

**CHVM2R7-12-0180NW**

**EVALUATION DATA**

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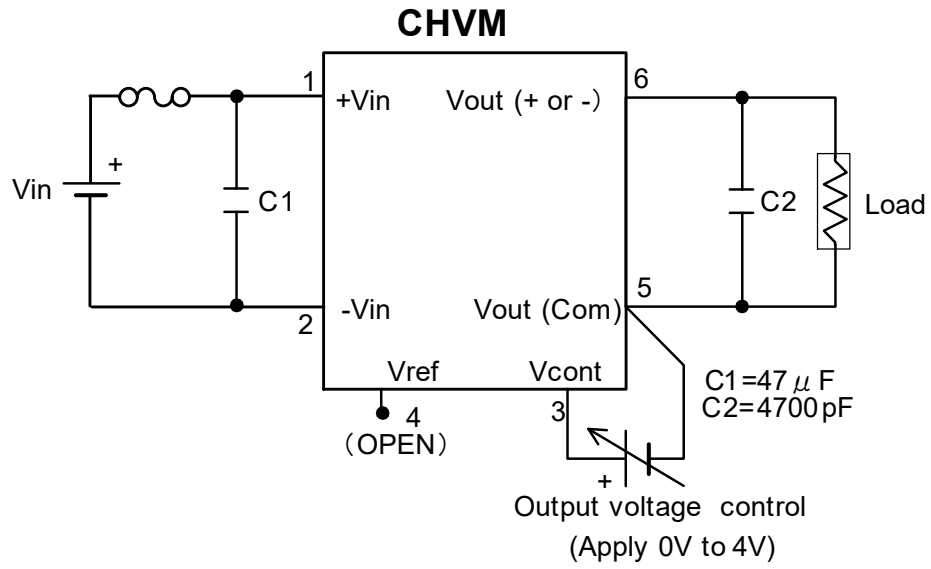
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## Definition

$V_{in}$	···Input voltage
$V_{out}$	···Output voltage
$I_{out}$	···Output current
$V_{cont}$	···Output voltage control
$T_a$	···Ambient temperature

Test results are reference data based on our measurement condition.

# 1. Test circuit



## 2. Steady State Characteristics

Condition Ta : -20°C

Test Item			Load : Open			Load : 12kΩ		
	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]
	10.8	4.0	54	180.12	30	355	179.31	35
		3.0	47	135.10	25	271	134.51	30
		2.0	39	90.11	20	188	89.71	25
		1.0	32	44.91	20	105	44.72	20
	12.0	4.0	56	180.12	30	355	179.31	35
		3.0	47	135.10	25	272	134.50	30
		2.0	40	90.11	20	188	89.71	25
		1.0	32	44.91	20	107	44.72	20
	13.2	4.0	57	180.13	30	358	179.31	35
		3.0	49	135.10	25	273	134.50	30
		2.0	41	90.11	20	190	89.70	25
		1.0	34	44.92	20	107	44.72	20

	Spec	Data
Line reg.	-	0mV
Load reg.	-	810mV
Ripple/Noise	-	35mV p-p

\*Ta=-20°C is out of specification range.

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

## 2. Steady State Characteristics

Condition Ta : 25°C

Test Item			Load : Open			Load : 12kΩ		
	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> ]
	10.8	4.0	49	180.10	5	350	179.35	20
		3.0	43	135.08	5	266	134.55	12
		2.0	37	89.97	5	183	89.64	8
		1.0	31	44.97	5	103	44.78	5
	12.0	4.0	51	180.11	5	350	179.36	20
		3.0	44	135.10	5	267	134.55	12
		2.0	38	89.98	5	184	89.64	8
		1.0	32	44.97	5	104	44.78	5
	13.2	4.0	52	180.12	5	350	179.38	20
		3.0	45	135.10	5	268	134.56	12
		2.0	39	89.99	5	186	89.65	8
		1.0	33	44.97	5	106	44.78	5

	Spec	Data
Line reg.	108mV max	30mV
Load reg.	2700mV max	750mV
Ripple/Noise	100mV <sub>p-p</sub> max	15mV <sub>p-p</sub>

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

## 2. Steady State Characteristics

Condition Ta : 65°C

Test Item			Load : Open			Load : 12kΩ		
	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]
	10.8	4.0	51	180.50	20	350	179.75	35
		3.0	43	135.38	20	265	134.83	30
		2.0	37	90.27	20	183	89.90	25
		1.0	31	45.08	20	103	44.90	20
	12.0	4.0	52	180.50	20	350	179.75	35
		3.0	45	135.38	20	267	134.84	30
		2.0	38	90.27	20	184	89.90	25
		1.0	32	45.07	20	104	44.89	20
	13.2	4.0	54	180.50	20	350	179.76	35
		3.0	46	135.38	20	267	134.82	30
	2.0	39	90.27	20	185	89.90	25	
	1.0	33	45.08	20	105	44.88	20	

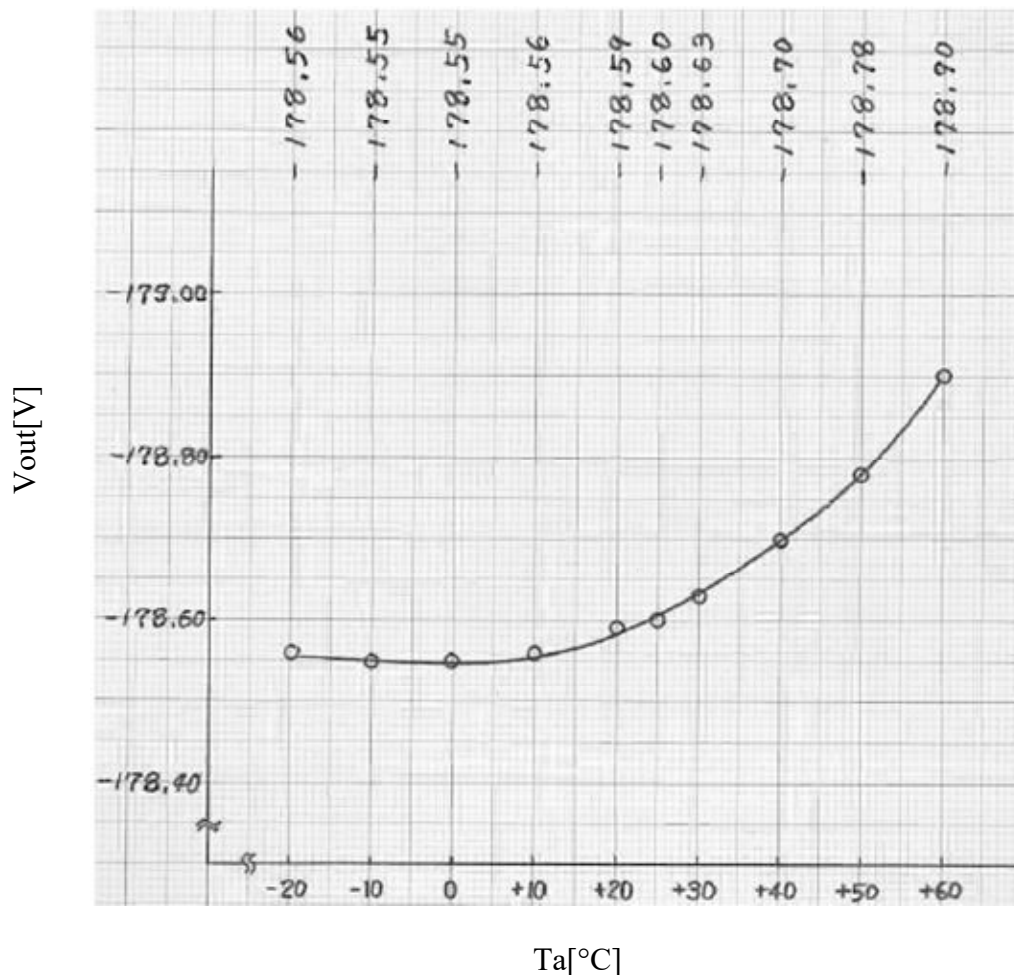
	Spec	Data
Line reg.	-	10mV
Load reg.	-	750mV
Ripple/Noise	-	35mV P-P

\*Ta=65°C is out of specification range.

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

### 3. Temperature Regulation

Conditions                      Vin        : 12V  
    Load     : 12kΩ  
    Vcont    : 4V

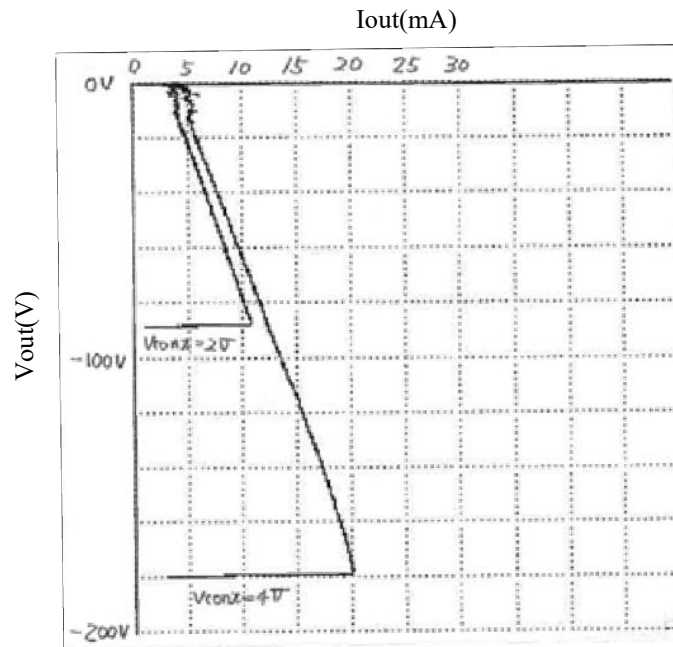


Ta [°C]	Vout [V]
-20	-178.56
-10	-178.55
0	-178.55
10	-178.56
20	-178.59
30	-178.63
40	-178.70
50	-178.78
60	-178.90

\*Ta=-20°C is out of specification range.

#### 4. Over Current Characteristics

Conditions      Ta            : 25°C  
                      Vin            : 12V  
                      Vout          : -90V, -180V

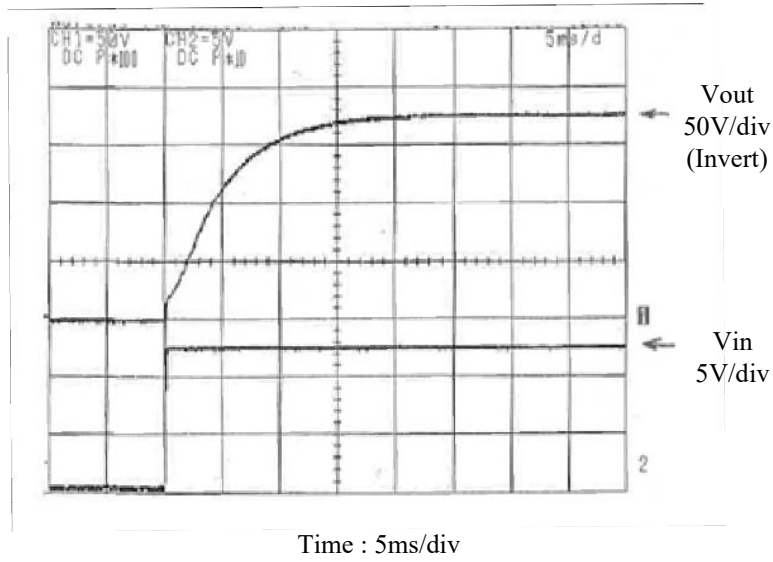




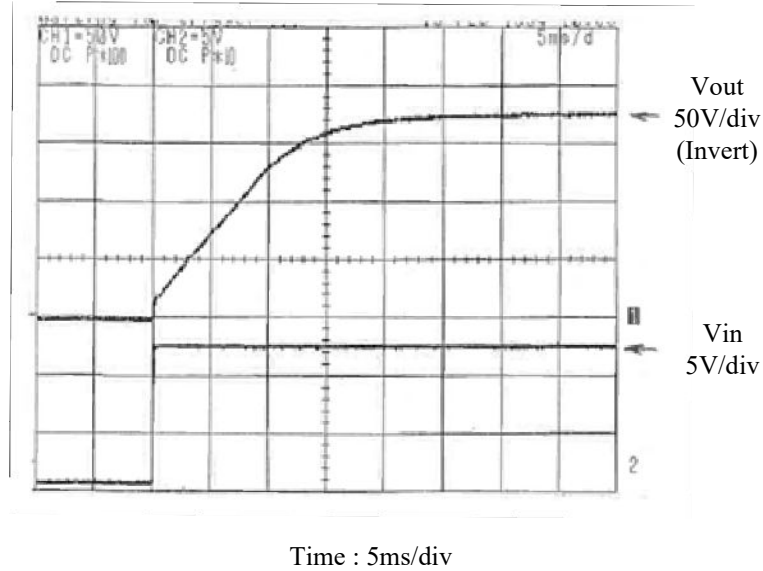
## 5. Output Rise Time Characteristics

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -180V
	Vcont	: 4V

(1) Load condition : 0.0mA



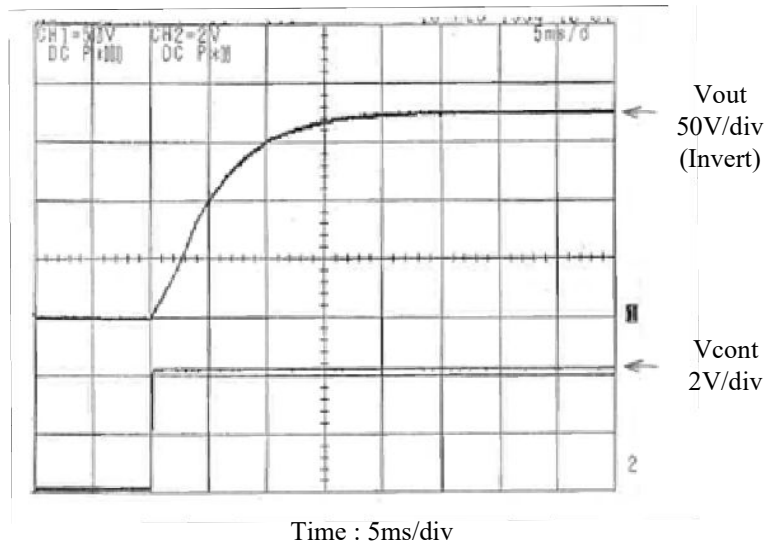
(2) Load condition : 15mA



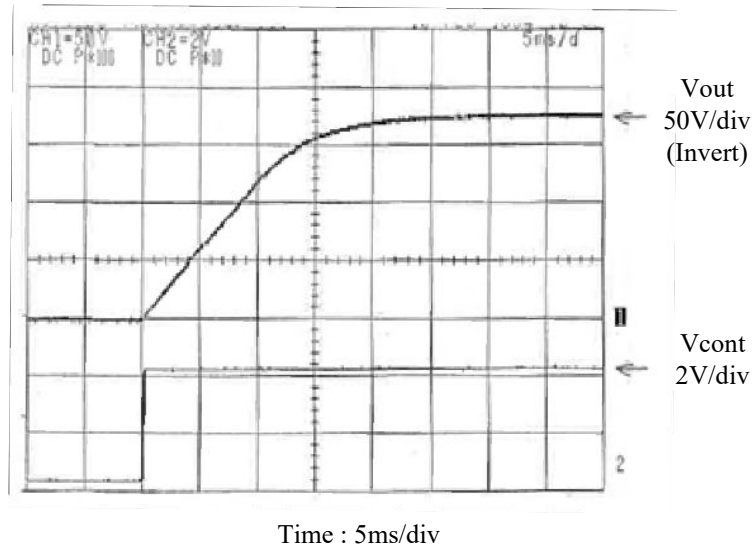
## 5. Output Rise Time Characteristics (with Vcont)

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -180V
	Vcont	: 4V

(1) Load condition : 0.0mA



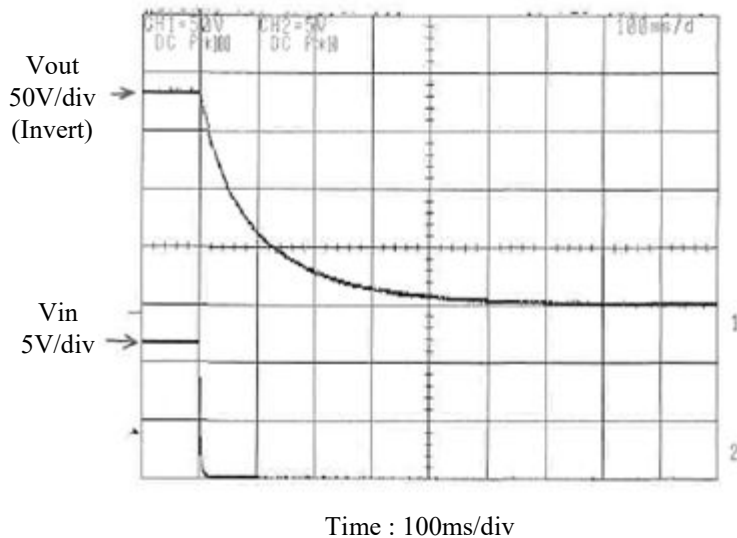
(2) Load condition : 15mA



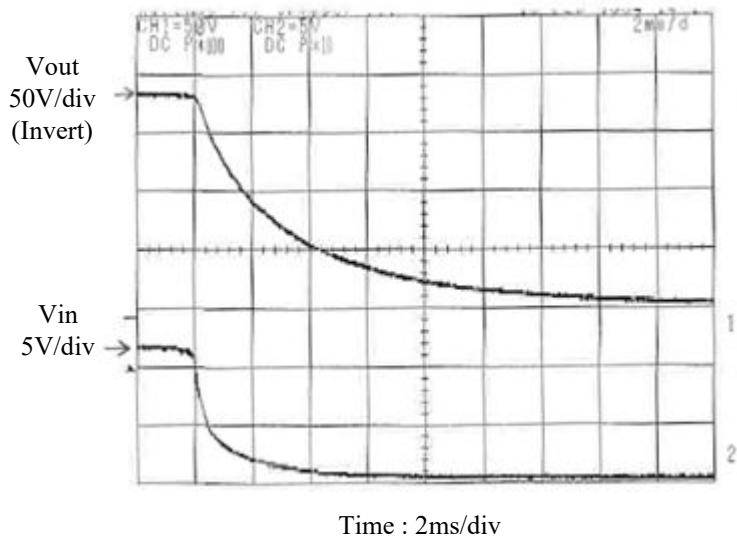
## 6. Output Fall Time Characteristics

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -180V
	Vcont	: 4V

(1) Load condition : 0.0mA



(2) Load condition : 15mA



## 7. Dynamic Load Regulation

Conditions	Ta	: 25°C
	Vin	: 12V
	Vout	: -180V
	Vcont	: 4V

- (1) Load : open => 12kΩ => open  
Condition : Load input & Load disconnection

