EWS5000T

EVALUATION DATA

型式データ

DWG. No.	A122-53-01		
承認	承認	査閲	担当
'92.1.22	'92.1.21	'92.1.21	'92.1.20

NEMIC-LAMBDA

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使用記号　Terminology used

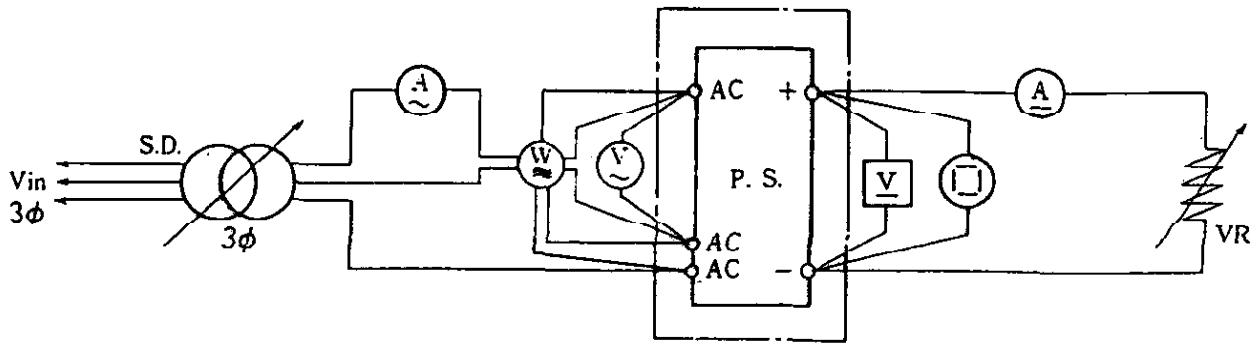
Definition

Vin　……入力電圧　Input.voltage
Vout　……出力電圧　Output voltage
Iin　……入力電流　Input current
Iout　……出力電流　Output current
Ta　……周囲温度　Ambient Temperature

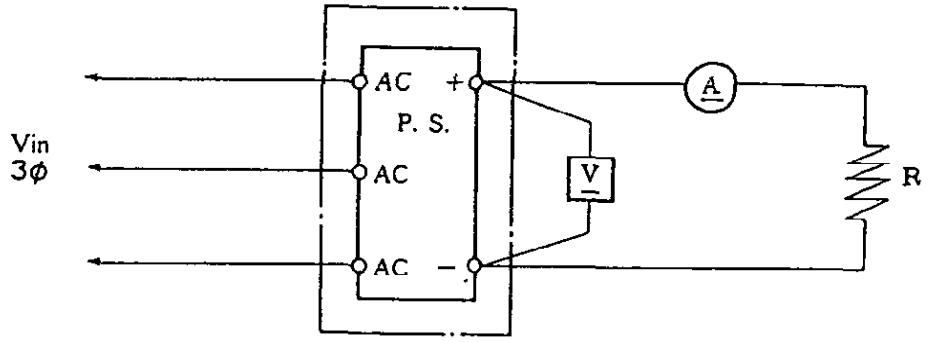
1．評価測定方法　EVALUATION METHOD

1－1　測定回路　Circuits used for determination

(1)　静特性　Steady state data



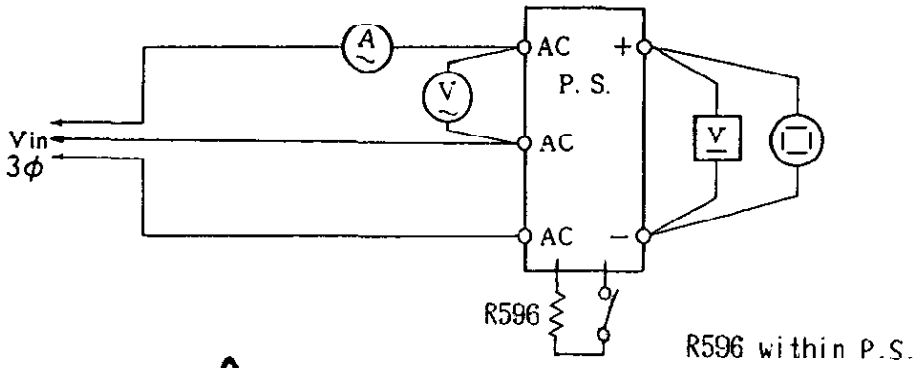
(2)　過電ドリフト特性　Warm up voltage drift characteristics



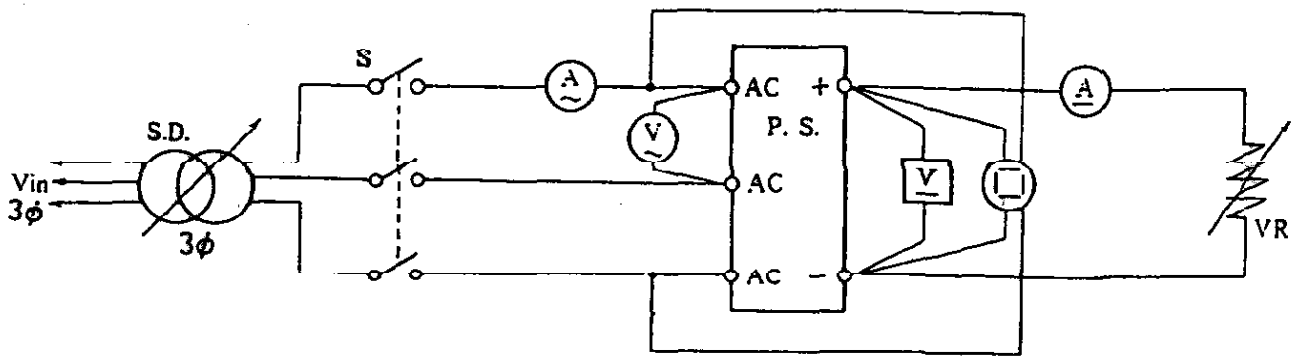
(3)　過電流保護特性　*Over current protection (OCP) characteristics*

Same as steady state data.

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



(5) 出力立上り特性 Output rise characteristics

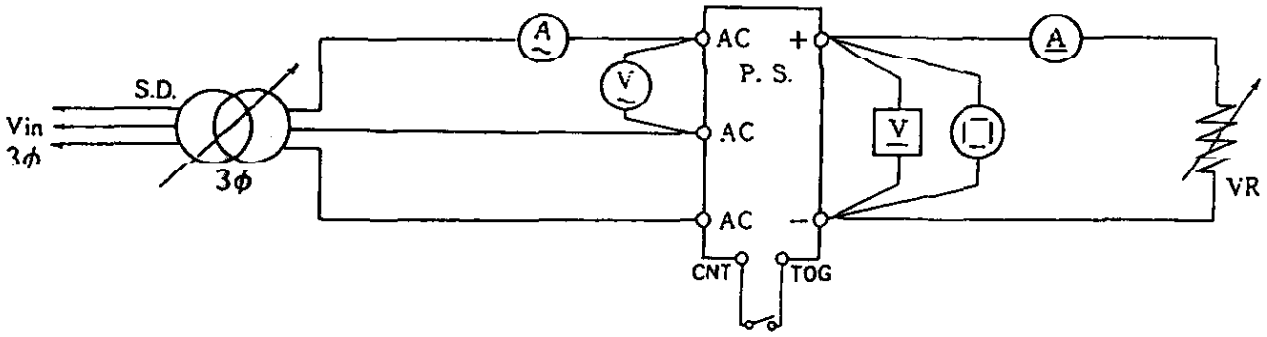


(6) 出力立下り特性 Output fall characteristics

Same as output rise characteristics

(7) 出力立上り特性 (ON／OFFコントロール時)

Output rise characteristics with ON／OFF control

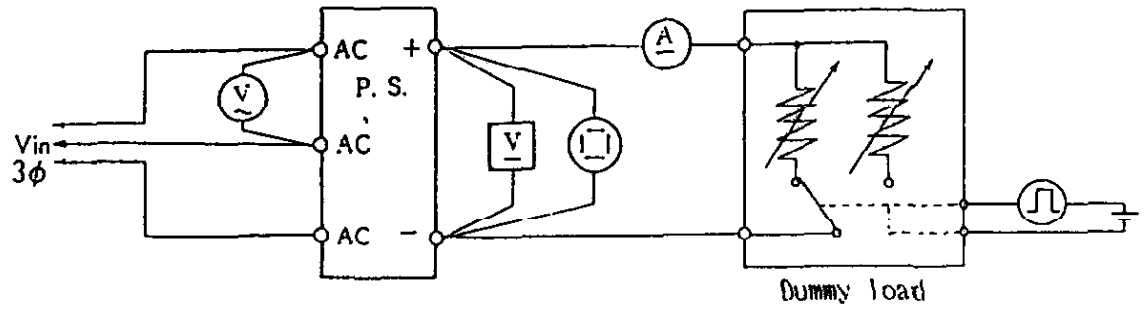


(8) 出力立下り特性 (ON／OFFコントロール時)

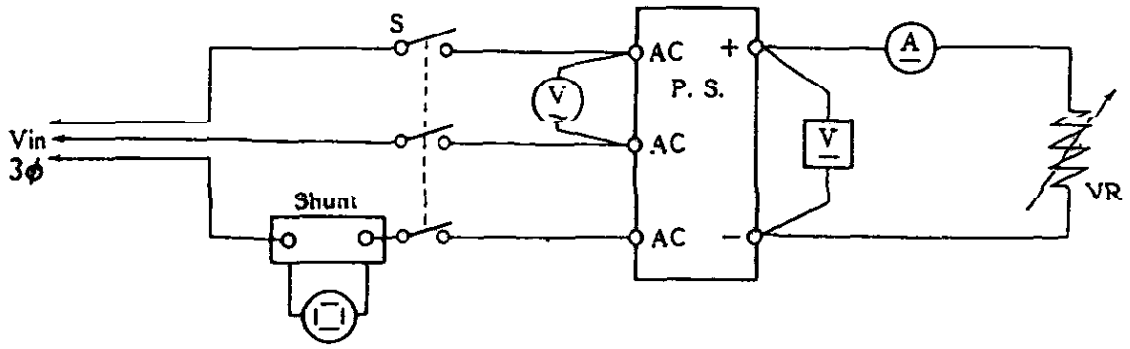
Output fall characteristics with ON／OFF control

Same as output rise characteristics with ON／OFF control

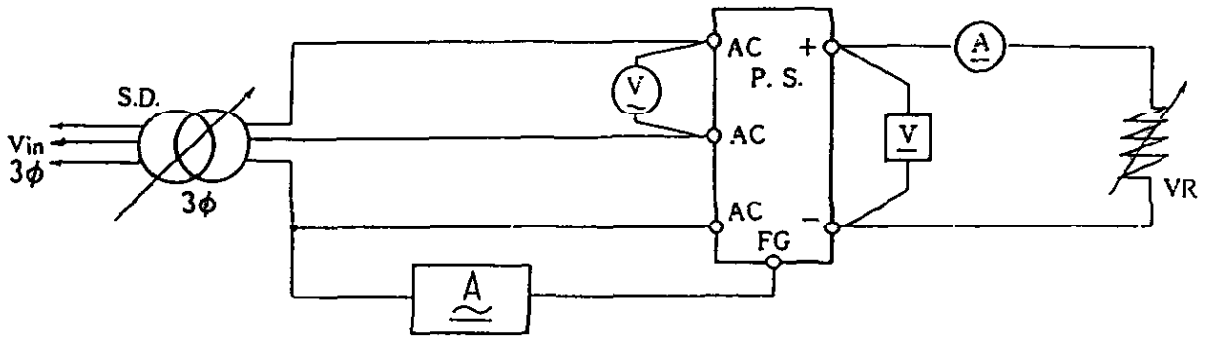
(9) 過渡応答 (負荷急変) 特性 Dynamic load response characteristics



(10) 入力サージ電流（突入電流）特性 Inrush current characteristics



(11) リーク電流（漏洩電流）特性 Leakage current caracteristics



Note : Leakage current measured through a 1kΩ resistor.

Range wed : AC + DC

1－2　使用測定機器　List of equipment used

	EQUIPMENT USED	MANUFACTURER	MODEL No.
1	Oscilloscope	HITACHI-DENSHI	V 1050F
2	Storage oscilloscope	SONY·TEKTRONIX	7633
3	Digital volt meter	HIOKI	3252
4	A.C. Ampere meter	YOKOGAWA·ELEC.,	2053
5	A.C. Volt meter	〃	2052
6	A.C. Watt meter	〃	2041
7	D.C. Volts&Amperes meter	〃	S-8107
8	Electronic Load	KIKUSUI	PLZ1002Z
9	Dynamic Dip Simulator	TAKAMIZAWA CYBERNETICS	PSA300
10	Controlled temp., chamber	ETAC	ELH-868-40
11	Leakage current meter	YOKOGAWA·ELEC.,	3226
12	Digital power meter	〃	253322
13			
14			
15			
16			
17			

2．特性データ　CHARACTERISTICS

2－1　静特性　Steady state data

(1)　入力・負荷・温度変動　Regulation － line and load, temp. drift

2 V

1．Regulation－line and load　　Condition　　Ta　：25℃

Vin / Iout	170VAC	200VAC	265VAC	line regulation	
0%	2.003V	2.003V	2.003V	0mV	0%
50%	2.003V	2.003V	2.003V	0mV	0%
100%	2.002V	2.002V	2.002V	0mV	0%
load regulation	1mV	1mV	1mV		
	0.05%	0.05%	0.05%		

2．Temperature drift　　Conditions　　Vin　：200VAC
Iout　：100%

Ta	0℃	25℃	50℃	Temp. stability	
Vout	1.999V	2.002V	2.003V	4mV	0.20%

3.3 V

1．Regulation － line and load　　Condition　　Ta　：25℃

Vin / Iout	170VAC	200VAC	265VAC	line regulation	
0%	3.307V	3.307V	3.307V	0mV	0%
50%	3.307V	3.307V	3.307V	0mV	0%
100%	3.305V	3.305V	3.305V	0mV	0%
load regulation	2mV	2mV	2mV		
	0.06%	0.06%	0.06%		

2．Temperature drift　　Conditions　　Vin　：200VAC
Iout　：100%

Ta	0℃	25℃	50℃	Temp. stability	
Vout	3.302V	3.305V	3.299V	6mV	0.18%

入力・負荷・温度変動 Regulation — line and load, temp. drift

5 V

1. Regulation — line and load　　Condition　　Ta : 25℃

Iout \ Vin	170VAC	200VAC	265VAC	line regulation	
0%	5.012V	5.012V	5.012V	0mV	0%
50%	5.010V	5.010V	5.010V	0mV	0%
100%	5.009V	5.009V	5.009V	0mV	0%
load regulation	3mV	3mV	3mV		
	0.06%	0.06%	0.06%		

2. Temperature drift　　Conditions　　Vin : 200VAC
Iout : 100%

Ta	0℃	25℃	50℃	Temp. stability	
Vout	5.009V	5.009V	5.007V	2mV	0.04%

(2) 出力電圧・リップル電圧対入力電圧

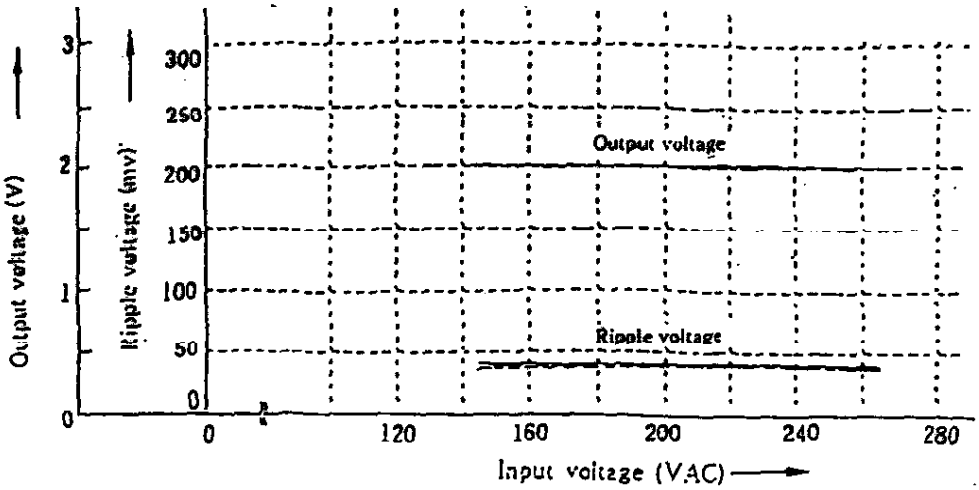
Output voltage and ripple voltage v.s. input voltage

*ﾘｯﾌﾟﾙ電圧は,出力ﾊﾞｰの+,−間にﾌｨﾙﾑｺﾝﾃﾞﾝｻ1μF,電解ｺﾝﾃﾞﾝｻ100μFを 接続し,そのｺﾝﾃﾞﾝｻのﾘｰﾄﾞにて測定

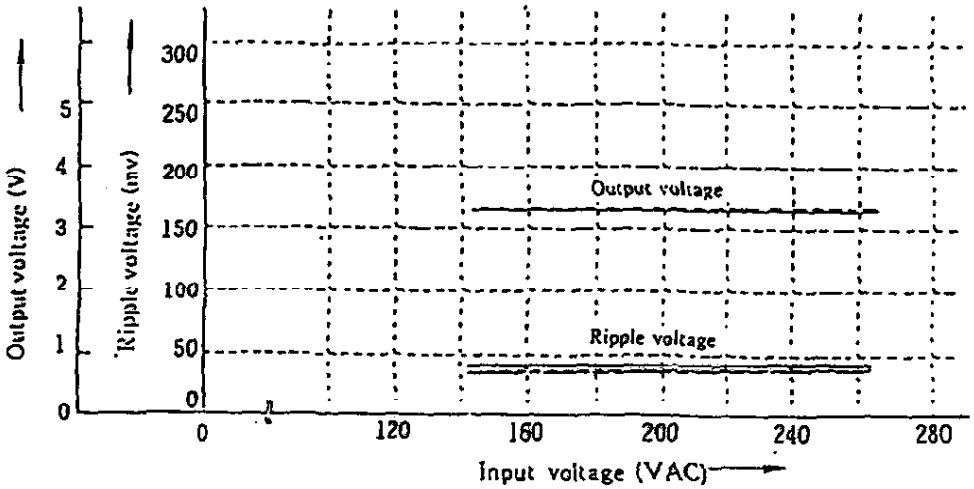
*Mounting film capacitor of 1μF and electrolytic capacitor of 100μF on + & − output bars, measured ripple voltage at the lead of the capacitors.

Conditions Iout : 100%
Ta : 0℃ ------
25℃ — — —
50℃ ———

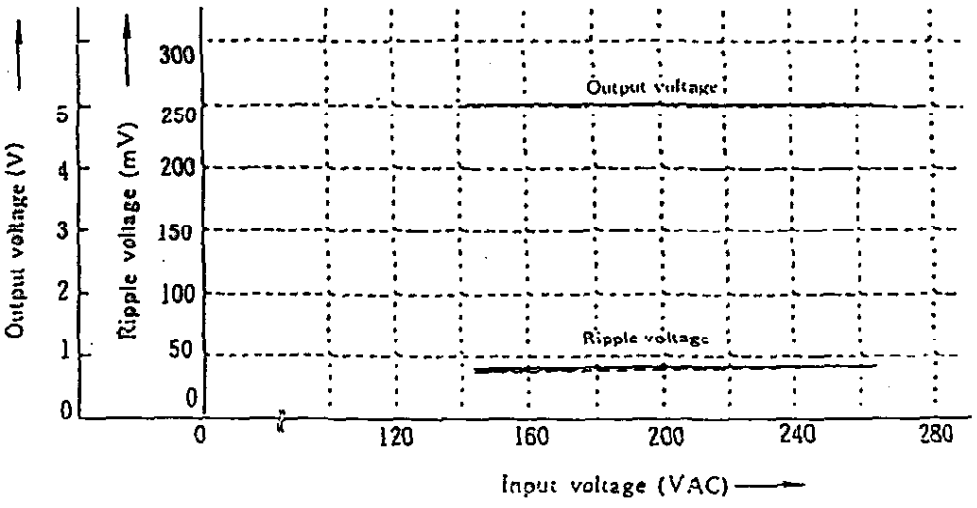
2 V



3.3 V



5 V

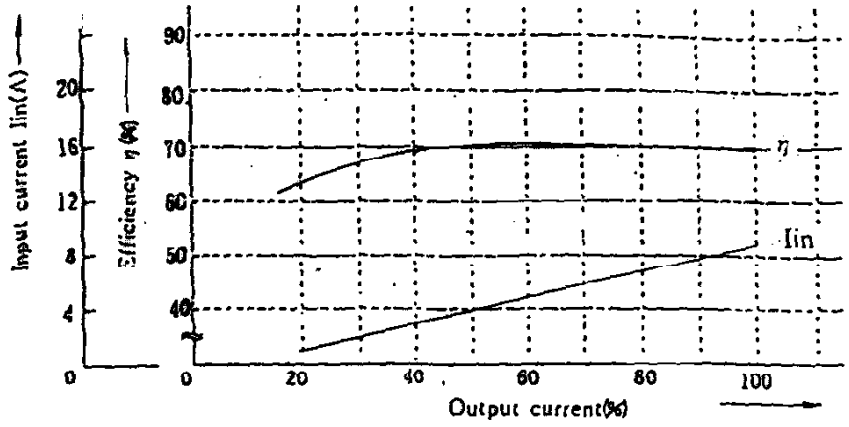


効率・入力電流対出力電流

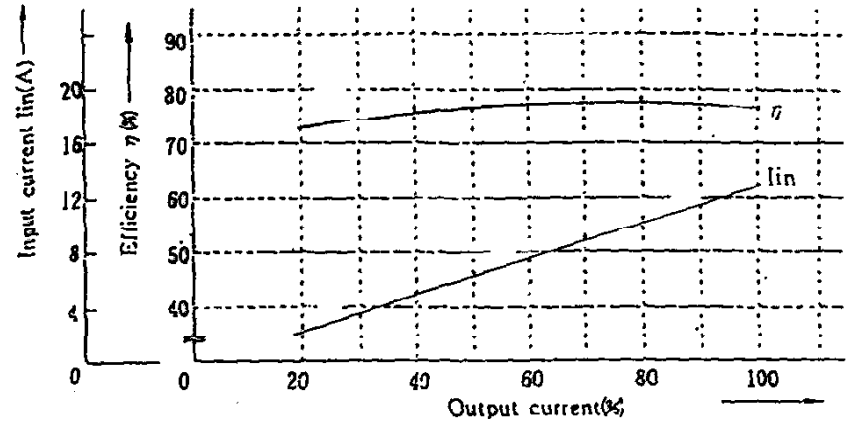
(3) Efficiency and input current v.s. output current

Conditions Vin : 200VAC
Ta : 25℃

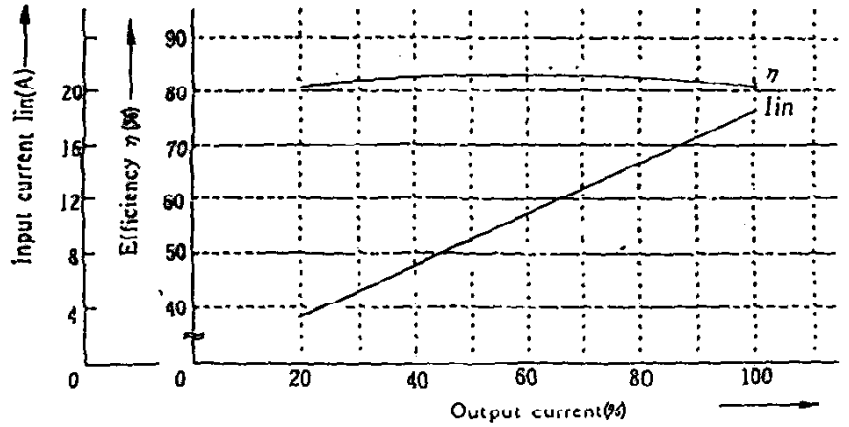
2 V



3.3 V



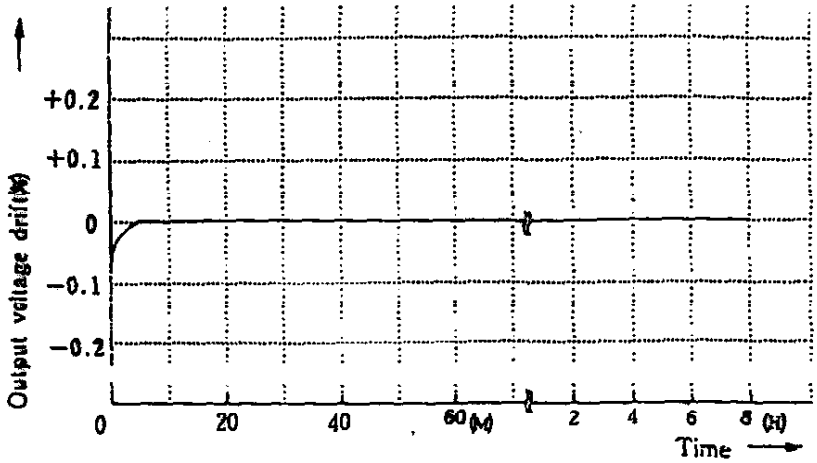
5 V



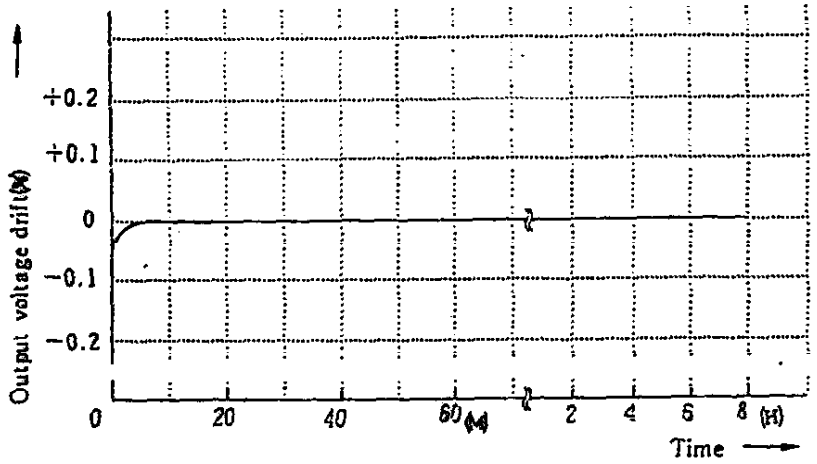
2－2　通電ドリフト特性　Warm up voltage drift characteristics

Conditions　Vin : 200VAC
Iout : 100%
Ta : 25℃

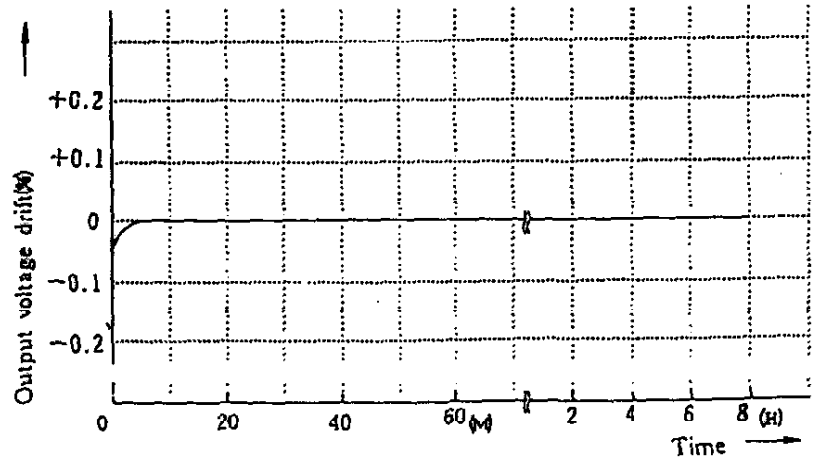
2 V



3.3 V



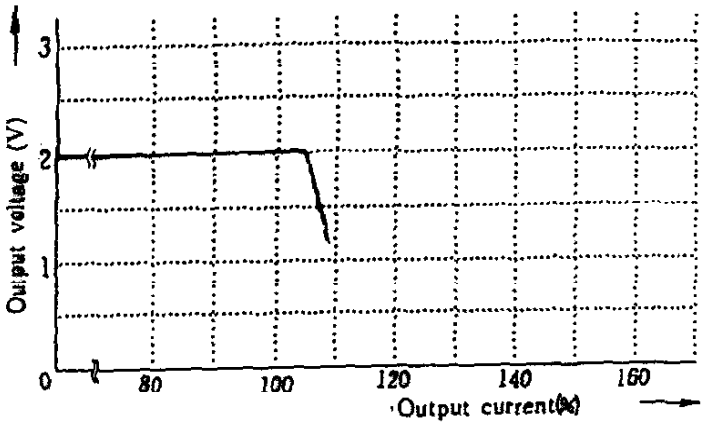
5 V



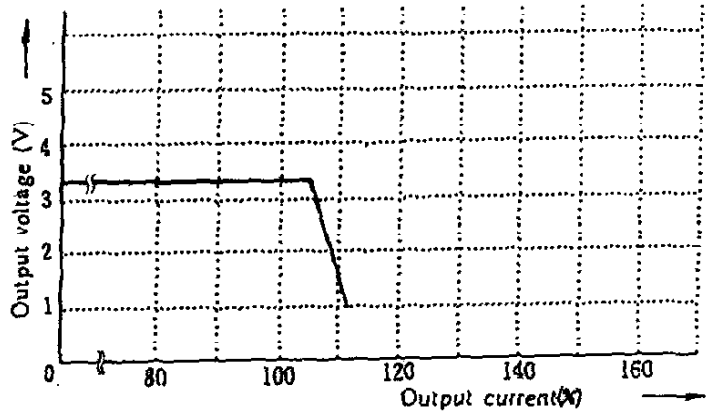
2－3　過電流保護特性　O C P Characteristics

Conditions　Vin : 170VAC ——
200VAC - - - - -
265VAC — - —
Ta : 25℃

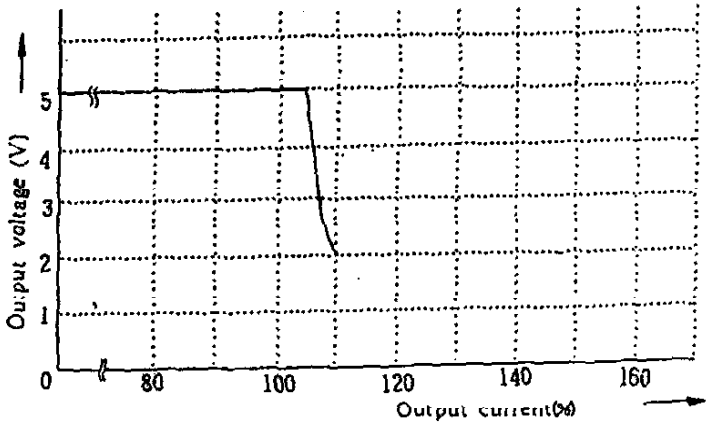
2 V



3.3 V



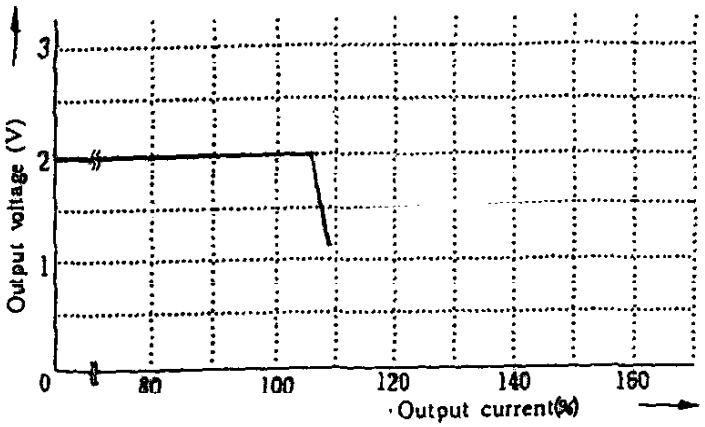
5 V



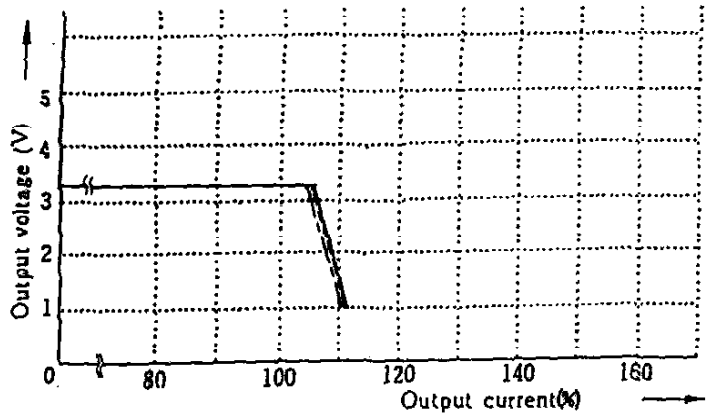
過電流保護特性　O C P Characteristics

Conditions　Vin : 200VAC
Ta : 0℃ ——
25℃ - - - - -
50℃ — - —

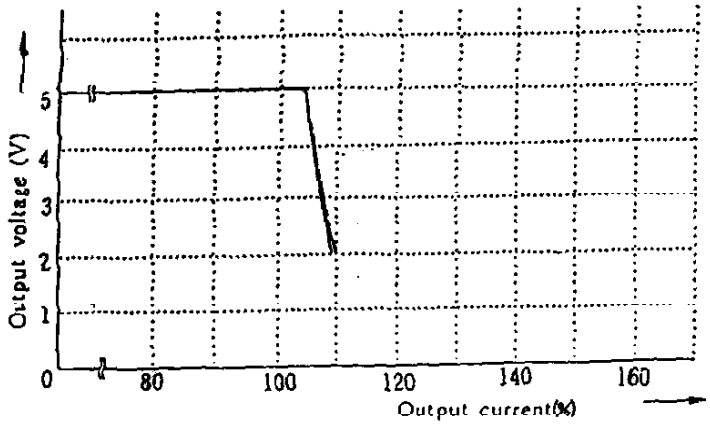
2 V



3.3 V



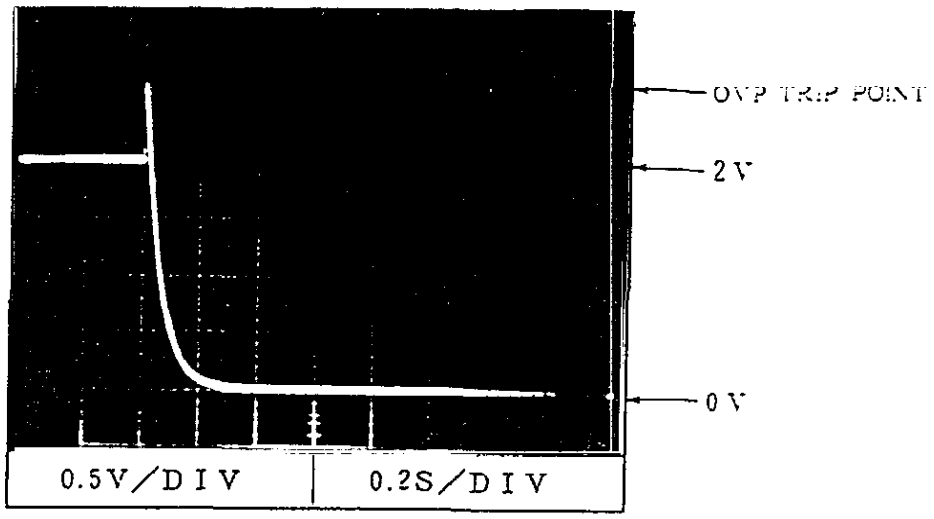
5 V



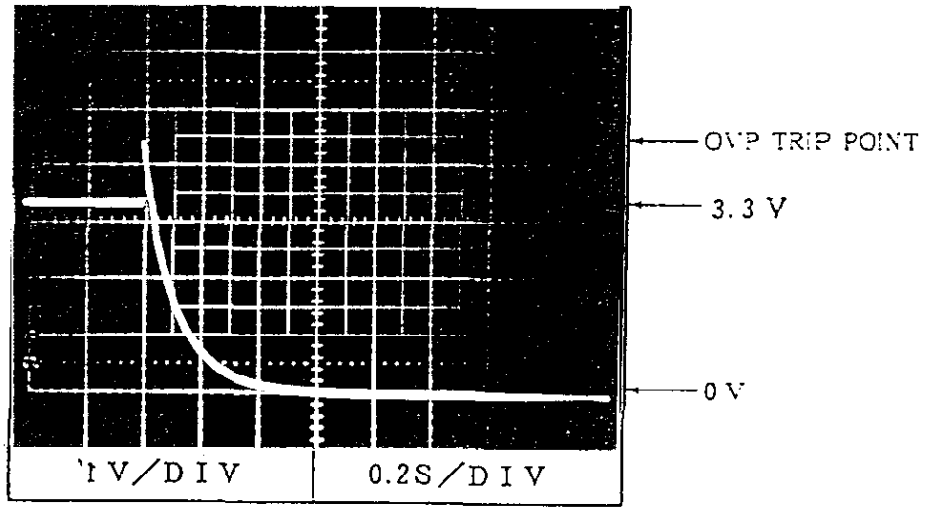
2－4　過電圧保護特性　O V P Characteristics

Conditions　Vin : 200VAC
Iout : 0%
Ta : 25℃

2 V



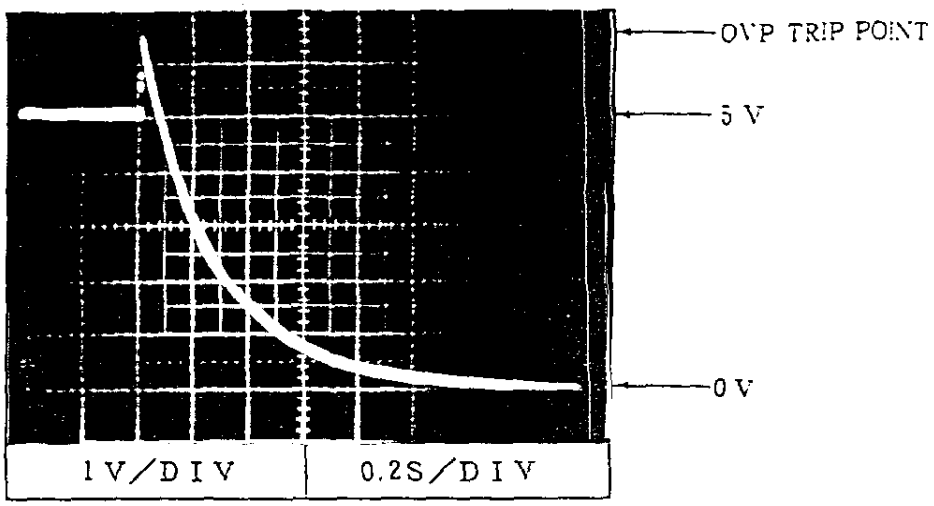
3.3 V



過電圧保護特性　O V P Characteristics

Conditions　Vin : 200VAC
Iout : 0%
Ta : 25℃

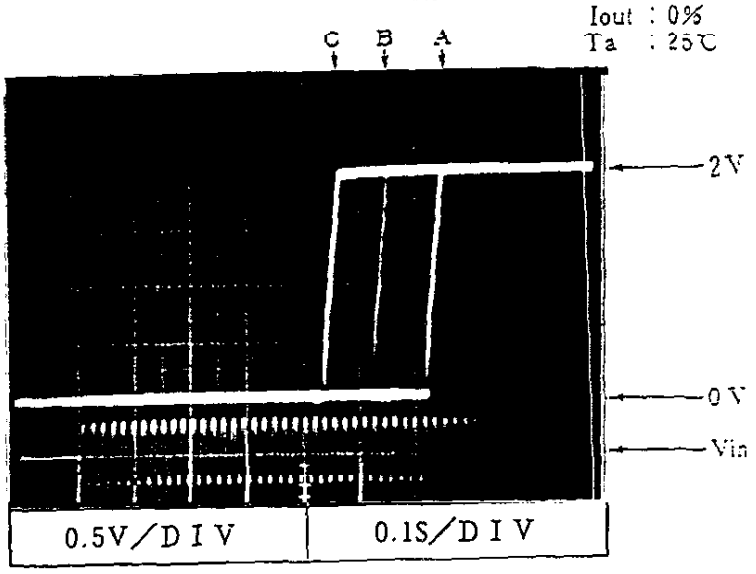
5 V



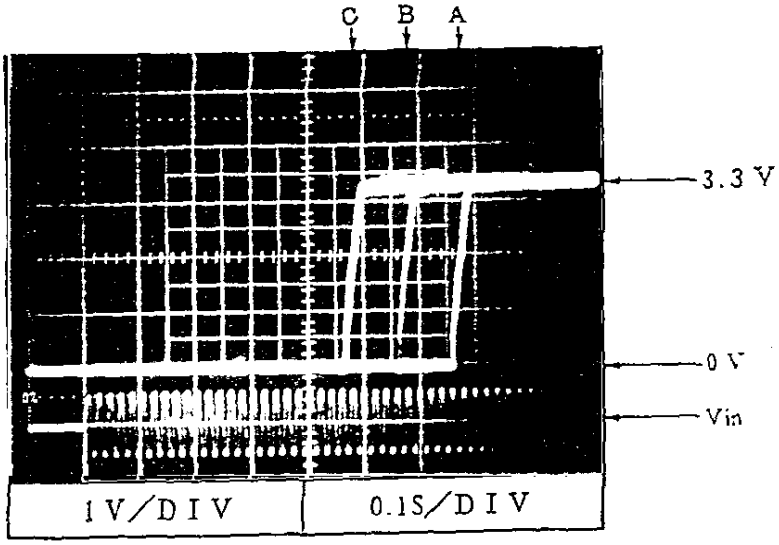
2－5　出力立上り特性　Output rise characteristics

Conditions　A　B　C
Vin　: 170, 200, 265VAC
Iout　: 0%
Ta　: 25℃

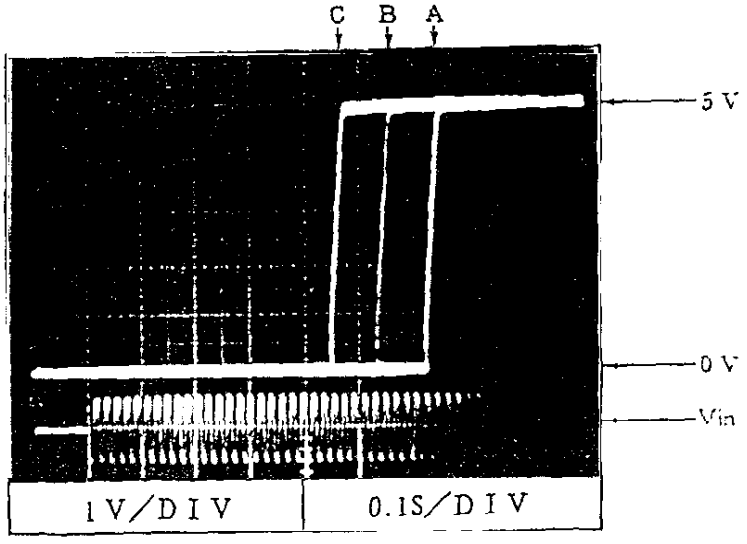
2 V



3.3 V



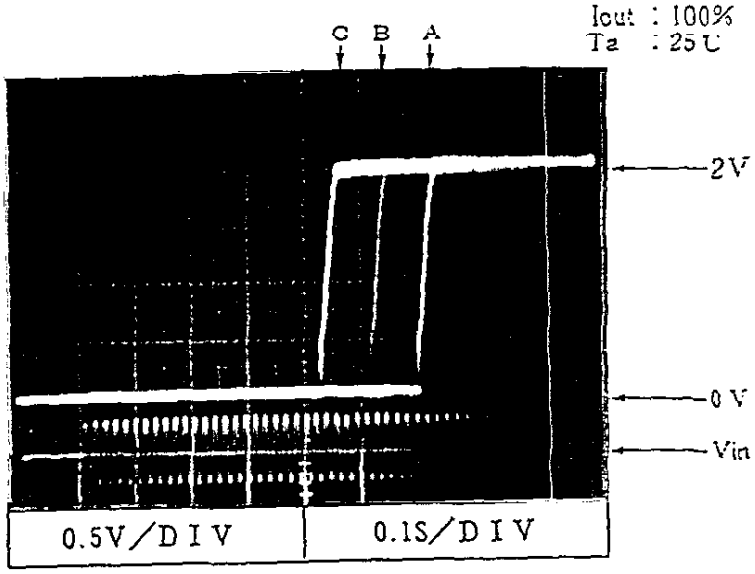
5 V



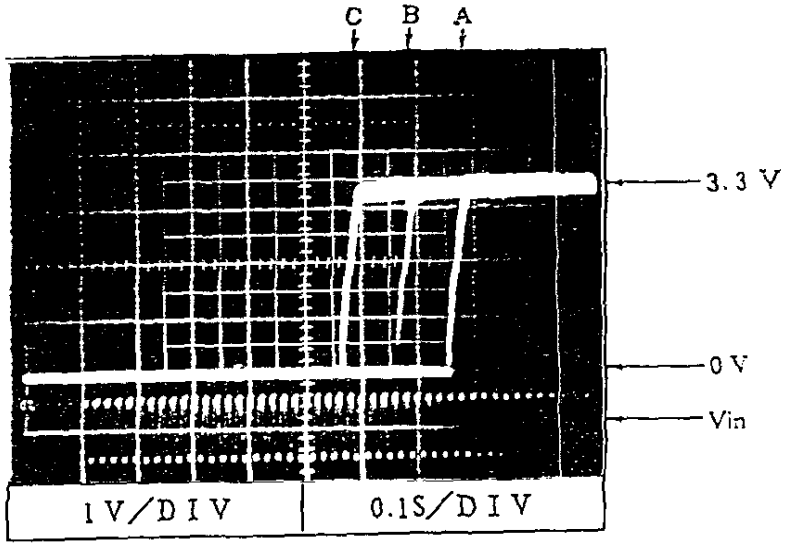
出力立上り特性　Output rise characteristics

Conditions　A B C
Vin : 170, 200, 265VAC
Iout : 100%
Ta : 25℃

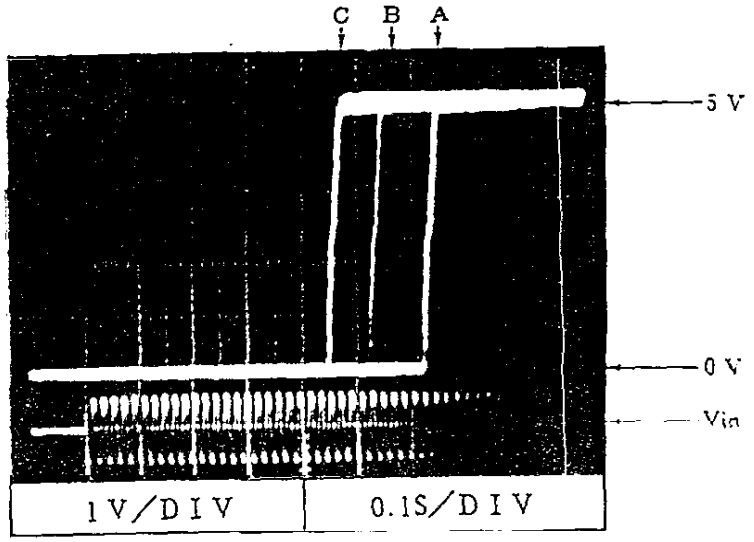
2 V



3.3 V



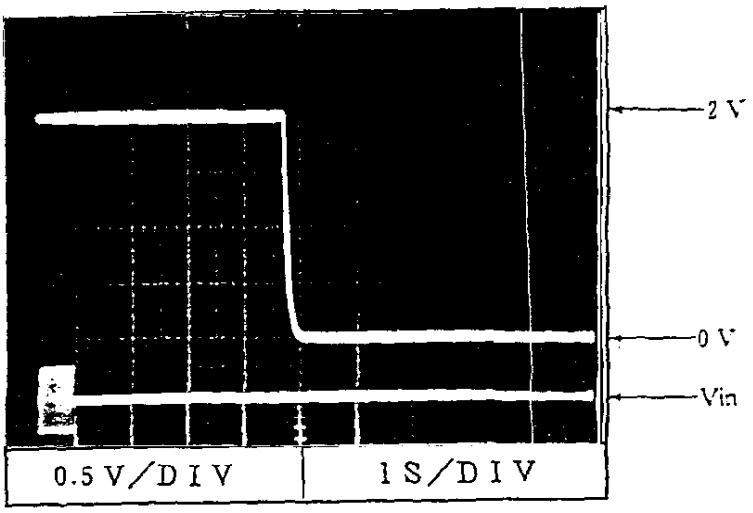
5 V



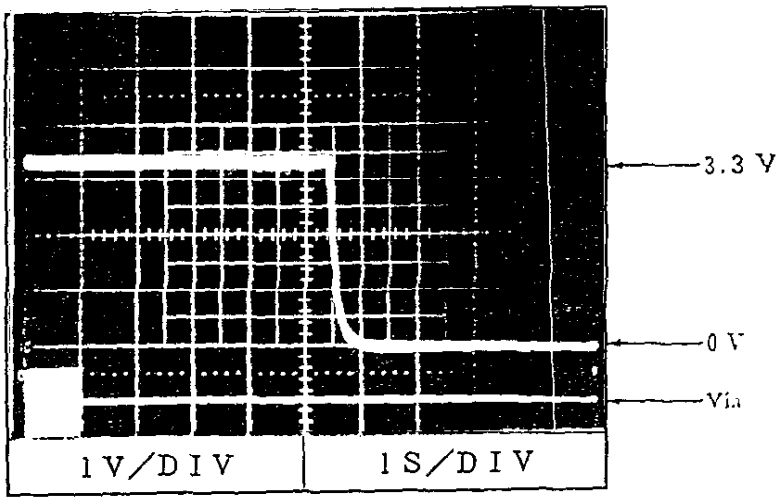
2－6　出力立下り特性　Output fall characteristics

Conditions　Vin ：170, 200, 265VAC
Iout ：0%
Ta ：25℃

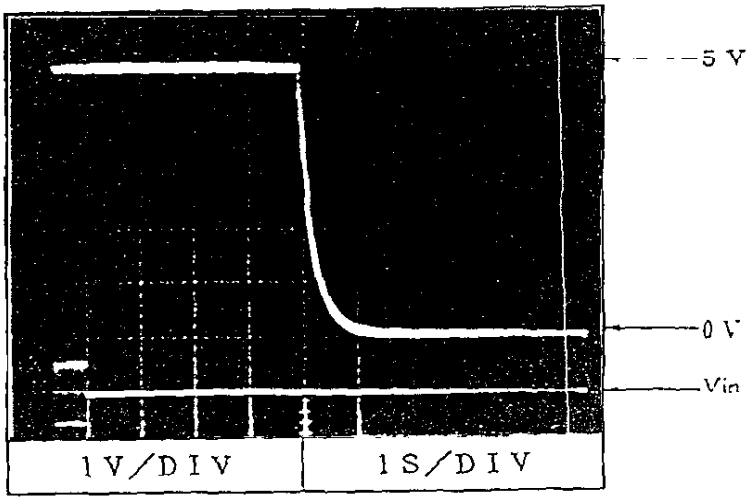
2V



3.3V



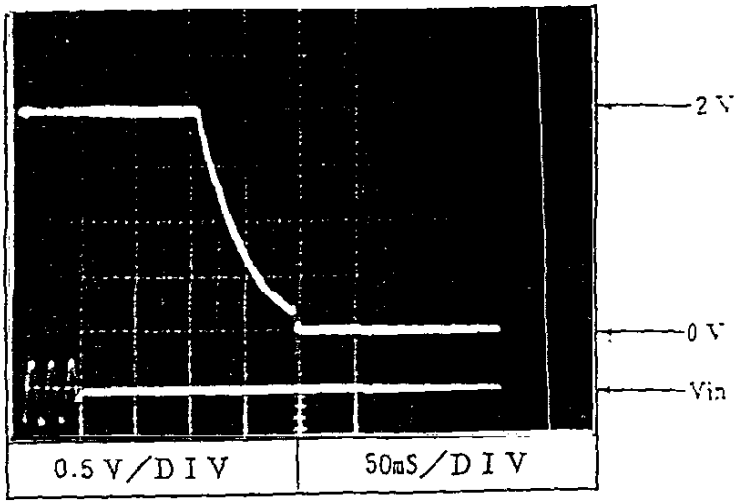
5V



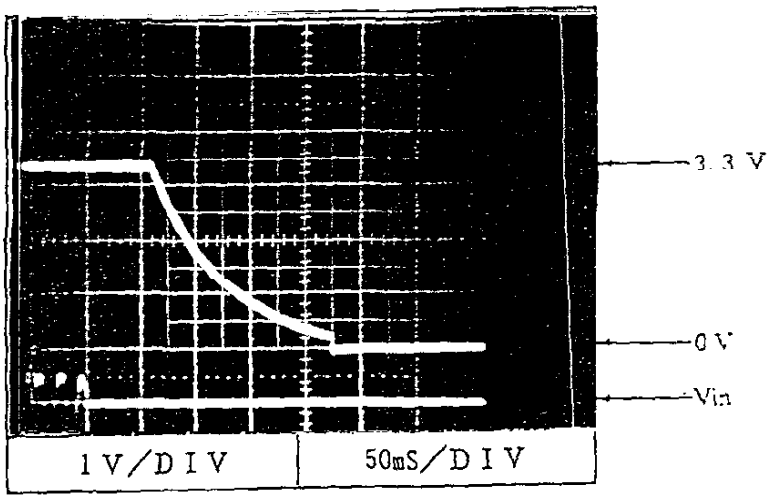
出力立下り特性　Output fall characteristics

Conditions　Vin : 170, 200, 255VAC
Iout : 100%
Ta : 25℃

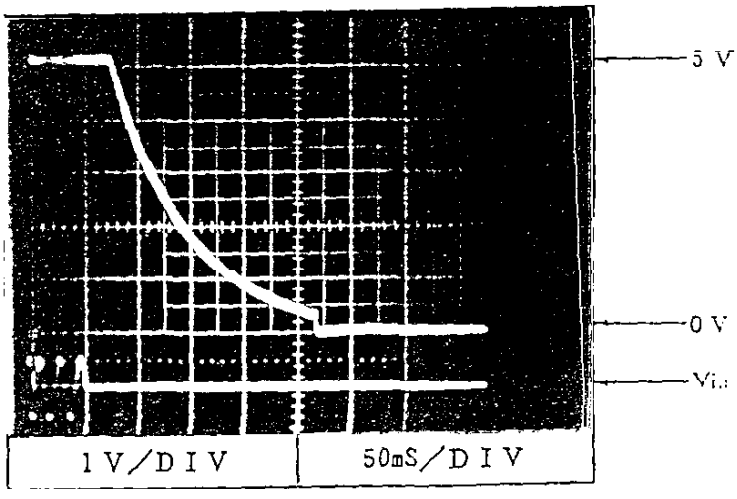
2 V



3.3 V



5 V

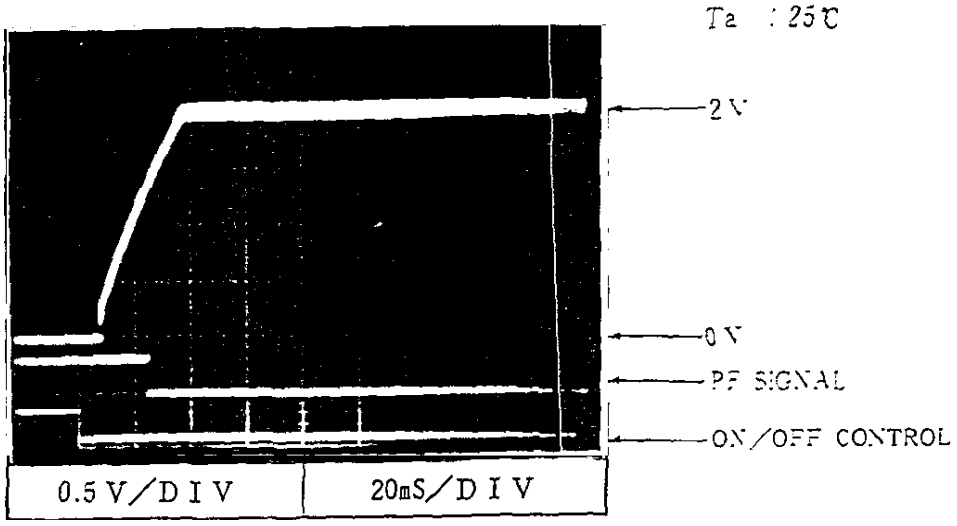


2－7　出力立上り特性（ON/OFFコントロール時）

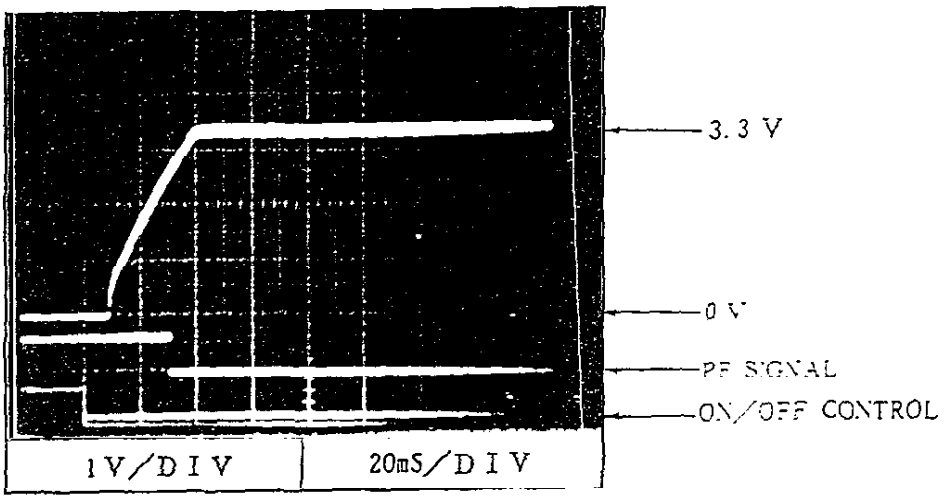
Output rise characteristics with ON／OFF CONTROL

Conditions　Vin : 200VAC
Iout : 100%
Ta : 25℃

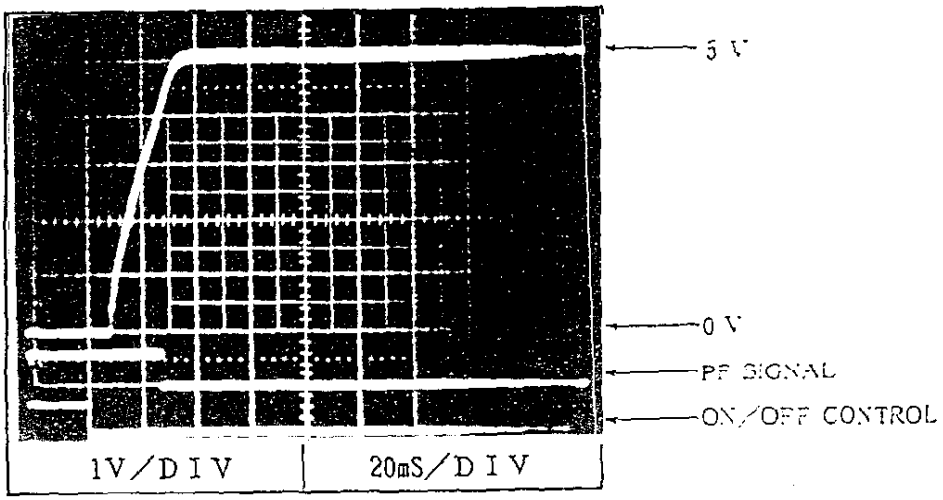
2 V



3.3 V



5 V

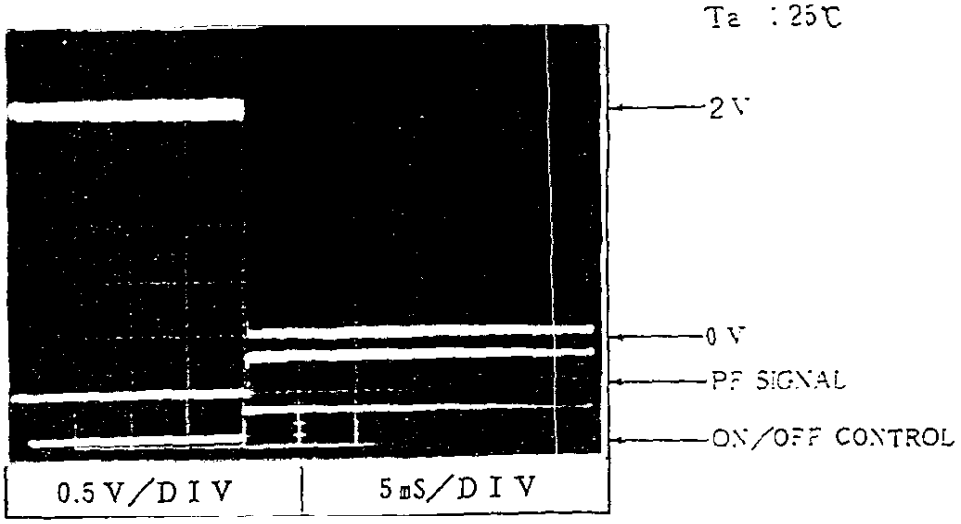


2－8　出力立下り特性（ON/OFFコントロール時）

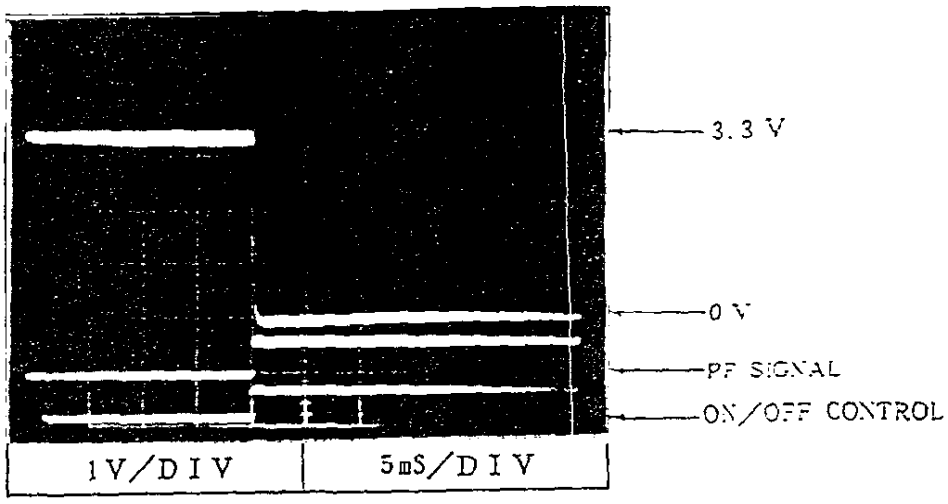
Output fall characteristics with ON／OFF CONTROL

Conditions　Vin : 200VAC
Iout : 100%
Ta : 25℃

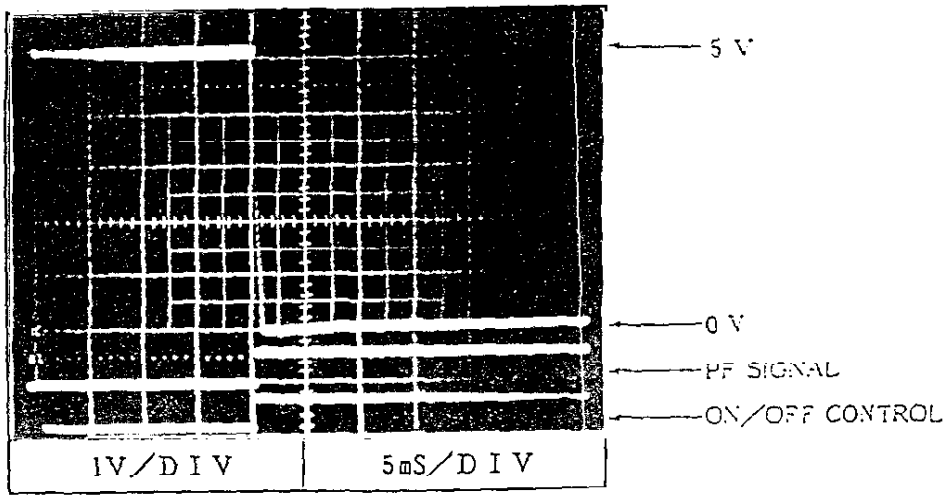
2 V



3.3 V



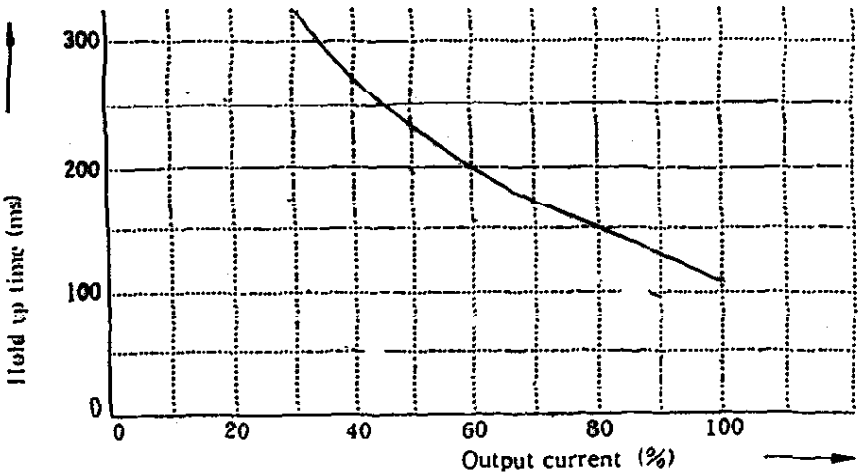
5 V



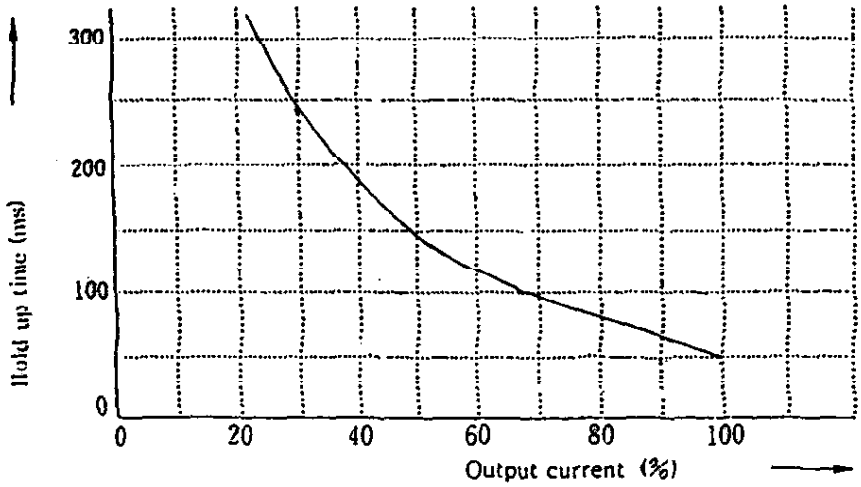
2－9 出力保持時間特性 Hold up time characteristics

Conditions Vin : 170VAC ——
200VAC - - - - -
265VAC — — —
Ta : 25℃

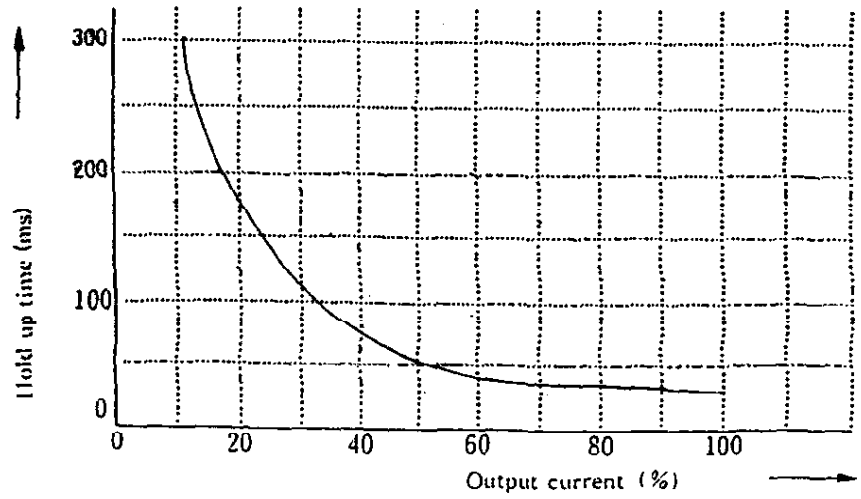
2 V



3.3 V



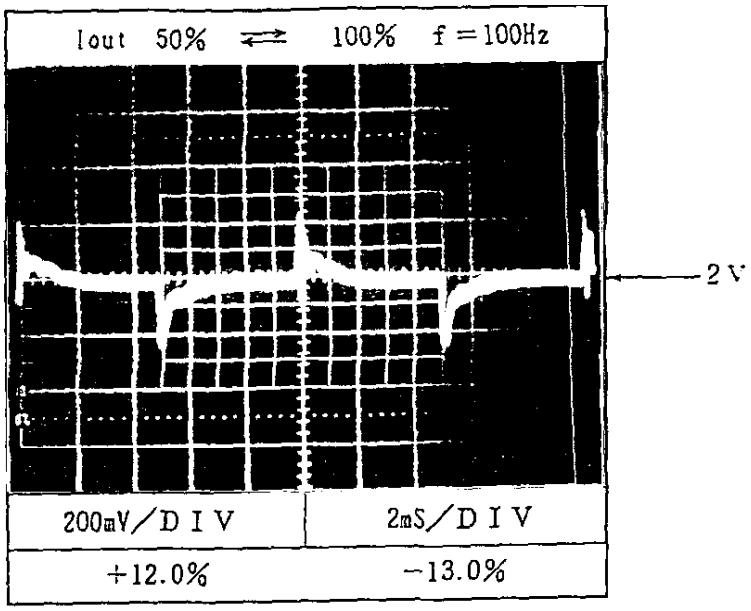
5 V



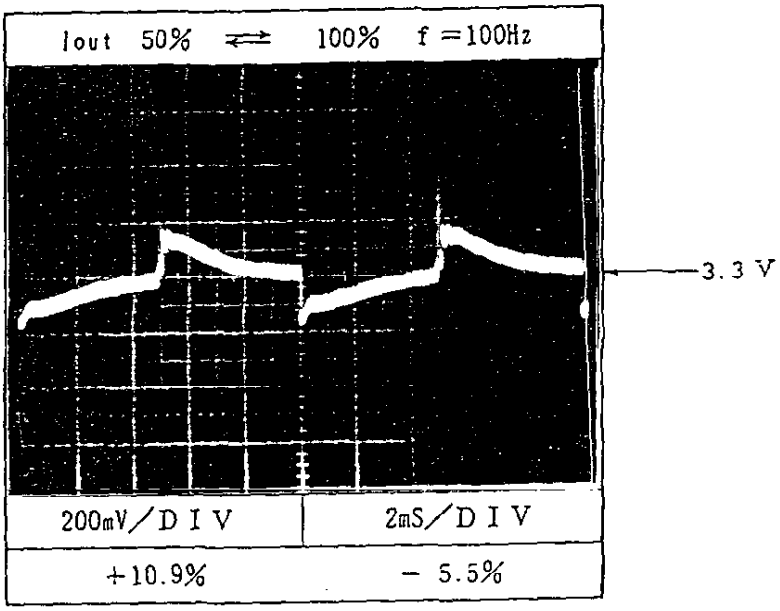
2－10　過渡応答（負荷急変）特性　Dynamic load response characteristics

Conditions　Vin : 200VAC
Ta : 25℃

2 V



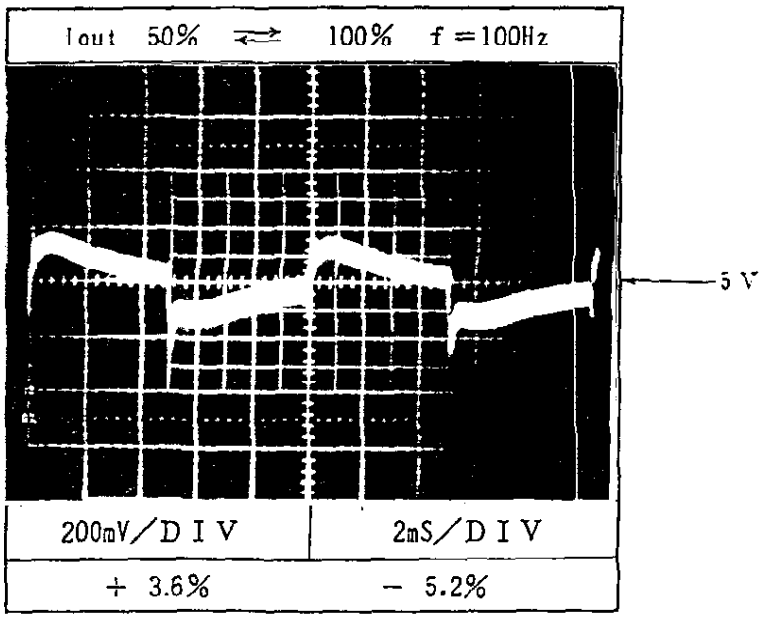
3.3 V



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

Conditions　Vin : 200VAC
Ta : 25℃

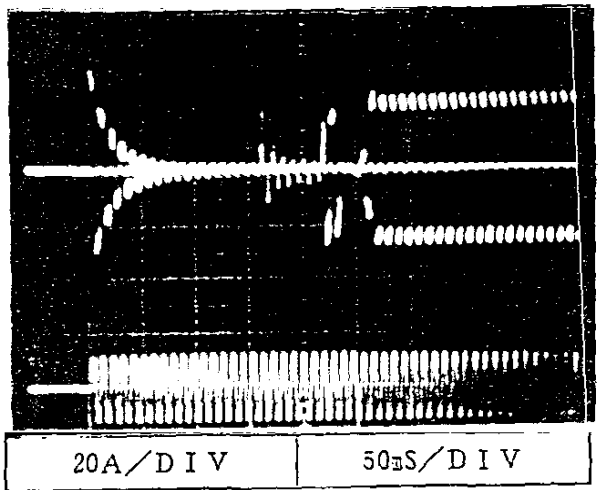
5 V



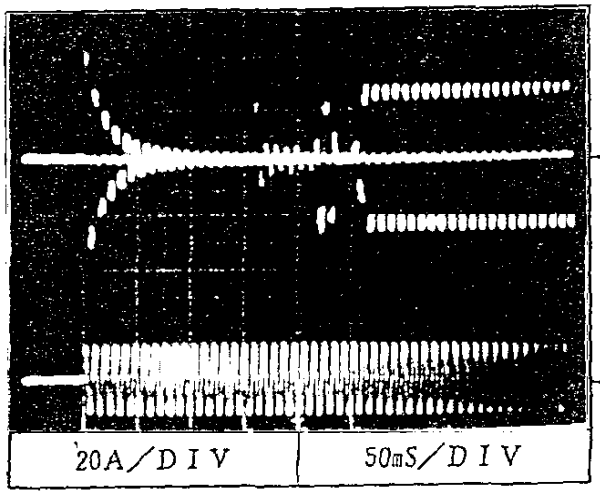
2－11　入力サージ電流（突入電流）波形　Inrush current waveform

Conditions　Vin : 200VAC
Iout : 100%
Ta : 25℃

Switch in phase angle of input AC voltage
$\phi = 0°$



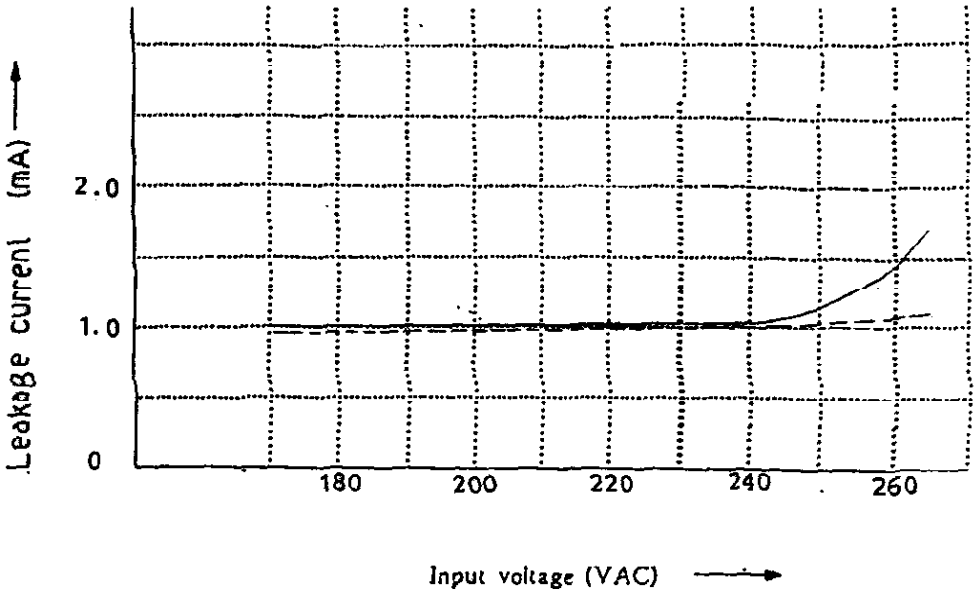
Switch in phase angle of input AC voltage
$\phi = 90°$



2－12　リーク電流（漏洩電流）特性　Leakage current characteritics

Conditions　ACG－FG SHORT
Iout ：100% ——
0% - - - - -
Ta ：25℃

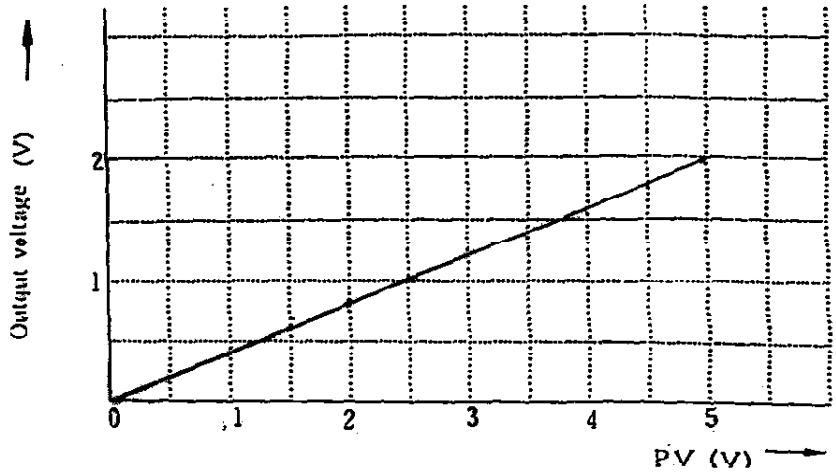
5 V



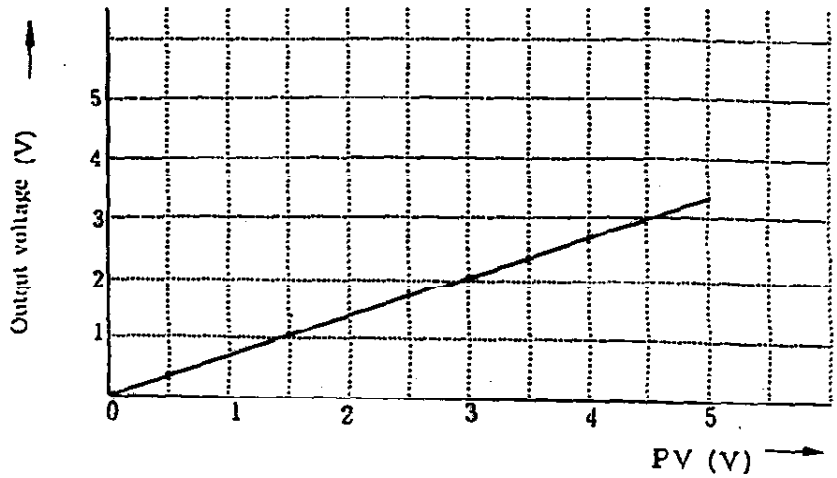
2－13 ＰＶ電圧対出力電圧特性. PV voltage V.S. output voltage

Conditions　Vin : 200VAC
Iout : 0%
Ta : 25℃

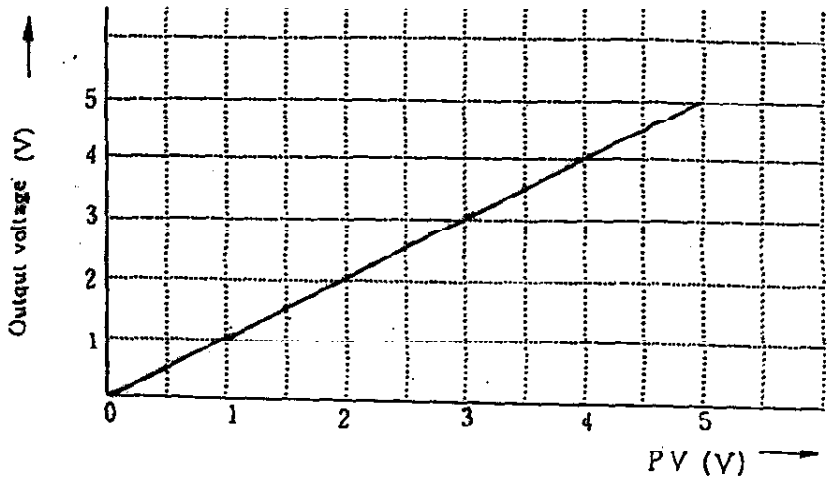
2V



3.3V



5V



2－14 雑音端子電圧 (VCCI/FCC) Conducted emission

Conditions Vin : 200VAC
Iout : 100%
Ta : 25℃

5 V