Test Data

PCSA-470P-X2S

(AC(85)90～264V)

DC POWER SUPPLY

Approved by : K. Imai

Prepared by : A. Takeda

INPUT : AC (85)90V ～ 264V

OUTPUT :

V1:	3.3V	15A	(Peak 31A)
V2:	5V	20A	(Peak 40A)
V3:	12V	14A	(Peak 20A)
V4:	-5V	0.5A	
V5:	-12V	0.9A	
V6:	5Vs	2.2A	(Peak 3A)

株式会社 ニプロン
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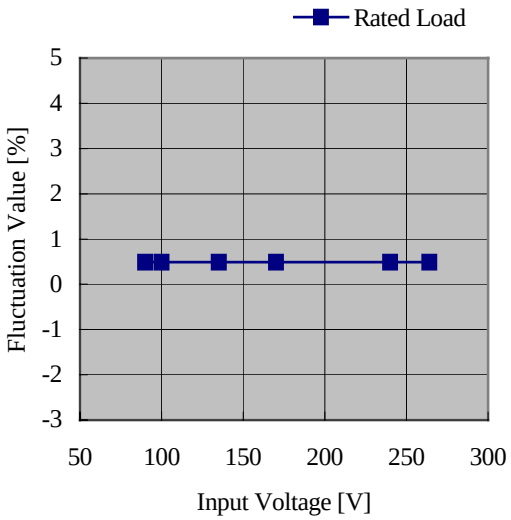
CONTENTS

Model	PCSA-470P-X2S
Item	Line Regulation

V1：3.3V 15A

at AC Input

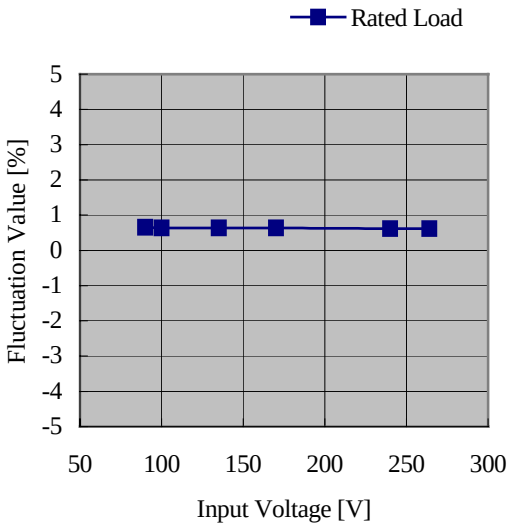


at AC Input

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
AC 90	3.316	0.48
100	3.316	0.48
240	3.316	0.48
264	3.316	0.48

V2：5V 20A

at AC Input



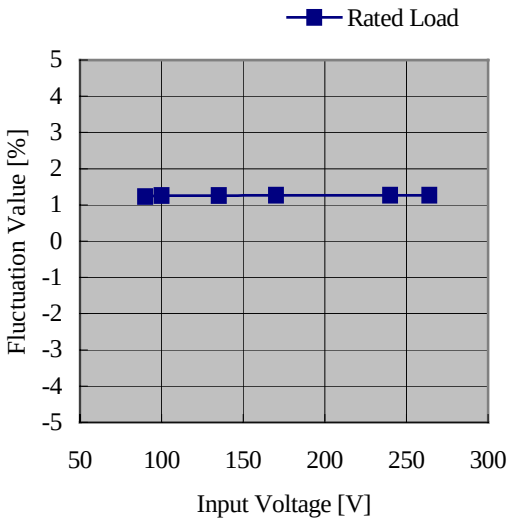
at AC Input

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
AC 90	5.033	0.66
100	5.032	0.64
240	5.031	0.62
264	5.031	0.62

Model	PCSA-470P-X2S
Item	Line Regulation

V3：12V 14A

at AC Input

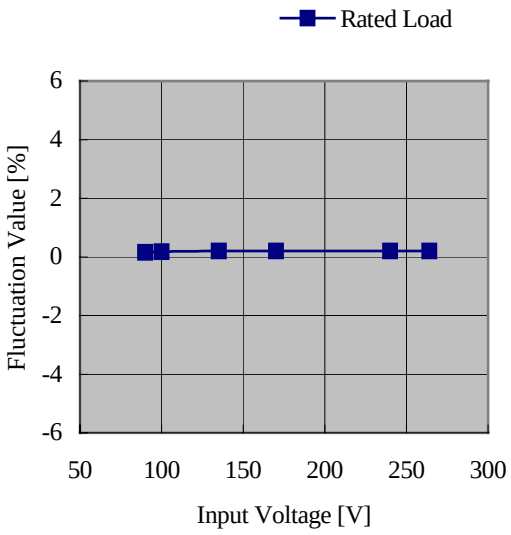


at AC Input

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
AC 90	12.148	1.23
100	12.151	1.26
240	12.152	1.27
264	12.152	1.27

V4：-5V 0.5A

at AC Input



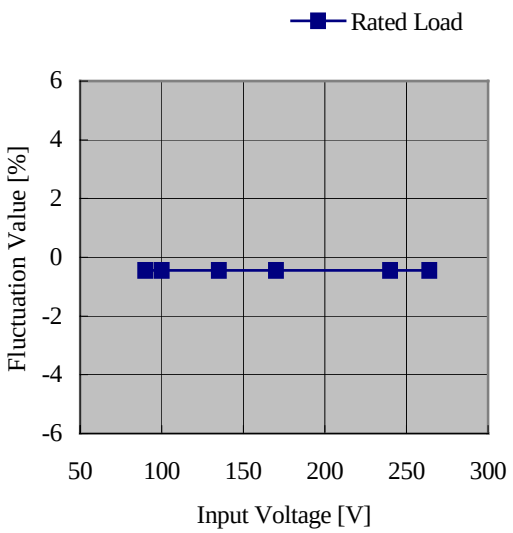
at AC Input

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
AC 90	-5.008	0.16
100	-5.009	0.18
240	-5.010	0.20
264	-5.010	0.20

Model	PCSA-470P-X2S
Item	Line Regulation

V5：-12V 0.9A

at AC Input

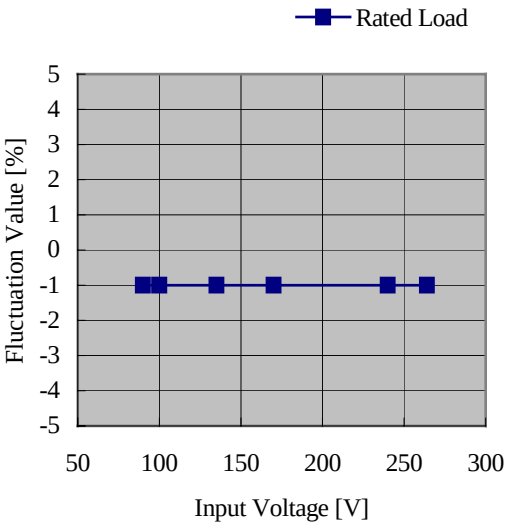


at AC Input

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
AC 90	-11.946	-0.45
100	-11.946	-0.45
240	-11.946	-0.45
264	-11.946	-0.45

V6：5Vs 2.2A

at AC Input

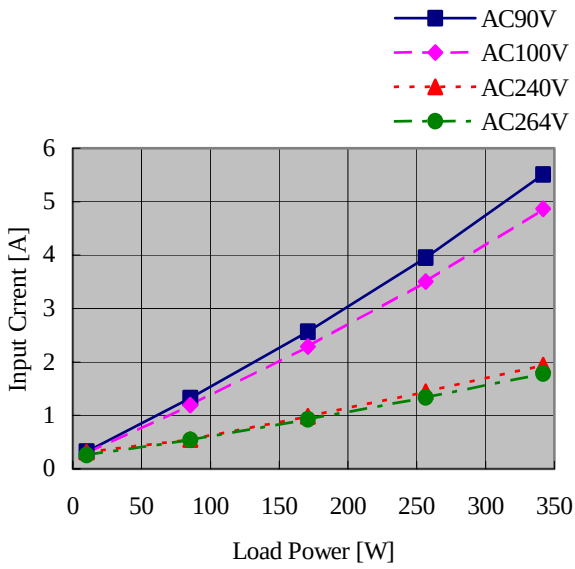


at AC Input

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
AC 90	4.950	-1.00
100	4.950	-1.00
240	4.950	-1.00
264	4.950	-1.00

Model	PCSA-470P-X2S
Item	Input Current (by Load Power)

at AC Input

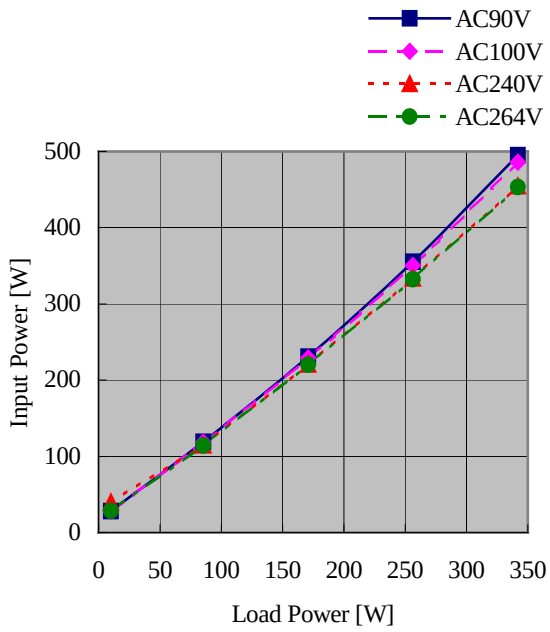


at AC Input

Load Power [W]	Input Current [A rms]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	0.32	0.29	0.32	0.26
85.45	1.33	1.19	0.55	0.54
170.9	2.57	2.29	0.98	0.93
256.35	3.95	3.50	1.44	1.34
341.8	5.51	4.86	1.94	1.78

Model	PCSA-470P-X2S
Item	Input Power (by Load Power)

at AC Input

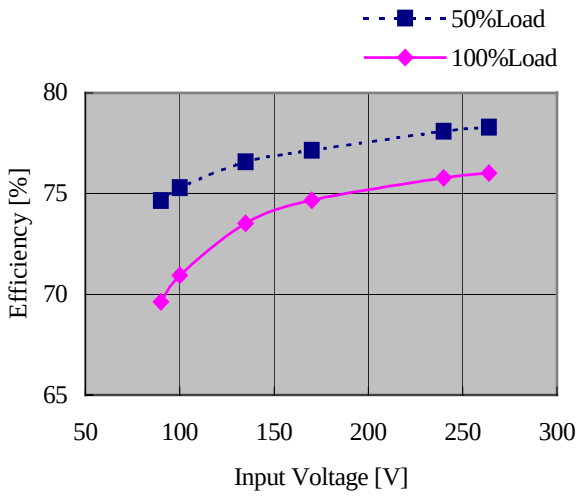


at AC Input

Load Power [W]	Input Power [W]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	28.06	27.65	40.06	28.54
85.45	119.29	118.77	114.58	114.34
170.9	230.97	228.99	220.81	220.20
256.35	355.21	350.39	333.75	332.61
341.8	495.01	485.83	454.78	453.33

Model	PCSA-470P-X2S
Item	Efficiency

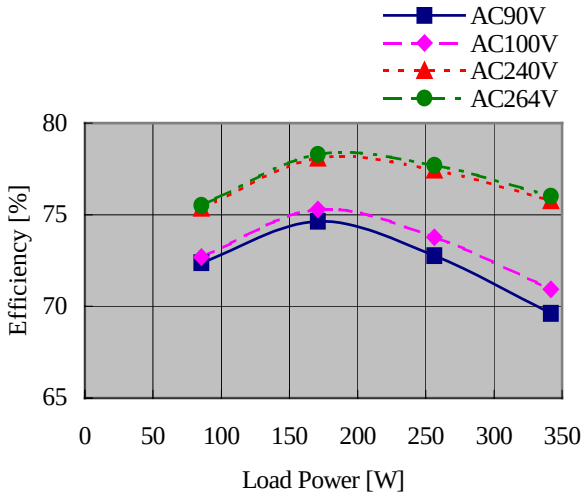
at AC Input



at AC Input

Input Voltage [V]	Efficiency [%]	
	50% Load	100% Load
90	74.65	69.62
100	75.29	70.94
240	78.09	75.78
264	78.30	76.02

at AC Input

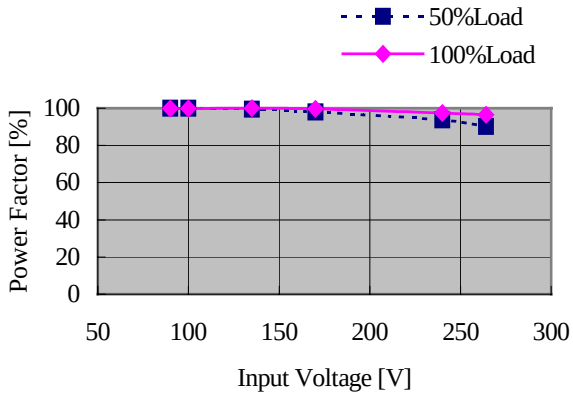


at AC Input

Load Power [W]	Efficiency [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
85.45	72.38	72.70	75.36	75.51
170.9	74.65	75.29	78.09	78.30
256.35	72.78	73.77	77.44	77.70
341.8	69.62	70.94	75.78	76.02

Model	PCSA-470P-X2S
Item	Power Factor

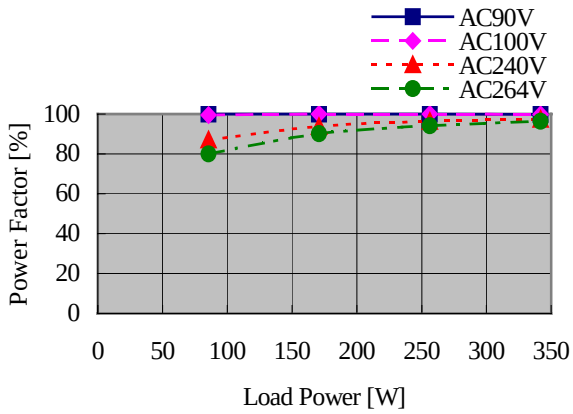
at AC Input



at AC Input

Input Voltage [V]	Power Factor [%]	
	50%Load	100% Load
90	99.95	99.90
100	100.00	99.91
240	93.75	97.50
264	90.12	96.42

at AC Input

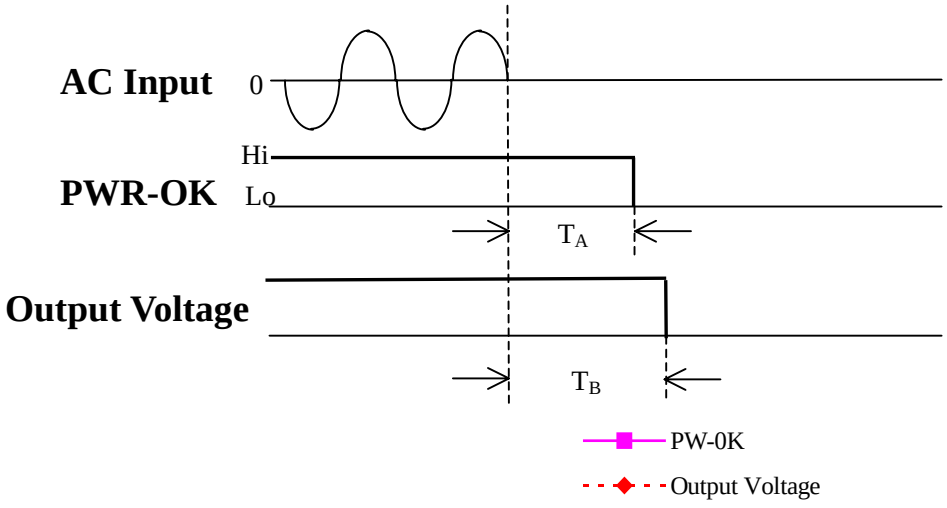


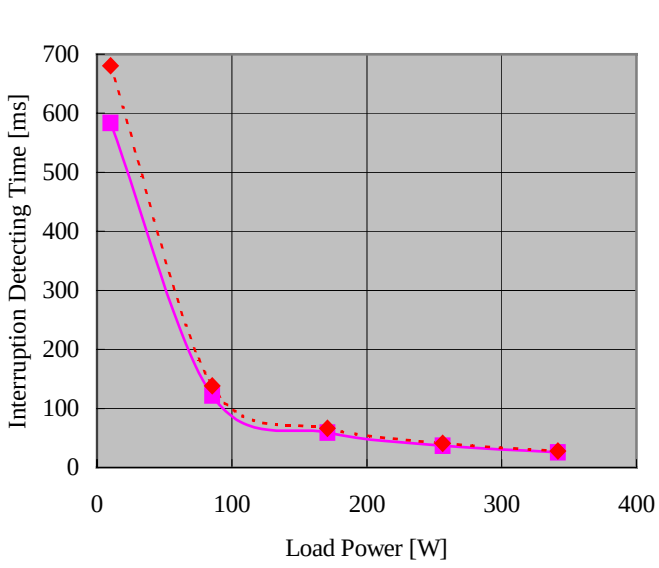
at AC Input

Load Power [W]	Power Factor [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
85.45	99.92	99.50	87.02	80.04
170.9	99.95	100.00	93.75	90.12
256.35	99.93	100.00	96.32	94.11
341.8	99.90	99.91	97.50	96.42

Model	PCSA-470P-X2S	
Item	Instantaneous Interruption Compensation (by Load Power)	

at AC Input (90V / 100V / 240V / 264V)

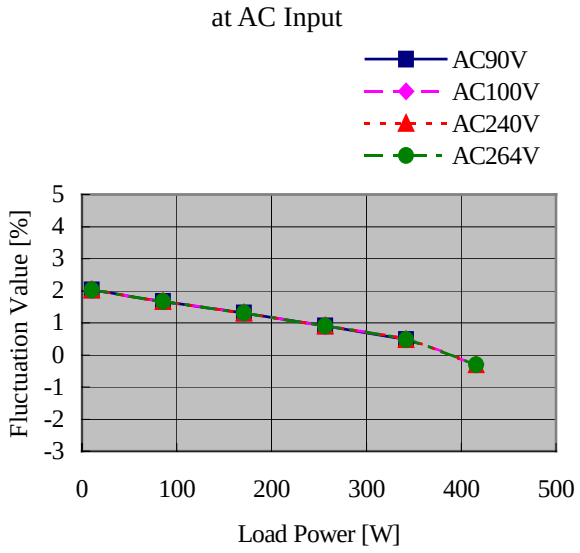




Load Power [W]	Interruption Detecting Time (ms)	
	PWR-OK T_A	DC Output T_B
10	583.60	680.70
85.45	121.84	138.27
170.90	59.22	66.48
256.35	36.83	40.98
341.80	25.58	28.05

Model	PCSA-470P-X2S
Item	Load Regulation

V1：3.3V 15A



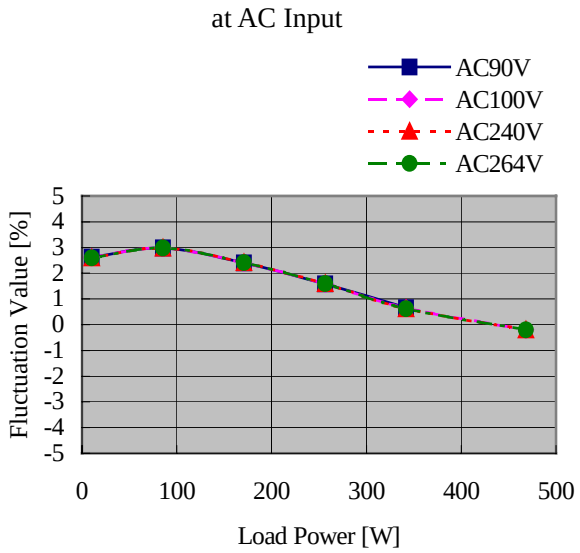
at AC Input

Load Power [W]	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	2.03	2.03	2.03	2.03
85.45	1.67	1.67	1.67	1.67
170.9	1.30	1.30	1.30	1.30
256.35	0.91	0.91	0.91	0.91
341.8	0.48	0.48	0.48	0.48
415.6	-	-0.30	-0.30	-0.30

Load Condition

Load Power [W]	Load Current [A]					
	3.3V	5V	12V	-5V	-12V	5Vs
10	0	2	0	0	0	0
85.45	3.75	5	3.5	0.125	0.225	0.55
170.9	7.5	10	7	0.25	0.45	1.1
256.35	11.25	15	10.5	0.375	0.675	1.65
341.8	15	20	14	0.5	0.9	2.2
415.6	31	9	20	0.5	0.9	3

V2：5V 20A



at AC Input

Load Power [W]	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	2.62	2.62	2.60	2.60
85.45	2.98	2.98	2.98	2.98
170.9	2.40	2.40	2.42	2.42
256.35	1.58	1.58	1.60	1.60
341.8	0.66	0.64	0.62	0.62
468.3	-	-0.20	-0.20	-0.20

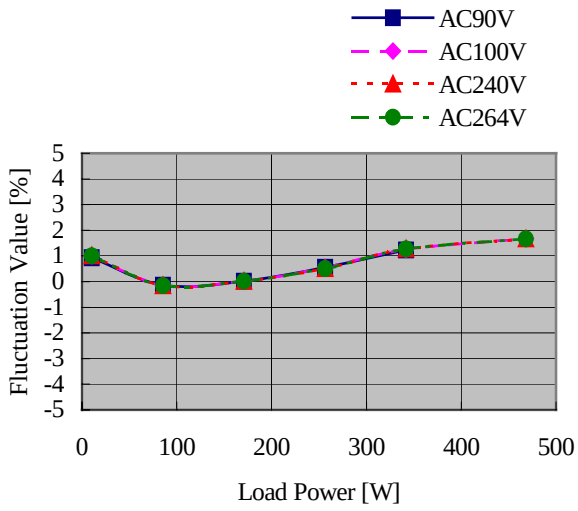
Load Condition

Load Power [W]	Load Current [A]					
	3.3V	5V	12V	-5V	-12V	5Vs
10	0	2	0	0	0	0
85.45	3.75	5	3.5	0.125	0.225	0.55
170.9	7.5	10	7	0.25	0.45	1.1
256.35	11.25	15	10.5	0.375	0.675	1.65
341.8	15	20	14	0.5	0.9	2.2
468.3	0	40	20	0.5	0.9	3

Model	PCSA-470P-X2S
Item	Load Regulation

V3:12V 14A

at AC Input



at AC Input

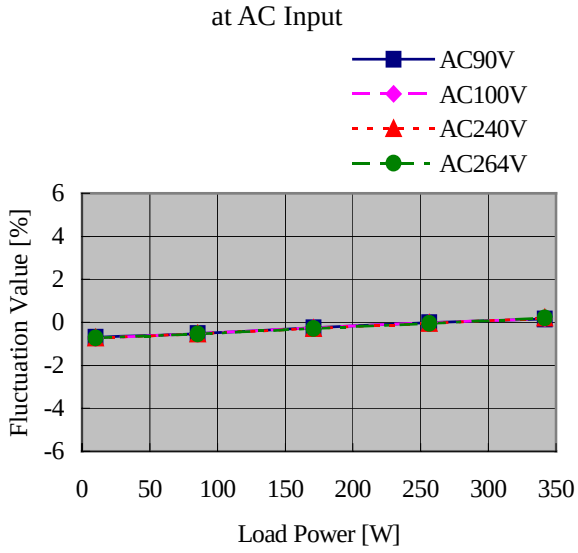
Load Power [W]	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	0.92	1.00	1.00	1.00
85.45	-0.15	-0.14	-0.16	-0.16
170.9	0.01	0.01	0.01	0.01
256.35	0.56	0.54	0.51	0.50
341.8	1.23	1.26	1.27	1.27
468.3	-	1.67	1.67	1.67

Load Condition

Load Power [W]	Load Current [A]					
	3.3V	5V	12V	-5V	-12V	5Vs
10	0	2	0	0	0	0
85.45	3.75	5	3.5	0.125	0.225	0.55
170.9	7.5	10	7	0.25	0.45	1.1
256.35	11.25	15	10.5	0.375	0.675	1.65
341.8	15	20	14	0.5	0.9	2.2
468.3	0	40	20	0.5	0.9	3

V4:-5V 0.5A

at AC Input



at AC Input

Load Power [W]	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	-0.70	-0.72	-0.72	-0.72
85.45	-0.52	-0.52	-0.54	-0.54
170.9	-0.26	-0.26	-0.28	-0.28
256.35	-0.02	-0.02	-0.04	-0.04
341.8	0.16	0.18	0.20	0.20

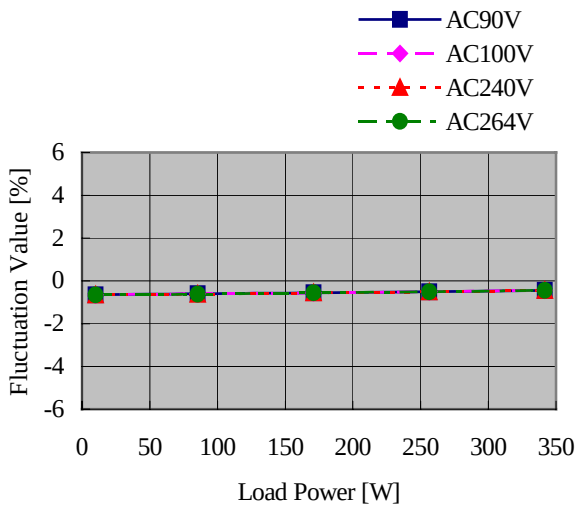
Load Condition

Load Power [W]	Load Current [A]					
	3.3V	5V	12V	-5V	-12V	5Vs
10	0	2	0	0	0	0
85.45	3.75	5	3.5	0.125	0.225	0.55
170.9	7.5	10	7	0.25	0.45	1.1
256.35	11.25	15	10.5	0.375	0.675	1.65
341.8	15	20	14	0.5	0.9	2.2

Model	PCSA-470P-X2S
Item	Load Regulation

V5：-12V 0.9A

at AC Input



at AC Input

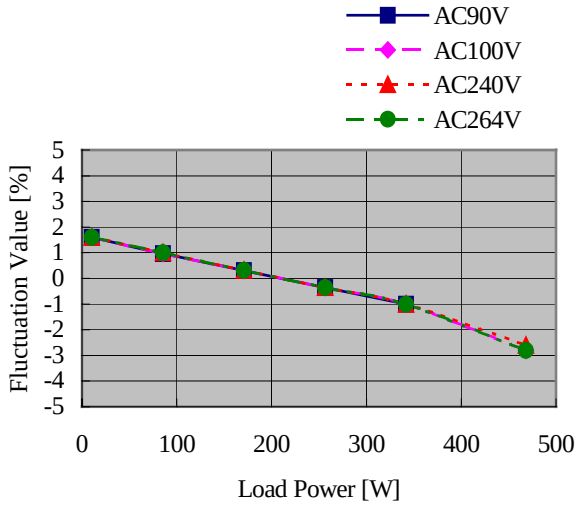
Load Power [W]	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	-0.65	-0.65	-0.65	-0.65
85.45	-0.61	-0.61	-0.62	-0.62
170.9	-0.56	-0.56	-0.56	-0.56
256.35	-0.50	-0.50	-0.50	-0.50
341.8	-0.45	-0.45	-0.45	-0.45

Load Condition

Load Power [W]	Load Current [A]					
	3.3V	5V	12V	-5V	-12V	5Vs
10	0	2	0	0	0	0
85.45	3.75	5	3.5	0.125	0.225	0.55
170.9	7.5	10	7	0.25	0.45	1.1
256.35	11.25	15	10.5	0.375	0.675	1.65
341.8	15	20	14	0.5	0.9	2.2

V6：5Vs 2.2A

at AC Input



at AC Input

Load Power [W]	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
10	1.60	1.60	1.60	1.60
85.45	0.96	0.96	1.00	1.00
170.9	0.30	0.30	0.30	0.32
256.35	-0.36	-0.36	-0.36	-0.36
341.8	-1.00	-1.00	-1.00	-1.00
468.3	-	-2.80	-2.80	-2.80

Load Condition

Load Power [W]	Load Current [A]					
	3.3V	5V	12V	-5V	-12V	5Vs
10	0	2	0	0	0	0
85.45	3.75	5	3.5	0.125	0.225	0.55
170.9	7.5	10	7	0.25	0.45	1.1
256.35	11.25	15	10.5	0.375	0.675	1.65
341.8	15	20	14	0.5	0.9	2.2
468.3	0	40	20	0.5	0.9	3

Model	PCSA-470P-X2S	
Item	Ripple / Noise Voltage Test	

		V1	3.3V	V2	5V	V3	12V
Temperature	Input Voltage	Ripple (mV) /	Noise (mV)	Ripple (mV) /	Noise (mV)	Ripple (mV) /	Noise (mV)
-5℃	90 V	36 /	60	24 /	60	20 /	72
	100 V	36 /	60	24 /	60	20 /	72
	240 V	36 /	60	24 /	60	20 /	72
	264 V	36 /	60	24 /	60	20 /	72
25℃	90 V	32 /	56	20 /	68	16 /	60
	100 V	32 /	52	20 /	68	16 /	60
	240 V	32 /	56	20 /	68	16 /	60
	264 V	32 /	56	20 /	68	16 /	60
35℃	90 V	30 /	56	18 /	68	12 /	56
	100 V	30 /	56	18 /	68	12 /	56
	240 V	30 /	60	18 /	68	12 /	52
	264 V	30 /	60	18 /	68	12 /	52
Specification		50 /	100	50 /	100	120 /	170
Judgment		Good		Good		Good	

		V4	-5V	V5	-12V	V6	5VS
Temperature	Input Voltage	Ripple (mV) /	Noise (mV)	Ripple (mV) /	Noise (mV)	Ripple (mV) /	Noise (mV)
-5℃	90 V	12 /	52	16 /	88	30 /	80
	100 V	12 /	48	16 /	80	30 /	76
	240 V	12 /	48	16 /	72	28 /	76
	264 V	12 /	48	16 /	68	28 /	76
25℃	90 V	12 /	36	20 /	48	30 /	80
	100 V	12 /	36	20 /	48	30 /	76
	240 V	12 /	36	20 /	52	24 /	76
	264 V	12 /	36	20 /	52	24 /	76
35℃	90 V	10 /	36	10 /	40	20 /	80
	100 V	10 /	36	10 /	40	20 /	80
	240 V	10 /	36	10 /	40	20 /	76
	264 V	10 /	36	10 /	40	20 /	76
Specification		50 /	100	120 /	170	50 /	100
Judgment		Good		Good		Good	

Model	PCSA-470P-X2S	
Item	Ripple / Noise Voltage Test	

		V1	3.3V	V2	5V	V3	12V
Temperature	Input Voltage	Ripple / Noise (mV)		Ripple / Noise (mV)		Ripple / Noise (mV)	
45℃(1)	90 V	24 /	80	10 /	80	12 /	64
	100 V	24 /	80	10 /	80	12 /	64
	240 V	24 /	80	10 /	80	12 /	64
	264 V	24 /	80	10 /	80	12 /	64
55℃(2)	90 V	24 /	80	10 /	64	12 /	62
	100 V	24 /	78	10 /	64	12 /	62
	240 V	24 /	78	10 /	66	12 /	58
	264 V	24 /	78	10 /	66	12 /	58
65℃(3)	90 V	24 /	76	10 /	66	16 /	62
	100 V	24 /	76	10 /	66	16 /	62
	240 V	24 /	76	10 /	62	12 /	56
	264 V	24 /	76	10 /	62	12 /	56
Specification		50 /	100	50 /	100	120 /	170
Judgment		Good		Good		Good	

		V4	-5V	V5	-12V	V6	5VS
Temperature	Input Voltage	Ripple / Noise (mV)		Ripple / Noise (mV)		Ripple / Noise (mV)	
45℃(1)	90 V	10 /	36	10 /	40	16 /	76
	100 V	10 /	36	10 /	40	16 /	76
	240 V	10 /	36	10 /	44	16 /	72
	264 V	10 /	36	10 /	44	16 /	72
55℃(2)	90 V	10 /	36	10 /	46	16 /	76
	100 V	10 /	36	10 /	46	16 /	72
	240 V	10 /	36	10 /	46	16 /	72
	264 V	10 /	36	10 /	46	16 /	72
65℃(3)	90 V	10 /	36	10 /	46	16 /	72
	100 V	10 /	36	10 /	46	12 /	72
	240 V	10 /	36	10 /	46	12 /	70
	264 V	10 /	36	10 /	46	12 /	70
Specification		50 /	100	120 /	170	50 /	100
Judgment		Good		Good		Good	

(1) 90% of Rated Load
(2) 80% of Rated Load
(3) 70% of Rated Load

Model	PCSA-470P-X2S	
Item	Over-Current Protection	

Temperature	Input Voltage	V1 3.3V	V2 5V	V3 12V
-5℃	90 V	38.5 A	58.0 A	27.2 A
	100 V	38.5 A	58.5 A	27.6 A
	240 V	38.5 A	59.0 A	28.0 A
	264 V	38.5 A	59.0 A	27.8 A
25℃	90 V	37.0 A	59.0 A	29.5 A
	100 V	38.0 A	59.0 A	29.5 A
	240 V	38.0 A	59.5 A	30.5 A
	264 V	38.0 A	59.5 A	30.0 A
35℃	90 V	37.5 A	57.5 A	27.2 A
	100 V	37.5 A	58.0 A	27.6 A
	240 V	38.0 A	59.0 A	28.0 A
	264 V	38.0 A	59.0 A	28.0 A
Specification		32A or More	43A or More	21A or More
Judgment		Good	Good	Good

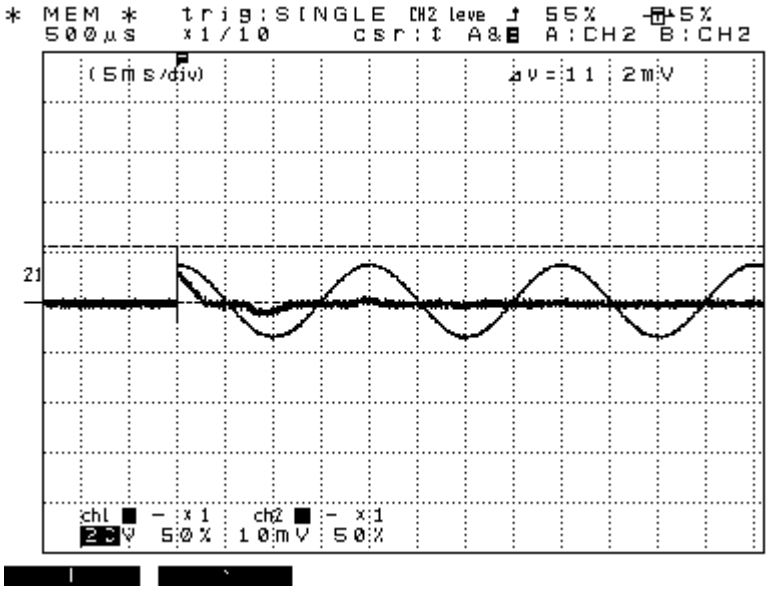
Temperature	Input Voltage	V4 -5V	V5 -12V	V6 5VS
-5℃	90 V	1.05 A	1.92 A	5.80 A
	100 V	1.05 A	1.94 A	5.80 A
	240 V	1.03 A	1.92 A	5.90 A
	264 V	1.03 A	1.94 A	5.90 A
25℃	90 V	0.95 A	1.65 A	5.30 A
	100 V	0.95 A	1.65 A	5.30 A
	240 V	0.95 A	1.64 A	5.30 A
	264 V	0.95 A	1.62 A	5.20 A
35℃	90 V	0.90 A	1.65 A	5.20 A
	100 V	0.89 A	1.60 A	5.30 A
	240 V	0.89 A	1.60 A	5.35 A
	264 V	0.89 A	1.60 A	5.35 A
Specification		0.55A or More	0.95A or More	3.1A or More
Judgment		Good	Good	Good

Model	PCSA-470P-X2S	
Item	Over-Voltage Protection	

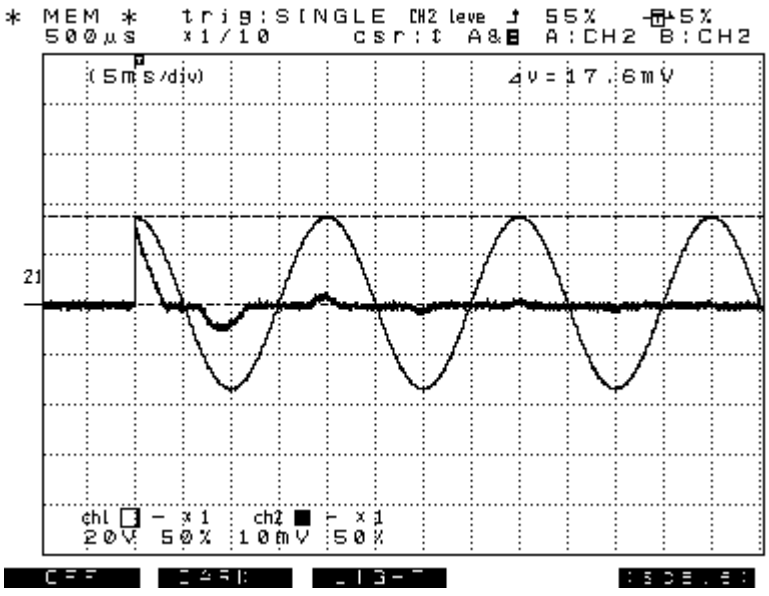
Temperature	Input Voltage	V1：3.3V	V2：5V	V3：12V
-5℃	AC100V	4.17V	6.60V	14.40V
	AC240V	4.17V	6.60V	14.40V
25℃	AC100V	4.20V	6.40V	14.60V
	AC240V	4.20V	6.40V	14.60V
35℃	AC100V	4.20V	6.40V	14.65V
	AC240V	4.20V	6.40V	14.65V
45℃	AC100V	4.20V	6.50V	14.65V
	AC240V	4.20V	6.50V	14.65V
55℃	AC100V	4.20V	6.50V	14.65V
	AC240V	4.20V	6.50V	14.65V
65℃	AC100V	4.20V	6.50V	14.67V
	AC240V	4.20V	6.50V	14.69V
Specification		3.7～4.3V	5.6～7.0V	13.8～15.6V
Judgment		Good	Good	Good

Model	PCSA-470P-X2S	
Item	Inrush Current	

Inrush Current Wave



Wave No.1	
CH1	Measuring Point: Input Voltage
	Range 200V/DIV
CH2	Measuring Point: Input Current
	Range 20A/DIV
Time Line	5ms/DIV
Conditions	Input: AC100V 50Hz Load: Rated Load
Note: Inrush Current Value: 22.4A	

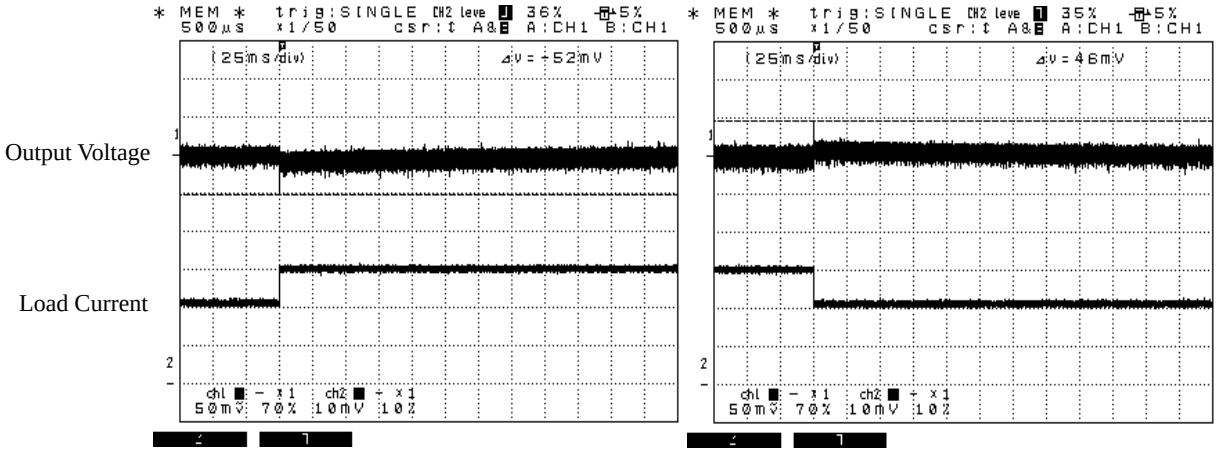


Wave No.2	
CH1	Measuring Point: Input Voltage
	Range 200V/DIV
CH2	Measuring Point: Input Current
	Range 20A/DIV
Time Line	5ms/DIV
Conditions	Input: AC240V 50Hz Load: Rated Load
Note: Inrush Current Value: 35.2A	

Model	PCSA-470P-X2S	
Item	Dynamic Load Response	

V1：+3.3V 15A

70% Load⇔ 100% Load

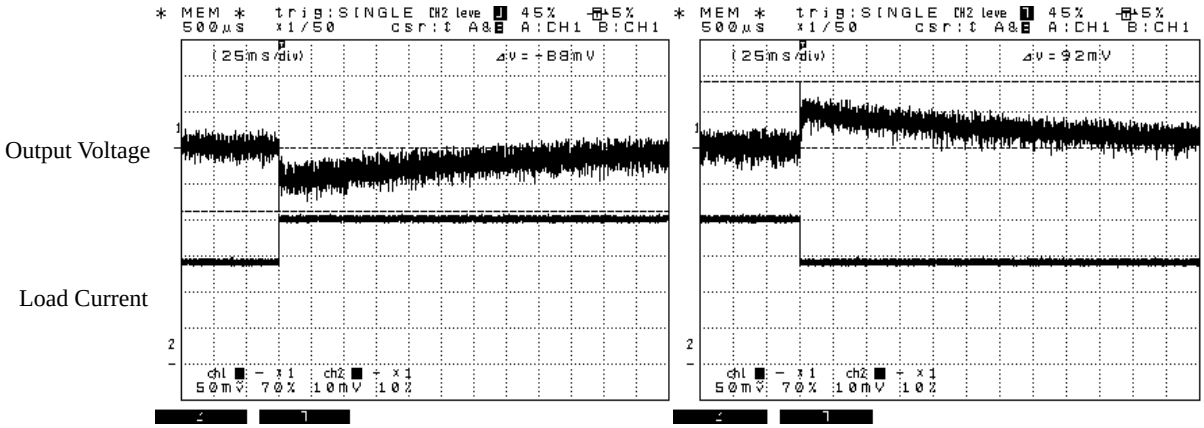


Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgment
70%Load→100% Load	－ mV -52mV	±165mV	Good
100% Load→70% Load	46mV － mV		Good

Model	PCSA-470P-X2S	
Item	Dynamic Load Response	

V2：+5V 20A

70% Load⇔ 100% Load



Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgment
70%Load→100% Load	－ mV -88mV	±250mV	Good
100% Load→70% Load	92mV － mV		Good

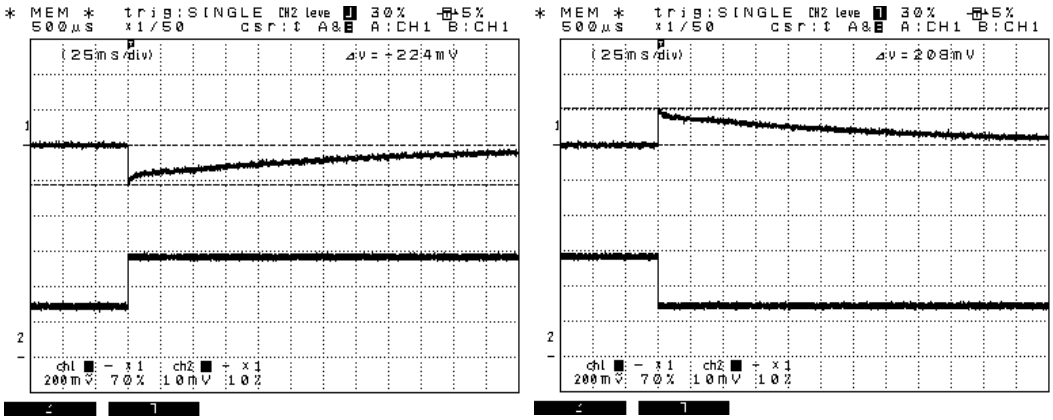
Model	PCSA-470P-X2S	
Item	Dynamic Load Response	

V3：+12V 14A

50% Load ⇔ 100% Load

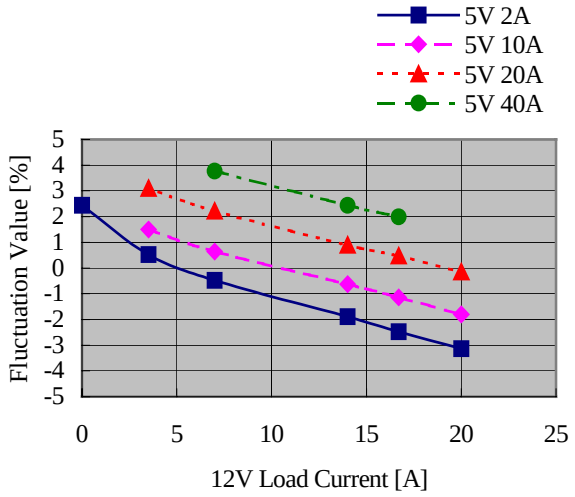
Output Voltage

Load Current



Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgment
50%Load→100% Load	－ mV -224mV	±600mV	Good
100% Load→50% Load	208mV － mV		Good

Model	PCSA-470P-X2S
Item	12V Cross Regulation

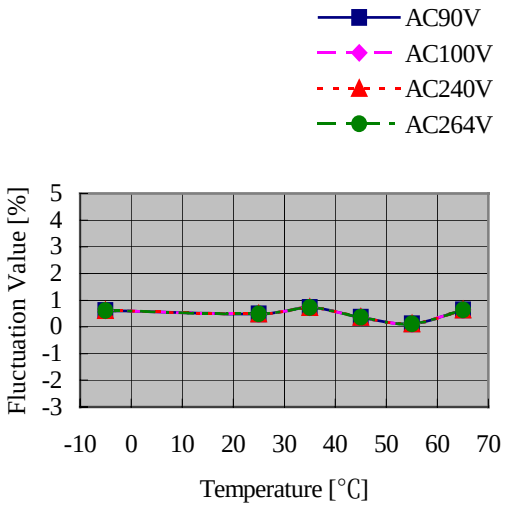


12V Load Current	12V Voltage Value [V]			
	5V 5A	5V 10A	5V 20A	5V 40A
0A	12.293	-	-	-
3.5A	12.062	12.099	12.372	-
7A	11.942	11.985	12.266	12.452
14A	11.772	11.821	12.107	12.293
16.7A	11.702	11.763	12.056	12.238
20A	11.623	11.687	11.981	-

12V Load Current	Fluctuation Value [%]			
	5V 5A	5V 10A	5V 20A	5V 40A
0A	2.44	-	-	-
3.5A	0.52	0.83	3.10	-
7A	-0.48	-0.13	2.22	3.77
14A	-1.90	-1.49	0.89	2.44
16.7A	-2.48	-1.98	0.47	1.98
20A	-3.14	-2.61	-0.16	-

Model	PCSA-470P-X2S
Item	Ambient Temperature Drift

V1：3.3V 15A



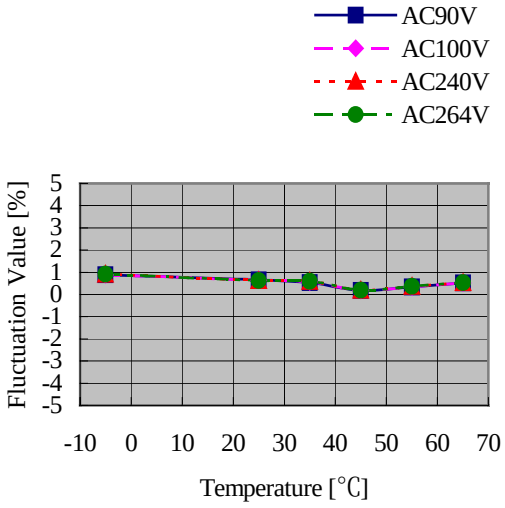
at AC Input

Temperature (℃)	Output Voltage [V]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	3.320	3.320	3.320	3.320
25	3.316	3.316	3.316	3.316
35	3.313	3.313	3.313	3.313
45(1)	3.312	3.312	3.312	3.312
55(2)	3.304	3.304	3.304	3.304
65(3)	3.321	3.321	3.321	3.321

Temperature (℃)	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	0.61	0.61	0.61	0.61
25	0.48	0.48	0.48	0.48
35	0.73	0.73	0.73	0.73
45(1)	0.36	0.36	0.36	0.36
55(2)	0.12	0.12	0.12	0.12
65(3)	0.64	0.64	0.64	0.64

(1) 90% of Rated Load
(2) 80% of Rated Load
(3) 70% of Rated Load

V2：5V 20A



at AC Input

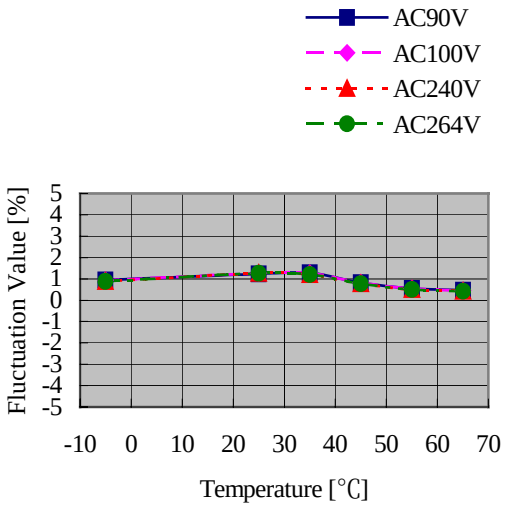
Temperature (℃)	Output Voltage [V]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	5.044	5.044	5.046	5.046
25	5.033	5.032	5.031	5.031
35	5.027	5.028	5.030	5.030
45(1)	5.009	5.009	5.010	5.010
55(2)	5.017	5.017	5.018	5.018
65(3)	5.026	5.026	5.027	5.027

Temperature (℃)	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	0.88	0.88	0.92	0.92
25	0.66	0.64	0.62	0.62
35	0.54	0.56	0.60	0.60
45(1)	0.18	0.18	0.20	0.20
55(2)	0.34	0.34	0.36	0.36
65(3)	0.52	0.52	0.54	0.54

(1) 90% of Rated Load
(2) 80% of Rated Load
(3) 70% of Rated Load

Model	PCSA-470P-X2S
Item	Ambient Temperature Drift

V3：12V 14A



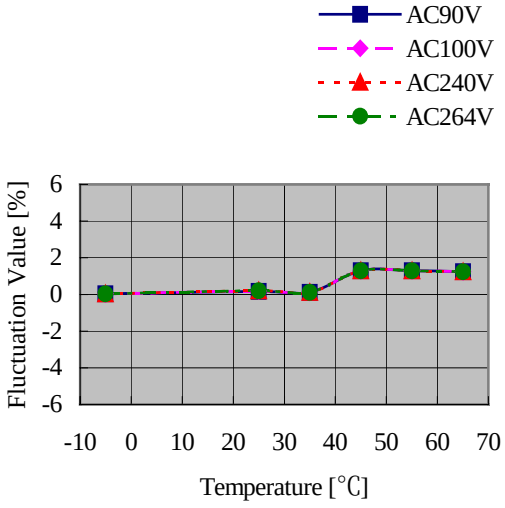
at AC Input

Temperature (℃)	Output Voltage [V]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	12.114	12.112	12.106	12.106
25	12.148	12.151	12.152	12.152
35	12.154	12.151	12.144	12.144
45(1)	12.098	12.098	12.093	12.093
55(2)	12.066	12.065	12.060	12.060
65(3)	12.056	12.054	12.051	12.051

Temperature (℃)	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	0.95	0.93	0.88	0.88
25	1.23	1.26	1.27	1.27
35	1.28	1.26	1.20	1.20
45(1)	0.82	0.82	0.77	0.77
55(2)	0.55	0.54	0.50	0.50
65(3)	0.47	0.45	0.43	0.43

(1) 90% of Rated Load
(2) 80% of Rated Load
(3) 70% of Rated Load

V4：-5V 0.5A



at AC Input

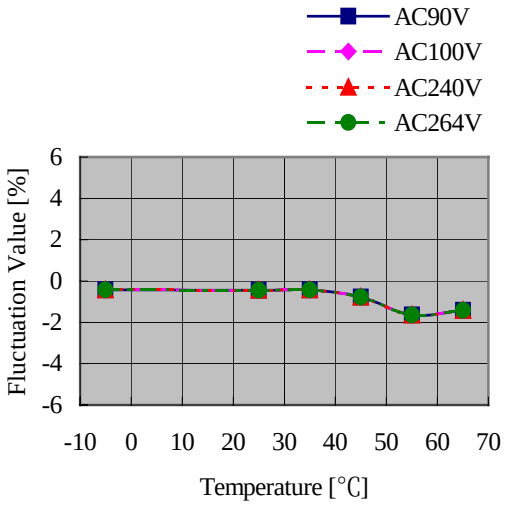
Temperature (℃)	Output Voltage [V]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	-5.002	-5.002	-5.002	-5.002
25	-5.008	-5.009	-5.010	-5.010
35	-5.006	-5.006	-5.006	-5.006
45(1)	-5.065	-5.065	-5.065	-5.065
55(2)	-5.065	-5.065	-5.065	-5.065
65(3)	-5.062	-5.062	-5.062	-5.062

Temperature (℃)	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	0.04	0.04	0.04	0.04
25	0.16	0.18	0.20	0.20
35	0.12	0.12	0.12	0.12
45(1)	1.30	1.30	1.30	1.30
55(2)	1.30	1.30	1.30	1.30
65(3)	1.24	1.24	1.24	1.24

(1) 90% of Rated Load
(2) 80% of Rated Load
(3) 70% of Rated Load

Model	PCSA-470P-X2S
Item	Ambient Temperature Drift

V5：-12V 0.9A



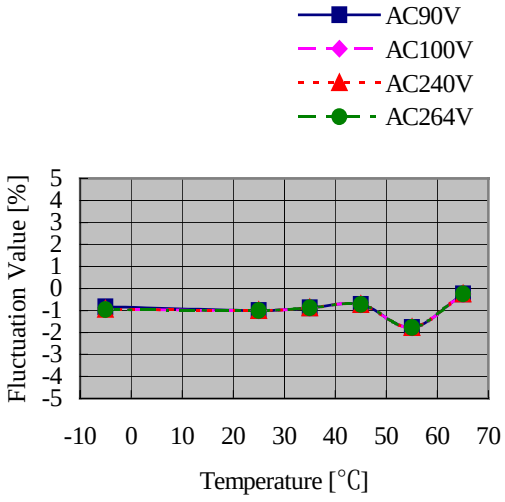
at AC Input

Temperature (℃)	Output Voltage [V]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	-11.948	-11.948	-11.948	-11.948
25	-11.946	-11.946	-11.946	-11.946
35	-11.949	-11.949	-11.949	-11.949
45(1)	-11.908	-11.908	-11.908	-11.908
55(2)	-11.802	-11.802	-11.802	-11.802
65(3)	-11.830	-11.830	-11.830	-11.830

Temperature (℃)	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	-0.43	-0.43	-0.43	-0.43
25	-0.45	-0.45	-0.45	-0.45
35	-0.42	-0.42	-0.42	-0.42
45(1)	-0.77	-0.77	-0.77	-0.77
55(2)	-1.65	-1.65	-1.65	-1.65
65(3)	-1.42	-1.42	-1.42	-1.42

(1) 90% of Rated Load
(2) 80% of Rated Load
(3) 70% of Rated Load

V6：5Vs 2.2A



at AC Input

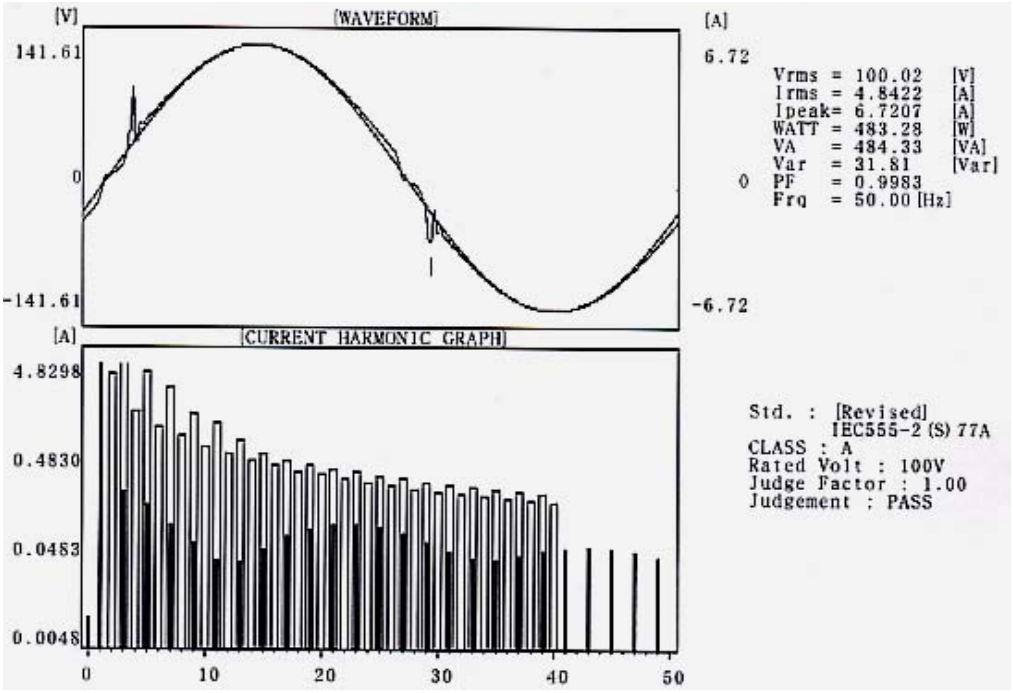
Temperature (℃)	Output Voltage [V]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	4.958	4.953	4.953	4.952
25	4.950	4.950	4.950	4.950
35	4.956	4.956	4.956	4.956
45(1)	4.964	4.964	4.964	4.964
55(2)	4.911	4.911	4.911	4.911
65(3)	4.988	4.988	4.988	4.988

Temperature (℃)	Fluctuation Value [%]			
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	-0.84	-0.94	-0.94	-0.96
25	-1.00	-1.00	-1.00	-1.00
35	-0.88	-0.88	-0.88	-0.88
45(1)	-0.72	-0.72	-0.72	-0.72
55(2)	-1.78	-1.78	-1.78	-1.78
65(3)	-0.24	-0.24	-0.24	-0.24

(1) 90% of Rated Load
(2) 80% of Rated Load
(3) 70% of Rated Load

Model	PCSA-470P-X2S	
Item	Harmonic Current	

Measuring Instrument ： MP701(Keisoku Giken)

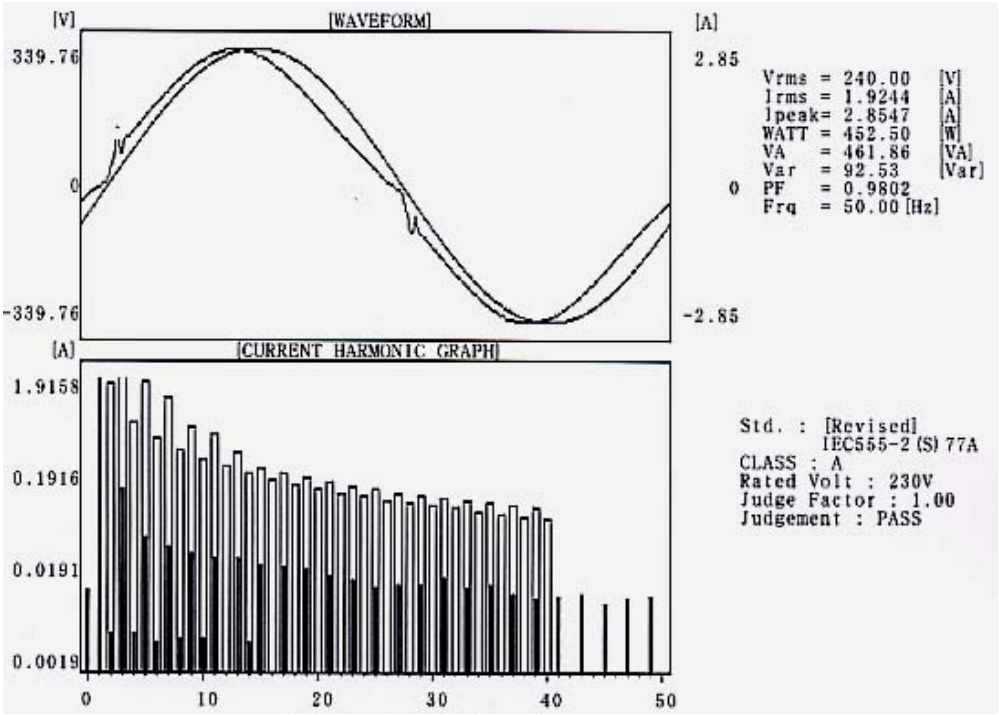


[CURRENT HARMONIC DATA]

No	(A)	No	(A)	No	(A)	No	(A)
00	0.0067	13	0.0262	26	0.0000	39	0.0345
01	4.8298	14	0.0025	27	0.0546	40	0.0000
02	0.0038	15	0.0360	28	0.0000	41	0.0363
03	0.1486	16	0.0025	29	0.0429	42	0.0022
04	0.0031	17	0.0493	30	0.0022	43	0.0378
05	0.1050	18	0.0031	31	0.0344	44	0.0022
06	0.0031	19	0.0587	32	0.0025	45	0.0374
07	0.0676	20	0.0031	33	0.0294	46	0.0031
08	0.0031	21	0.0658	34	0.0015	47	0.0347
09	0.0434	22	0.0025	35	0.0283	48	0.0022
10	0.0031	23	0.0659	36	0.0022	49	0.0298
11	0.0275	24	0.0022	37	0.0317		
12	0.0031	25	0.0623	38	0.0000		

Model	PCSA-470P-X2S	
Item	Harmonic Current	

Measuring Instrument ： MP701(Keisoku Giken)



[CURRENT HARMONIC DATA]

No	(A)	No	(A)	No	(A)	No	(A)
00	0.0090	13	0.0188	26	0.0000	39	0.0071
01	1.9158	14	0.0025	27	0.0100	40	0.0000
02	0.0031	15	0.0164	28	0.0007	41	0.0074
03	0.0942	16	0.0000	29	0.0100	42	0.0007
04	0.0031	17	0.0157	30	0.0015	43	0.0078
05	0.0308	18	0.0000	31	0.0115	44	0.0000
06	0.0025	19	0.0144	32	0.0000	45	0.0063
07	0.0255	20	0.0000	33	0.0095	46	0.0000
08	0.0028	21	0.0121	34	0.0000	47	0.0071
09	0.0210	22	0.0000	35	0.0099	48	0.0000
10	0.0028	23	0.0112	36	0.0000	49	0.0074
11	0.0186	24	0.0000	37	0.0078		
12	0.0010	25	0.0093	38	0.0000		

Model	PCSA-470P-X2S	
Item	Leakage Current Test	

Temperature Room Temperature
Input AC100V、200V
Load Rated Load 、Minimum Load

Input Voltage (V)	at Rated Load (mA)	at Minimum Load (mA)
100V	0.37	0.39
200V	0.73	0.76

Measuring Instrument：YEW.TYPE3226 Applicable Products（ Range：1KΩ）

Model	PCSA-470P-X2S	
Item	Line Noise Tolerance	

Temperature	Room Temperature
Input	AC100V,60Hz
Load	Rated Load
Noise Impressed Voltage	±2000V
Repeat Cycle	10～35ms
Pulse Width	100,1000ns

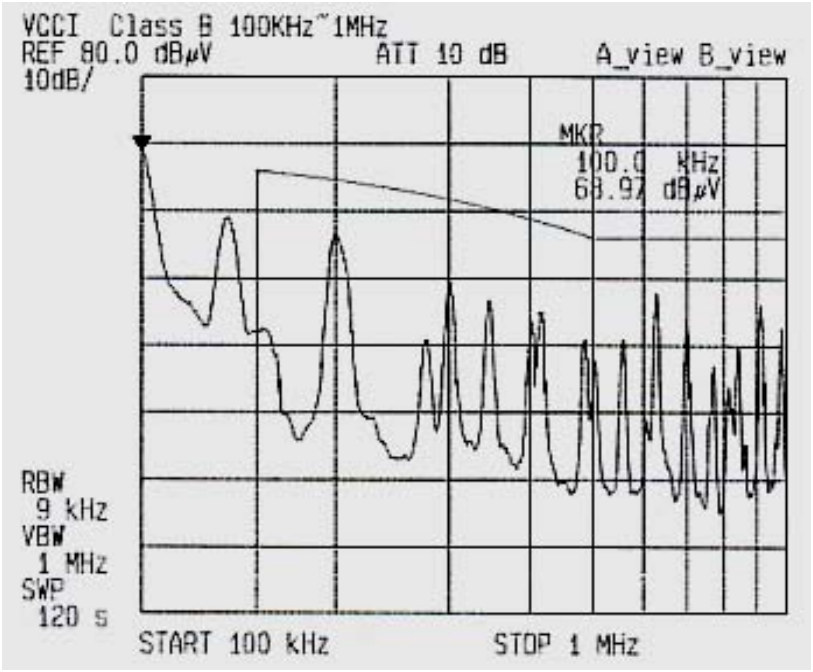
	Pulse Impressed Mode			
Normal	100ns		1000ns	
	Polarity +	Polarity -	Polarity +	Polarity -
	○	○	○	○
Common R Phase	Pulse Impressed Mode			
	100ns		1000ns	
	Polarity +	Polarity -	Polarity +	Polarity -
	○	○	○	○
Common S Phase	Pulse Impressed Mode			
	100ns		1000ns	
	Polarity +	Polarity -	Polarity +	Polarity -
	○	○	○	○

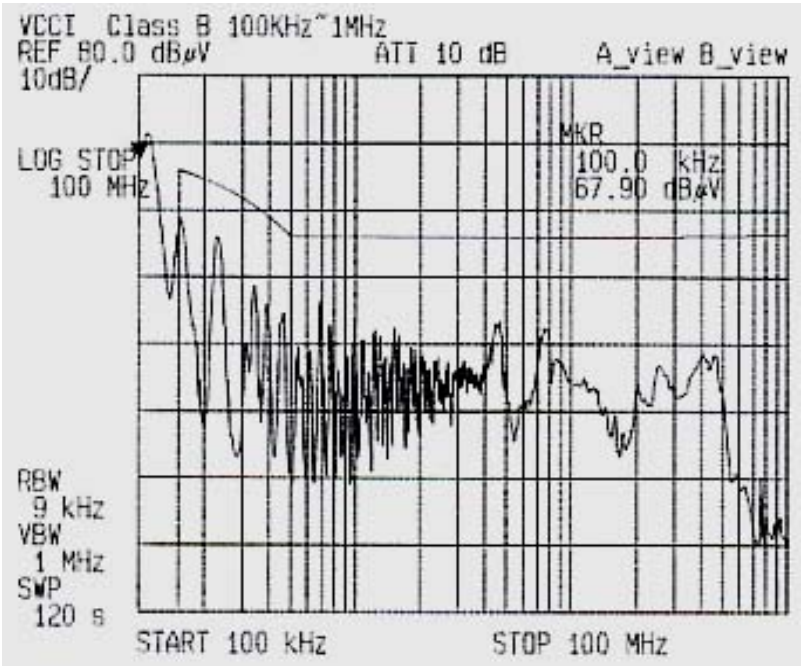
○→No Trouble
△→Faulty Operation of Over-Voltage and so on
×→Power Supply Breakdown

Measuring Instrument ： INS420 (Noise Laboratory Co.,Ltd.)

Model	PCSA-470P-X2S	
Item	Conduction Emission	

Temperature	Room Temperature
Input	AC100V
Load	Rated Load
Measuring Point	L-FG
Measuring Instrument	R3261A (Advantest)





Model	PCSA-470P-X2S	
Item	Conduction Emission	

Temperature	Room Temperature
Input	AC240V
Load	Rated Load
Measuring Point	L-FG
Measuring Instrument	R3261A (Advantest)