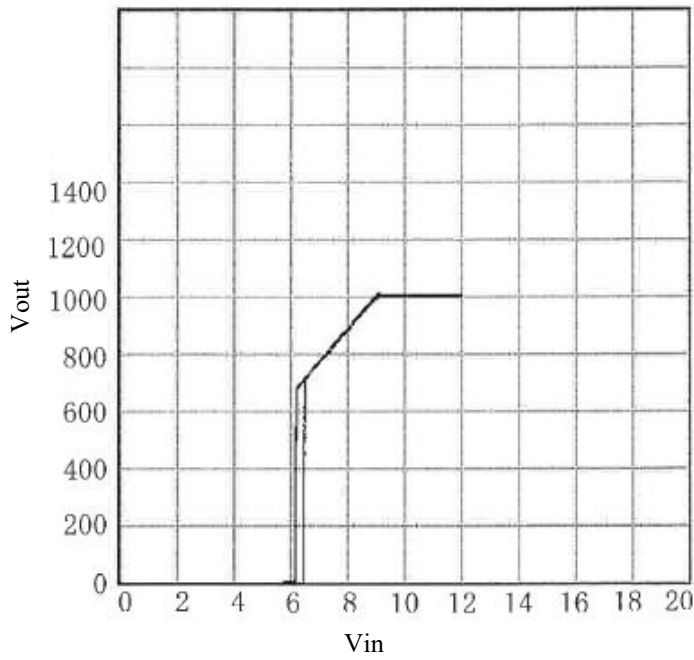


## 8. Vout-Vin Characteristics

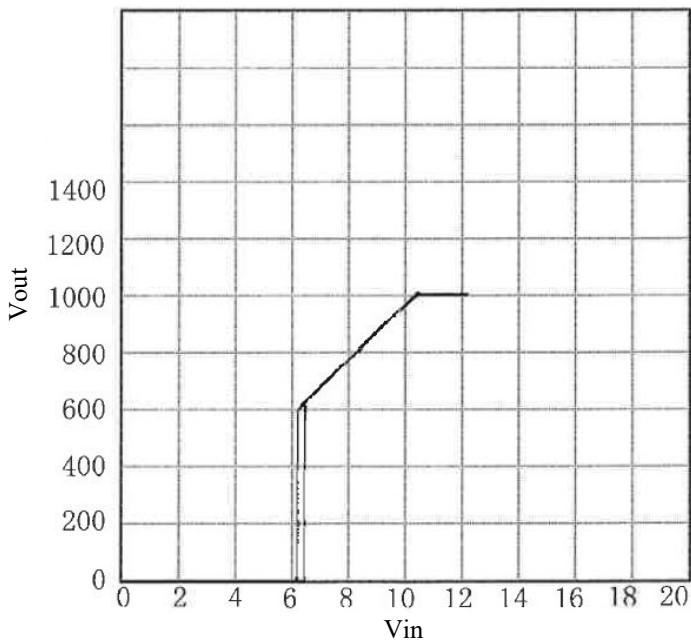
Conditions

Ta : 25°C  
Vout : 1000V  
Vcont : 6V

(1) Load condition : 0.0mA



(2) Load condition : 1.5mA

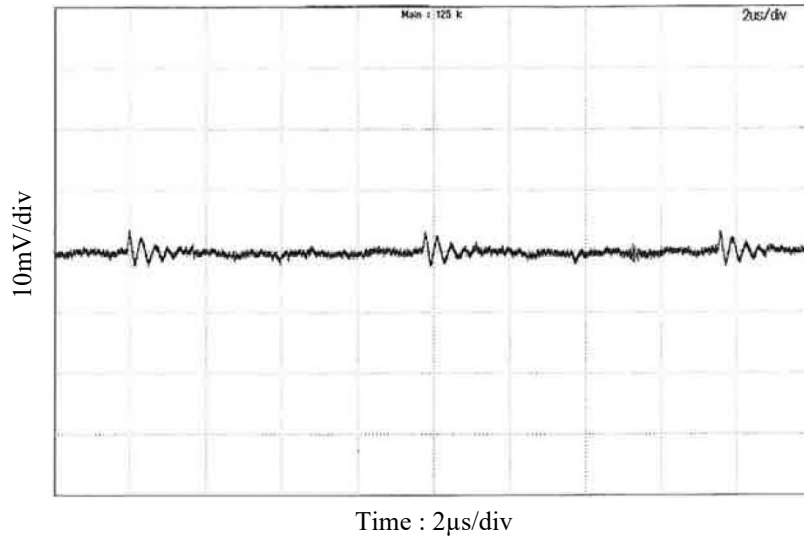




## 9. Output Ripple/Noise waveform

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

