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Evaluation Method 评价方法

Circuit used for determination 特性電路圖

Circuit 1 特性回路1

Line&Load Regulation And Temperature Chafaile Character (輸入&負荷及溫度變動特性)

Over-Voltage Protection (過電壓保護特性)

Over-Current Protection (過電流保護特性)

Dynamic ripple Character(動態負載特性)

Efficiency Character(效率特性)

Input&Load Change Character(輸入&負荷變動特性)

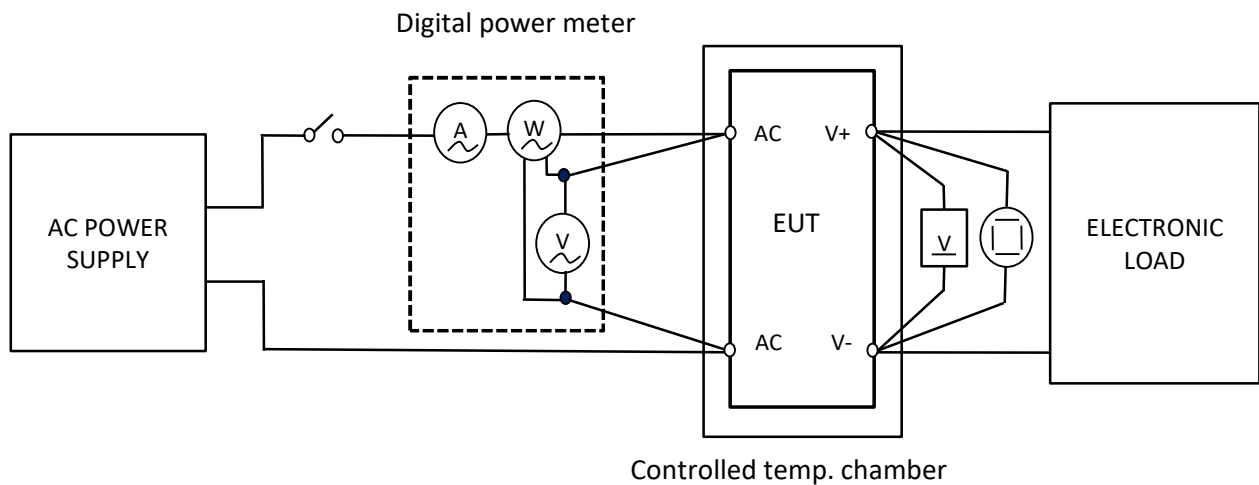
Turn On Delay(開機爬升延遲時間)

Hold Up Time Character (保持時間)

Low Vac Shut Off (輸入欠壓關斷特性)

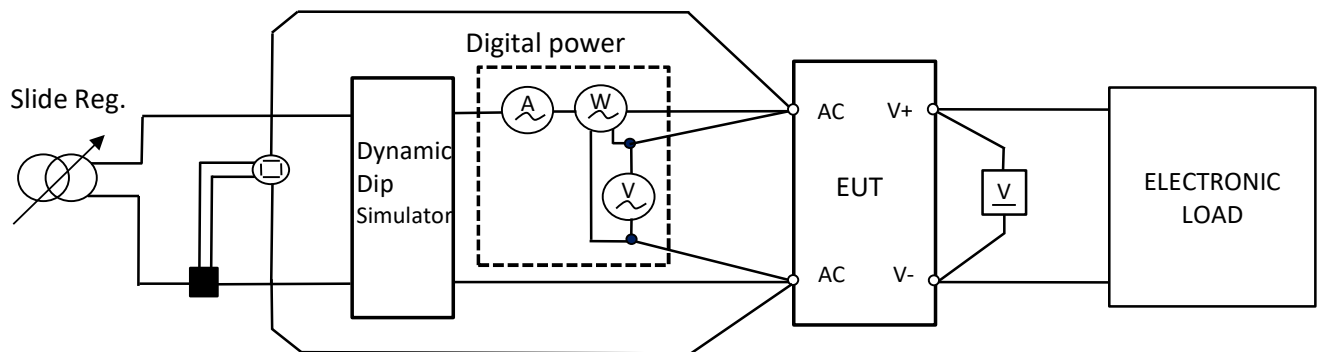
Over Shoot(過沖特性)

Under Shoot(下沖特性)



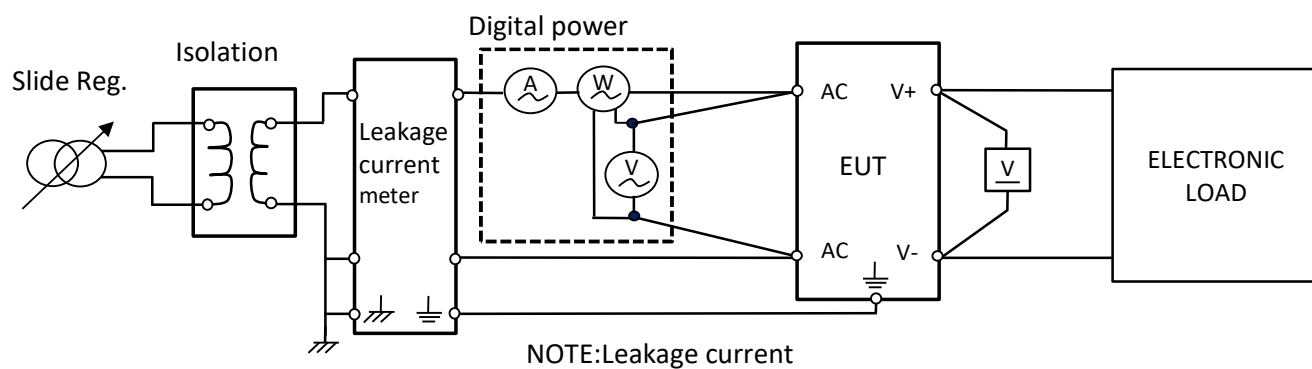
Circuit 2 特性回路2

Inrush Current (浪涌電流)



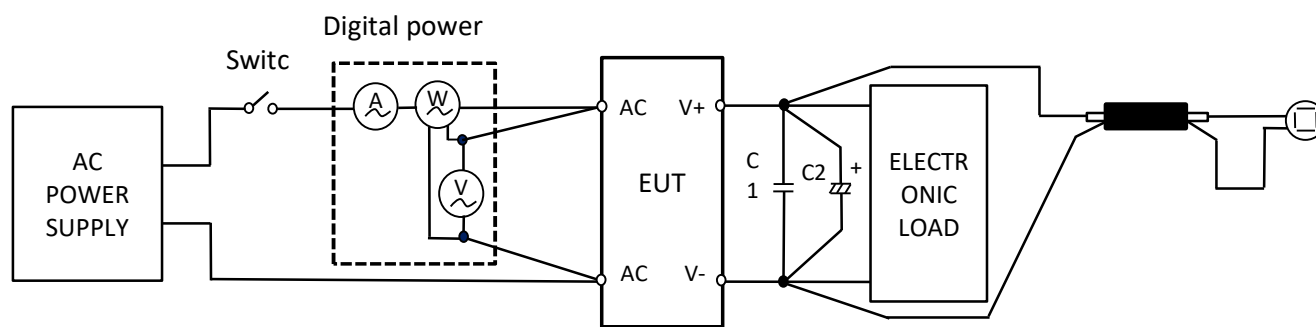
Circuit 3 特性回路3

Leak Current (漏電流特性)



Circuit 4 特性回路4

Ripple And Noise Character(紋波特性)



C1 : 0.1 μ F CERAMICS CAPACITOR

C2 : 22 μ 50V ALUMINUM CAPACITOR

THE BANDWIDTH OF OSCILLOSCOPE IS SET WITH 20MHz

1.ELECTRICAL FUNCTION Character(電氣特性)

1-1.Line&Load Regulation And Temperature Chafaile Character (輸入&負荷及溫度變動特性)

※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/100Vac/240Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz ~63Hz
3	Output Load(輸出負載)	0%,25%,50%,75%,100% Of Full Load
4	Regulation(調整率)	Load Regulation: $\leq 0.5\%$; Line Regulation $\leq 0.4\%$
5	Ambient Temp.(°C)(環境溫度)	25°C
6	Sample Size(取樣數)	1PCS

Output voltage	36.0V
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※ Character Data(特性數據):

O/P \ I/P	90Vac/63Hz	100Vac/60Hz	240Vac/50Hz	264Vac/47Hz	Line Regulation $\leq 0.4\%$
0%	36.578V	36.573V	36.574V	36.572V	0.02%
25%	36.567V	36.566V	36.565V	36.565V	0.01%
50%	36.563V	36.564V	36.562V	36.561V	0.01%
75%	36.559V	36.56V	36.559V	36.559V	0.00%
100%	36.557V	36.558V	36.557V	36.556V	0.01%
Load Regulation: $\leq 0.5\%$	0.06%	0.04%	0.05%	0.04%	

1-2.1 Ripple And Noise Character (紋波與雜訊)

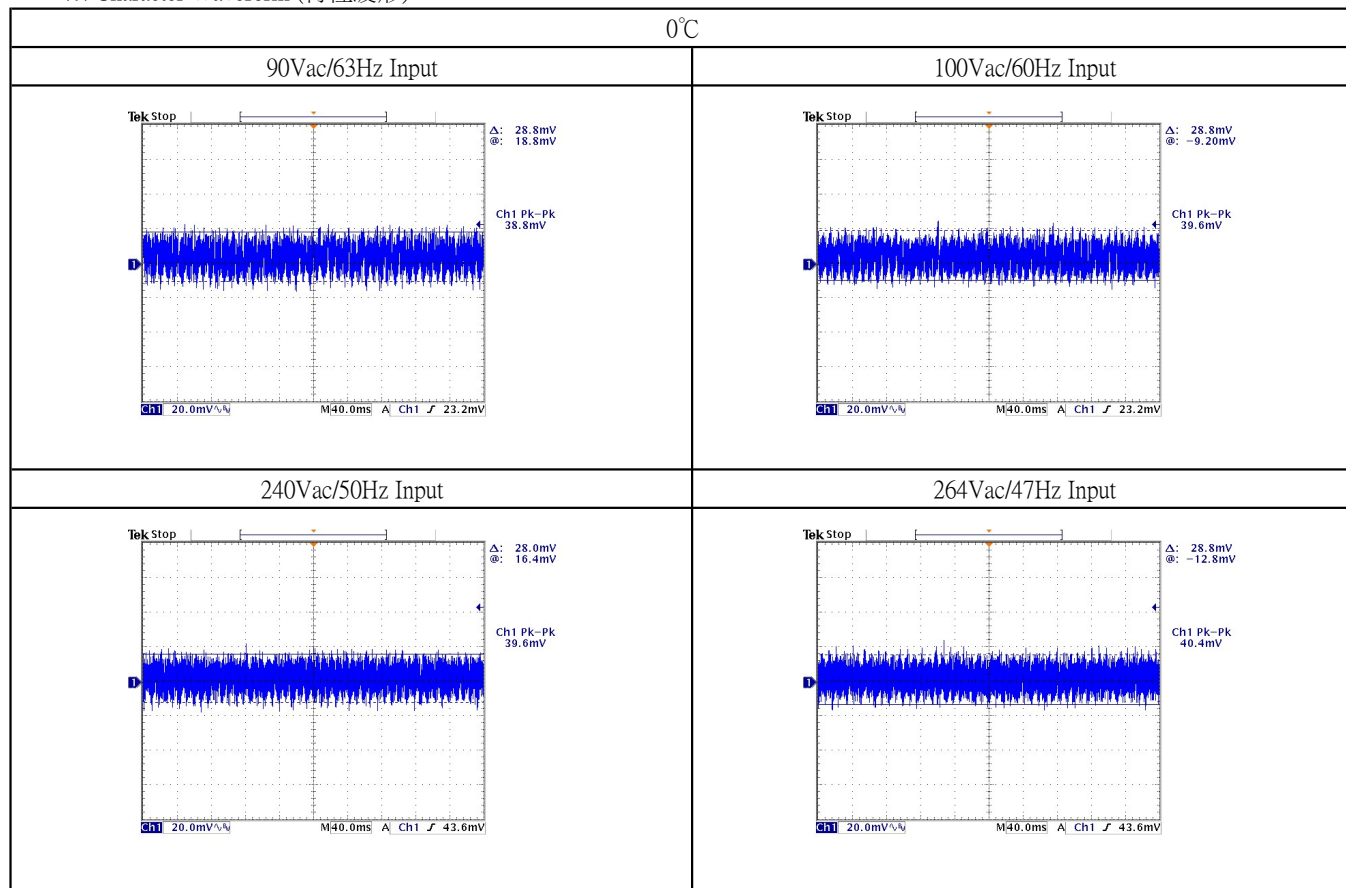
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/100Vac/240Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz ~63Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	0°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

I/P	90Vac/63Hz		100Vac/60Hz		240Vac/50Hz		264Vac/47Hz	
ITEM	Ripple	Noise	Ripple	Noise	Ripple	Noise	Ripple	Noise
0°C	28.8mV	38.8mV	28.8mV	39.6mV	28.0mV	39.6mV	28.8mV	40.4mV

※ Character Waveform (特性波形):



MODEL NO: UUHP150-36S

36V/4.2A

1-2.3 Ripple And Noise Character (紋波與雜訊)

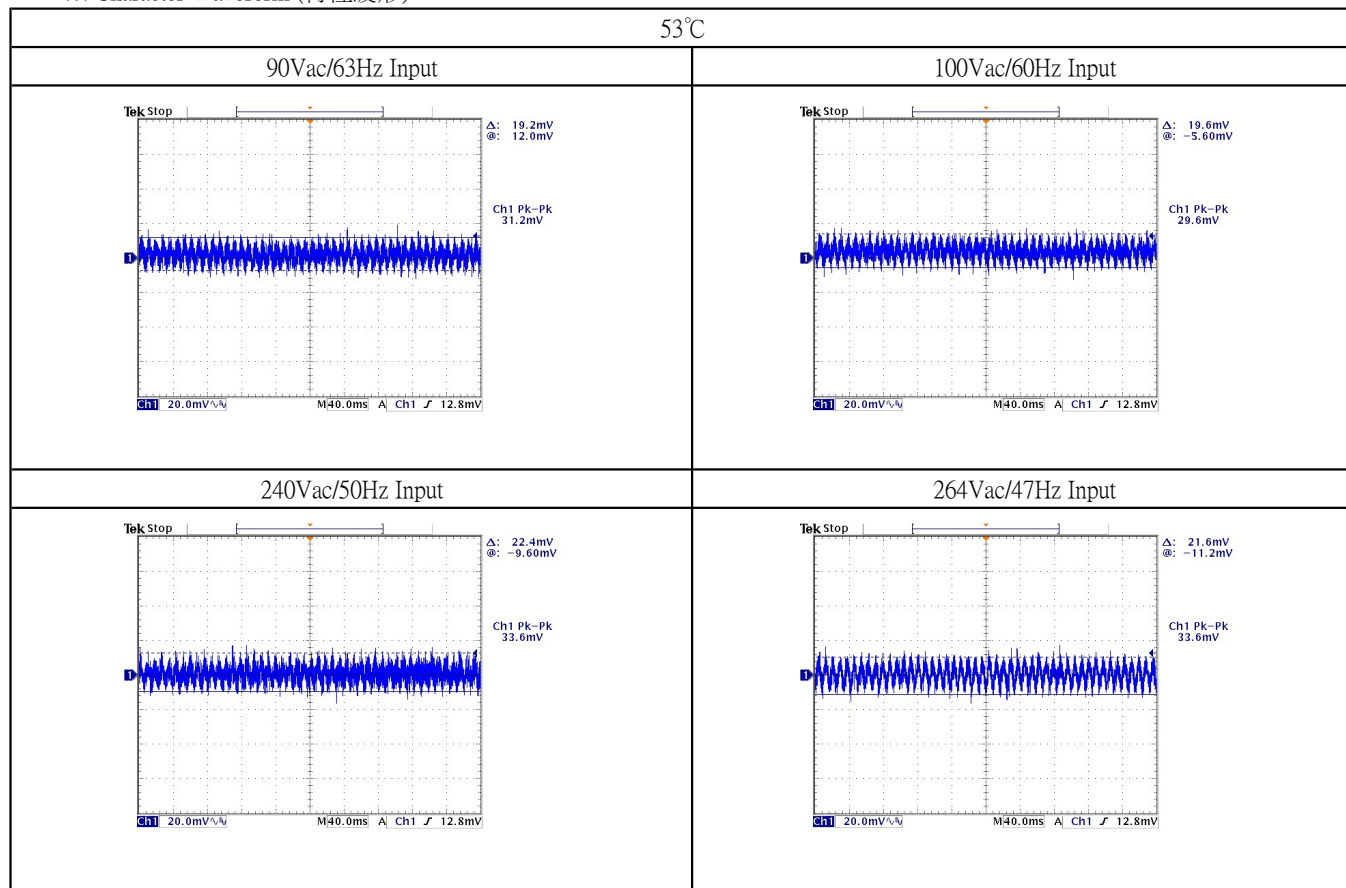
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/100Vac/240Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz ~63Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	53°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

I/P	90Vac/63Hz		100Vac/60Hz		240Vac/50Hz		264Vac/47Hz	
ITEM	Ripple	Noise	Ripple	Noise	Ripple	Noise	Ripple	Noise
53°C	19.2mV	31.2mV	19.6mV	29.6mV	22.4mV	33.6mV	21.6mV	33.6mV

※ Character Waveform (特性波形):



1-3.Over-Voltage Protection(過電壓保護特性)

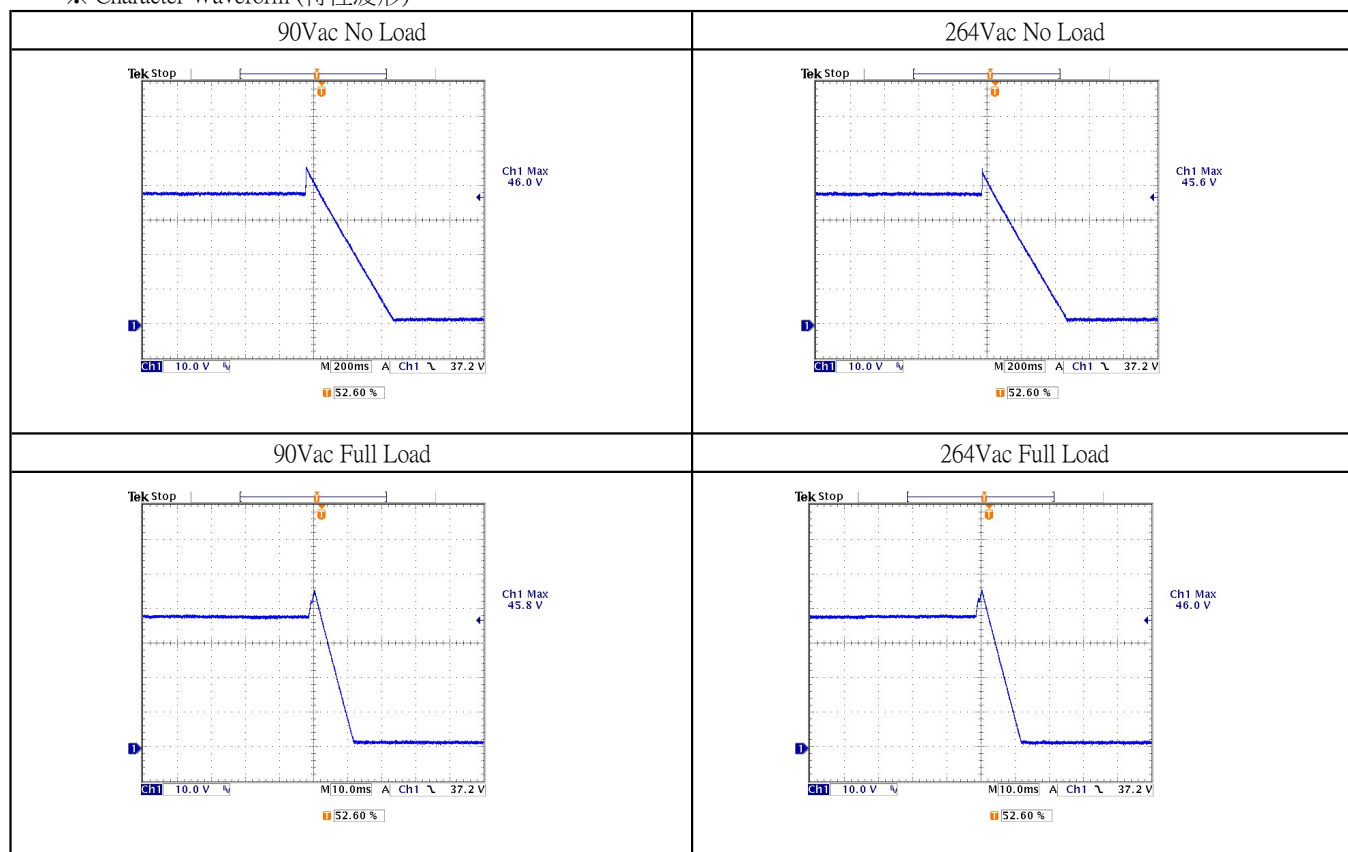
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz /63Hz
3	Output Load(輸出負載)	No/Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

O/P	No Load		Full Load	
I/P	90Vac/63Hz	264Vac/47Hz	90Vac/63Hz	264Vac/47Hz
Character Result	46.0V	45.6V	45.8V	46.0V

※ Character Waveform (特性波形):



1-4.Over-Current Protection(過電流保護特性)

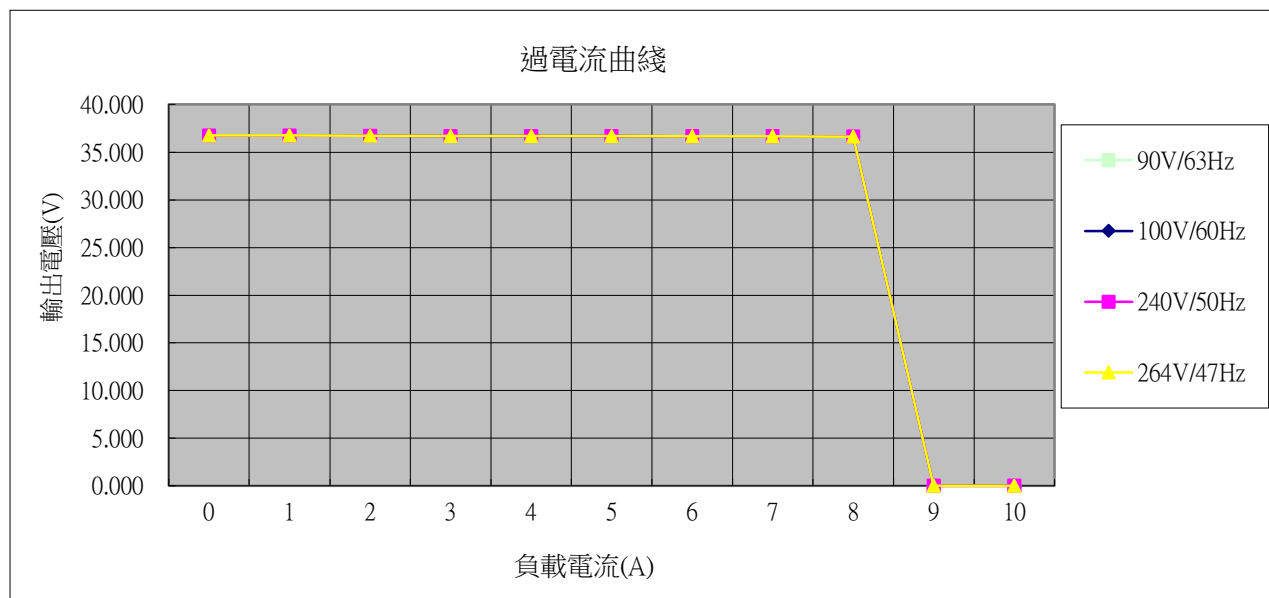
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/100Vac/240Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz ~63Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

I/P	90V/63Hz	100V/60Hz	240V/50Hz	264V/47Hz
O.C.P點	8.8A	8.8A	8.8A	8.8A

I/P	90V/63Hz										
Voltage(V)	36.770	36.750	36.730	36.710	36.700	36.690	36.660	37	36.64	0	0
Current(A)	0	1	2	3	4	5	6	7	8	9	10
I/P	100V/60Hz										
Voltage(V)	36.770	36.750	36.730	36.710	36.700	36.690	36.660	36.650	36.64	0	0
Current(A)	0	1	2	3	4	5	6	7	8	9	10
I/P	240V/50Hz										
Voltage(V)	36.770	36.750	36.730	36.710	36.700	36.690	36.660	36.650	36.640	0	0
Current(A)	0	1	2	3	4	5	6	7	8	9	10
I/P	264V/47Hz										
Voltage(V)	36.770	36.750	36.730	36.710	36.700	36.690	36.660	36.650	36.640	0	0
Current(A)	0	1	2	3	4	5	6	7	8	9	10



1-5. Dynamic ripple Character(動態負載特性)

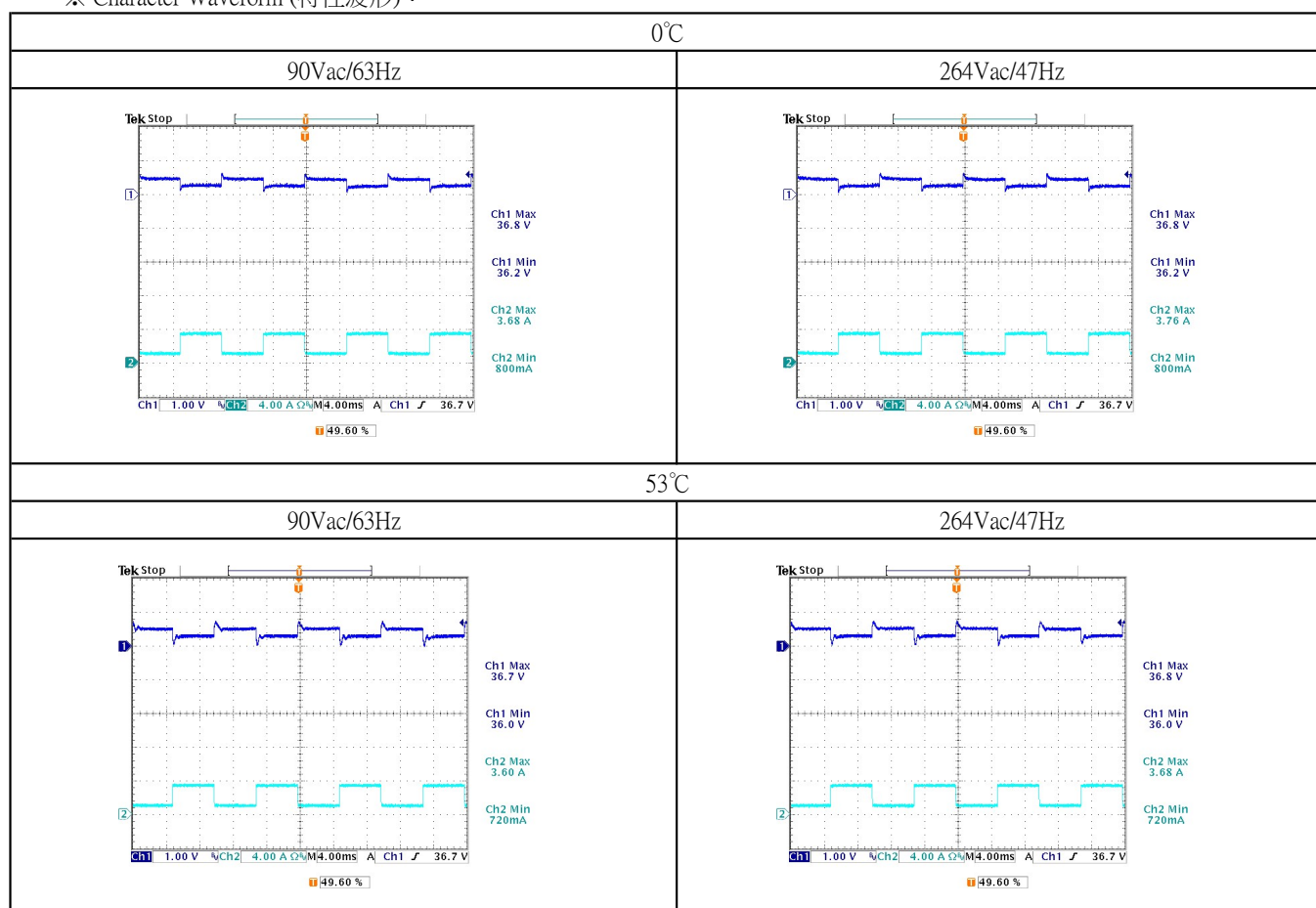
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz /63Hz
3	Output Load(輸出負載)	20%-80% Full Load, TH=5ms, TL=5ms, Slew rate=0.1A/us
4	Ambient Temp.(°C)(環境溫度)	0°C /53°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

I/P	90Vac/63Hz		264Vac/47Hz	
O/P	Max	Min	Max	Min
0°C	36.8V	36.2V	36.8V	36.2V
53°C	36.7V	36.0V	36.8V	36.0V

※ Character Waveform (特性波形):



1-6.Efficiency Character(效率特性)

※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	115Vac/230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz / 60Hz
3	Output Load(輸出負載)	0%,10%,25%,50%,75%,100% of Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS
6	Output Load(輸出負載)	4.2A

※ Character Data(特性數據):

使用線材	N/A
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Efficiency								Stand by consumption	
Load		10% 25% 50% 75% 100%						0%	
I/P		115Vac/60Hz			230Vac/50Hz			Input 115V/60Hz	230V/50HZ
O/P Load		Pin (W)	Pout (W)	Efficiency (%)	Pin (W)	Pout (W)	Efficiency (%)	0.36W	0.38W
10%	0.42A	18.78	15.43	82.16%	18.49	15.43	83.45%		
25%	1.05A	44.24	38.58	87.21%	43.39	38.57	88.89%		
50%	2.1A	85.32	77.13	90.40%	83.61	77.13	92.25%		
75%	3.15A	126.91	115.63	91.11%	124.26	115.63	93.05%		
100%	4.2A	168.22	154.14	91.63%	164.39	154.09	93.73%		
Average				90.09%			91.98%		

1-7.Input&Load Change Character(輸入 & 負荷變動特性)

※ Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	90Vac & 264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz & 63Hz
3	Output Load(輸出負載)	No Load and Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS
6		

※ Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	AC Source(變頻器)	ALL POWER/APG-1005N
2	Power Meter(功率表)	YOKOGAWA/WT310
3	DC Load(DC負載)	ITECH/IT8512+

※ Character Data(特性數據) :

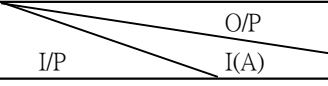
Input change with no load			
No Load		Input Condition	
		90V/63Hz	264Vac/47Hz
	Input Current (A)	0.041	0.074
	Input Power (W)	0.43	0.69
Input change with full load			
Full Load		Input Condition	
		90V/63Hz	264Vac/47Hz
	Input Current (A)	1.888	0.658
	Input Power (W)	169.32	160.78

1-8.Inrush Current (浪涌電流)

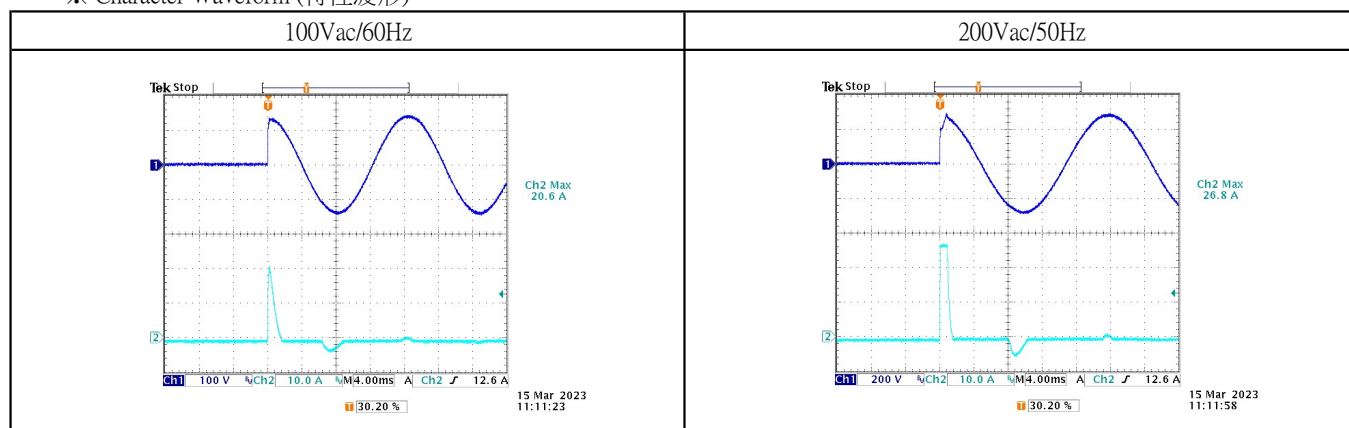
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	100Vac/200Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz /60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

Inrush Current		
	Full Load	Full Load
	100Vac/60Hz	200Vac/50Hz
Character Result	20.6A	26.8A

※ Character Waveform (特性波形):



1-9.Turn On Delay(開機爬升延遲時間)

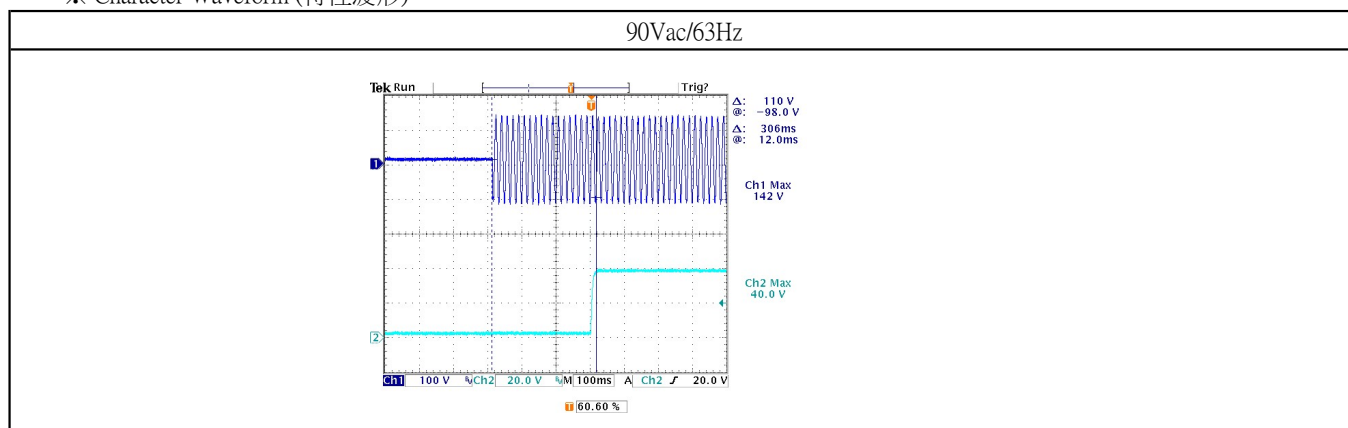
※ Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	90Vac
2	I/P Frequency(Hz)(輸入頻率)	63Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據) :

Turn on delay time	
I/P	90Vac/63Hz
Character Result	0.306S

※ Character Waveform (特性波形) :



2-1. Hold Up Time Character (保持時間)

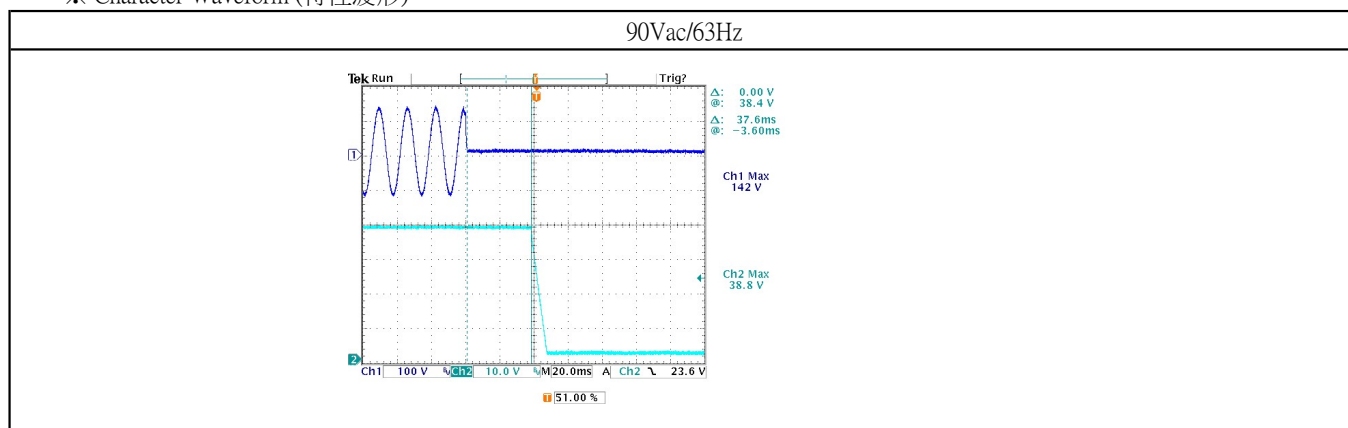
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac
2	I/P Frequency(Hz)(輸入頻率)	63Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

Hold up time	
I/P	90Vac/63Hz
Character Result	37.6mS

※ Character Waveform (特性波形):



2-2. Low Vac Shut Off (輸入欠压關斷特性)

※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	0~90Vac
2	I/P Frequency(Hz)(輸入頻率)	60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

LOW Vac SHUT OFF	
0~90Vac Input	
O/P	Full Load
Brown in	67.9V
90~0Vac Input	
O/P	Full Load
Brown out	67.5V

2-3. Over Shoot(過沖特性)

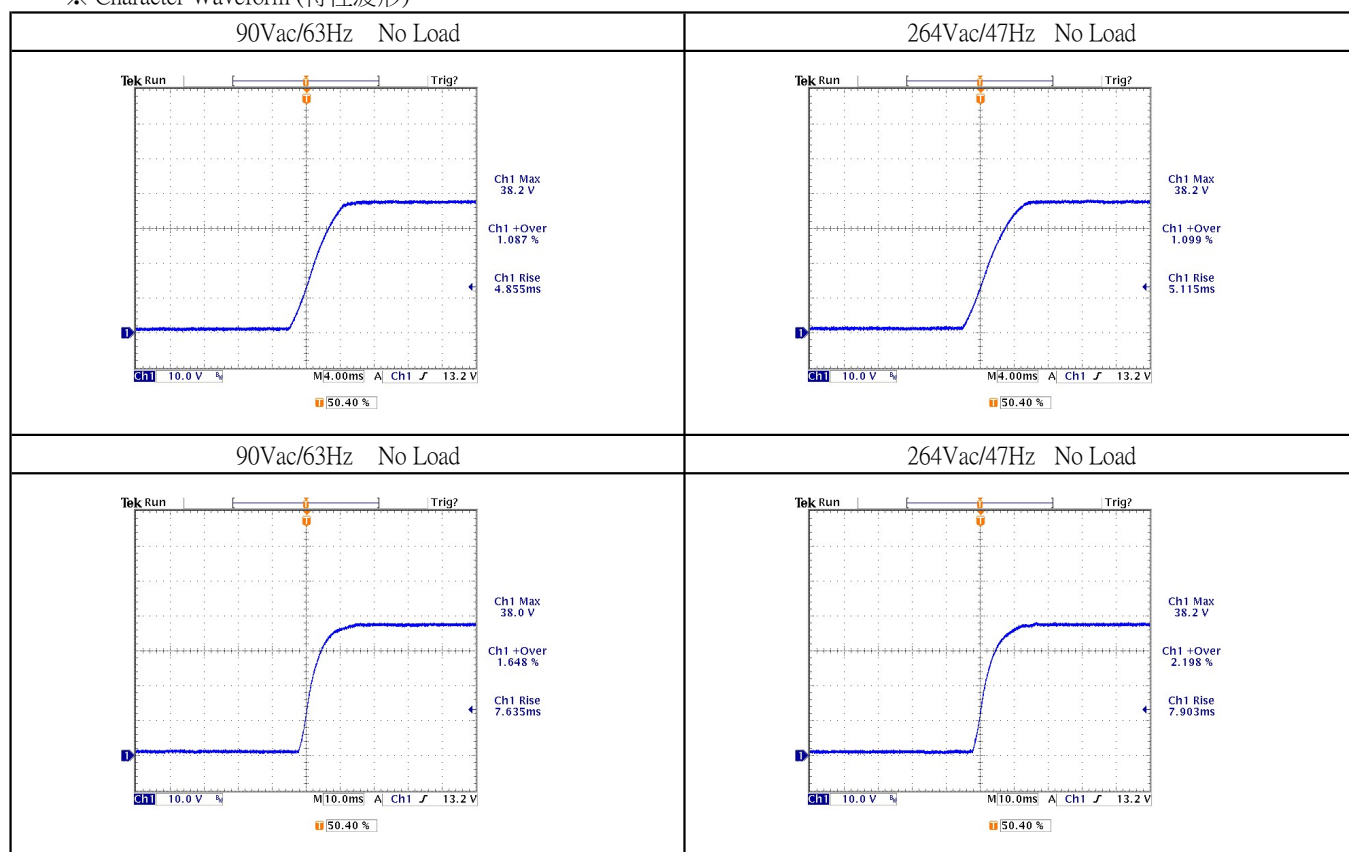
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz /63Hz
3	Output Load(輸出負載)	No Load/Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

Over Shoot				
O/P	No Load		Full Load	
I/P	90Vac/63Hz	264Vac/47Hz	90Vac/63Hz	264Vac/47Hz
Character Result	38.2V	38.2V	38.0V	38.2V

※ Character Waveform (特性波形):



2-4.Under Shoot(下沖特性)

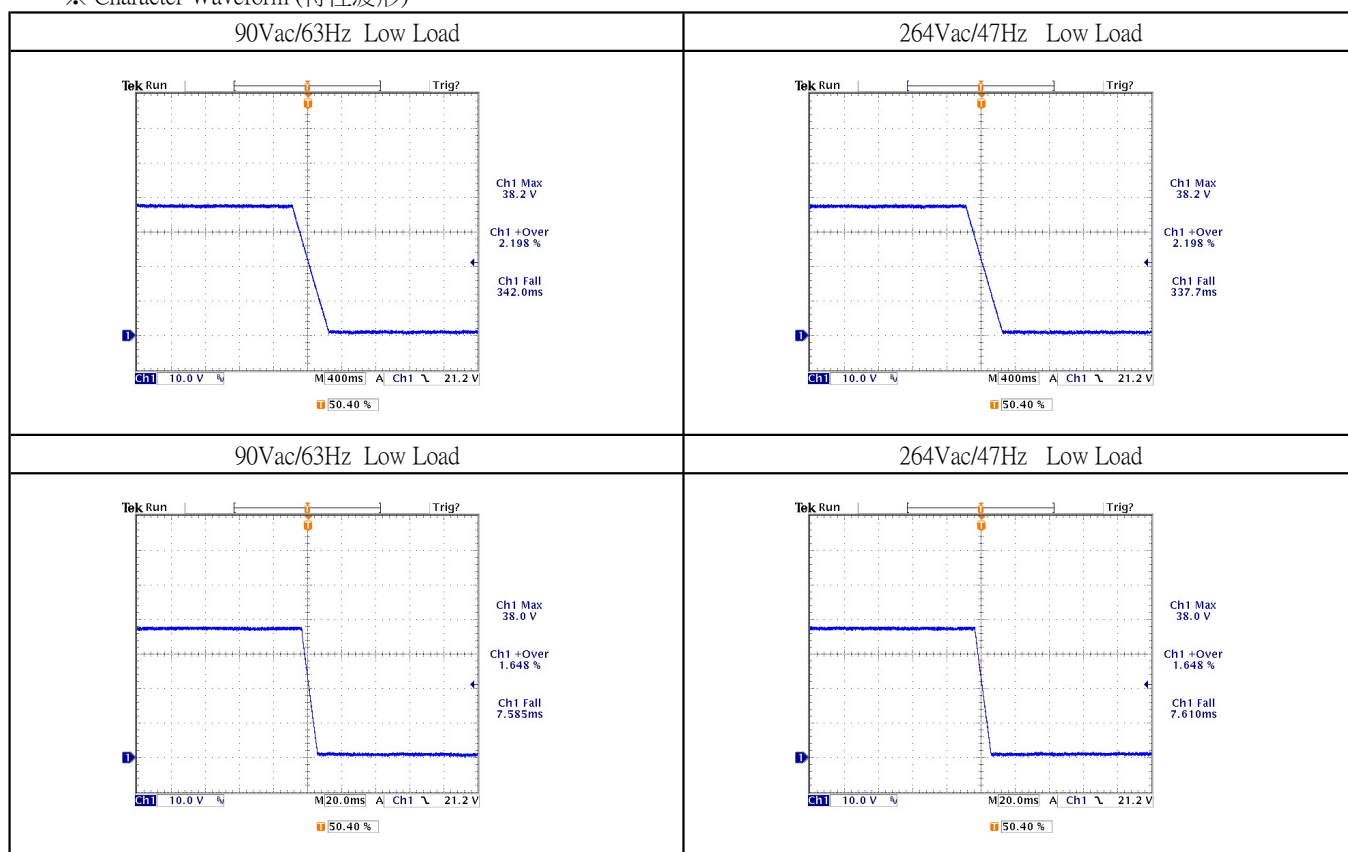
※ Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	90Vac/264Vac
2	I/P Frequency(Hz)(輸入頻率)	47Hz /63Hz
3	Output Load(輸出負載)	Low/Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※ Character Data(特性數據):

Under Shoot				
O/P	0.1A		Full Load	
I/P	90Vac/63Hz	264Vac/47Hz	90Vac/63Hz	264Vac/47Hz
Character Result	38.2V	38.2V	38.0V	38.0V

※ Character Waveform (特性波形):



2-5.Leak Current(漏電流特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz
3	Output Load(輸出負載)	No Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS
6		

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	Leak current Characterer(洩漏電流特性儀)	VG2301
2		
3		
4		

LEAK CURRENT CHARACTER

Spec.(mA MAX)	0.75
O/P	No Load
I/P	230Vac

※Character Data :

SINGLE-PHASE EQUIPMENT

The Character was made in all combinations to the normal and reverse polarity of the supply circuit(Polarity Switch P1)

Terminal A (Switch"s") of Measuring Instrument Connected to:	Switch"e" Position	Touch Current (mA r.m.s.)				
		Polarity P1/Primary Switch Condition				
		Normal/On	Normal/Off	Reverse/On	Reverse/Off	Judgement
Output	Closed	0.306	-	0.36	-	Pass

The touch current [did not] exceed _____ mA r.m.s with terminal A connected to the earth terminal of the unit with Switch "e" opened.

The touch current [did not] exceed 0.75 mA r.m.s with terminal A connected to the earth terminal of the unit with Switch "e" closed.