



# Test Report: LOP-600-12

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600W 5"×3" Low Profile Open Frame Power Supply

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

Component Stress Test

## ■ SAFETY & E.M.C. TEST

Safety Test

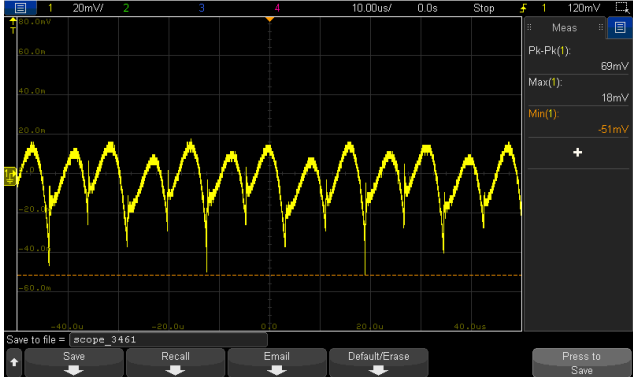
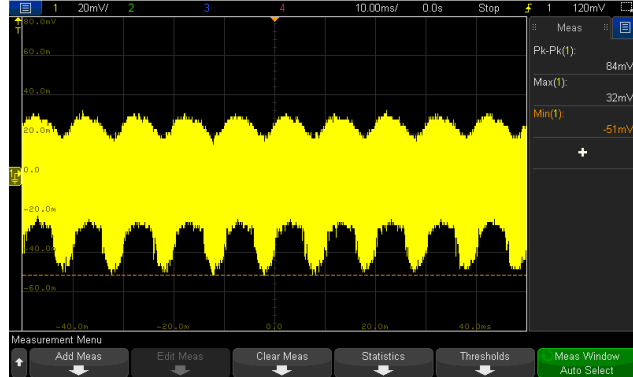
E.M.C. Test

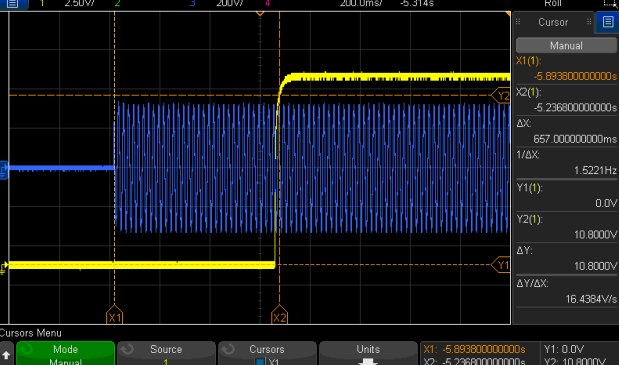
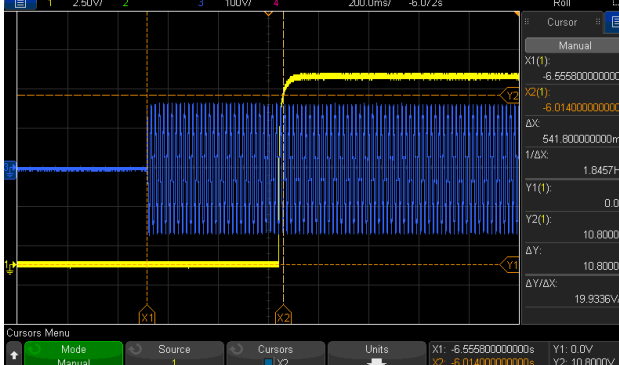
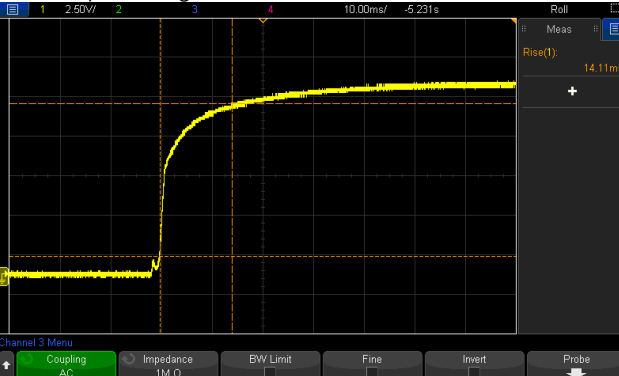
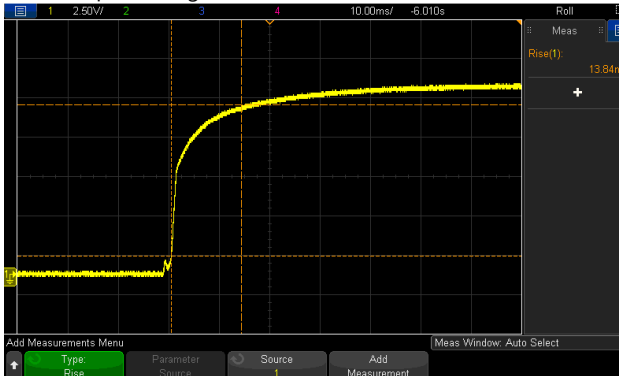
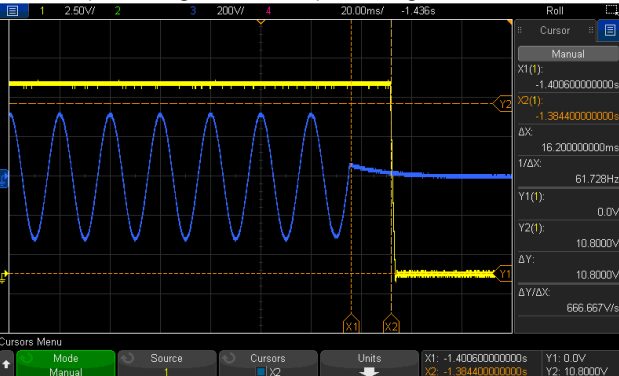
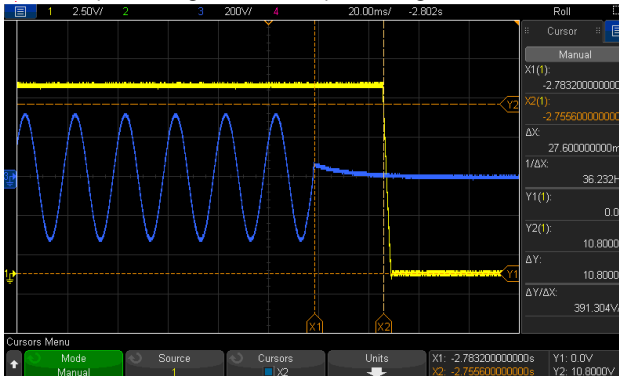
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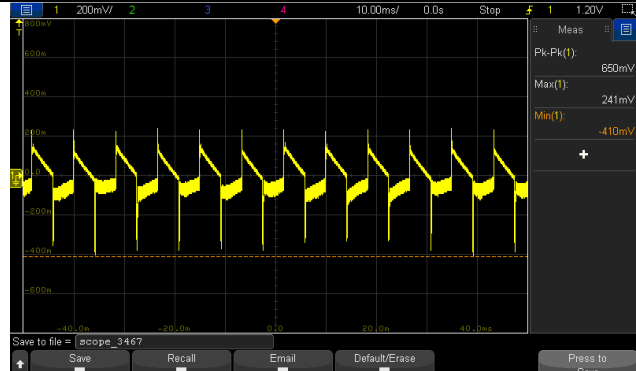
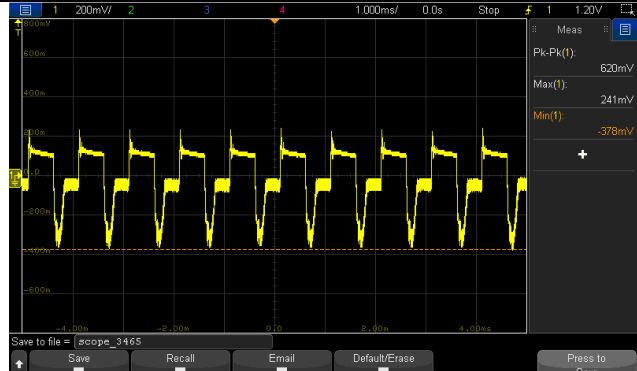
ENVIRONMENT TEST

## DESIGN VERIFY TEST

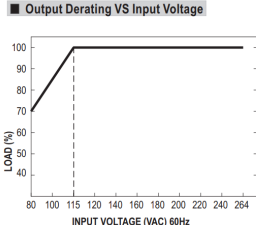
### OUTPUT FUNCTION TEST

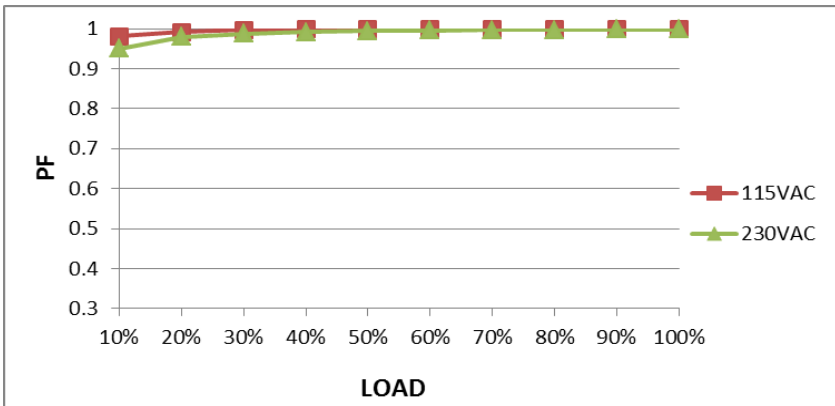
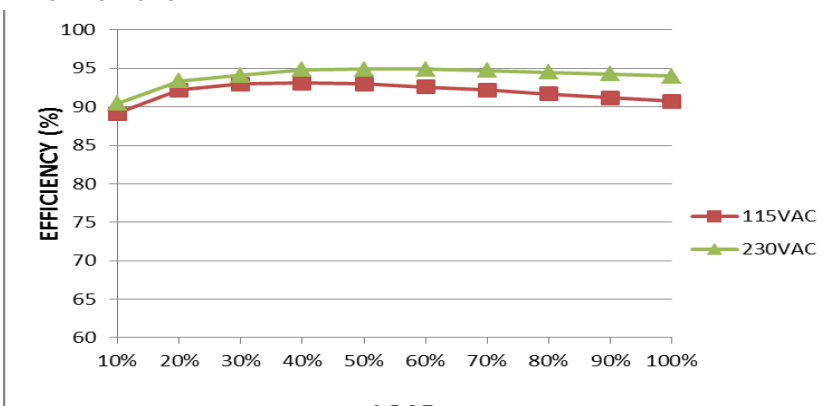
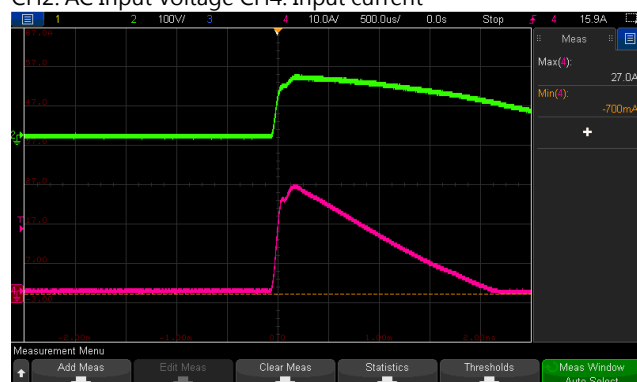
| NO                                                                                                                                                                                                                                                        | TEST ITEM                      | SPECIFICATION                  | TEST CONDITION                                                             | RESULT                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------|
| 1                                                                                                                                                                                                                                                         | OUTPUT VOLTAGE<br>ADJUST RANGE | CH1: 11.4V~12.6V               | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : MIN LOAD<br>Ta : 25°C              | 11.034V~12.952V/230VAC<br>11.034V~12.952V/115VAC        |
| 2                                                                                                                                                                                                                                                         | OUTPUT VOLTAGE<br>TOLERANCE    | V1: -3% ~ +3%                  | I/P: 80VAC~ 264VAC<br>O/P:FULL~ MIN. LOAD<br>Ta:25°C                       | V1: -0.0832% ~0.158%                                    |
| 3                                                                                                                                                                                                                                                         | LINE REGULATION                | V1: -0.5% ~ +0.5%              | I/P: 80VAC~ 264VAC<br>O/P:FULL LOAD<br>Ta:25°C                             | V1: -0.0084% ~0.0416%                                   |
| 4                                                                                                                                                                                                                                                         | LOAD REGULATION                | V1: -1% ~ +1%                  | I/P: 230VAC<br>O/P:FULL ~MIN LOAD<br>Ta:25°C                               | V1: -0.0832% ~0.158%                                    |
| 5                                                                                                                                                                                                                                                         | OVER/UNDERSHOOT TEST           | <±5%                           | I/P: 230VAC<br>O/P:FULL LOAD / NO LOAD<br>Ta:25°C                          | 1.5%                                                    |
| 6                                                                                                                                                                                                                                                         | RIPPLE & NOISE (Max )          | V1: 120mVp-p                   | I/P:230VAC<br>O/P: FULL LOAD<br>Ta:25°C                                    | V1: 69mVp-p / high frequency<br>84mVp-p / low frequency |
| <div> <div>high frequency :</div>  </div> <div> <div>low frequency :</div>  </div> |                                |                                |                                                                            |                                                         |
| 7                                                                                                                                                                                                                                                         | SET UP TIME(Max)               | 230VAC/1000ms<br>115VAC/1500ms | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C             | 230VAC/ 657.0ms<br>115VAC/ 541.8ms                      |
| INPUT=230VAC/50HZ @ FULL LOAD<br>CH1: Output Voltage CH3: AC Input Voltage                                                                                                                                                                                |                                |                                | INPUT=115VAC/60HZ @ FULL LOAD<br>CH1: Output Voltage CH3: AC Input Voltage |                                                         |

|                                                                            |                                                                                   |                                                                                      |                                                                                                       |                                                                            |  |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--|
|                                                                            |  |                                                                                      |                     |                                                                            |  |
| 8                                                                          | RISE TIME (Max)                                                                   | 230VAC/50ms<br>115VAC/50ms                                                           | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                        | 230VAC/ 14.11ms<br>115VAC/ 13.84ms                                         |  |
| INPUT=230VAC/50HZ @ FULL LOAD<br>CH1: Output Voltage                       |                                                                                   |                                                                                      |                                                                                                       |                                                                            |  |
|                                                                            |                                                                                   |    |                                                                                                       | INPUT=115VAC/60HZ @ FULL LOAD<br>CH1: Output Voltage                       |  |
|                                                                            |                                                                                   |   |                                                                                                       |                                                                            |  |
| 9                                                                          | HOLD UP TIME (Typ.)                                                               | 8ms /600W load<br>12ms /400W load                                                    | I/P : 230 VAC<br>O/P : TESTING<br>Ta : 25°C                                                           | 16.2ms /600W load<br>27.6ms /400W load                                     |  |
| INPUT=230VAC/50HZ @ 600W load<br>CH1: Output Voltage CH3: AC Input Voltage |                                                                                   |                                                                                      |                                                                                                       |                                                                            |  |
|                                                                            |                                                                                   |   |                                                                                                       | INPUT=230VAC/50HZ @ 400W load<br>CH1: Output Voltage CH3: AC Input Voltage |  |
|                                                                            |                                                                                   |  |                                                                                                       |                                                                            |  |
| 10                                                                         | DYNAMIC LOAD                                                                      | V1: 1200mVp-p                                                                        | I/P: 230VAC<br>O/P:<br>(1) FULL/0% LOAD 50%DUTY / 120HZ<br>(2) FULL/0% LOAD 50%DUTY / 1KHZ<br>Ta:25°C | 650mVp-p<br>620mVp-p                                                       |  |
| FULL /0% LOAD 50%DUTY / 120HZ                                              |                                                                                   |                                                                                      |                                                                                                       |                                                                            |  |
| FULL /0% LOAD 50%DUTY / 1KHZ                                               |                                                                                   |                                                                                      |                                                                                                       |                                                                            |  |

|    |                                                                                   |                          |                                                                                    |                 |
|----|-----------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------|-----------------|
|    |  |                          |  |                 |
| 11 | TRANSIENT RECOVERY TIME                                                           | V1: 1200mVp-p<br>< 500us | I/P: 230VAC<br>O/P:40% LOAD CHANGE<br>50%DUTY/120HZ 1.25A/us                       | 293mVp-p<br>0us |
| 12 | PEAK LOAD                                                                         | 150% PEAK LOAD@3S        | I/P: 264VAC<br>I/P: 115VAC<br>O/P: PEAK LOAD                                       | TEST : OK       |

## INPUT FUNCTION TEST

| NO | TEST ITEM             | SPECIFICATION                                                                                                         | TEST CONDITION                                                                                                                                                                                                                                                                                                                  | RESULT                                                                                                                                                                                   |
|----|-----------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | INPUT VOLTAGE RANGE   | 80VAC~264VAC<br>113VDC~ 370VDC<br> | (1) I/P: TESTING<br>O/P: FULL / 70% LOAD<br>(2) I/P: DC TESTING (L: + N: -)<br>O/P: FULL / 70% LOAD<br>(3) I/P: DC TESTING (L: - N: +)<br>O/P: FULL / 70% LOAD<br>Ta:25°C<br><br>I/P:<br>HIGH-LINE+15%=300V<br>O/P:FULL/MIN LOAD<br>(PLEASE CHECK DERATING CURVE)<br>ON: 30 Sec OFF: 30 Sec 10MIN<br>( POWER ON/OFF NO DAMAGE ) | (1) 69.1V~264V/ FULL LOAD<br>68.9V~264V/ 70% LOAD<br>(2) 97.5Vdc~370Vdc/FULL LOAD<br>97.5Vdc~370Vdc/70% LOAD<br>(3) 97.5Vdc~370Vdc/FULL LOAD<br>97.5Vdc~370Vdc/70% LOAD<br><br>TEST : OK |
| 2  | INPUT FREQUENCY RANGE | 47HZ ~63 HZ<br>NO DAMAGE                                                                                              | I/P:80 VAC ~264 VAC<br>O/P:FULL~MIN LOAD<br>Ta:25°C                                                                                                                                                                                                                                                                             | TEST : OK                                                                                                                                                                                |
| 3  | INPUT CURRENT (Typ.)  | 230V/ 3.2A<br>115V/ 6.4A                                                                                              | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                                                                                                                                                                  | I =2.7852A/ 230VAC<br>I =5.8158A/ 115VAC                                                                                                                                                 |
| 4  | LEAKAGE CURRENT       | Earth leakage current<br><500uA(rms) @ 264VAC<br>touch current <70uA(rms) @ 264VAC                                    | I/P : 264 VAC/60HZ<br>O/P : Min LOAD<br>Ta : 25°C                                                                                                                                                                                                                                                                               | 278.3 uA / 264 VAC@ For Earth<br>34.5uA / 264 VAC@For Touch                                                                                                                              |
| 5  | NO LOAD CONSUMPTION   | <0.5W                                                                                                                 | I/P : 240VAC<br>O/P : NO LOAD<br>Ta : 25°C                                                                                                                                                                                                                                                                                      | 0.41251W                                                                                                                                                                                 |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                                                |                                                          |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------|----------------------------------------------------------|
| 6 | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                        | 0.94/ 230VAC<br>0.98/115VAC        | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C | PF=0.9982/230VAC<br>PF=0.9983/115VAC                     |
|   | P.F vs LOAD<br>                                                                                                                                                                                                                                                                                                                           |                                    |                                                                |                                                          |
| 7 | EFFICIENCY(Typ.)                                                                                                                                                                                                                                                                                                                                                                                                           | 93%                                | I/P:230 VAC<br>O/P:FULL LOAD<br>Ta:25°C                        | 93.96%                                                   |
|   | EFFICIENCY vs LOAD<br>                                                                                                                                                                                                                                                                                                                   |                                    |                                                                |                                                          |
| 8 | INRUSH CURRENT(Typ.)                                                                                                                                                                                                                                                                                                                                                                                                       | 230V/80A<br>115V/40A<br>COLD START | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C | I =66.1A/ 230VAC<br>I =27.0A/ 115VAC<br>T50= 1114us/230V |
|   | <div> <div>           INPUT=230VAC/50HZ @ FULL LOAD<br/>           CH2: AC Input Voltage CH4: Input current<br/>  </div> <div>           INPUT=115VAC/ 60HZ @ FULL LOAD<br/>           CH2: AC Input Voltage CH4: Input current<br/>  </div> </div> |                                    |                                                                |                                                          |

### PROTECTION FUNCTION TEST

| NO | TEST ITEM                   | SPECIFICATION                                                                                                                                                                         | TEST CONDITION                                                       | RESULT                                                                                                                                                                                                    |
|----|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | OVER LOAD PROTECTION        | 105%~ 150%<br>PROTECTION TYPE : Hiccup after 3 sec, recovers automatically after fault condition is removed                                                                           | I/P: 264VAC<br>I/P: 230VAC<br>I/P: 115VAC<br>O/P: TESTING<br>Ta:25°C | 133.2%/ 264VAC<br>133.2%/ 230VAC<br>134.1%/ 115VAC<br>PROTECTION TYPE : Hiccup after 3 sec, recovers automatically after fault condition is removed                                                       |
| 2  | OVER VOLTAGE PROTECTION     | 13.2V~15.6V<br>Protection type:<br>Shut down o/p voltage, re-power on to recover                                                                                                      | I/P: 264VAC<br>I/P: 80VAC<br>O/P: MIN LOAD<br>Ta:25°C                | 14.28V/ 264VAC<br>14.32V/ 80VAC<br>Protection type:<br>Shut down o/p voltage, re-power on to recover                                                                                                      |
| 3  | OVER TEMPERATURE PROTECTION | Protection type:<br>Shut down o/p voltage, recovers automatically after temperature goes down (Vin=115Vac);<br>Shut down o/p voltage, re-power on to recover (Vin=230Vac or FAN LOCK) | I/P: 264VAC<br>I/P: 80VAC<br>O/P: FULL LOAD                          | O.T.P Active OK<br>Protection type :<br>Shut down o/p voltage, recovers automatically after temperature goes down (Vin=115Vac);<br>Shut down o/p voltage, re-power on to recover (Vin=230Vac or FAN LOCK) |
| 4  | SHORT PROTECTION            | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE<br>Protection type:<br>Hiccup mode, recovers automatically after fault condition is removed                                                    | I/P: 264VAC<br>I/P: 80VAC<br>O/P: FULL LOAD<br>Ta:25°C               | NO DAMAGE OK<br>PROTECTION TYPE :<br>Hiccup mode, recovers automatically after fault condition is removed                                                                                                 |

### CONTROL FUNCTION TEST

| NO | TEST ITEM           | SPECIFICATION                                                                               | TEST CONDITION                            | RESULT                           |
|----|---------------------|---------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------|
| 1  | EXTERNAL FAN SUPPLY | 12V@0.5A for driving a fan ; tolerance -15% ~ +15% at main output 20% rated current (23CFM) | I/P: 230 VAC<br>O/P: TESTING<br>Ta:25°C   | TEST : <u>-0.0414% ~ 0.0662%</u> |
| 2  | REMOTE SENSE        | S+ / S-<br>The remote sensing compensates voltage drop on the load wiring up to 0.5V        | I/P: 230 VAC<br>O/P: FULL LOAD<br>Ta:25°C | TEST : <u>OK</u>                 |

### COMPONENT STRESS TEST

| NO | TEST ITEM                                            | SPECIFICATION                 | TEST CONDITION                                                                                                                                                                | RESULT                                                                                                                                             |
|----|------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | PWM Transistor ( D to S) or (C to E)<br>Peak Voltage | Q2/ Q3<br>Rated:<br>26A/ 600V | AC ON/OFF<br>I/P: High-Line +3V =267V<br>VDS:<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/ | Q2: Q3:<br>VDS: VDS:<br>(1) 477V (1) 461V<br>(2) 481V (2) 469V<br>(3) 477V (3) 457V<br>(4) 477V (4) 457V<br>(5) 473V (5) 449V<br>(6) 477V (6) 461V |

|   |                                                           |                                  |                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                      |                                                                                                                                                                                                      |
|---|-----------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                           |                                  | Min. Load 90%Duty/3KHz<br>(5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(7)0%→400% Load<br>(8) Peak Load<br>Ta:25°C                                                                                                                                                                                  | (7) 485V<br>(8) 481V                                                                                                                                                                                 | (7) 469V<br>(8) 465V                                                                                                                                                                                 |
| 2 | P.F.C Transistor<br>( D to S) or (C to E)<br>Peak Voltage | Q1<br>Rated:<br>52A/600V         | AC ON/OFF<br>I/P: High-Line +3V =267V<br>VDS:<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/<br>Min. Load 90%Duty/3KHz<br>(5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(7)0%→400% Load<br>(8) Peak Load<br>Ta:25°C | VDS:<br>(1) 445V<br>(2) 437V<br>(3) 445V<br>(4) 441V<br>(5) 441V<br>(6) 457V<br>(7) 441V<br>(8) 457V                                                                                                 |                                                                                                                                                                                                      |
| 3 | P.F.C DIODE                                               | D2<br>Rated:<br>6A/ 650V         | I/P: High-Line +3V =267 V<br>AC ON/OFF<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(4) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(5) Peak Load<br>Ta:25°C                                                                                                                                             | (1) 393V<br>(2) 409V<br>(3) 401V<br>(4) 401V<br>(5) 421V                                                                                                                                             |                                                                                                                                                                                                      |
| 4 | Diode Peak Voltage                                        | Q101/Q103<br>Rated:<br>195A/ 60V | AC ON/OFF<br>I/P: High-Line +3V =267 V<br>Vo=Vmax<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/<br>Min. Load 90%Duty/3KHz<br>(5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(7)0%→400% Load.<br>(8).NO LOAD         | Q101:<br><u>Vo=Vmax</u><br>VDS:<br>(1) 42.6V<br>(2) 41.8V<br>(3) 43.0V<br>(4) 43.0V<br>(5) 43.0V<br>(6) 43.4V<br>(7) 39.0V<br>(8) 34.6V<br>(9) 36.6V<br>(10) 45.0V<br><u>Vo=Vnormal</u><br>(1) 43.0V | Q103:<br><u>Vo=Vmax</u><br>VDS:<br>(1) 35.8V<br>(2) 36.2V<br>(3) 37.4V<br>(4) 36.6V<br>(5) 37.0V<br>(6) 37.4V<br>(7) 35.4V<br>(8) 34.8V<br>(9) 37.0V<br>(10) 37.4V<br><u>Vo=Vnormal</u><br>(1) 37.0V |

|   |                         |                                                                                 |                                                                                                                                                                 |                                                                                                                                                                                                                       |
|---|-------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                         |                                                                                 | (9) burst Mode<br>(10) Peak Load<br>$V_o = V_{normal}$<br>O/P: (1) Full Load<br>Ta:25°C                                                                         |                                                                                                                                                                                                                       |
| 5 | Input Capacitor Voltage | C5<br>Rated:<br>330μ / 400V                                                     | I/P: High-Line +3V =267V<br>O/P: (1)Full Load input on/off<br>(2) Min load input on /Off<br>(3) Full Load /Min load Change<br>(4) Full load continue<br>Ta:25°C | (1) 397V<br>(2) 393V<br>(3) 397V<br>(4) 397V                                                                                                                                                                          |
| 6 | Control IC Voltage Test | PFC /PWM IC U1:<br>Rated : 10.4V~28.7 V<br><br>O/P IC U101<br>Rated : 4.75V~38V | AC ON/OFF<br>I/P: High-Line +3V =267 V<br>O/P: (1) FULL LOAD<br>(2) Output Short<br>(3) O.L.P<br>(4) O.V.P.<br>(5) NO LOAD VRmin (LOW LINE)<br>Ta:25°C          | U1                      U101<br>(1) 19.3V              (1) 11.30V<br>(2) 19.4V              (2) 10.90V<br>(3) 19.4V              (3) 11.20V<br>(4) 19.4V              (4) 11.70V<br>(5) 19.3V              (5) 10.40V |

## ■ SAFETY& E.M.C. TEST

### SAFETY TEST

| NO | TEST ITEM            | SPECIFICATION                                                       | TEST CONDITION                                                                  | RESULT                                                            |
|----|----------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P: 4KVAC/min<br>I/P-FG :2KVAC/min<br>O/P-FG:1.5KVAC/min       | I/P-O/P: 4.4 KVAC/min<br>I/P-FG: 2.4 KVAC/min<br>O/P-FG:1.8 KVAC/min<br>Ta:25°C | I/P-O/P: 1.813mA<br>I/P-FG: 2.39mA<br>O/P-FG:0.843mA<br>NO DAMAGE |
| 2  | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ<br>I/P-FG: 500VDC>100MΩ<br>O/P-FG:500VDC>100MΩ | I/P-O/P: 600 VDC<br>I/P-FG: 600 VDC<br>O/P-FG: 600 VDC<br>Ta:25°C               | I/P-O/P:50GΩ<br>I/P-FG:50GΩ<br>O/P-FG:50GΩ<br>NO DAMAGE           |

### E.M.C TEST

| NO | TEST ITEM  | SPECIFICATION                                                                                                     | TEST CONDITION                                           | RESULT                        |
|----|------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------|
| 1  | HARMONIC   | BS EN/EN61000-3-2<br>CLASS A                                                                                      | I/P:230VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25°C              | PASS                          |
| 2  | CONDUCTION | BS EN/EN55032(CISPR32)<br>Class I : Class B ,<br>Class II: Class A<br>BS EN/EN55014(CISPR32)<br>Class I : Class B | I/P : 230 VAC (50HZ)<br>O/P : FULL/50% LOAD<br>Ta : 25°C | PASS<br>Test by certified Lab |

|   |                                                                                                                                   |                                                                                                                 |                                                      |                               |
|---|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------|
| 3 | RADIATION                                                                                                                         | BS EN/EN55032(CISPR32)<br>Class I: Class B ,<br>Class II: Class A<br>BS EN/EN55014(CISPR32)<br>Class I: Class B | I/P : 230 VAC (50HZ)<br>O/P : FULL LOAD<br>Ta : 25°C | PASS<br>Test by certified Lab |
| 4 | E.S.D                                                                                                                             | BS EN/EN61000-4-2<br>■ MEDICAL<br>AIR : 15KV / Contact : 8KV                                                    | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C   | ■ CRITERIA A                  |
| 5 | E.F.T                                                                                                                             | BS EN/EN61000-4-4<br>■ INDUSTRY<br>INPUT : 2KV                                                                  | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C   | ■ CRITERIA A                  |
| 6 | SURGE                                                                                                                             | IEC61000-4-5<br>■ INDUSTRY<br>L-N : 2KV<br>L,N-PE : 4KV                                                         | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C   | ■ CRITERIA A                  |
| 7 | Test by certified Lab & Test Report Prepare<br>Any contradictions of the test results, please refer to the latest EMC test report |                                                                                                                 |                                                      |                               |

## ■ RELIABILITY TEST

### ENVIRONMENT TEST

| NO | TEST ITEM             | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | TEST CONDITION                      | RESULT                                |                                       |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
|----|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------|---------------------------------------|----|----------|-------------------------------------|-------------------------------------|---------------------------------------|---------------------------------------|---|------|------|--------|--------|--------|---|-----|------|--------|--------|--------|---|----|--------|--------|--------|------|---|------|--------|--------|--------|--------|---|-----|--------|--------|--------|--------|---|-----|--------|--------|--------|--------|---|----|--------|--------|--------|--------|---|----|--------|--------|--------|--------|---|----|--------|--------|--------|--------|----|----|--------|--------|--------|--------|----|----|--------|--------|------|--------|----|-----|--------|--------|--------|--------|
| 1  | TEMPERATURE RISE TEST | <div>MODEL : LOP-600-12</div> <div>1. ROOM AMBIENT    BURN-IN : 2 HRS</div> <div>I/P : 230VAC    O/P : FULL LOAD</div> <div>2. HIGH AMBIENT    BURN-IN : 2 HRS</div> <div>I/P : 230VAC    O/P : FULL LOAD</div> <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT<br/>Ta= 25 °C<br/>NO FAN</th><th>HIGH AMBIENT<br/>Ta= 40 °C<br/>NO FAN</th><th>ROOM AMBIENT<br/>Ta= 25 °C<br/>WITH FAN</th><th>HIGH AMBIENT<br/>Ta= 50 °C<br/>WITH FAN</th></tr><tr><td>1</td><td>RTH1</td><td>70°C</td><td>82.1°C</td><td>31.7°C</td><td>56.7°C</td></tr><tr><td>2</td><td>LF2</td><td>70°C</td><td>82.9°C</td><td>38.2°C</td><td>61.7°C</td></tr><tr><td>3</td><td>C2</td><td>64.4°C</td><td>77.5°C</td><td>28.7°C</td><td>54°C</td></tr><tr><td>4</td><td>ZNR1</td><td>53.5°C</td><td>64.1°C</td><td>29.8°C</td><td>54.5°C</td></tr><tr><td>5</td><td>RY1</td><td>73.6°C</td><td>85.1°C</td><td>29.5°C</td><td>54.4°C</td></tr><tr><td>6</td><td>BD1</td><td>73.3°C</td><td>87.3°C</td><td>46.2°C</td><td>70.6°C</td></tr><tr><td>7</td><td>C8</td><td>58.7°C</td><td>71.9°C</td><td>39.1°C</td><td>62.7°C</td></tr><tr><td>8</td><td>L1</td><td>72.5°C</td><td>86.6°C</td><td>50.8°C</td><td>75.4°C</td></tr><tr><td>9</td><td>Q1</td><td>72.2°C</td><td>84.1°C</td><td>50.4°C</td><td>75.5°C</td></tr><tr><td>10</td><td>D2</td><td>76.6°C</td><td>90.5°C</td><td>50.1°C</td><td>76.1°C</td></tr><tr><td>11</td><td>Q8</td><td>75.5°C</td><td>91.7°C</td><td>39°C</td><td>68.8°C</td></tr><tr><td>12</td><td>C40</td><td>79.7°C</td><td>87.8°C</td><td>45.9°C</td><td>69.3°C</td></tr></table> |                                     |                                       |                                       | NO | Position | ROOM AMBIENT<br>Ta= 25 °C<br>NO FAN | HIGH AMBIENT<br>Ta= 40 °C<br>NO FAN | ROOM AMBIENT<br>Ta= 25 °C<br>WITH FAN | HIGH AMBIENT<br>Ta= 50 °C<br>WITH FAN | 1 | RTH1 | 70°C | 82.1°C | 31.7°C | 56.7°C | 2 | LF2 | 70°C | 82.9°C | 38.2°C | 61.7°C | 3 | C2 | 64.4°C | 77.5°C | 28.7°C | 54°C | 4 | ZNR1 | 53.5°C | 64.1°C | 29.8°C | 54.5°C | 5 | RY1 | 73.6°C | 85.1°C | 29.5°C | 54.4°C | 6 | BD1 | 73.3°C | 87.3°C | 46.2°C | 70.6°C | 7 | C8 | 58.7°C | 71.9°C | 39.1°C | 62.7°C | 8 | L1 | 72.5°C | 86.6°C | 50.8°C | 75.4°C | 9 | Q1 | 72.2°C | 84.1°C | 50.4°C | 75.5°C | 10 | D2 | 76.6°C | 90.5°C | 50.1°C | 76.1°C | 11 | Q8 | 75.5°C | 91.7°C | 39°C | 68.8°C | 12 | C40 | 79.7°C | 87.8°C | 45.9°C | 69.3°C |
| NO | Position              | ROOM AMBIENT<br>Ta= 25 °C<br>NO FAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HIGH AMBIENT<br>Ta= 40 °C<br>NO FAN | ROOM AMBIENT<br>Ta= 25 °C<br>WITH FAN | HIGH AMBIENT<br>Ta= 50 °C<br>WITH FAN |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 1  | RTH1                  | 70°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 82.1°C                              | 31.7°C                                | 56.7°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 2  | LF2                   | 70°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 82.9°C                              | 38.2°C                                | 61.7°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 3  | C2                    | 64.4°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 77.5°C                              | 28.7°C                                | 54°C                                  |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 4  | ZNR1                  | 53.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 64.1°C                              | 29.8°C                                | 54.5°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 5  | RY1                   | 73.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 85.1°C                              | 29.5°C                                | 54.4°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 6  | BD1                   | 73.3°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 87.3°C                              | 46.2°C                                | 70.6°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 7  | C8                    | 58.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 71.9°C                              | 39.1°C                                | 62.7°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 8  | L1                    | 72.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 86.6°C                              | 50.8°C                                | 75.4°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 9  | Q1                    | 72.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 84.1°C                              | 50.4°C                                | 75.5°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 10 | D2                    | 76.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 90.5°C                              | 50.1°C                                | 76.1°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 11 | Q8                    | 75.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 91.7°C                              | 39°C                                  | 68.8°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |
| 12 | C40                   | 79.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 87.8°C                              | 45.9°C                                | 69.3°C                                |    |          |                                     |                                     |                                       |                                       |   |      |      |        |        |        |   |     |      |        |        |        |   |    |        |        |        |      |   |      |        |        |        |        |   |     |        |        |        |        |   |     |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |   |    |        |        |        |        |    |    |        |        |        |        |    |    |        |        |      |        |    |     |        |        |        |        |

| NO | Position                                                          | ROOM AMBIENT                                                          | HIGH AMBIENT                                                       | ROOM AMBIENT          | HIGH AMBIENT          |
|----|-------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------|-----------------------|
|    |                                                                   | Ta= 25 °C<br>NO FAN                                                   | Ta= 40 °C<br>NO FAN                                                | Ta= 25 °C<br>WITH FAN | Ta= 50 °C<br>WITH FAN |
| 13 | RTH3                                                              | 72.4°C                                                                | 85.9°C                                                             | 47.3°C                | 70.5°C                |
| 14 | U1                                                                | 61.3°C                                                                | 80.4°C                                                             | 45.3°C                | 68.4°C                |
| 15 | C5                                                                | 56.5°C                                                                | 70.3°C                                                             | 42.3°C                | 64°C                  |
| 16 | LF1                                                               | 55.6°C                                                                | 68.5°C                                                             | 29.1°C                | 54.3°C                |
| 17 | C60                                                               | 64.6°C                                                                | 77.1°C                                                             | 26.8°C                | 51.8°C                |
| 18 | T1 Coil                                                           | 96°C                                                                  | 108.4°C                                                            | 77.8°C                | 91.4°C                |
| 19 | T1 Core                                                           | 90.3°C                                                                | 98.3°C                                                             | 62.7°C                | 66°C                  |
| 20 | Q103                                                              | 94°C                                                                  | 105.9°C                                                            | 70.8°C                | 86.2°C                |
| 21 | Q102                                                              | 96.5°C                                                                | 105.5°C                                                            | 80.2°C                | 85.1°C                |
| 22 | C101                                                              | 78.1°C                                                                | 90.5°C                                                             | 61.1°C                | 74.2°C                |
| 23 | C102                                                              | 77.3°C                                                                | 89.8°C                                                             | 73.4°C                | 83.7°C                |
| 24 | Q3                                                                | 74.6°C                                                                | 89.2°C                                                             | 50.8°C                | 75.6°C                |
| 25 | Q2                                                                | 74.5°C                                                                | 89.4°C                                                             | 51.6°C                | 75.9°C                |
| 26 | D103                                                              | 76°C                                                                  | 86.8°C                                                             | 54.4°C                | 71.5°C                |
| 27 | C120                                                              | 73.6°C                                                                | 89.4°C                                                             | 54.8°C                | 74.8°C                |
| 28 | L100                                                              | 74.7°C                                                                | 86.7°C                                                             | 81.7°C                | 87.7°C                |
| 29 | RG100                                                             | 60.5°C                                                                | 74.7°C                                                             | 58.6°C                | 73.7°C                |
| 30 | R3                                                                | 68.5°C                                                                | 83.1°C                                                             | 39.9°C                | 64.6°C                |
| 31 | D105                                                              | 64.4°C                                                                | 77.9°C                                                             | 47.1°C                | 69.1°C                |
| 32 | R122                                                              | 64.6°C                                                                | 77.2°C                                                             | 51.2°C                | 70.2°C                |
| 33 | U101                                                              | 91.2°C                                                                | 107.9°C                                                            | 44.5°C                | 55.8°C                |
| 34 | R105                                                              | 83°C                                                                  | 96°C                                                               | 50.3°C                | 69°C                  |
| 35 | R101                                                              | 87°C                                                                  | 99.8°C                                                             | 42.6°C                | 62.6°C                |
| 36 | U4                                                                | 61.3°C                                                                | 75°C                                                               | 42.9°C                | 62.4°C                |
| 37 | Q7                                                                | 75.2°C                                                                | 91.8°C                                                             | 32°C                  | 55.6°C                |
| 38 | D1                                                                | 63°C                                                                  | 76.8°C                                                             | 34.7°C                | 59.5°C                |
| 39 | D20                                                               | 78.8°C                                                                | 90.6°C                                                             | 32.6°C                | 55.7°C                |
| 40 | C112                                                              | 57.9°C                                                                | 75.3°C                                                             | 54.6°C                | 70.2°C                |
| 2  | OVER LOAD BURN-IN TEST                                            | NO DAMAGE<br>1 HOUR ( MIN )                                           | I/P : 230 VAC<br>O/P : 123%LOAD<br>Ta : 25°C                       | TEST : OK             |                       |
| 3  | LOW TEMPERATURE<br>TURN ON TEST                                   | TURN ON AFTER 2 HOUR                                                  | I/P : 264VAC/115VAC<br>O/P : 100%LOAD<br>Ta= -45°C                 | TEST : OK             |                       |
| 4  | HIGH HUMIDITY<br>HIGH TEMPERATURE<br>HIGH VOLTAGE<br>TURN ON TEST | AFTER 12 HOURS<br>IN CHAMBER ON<br>CONTROL 50 °C/95 %R.H<br>NO DAMAGE | I/P : 272 VAC<br>O/P : FULL LOAD<br>Ta= 50 °C<br>HUMIDITY= 95 %R.H | TEST : OK             |                       |
| 5  | TEMPERATURE<br>COEFFICIENT                                        | ± 0.03%/°C(0~50°C)                                                    | I/P : 230 VAC<br>O/P : FULL LOAD                                   | 0.008%/°C(0~50°C)     |                       |

|    |                          |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                               |
|----|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6  | STORAGE TEMPERATURE TEST | -40~85°C                                                                                                                                                                                                                                                                  | 1. Thermal shock Temperature : -45°C~ +90°C<br>2. Temperature change rate : 25°C / MIN<br>3. Dwell time low and high temperature : 30 MIN/EACH<br>4. Total test cycle : 10 CYCLE<br>5. Input/output condition : STATIC                                                                                        |
| 7  | THERMAL SHOCK TEST       | -40~50°C                                                                                                                                                                                                                                                                  | 1. Thermal shock Temperature : -45°C~ +55°C<br>2. Temperature change rate : 25°C / MIN<br>3. Dwell time low and high temperature : 30 MIN/EACH<br>4. Total test cycle : 16 CYCLE<br>5. Input/output condition :<br>15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST<br>1cycle:230V/ FULL LOAD Burn In Test |
| 8  | VIBRATION TEST           | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                                                                                                                              | 1 Carton & 1 Set<br>(1) Waveform : Sine Wave<br>(2) Frequency : 10~500Hz<br>(3) Sweep Time : 12min/sweep cycle<br>(4) Acceleration : 3G<br>(5) Test Time : 180min in each axis (X.Y.Z)<br>(6) Ta : 25°C                                                                                                       |
| 9  | CAPACITOR LIFE CYCLE     | SUPPOSE C101 IS THE MOST CRITICAL COMPONENT<br>(1) I/P : 230VAC O/P : FULL LOAD Ta= 25 °C LIFE TIME<br>(2) I/P : 230VAC O/P : FULL LOAD Ta= 40 °C LIFE TIME<br>(3) I/P : 230VAC O/P : 75% LOAD Ta= 40 °C LIFE TIME<br>(4) I/P : 230VAC O/P : 50% LOAD Ta= 40 °C LIFE TIME | (1) 110655 HRS (NO FAN)<br>(2) 26544 HRS (NO FAN)<br>(3) 85895 HRS (NO FAN)<br>(4) 529627 HRS (NO FAN)                                                                                                                                                                                                        |
|    |                          | SUPPOSE C102 IS THE MOST CRITICAL COMPONENT<br>(1) I/P : 230VAC O/P : FULL LOAD Ta= 25 °C LIFE TIME<br>(2) I/P : 230VAC O/P : FULL LOAD Ta= 50 °C LIFE TIME<br>(3) I/P : 230VAC O/P : 75% LOAD Ta= 50 °C LIFE TIME<br>(4) I/P : 230VAC O/P : 50% LOAD Ta= 50 °C LIFE TIME | (5) 190095HRS (WITH FAN)<br>(6) 58072HRS (WITH FAN)<br>(7) 294422HRS (WITH FAN)<br>(8) 500000HRS (WITH FAN)                                                                                                                                                                                                   |
| 10 | MTBF                     | Conducted by Parts Stress Analysis Prediction<br>1963.2K hrs min. Telcordia SR-332 (Bellcore) ;310.9K hrs min. MIL-HDBK-217F (25°C)                                                                                                                                       |                                                                                                                                                                                                                                                                                                               |
| 11 | Ongoing Reliability Test | I/P : 230VAC O/P : FULL LOAD TA=50°C<br>Demonstration Mean Time Between Failure : 30,000 hours                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                               |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|--------|--------|----------|
| PASS        | Yuwei  | Liutt  | Wangdz   |

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