



Test Data

NSP7-100-T2S

(AC85~135V, AC170~264V And DC26.4V Battery INPUT)

NON-STOP POWER SUPPLY

Approved by : Osami Motani

Prepared by : Yoshiaki Aisaka

INPUT : AC 85V ~ 135V
AC 170V ~ 264V
Battery 26.4V

OUTPUT : V1: 5V 12A (Peak 15A)
V2: 12V 3A (Peak 6A)
V3: -12V 0.2A
V4: 5Vs 0.72A

株式会社 ニプロン
Nipron.Co.,Ltd.

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Model	NSP7-100-T2S																
Item	Line Regulation																
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V2: 12V 3A
at AC Input

at AC Input

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
AC 85	11.953	-0.39
115	11.958	-0.35
230	11.959	-0.34
264	11.961	-0.33

at Back up by Battery

at Back up by Battery

Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]
DC 20	11.957	-0.36
24	11.959	-0.34
32	11.960	-0.33

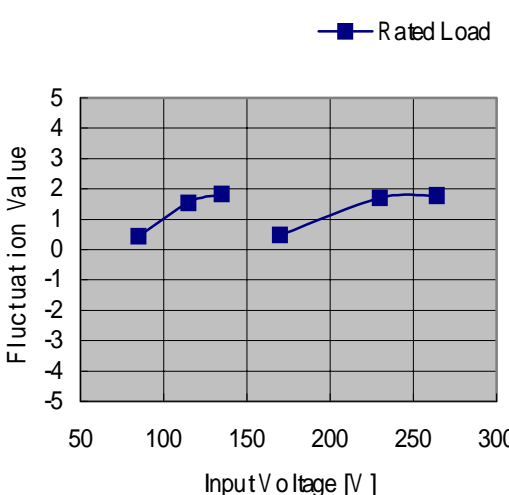
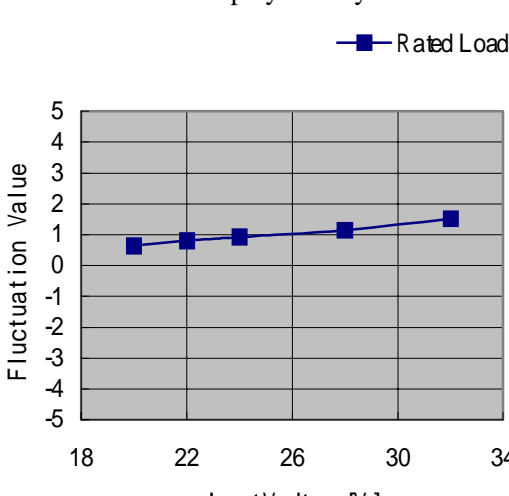
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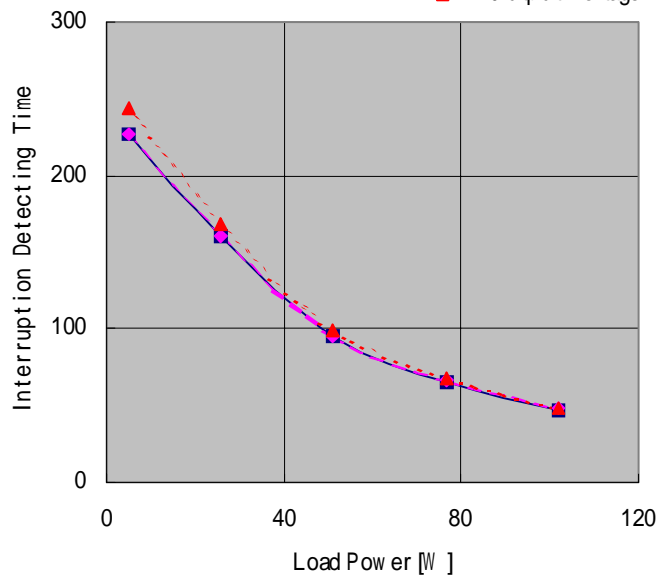
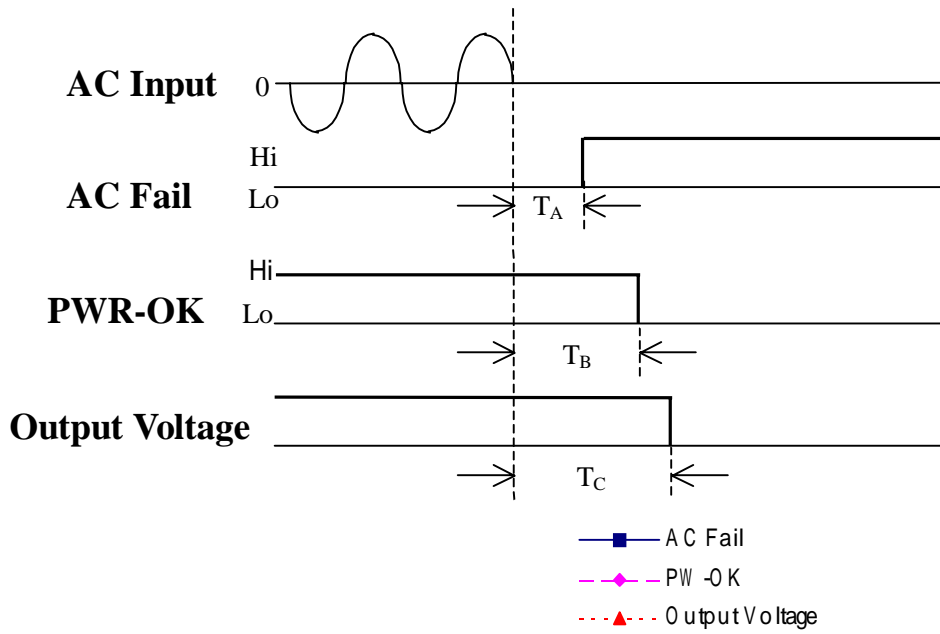
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Model	NSP7-100-T2S
Item	Instantaneous Interruption Compensation (by Load Power)

at AC Input (85V / 100V / 240V / 264V)
AC Unit Only (without Non-Stop Unit)



Load Power [W]	Interruption Detecting Time (ms)		
	AC Fail T_A	PWR-OK T_B	DC Output T_C
5	226.84	227.36	244.10
25.5	160.40	160.92	168.04
51	95.12	95.64	98.92
76.5	65.58	66.12	67.74
102	47.54	48.08	48.62

Model	NSP7-100-T2S																																		
Item	Load Regulation																																		
V1:5V 12A																																			
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Model	NSP7-100-T2S							
Item	Ripple / Noise Voltage Test							
			CH1		5V	CH2	12V	
Temperature	Input voltage		ripple (mV)	spike (mV)		ripple (mV)	spike (mV)	
-5	AC 85 V		20 /	90		30 /	110	
	115 V		20 /	85		25 /	100	
	135 V		20 /	90		30 /	100	
	170 V		20 /	95		30 /	130	
	230 V		20 /	95		30 /	100	
	264 V		20 /	90		30 /	100	
25	AC 85 V		10 /	50		40 /	80	
	115 V		10 /	50		30 /	70	
	135 V		10 /	70		40 /	80	
	170 V		10 /	60		40 /	80	
	230 V		10 /	60		40 /	80	
	264 V		15 /	60		40 /	80	
55	AC 85 V		15 /	50		50 /	80	
	115 V		15 /	60		45 /	70	
	135 V		15 /	60		45 /	70	
	170 V		15 /	50		45 /	80	
	230 V		15 /	60		45 /	80	
	264 V		15 /	65		45 /	80	
Specification			50 /	100		120 /	200	
Judgement			Good			Good		
			CH3		-12V	CH4		5VS
Temperature	Input voltage		ripple (mV)	spike (mV)		ripple (mV)	spike (mV)	
-5	AC 85 V		10 /	100		50 /	150	
	115 V		10 /	110		50 /	150	
	135 V		10 /	90		50 /	150	
	170 V		10 /	110		50 /	150	
	230 V		10 /	100		50 /	150	
	264 V		10 /	100		50 /	150	
25	AC 85 V		10 /	70		50 /	100	
	115 V		10 /	75		50 /	100	
	135 V		10 /	85		50 /	100	
	170 V		10 /	85		50 /	100	
	230 V		10 /	90		50 /	100	
	264 V		15 /	85		50 /	100	
55	AC 85 V		15 /	70		60 /	130	
	115 V		15 /	70		60 /	130	
	135 V		15 /	70		60 /	130	
	170 V		15 /	70		65 /	140	
	230 V		15 /	70		65 /	140	
	264 V		15 /	70		60 /	140	
Specification			120 /	200		70 /	150	
Judgement			Good			Good		

Model	NSP7-100-T2S
Item	Ripple / Noise Voltage Test

Temperature	Input voltage		CH1		5V	CH2		12V
			ripple (mV)	spike (mV)	ripple (mV)	spike (mV)		
-5	DC	20 V	15	/	90	20	/	100
		24 V	15	/	70	25	/	70
		32 V	20	/	88	20	/	95
25	DC	20 V	20	/	40	20	/	50
		24 V	20	/	40	20	/	50
		32 V	20	/	50	35	/	50
55	DC	20 V	20	/	60	40	/	70
		24 V	25	/	50	35	/	60
		32 V	25	/	50	40	/	70
Specification			50	/	100	120	/	200
Judgement			Good			Good		

Temperature	Input voltage		CH3		-12V	CH4		5VS
			ripple (mV)	spike (mV)	ripple (mV)	spike (mV)		
-5	DC	20 V	10	/	100	30	/	140
		24 V	10	/	85	30	/	130
		32 V	10	/	80	30	/	150
25	DC	20 V	10	/	40	40	/	90
		24 V	15	/	40	40	/	90
		32 V	15	/	40	40	/	90
55	DC	20 V	15	/	60	10	/	100
		24 V	20	/	40	50	/	90
		32 V	20	/	40	50	/	100
Specification			120	/	200	50	/	100
Judgement			Good			Good		

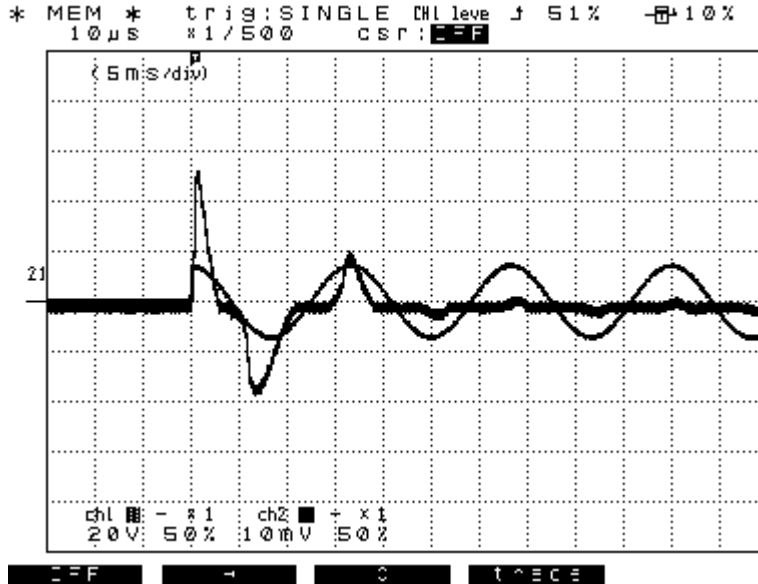
Model	NSP7-100-T2S				
Item	Over-Current Protection				
Temp.	Input Voltage	CH1 +5V	CH2 +12V	CH3 -12V	CH4 +5VS
-5	AC 85V	19.5 A	14.0 A	0.83 A	2.10 A
	115V	19.5 A	14.0 A	0.83 A	2.10 A
	135V	20.0 A	14.5 A	0.82 A	2.10 A
	170V	19.5 A	14.5 A	0.83 A	2.20 A
	230V	19.5 A	15.0 A	0.83 A	2.10 A
	264V	19.5 A	12.5 A	0.85 A	2.10 A
	DC 20V	19.5 A	13.5 A	0.85 A	2.10 A
	24V	19.5 A	14.5 A	0.86 A	2.10 A
25	32V	19.5 A	14.5 A	0.86 A	2.10 A
	AC 85V	19.5 A	14.5 A	0.83 A	2.10 A
	115V	19.5 A	14.0 A	0.83 A	2.10 A
	135V	19.0 A	14.0 A	0.83 A	2.10 A
	170V	19.0 A	15.0 A	0.80 A	2.20 A
	230V	19.0 A	15.0 A	0.82 A	2.15 A
	264V	19.0 A	14.5 A	0.82 A	2.10 A
	DC 20V	19.0 A	12.0 A	0.83 A	2.10 A
55	24V	19.5 A	13.5 A	0.84 A	2.20 A
	32V	19.0 A	15.0 A	0.84 A	2.20 A
	AC 85V	19.0 A	14.0 A	0.78 A	2.10 A
	115V	19.0 A	13.5 A	0.76 A	2.20 A
	135V	19.0 A	13.5 A	0.78 A	2.20 A
	170V	19.0 A	14.0 A	0.76 A	2.20 A
	230V	19.0 A	14.0 A	0.76 A	2.10 A
	264V	18.5 A	14.0 A	0.80 A	2.10 A
DC 20V	19.0 A	12.0 A	0.78 A	2.10 A	
Specification		16.5A or more	7A or more	0.4A or more	1A or more
	Judgement	Good	Good	Good	Good

Model	NSP7-100-T2S
Item	Over-Voltage Protection

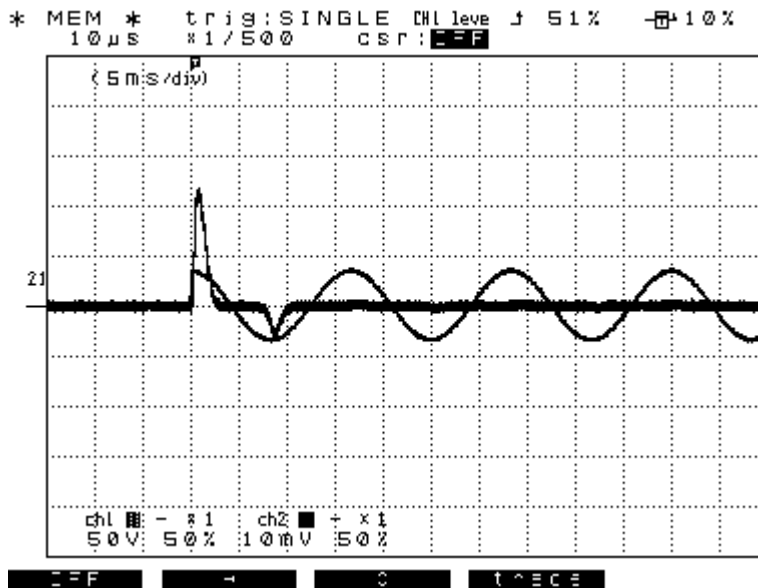
Temp.	Input voltage	CH1	CH2
		+5V	+12V
-5	AC 115V	6.7 V	14.8 V
	AC 230V	6.7 V	14.8 V
	DC 24V	6.7 V	14.8 V
25	AC 115V	6.7 V	14.7 V
	AC 230V	6.7 V	14.7 V
	DC 24V	6.7 V	14.7 V
55	AC 115V	6.7 V	14.7 V
	AC 230V	6.7 V	14.7 V
	DC 24V	6.7 V	14.7 V
Specification		6.0 ~ 7.0V	14 ~ 15.6V
Judgement		Good	Good

Model	NSP7-100-T2S
Item	Inrush Current

Inrush Current Wave



Wave No1	
CH1	Measuring Point : Input Voltage
	Range 200V/DIV
CH2	Measuring Point : Input Current
	Range 10A/DIV
Time Line	5ms/DIV
Conditions	Input : AC100V 60Hz Load : Rated Load
Note :	
Inrush Current Value : 26.8A	

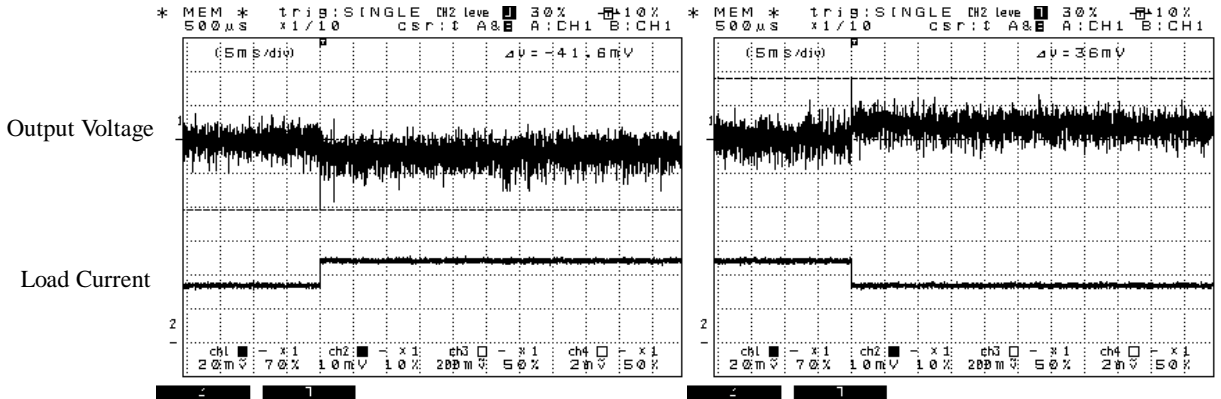


Wave No2	
CH1	Measuring Point : Input Voltage
	Range 500V/DIV
CH2	Measuring Point : Input Current
	Range 20A/DIV
Time Line	5ms/DIV
Conditions	Input : AC240V 60Hz Load : Rated Load
Note :	
Inrush Current Value : 47.2A	

Model	NSP7-100-T2S
Item	Dynamic Load Response

V1: +5V 12A

70% Load 100% Load

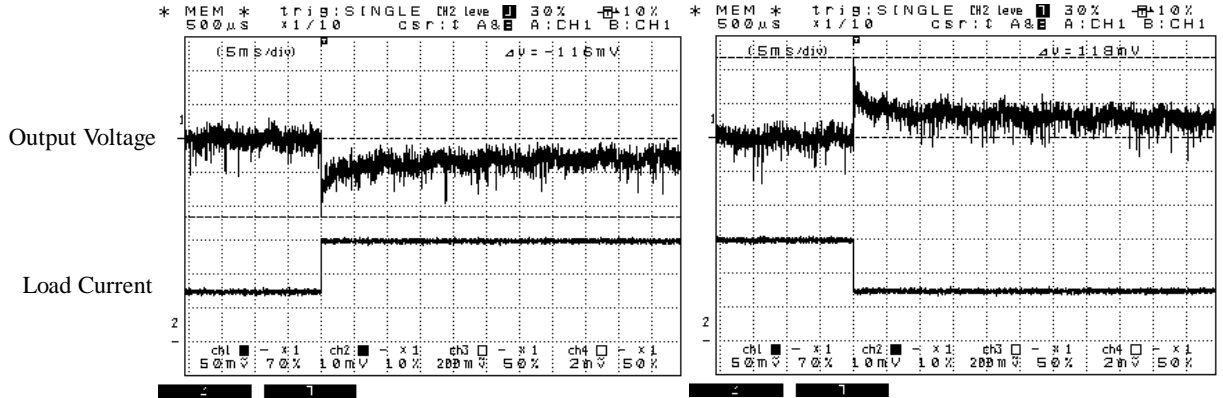


Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgement
70% Load 100% Load	- mV -41.6mV	± 250mV	Good
100% Load 70% Load	36mV - mV		Good

Model	NSP7-100-T2S
Item	Dynamic Load Response

V2: +12V 3A

50% Load 100% Load



Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgement
50% Load 100% Load	- mV -116mV	± 600mV	Good
100% Load 50% Load	118mV - mV		Good

Model	NSP7-100-T2S
Item	12V Cross Regulation

Fluctuation Value

12V Load Current [A]

Legend:

- 5V 1A (Blue square)
- 5V 3A (Magenta diamond)
- 5V 6A (Red triangle)
- 5V 9A (Green circle)
- 5V 12A (Purple asterisk)

12V Load Current	12V Voltage Value [V]				
	5V 1A	5V 3A	5V 6A	5V 9A	5V 12A
0A	12.035	12.031	12.027	12.025	12.021
1A	12.010	12.008	12.005	12.003	12.000
2A	11.987	11.986	11.985	11.980	11.977
3A	11.965	11.966	11.962	11.959	11.955

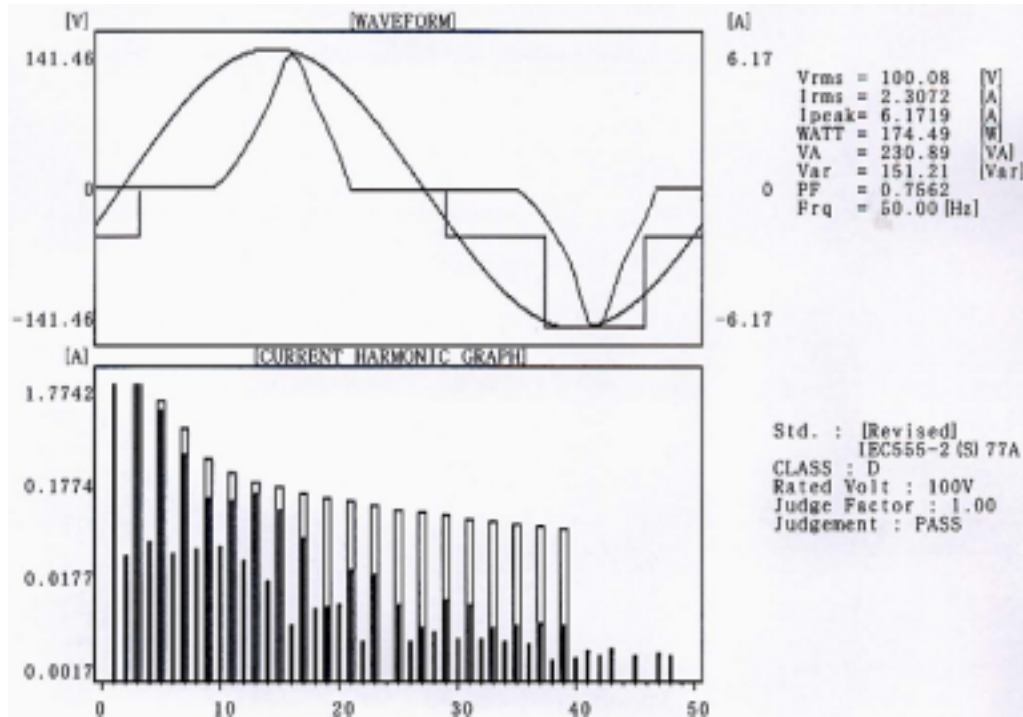
12V Load Current	Fluctuation Value [%]				
	5V 1A	5V 3A	5V 6A	5V 9A	5V 12A
0A	0.29	0.26	0.22	0.21	0.18
1A	0.08	0.07	0.04	0.03	0.00
2A	-0.11	-0.12	-0.13	-0.17	-0.19
3A	-0.29	-0.28	-0.32	-0.34	-0.38

Model	NSP7-100-T2S			
Item	Ambient Temperature Drift			
V1: 5V 12A				
at AC Input				
Output Voltage [V]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	4.986	4.986	4.985	4.986
25	5.014	5.013	5.014	5.014
50	4.983	4.987	4.986	4.987
Fluctuation Value [%]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	-0.28	-0.28	-0.30	-0.28
25	0.28	0.26	0.28	0.28
50	-0.34	-0.26	-0.28	-0.26
V2: 12V 3A				
at AC Input				
Output Voltage [V]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	11.931	11.934	11.935	11.937
25	11.956	11.958	11.958	11.960
50	11.946	11.947	11.949	11.950
Fluctuation Value [%]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	-0.58	-0.55	-0.54	-0.53
25	-0.37	-0.35	-0.35	-0.33
50	-0.45	-0.44	-0.42	-0.42

Model	NSP7-100-T2S			
Item	Ambient Temperature Drift			
V3: -12V 0.2A				
at AC Input				
Output Voltage [V]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	-11.977	-11.977	-11.977	-11.977
25	-11.978	-11.977	-11.978	-11.978
50	-11.988	-11.990	-11.993	-11.993
Fluctuation Value [%]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	-0.19	-0.19	-0.19	-0.19
25	-0.18	-0.19	-0.18	-0.18
50	-0.10	-0.08	-0.06	-0.06
V4: 5Vs 0.72A				
at AC Input				
Output Voltage [V]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	4.963	4.984	4.959	4.966
25	4.981	5.008	5.008	5.024
50	4.936	4.942	4.973	4.991
Fluctuation Value [%]				
Temperature ()	Input Voltage AC85V	Input Voltage AC115V	Input Voltage AC230V	Input Voltage AC264V
-5	-0.74	-0.32	-0.82	-0.68
25	-0.38	0.16	0.16	0.48
50	-1.28	-1.16	-0.54	-0.18

Model	NSP7-100-T2S
Item	Harmonic Current

Measuring Instrument : MP701(Keisoku Giken)

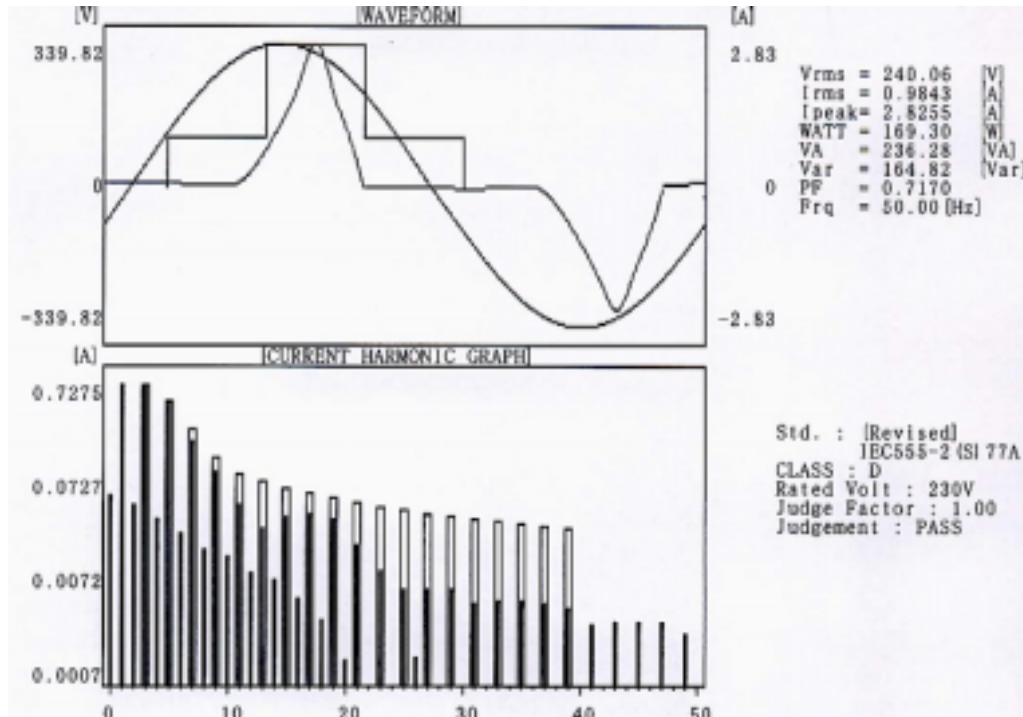


[CURRENT HARMONIC DATA]

No	(A)	No	(A)	No	(A)	No	(A)
00	0.0009	13	0.0926	26	0.0029	39	0.0043
01	1.7742	14	0.0120	27	0.0041	40	0.0020
02	0.0223	15	0.0635	28	0.0036	41	0.0024
03	1.2906	16	0.0043	29	0.0080	42	0.0021
04	0.0306	17	0.0334	30	0.0031	43	0.0025
05	0.6562	18	0.0064	31	0.0071	44	0.0018
06	0.0231	19	0.0067	32	0.0030	45	0.0021
07	0.2331	20	0.0068	33	0.0041	46	0.0015
08	0.0257	21	0.0155	34	0.0030	47	0.0022
09	0.0851	22	0.0029	35	0.0043	48	0.0021
10	0.0268	23	0.0144	36	0.0027	49	0.0015
11	0.0795	24	0.0007	37	0.0045		
12	0.0199	25	0.0069	38	0.0018		

Model	NSP7-100-T2S
Item	Harmonic Current

Measuring Instrument : MP701(Keisoku Giken)



[CURRENT HARMONIC DATA]

No	(A)	No	(A)	No	(A)	No	(A)
00	0.0377	13	0.0179	26	0.0009	39	0.0028
01	0.7275	14	0.0055	27	0.0045	40	0.0004
02	0.0305	15	0.0241	28	0.0000	41	0.0020
03	0.5580	16	0.0035	29	0.0044	42	0.0002
04	0.0222	17	0.0247	30	0.0007	43	0.0021
05	0.3150	18	0.0022	31	0.0031	44	0.0000
06	0.0165	19	0.0219	32	0.0007	45	0.0020
07	0.1334	20	0.0009	33	0.0033	46	0.0000
08	0.0111	21	0.0124	34	0.0000	47	0.0021
09	0.0653	22	0.0004	35	0.0034	48	0.0000
10	0.0092	23	0.0066	36	0.0004	49	0.0015
11	0.0304	24	0.0007	37	0.0031		
12	0.0064	25	0.0044	38	0.0002		

Model	NSP7-100-T2S
Item	Leakage Current Test

Temperature Room Temperature
 Input AC100V, 240V
 Load Rated Load

測定値

Input Voltage (V)	at Rated Load (mA)	at Minimum Load (mA)
100V	0.43	0.37
240V	0.77	0.76

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

Model	NSP7-100-T2S
Item	Line Noise Tolerance

Temperature Room Temperature
Input AC100V, 60Hz
Load Rated Load
Noise Impressed Voltage ± 2000V
Repeat Cycle 10 ~ 35ms
Pulse Width 100, 800ns

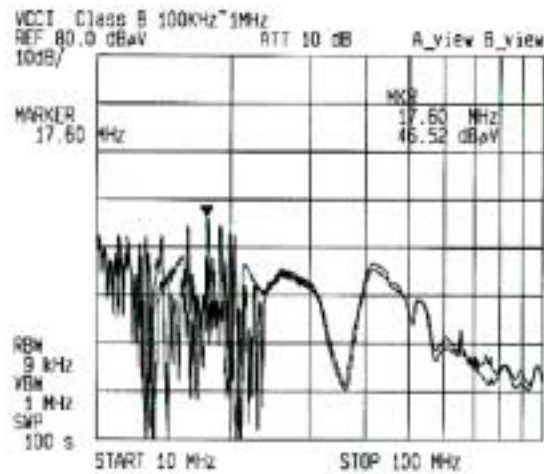
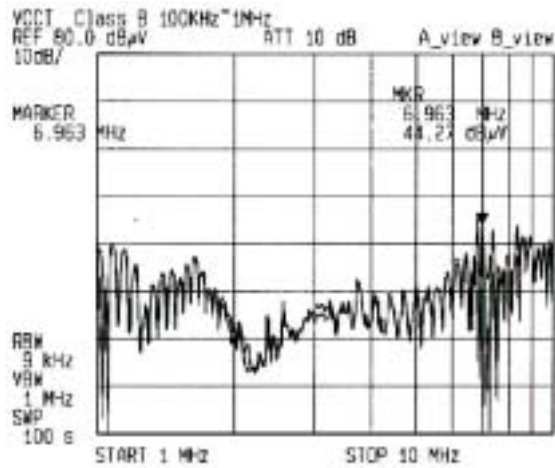
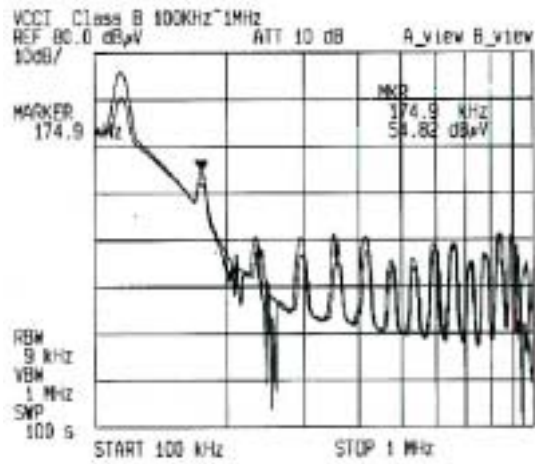
Normal	Pulse Impressed Mode			
	100ns		800ns	
	Polarity +	Polarity -	Polarity +	Polarity -
Common R Phase	Pulse Impressed Mode			
	100ns		800ns	
	Polarity +	Polarity -	Polarity +	Polarity -
Common S Phase	Pulse Impressed Mode			
	100ns		800ns	
	Polarity +	Polarity -	Polarity +	Polarity -

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

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

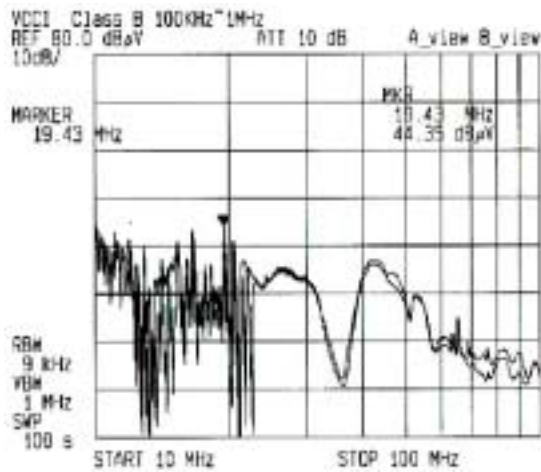
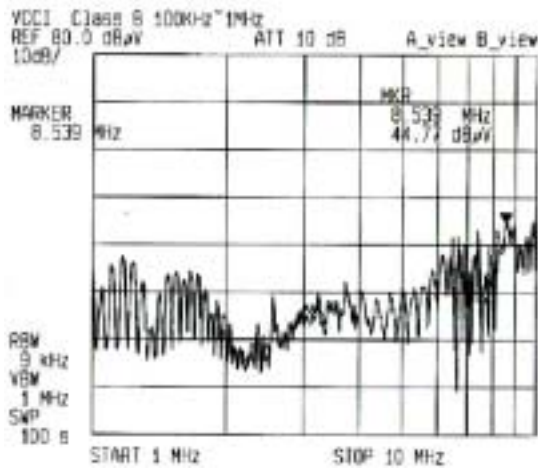
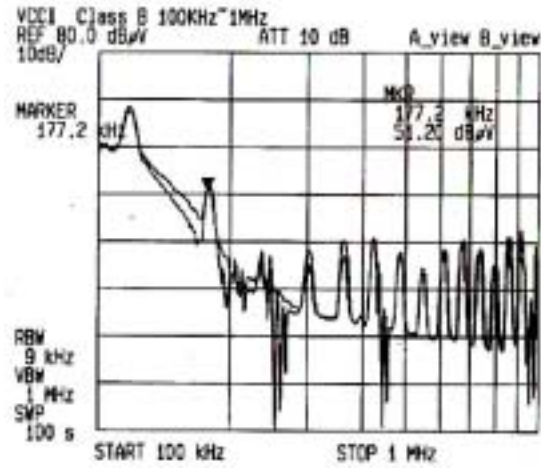
Model	NSP7-100-T2S
Item	Conduction Emission

Temperature Room Temperature
 Input AC115V
 Load Rated Load
 Measuring Point L-FG
 Measuring Instrument R3261A (Advantest)



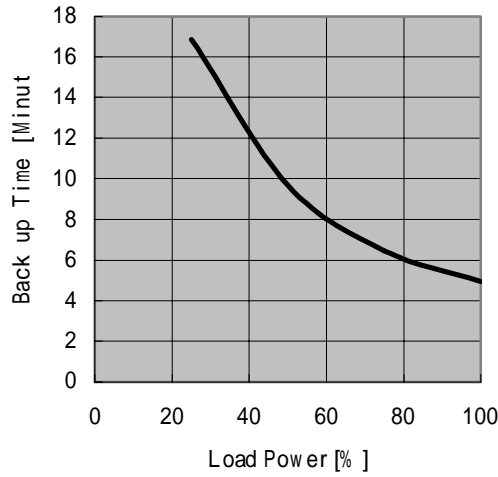
Model	NSP7-100-T2S
Item	Conduction Emission

Temperature Room Temperature
 Input AC230V
 Load Rated Load
 Measuring Point N-FG
 Measuring Instrument R3261A (Advantest)



Model	NSP7-100-T2S
Item	Battery Discharge

Back up T i m e

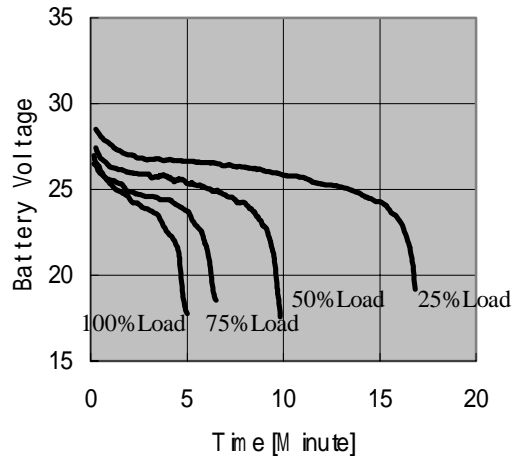


At Room Temperature (25)

Load Power [%]	Back up Time [Minute]
25	16.9
50	9.7
75	6.5
100	5.0

100%Load = 102W

Battery V ol t a g e



Battery : PS2668(Ni-Cd Battery)