



# Test Report: GST220A12-R7B

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220W AC-DC Reliable Green Industrial Adaptor

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Component Stress Test

## ■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

## ■ RELIABILITY TEST

ENVIRONMENT TEST

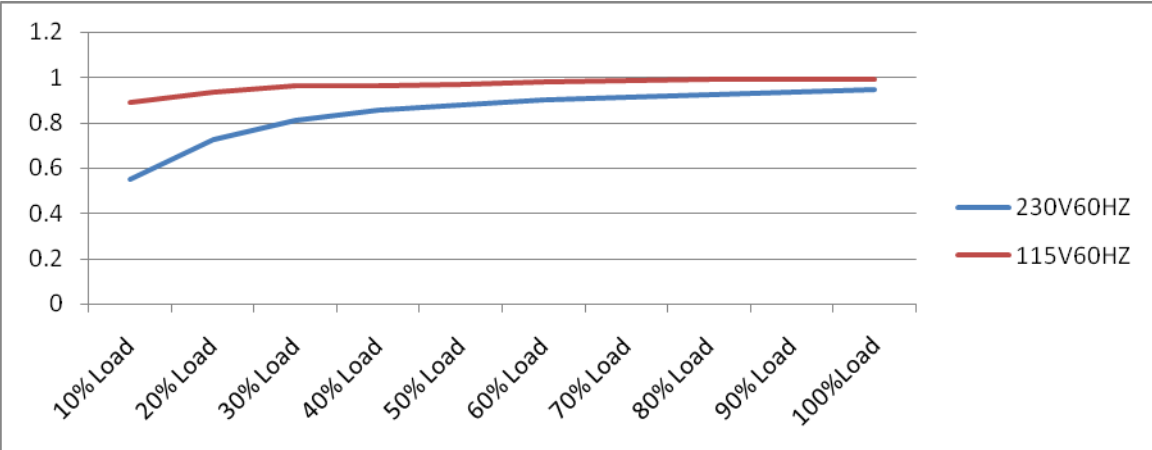
DESIGN VERIFY TEST

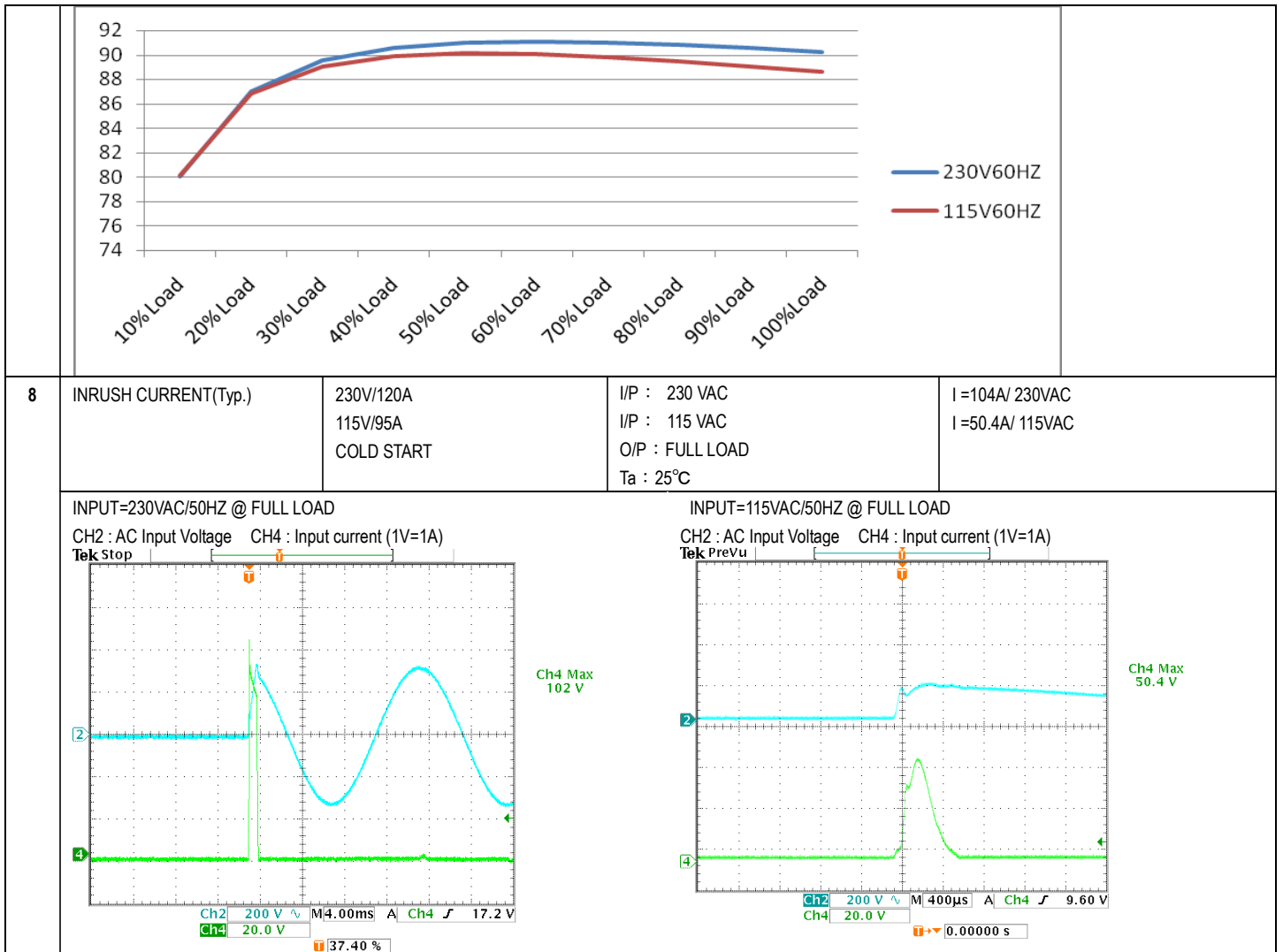
OUTPUT FUNCTION TEST

| NO | TEST ITEM                     | SPECIFICATION  | TEST CONDITION   | RESULT                           |
|----|-------------------------------|--|--|----------------------------------|
| 1  | OUTPUT VOLTAGE(Max) TOLERANCE | V1: -5%~ 5%  | I/P: 85VAC /264VAC<br>O/P:FULL/ MIN. LOAD<br>Ta:25°C           | V1: -2.1%~ 1.68%                 |
| 2  | LINE REGULATION (Max)         | V1: -1%~ 1%  | I/P: 85VAC~ 264VAC<br>O/P:FULL LOAD<br>Ta:25°C                 | V1: 0%~ 0%                       |
| 3  | LOAD REGULATION(Max)          | V1: -5%~ 5%  | I/P: 230VAC<br>O/P:FULL ~MIN LOAD<br>Ta:25°C                   | V1: -2.1%~ 1.68%                 |
| 4  | OVER/UNDERSHOOT TEST          | < ±5%  | I/P: 230VAC<br>O/P:FULL LOAD<br>Ta:25°C                        | < ±5%                            |
| 5  | RIPPLE & NOISE(Max)           | V1: 80mVp-p  | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C                         | V1: 14.6mVp-p                    |
|    |                               | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>high frequency :</p> </div> <div style="text-align: center;"> <p>low frequency :</p> </div> </div>  |  |                                  |
| 6  | SET UP TIME(Max)              | 230VAC/2000ms<br>115VAC/2000ms   | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C | 230VAC/ 904ms<br>115VAC/ 1080ms  |
|    |                               | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>INPUT=230VAC/50HZ @ FULL LOAD<br/>CH1 : Output Voltage CH2 : AC Input Voltage</p> </div> <div style="text-align: center;"> <p>INPUT=115VAC/60HZ @ FULL LOAD<br/>CH1 : Output Voltage CH2 : AC Input Voltage</p> </div> </div> |  |                                  |
| 7  | RISE TIME (Max)               | 230VAC/50ms<br>115VAC/50ms   | I/P : 230 VAC<br>I/P : 115 VAC                                 | 230VAC/ 11.8ms<br>115VAC/ 13.2ms |

|  |                     |  |   |
|--|---------------------|--|---|
|  |                     | O/P : FULL LOAD<br>Ta : 25°C   |   |
| INPUT=230VAC/50HZ @ FULL LOAD<br>CH1 : Output Voltage                        |                     | INPUT=115VAC/60HZ @ FULL LOAD<br>CH1 : Output Voltage                        |   |
| <p>Δ: 240mV<br/>@: 6.48 V<br/>Δ: 11.8ms<br/>@: 0.00 s</p>                    |                     | <p>Δ: 9.32 V<br/>@: 960mV<br/>Δ: 13.2ms<br/>@: 0.00 s</p>                    |   |
| 8  | HOLD UP TIME (Typ.) | 230VAC/20ms<br>115VAC/20ms   | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C  |
|  |                     | 230VAC/ 26ms<br>115VAC/ 26ms   |   |
| INPUT=230VAC/50HZ @ FULL LOAD<br>CH1 : Output Voltage CH2 : AC Input Voltage |                     | INPUT=115VAC/60HZ @ FULL LOAD<br>CH1 : Output Voltage CH2 : AC Input Voltage |   |
| <p>Δ: 14.0 V<br/>@: 4.00 V<br/>Δ: 36.0ms<br/>@: 0.00 s</p>                   |                     | <p>Δ: 16.0 V<br/>@: -14.0 V<br/>Δ: 36.0ms<br/>@: 0.00 s</p>                  |   |
| 9  | DYNAMIC LOAD        | V1: 1200mVp-p  | I/P: 230VAC<br>O/P:<br>(1)FULL /50% LOAD 50%DUTY / 120HZ<br>(2)FULL /50% LOAD 50%DUTY / 1KHZ<br>Ta:25°C |
|  |                     | 636mVp-p<br>636mVp-p   |   |
| FULL /50% LOAD 50%DUTY / 120HZ   |                     | FULL /50% LOAD 50%DUTY / 1KHZ  |   |
| <p>Ch1 Pk-Pk 636mV</p>   |                     | <p>Ch1 Pk-Pk 636mV</p>   |   |

### INPUT FUNCTION TEST

| NO   | TEST ITEM             | SPECIFICATION                 | TEST CONDITION  | RESULT   |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
|--|-----------------------|-------------------------------|---|--|------|----------|----------|----------|------|------|----------|------|------|----------|------|------|----------|------|------|----------|------|------|----------|------|------|----------|------|------|----------|------|------|----------|------|------|-----------|------|------|
| 1  | INPUT VOLTAGE RANGE   | 85VAC~264VAC<br>120VDC~370VDC | (1) I/P:TESTING<br>O/P:FULL LOAD<br>(2) I/P:DC TESTING(L:+ N:-)<br>O/P: FULL / 50% LOAD<br>(3) I/P:DC TESTING(L:- N:+)<br>O/P: FULL / 50% LOAD<br>Ta:25°C         | (1) 73V~264V<br>(2) 112.8Vdc~370Vdc/FULL LOAD<br>112.8Vdc~370Vdc/50% LOAD<br>(3) 112.8Vdc~370Vdc/FULL LOAD<br>112.8Vdc~370Vdc/50% LOAD |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
|  |                       |                               | I/P:<br>LOW-LINE-3V=82 V<br>HIGH-LINE+15%=300 V<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) | TEST:OK  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 2  | INPUT FREQUENCY RANGE | 47HZ ~63 HZ<br>NO DAMAGE      | I/P:85 VAC ~264 VAC<br>O/P:FULL~MIN LOAD<br>Ta:25°C   | TEST: OK   |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 3  | INPUT CURRENT (Typ.)  | 230V/ 2A<br>115V/ 4A          | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C  | I=0.880A/ 230VAC<br>I=1.732A/ 115VAC   |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 4  | LEAKAGE CURRENT       | <0.75 mA / 240 VAC            | I/P : 240 VAC<br>O/P : Min LOAD<br>Ta : 25°C  | L-FG : 0.334 mA<br>N-FG : 0.334 mA   |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 5  | NO LOAD CONSUMPTION   | < 0.15W                       | I/P : 115VAC<br>I/P : 230VAC<br>O/P : NO LOAD<br>Ta : 25°C  | < 0.0938 W<br>< 0.0993 W   |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 6  | POWER FACTOR (Typ.)   | 0.91/ 230VAC<br>0.98/115VAC   | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C  | PF=0.954/230VAC<br>PF=0.993/115VAC   |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| <p><b>PF vs LOAD</b></p>  <table border="1"> <caption>PF vs LOAD Data</caption> <thead> <tr> <th>Load</th> <th>230V60HZ</th> <th>115V60HZ</th> </tr> </thead> <tbody> <tr><td>10% Load</td><td>0.55</td><td>0.90</td></tr> <tr><td>20% Load</td><td>0.75</td><td>0.95</td></tr> <tr><td>30% Load</td><td>0.82</td><td>0.98</td></tr> <tr><td>40% Load</td><td>0.85</td><td>0.99</td></tr> <tr><td>50% Load</td><td>0.88</td><td>1.00</td></tr> <tr><td>60% Load</td><td>0.90</td><td>1.00</td></tr> <tr><td>70% Load</td><td>0.92</td><td>1.00</td></tr> <tr><td>80% Load</td><td>0.94</td><td>1.00</td></tr> <tr><td>90% Load</td><td>0.95</td><td>1.00</td></tr> <tr><td>100% Load</td><td>0.95</td><td>1.00</td></tr> </tbody> </table> |                       |                               |   |  | Load | 230V60HZ | 115V60HZ | 10% Load | 0.55 | 0.90 | 20% Load | 0.75 | 0.95 | 30% Load | 0.82 | 0.98 | 40% Load | 0.85 | 0.99 | 50% Load | 0.88 | 1.00 | 60% Load | 0.90 | 1.00 | 70% Load | 0.92 | 1.00 | 80% Load | 0.94 | 1.00 | 90% Load | 0.95 | 1.00 | 100% Load | 0.95 | 1.00 |
| Load   | 230V60HZ              | 115V60HZ                      |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 10% Load   | 0.55                  | 0.90                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 20% Load   | 0.75                  | 0.95                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 30% Load   | 0.82                  | 0.98                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 40% Load   | 0.85                  | 0.99                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 50% Load   | 0.88                  | 1.00                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 60% Load   | 0.90                  | 1.00                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 70% Load   | 0.92                  | 1.00                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 80% Load   | 0.94                  | 1.00                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 90% Load   | 0.95                  | 1.00                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 100% Load  | 0.95                  | 1.00                          |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| 7  | EFFICIENCY(Typ.)      | 90%                           | I/P:230 VAC<br>O/P:FULL LOAD<br>Ta:25°C   | 90.27%   |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |
| <p><b>EFFICIENCY vs LOAD</b></p>   |                       |                               |   |  |      |          |          |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |          |      |      |           |      |      |



### PROTECTION FUNCTION TEST

| NO | TEST ITEM                   | SPECIFICATION     | TEST CONDITION  | RESULT  |
|----|-----------------------------|-------------------|---|---|
| 1  | OVER LOAD PROTECTION        | 105%~ 135%        | I/P: 264VAC<br>I/P: 230VAC<br>I/P: 100VAC<br>O/P: TESTING<br>Ta: 25°C | 126.47%/ 264VAC<br>126.27%/ 230VAC<br>126.47%/100VAC<br>PROTECTION TYPE : Hiccup mode,<br>recovers automatically after fault condition is removed |
| 2  | OVER VOLTAGE PROTECTION     | 12.6V~16.2V       | I/P: 264VAC<br>I/P: 230VAC<br>I/P: 90VAC<br>O/P: MIN LOAD<br>Ta: 25°C | 14.7V/ 264VAC<br>14.7V/ 230VAC<br>14.7V/ 90VAC<br>PROTECTION TYPE : Hiccup mode @<br>10%load  |
| 3  | OVER TEMPERATURE PROTECTION | Protection type : | I/P: 264VAC<br>I/P: 90VAC<br>O/P: FULL LOAD                           | O.T.P. Active<br>Protection type : Shut down o/p voltage,<br>recovers automatically after<br>temperature goes down                                |



|   |                  |  |  |  |
|---|------------------|--|--|--|
| 4 | SHORT PROTECTION | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE | I/P: 264VAC<br>I/P: 90VAC<br>O/P: FULL LOAD<br>Ta:25°C | NO DAMAGE<br>PROTECTION TYPE : Hiccup mode,<br>recovers automatically after fault condition is removed |
|---|------------------|--|--|--|

### COMPONENT STRESS TEST

| NO | TEST ITEM  | SPECIFICATION                            | TEST CONDITION  | RESULT   |
|----|--|--|---|--|
| 1  | PWM Transistor<br>(D to S) or (C to E) <b>Peak Voltage</b>   | Q5 Rated<br>: 18A/ 600V                  | I/P:High-Line +3V =267V<br>AC ON/OFF<br>VDS:<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Full Load Continue<br>Ta:25°C   | Q5<br>VDS:<br>(1)480V<br>(2) 486V<br>(3) 440V  |
| 2  | P.F.C Transistor<br>(D to S) or (C to E) <b>Peak Voltage</b> | Q1 Rated<br>: 15.8 A/ 600 V              | I/P:High-Line +3V =267V<br>AC ON/OFF<br>VDS:<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Full Load Continue<br>Ta:25°C   | Q1<br>VDS:<br>(1) 522V<br>(2) 520V<br>(3) 476V   |
| 3  | P.F.C DIODE  | D2 Rated<br>: 15 A/ 600 V                | 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><br>I/P:Low-Line -3V = 97V<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>Ta:25°C | (1) 442V<br>(2) 442V<br>(3) 446V<br>(4) 446V<br><br>(1) 436V<br>(2) 436V<br>(3) 440V<br>(4) 438V |
| 4  | Diode Peak Voltage   | Q101 Rated<br>: 120 A/ 40V               | I/P:High-Line +3V =267V<br>AC ON/OFF<br>VDS:<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Full Load Continue<br>Ta:25°C   | Q101:<br>VDS:<br>(1)30.0 V<br>(2) 11.6V<br>(3) 30.0V   |
| 5  | Input Capacitor Voltage                                      | C5 Rated:<br>: 220 μ /450 V<br>105 °C    | I/P:High-Line +3V =267 V<br>O/P: (1)Full Load input on/off<br>(2) Min load input on /Off<br>(3)Full Load /Min load Change<br>Ta:25°C  | (1) 436V<br>(2)424V<br>(3)424V   |
| 6  | Control IC Voltage Test                                      | PWM IC U1 Rated<br>: 32V<br>-0.4 V(MIN.) | I/P:High-Line +3V =267 V<br>AC ON/OFF<br>O/P(1)FULL LOAD<br>(2) Output Short<br>(3)O.L.P  | (1) 26.3V<br>(2) 20.2V<br>(3) 20.2V<br>(4) 29.3V   |

|  |  |  |                      |  |
|--|--|--|----------------------|--|
|  |  |  | (4)O.V.P.<br>Ta:25°C |  |
|--|--|--|----------------------|--|

**SAFETY TEST**

| NO | TEST ITEM            | SPECIFICATION                          | TEST CONDITION   | RESULT                                       |
|----|----------------------|--|--|--|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P: 3KVAC/min<br>I/P-FG:2KVAC/min | I/P-O/P: 3.6 KVAC/min<br>I/P-FG:2.4KVAC/min<br>Ta:25°C | I/P-O/P:6.75mA<br>I/P-FG:3.75mA<br>NO DAMAGE |
| 2  | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ                   | I/P-O/P: 500 VDC<br>Ta:25°C                            | I/P-O/P: 9999MΩ<br>NO DAMAGE                 |

**E.M.C TEST**

| NO | TEST ITEM                                   | SPECIFICATION   | TEST CONDITION   | RESULT                        |
|----|---|---|--|-------------------------------|
| 1  | HARMONIC                                    | BS EN/EN61000-3-2,GB9254<br>CLASS A   | I/P:230VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25°C              | PASS                          |
| 2  | CONDUCTION                                  | BS EN/EN55032(CISPR32),<br>FCC PART 15 / CISPR22 CAN<br>ICES-3(B)/NMB-3(B),CNS13438,GB17625.1<br>EAC TP TC 020,MSIP KN32<br>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>FCC PART 15 / CISPR22 CAN<br>ICES-3(B)/NMB-3(B),CNS13438,GB17625.1<br>EAC TP TC 020,MSIP KN32<br>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>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>INPUT : 1KV  | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C       | CRITERIA A                    |
| 6  | SURGE                                       | BS EN/EN61000-4-5<br>L-N : 1KV<br>L,N-PE : 2KV  | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C       | CRITERIA A                    |
| 7  | Test by certified Lab & Test Report Prepare |   |  |                               |

**RELIABILITY TEST**

**ENVIRONMENT TEST**

| NO | TEST ITEM             | SPECIFICATION  | TEST CONDITION | RESULT |
|----|-----------------------|--|----------------|--------|
| 1  | TEMPERATURE RISE TEST | MODEL : GST220A12-R7B<br>1. ROOM AMBIENT BURN-IN : 1HRS<br>I/P : 230VAC O/P : FULL LOAD Ta=32.6 °C<br>2. HIGH AMBIENT BURN-IN : 1HRS<br>I/P : 230VAC O/P : FULL LOAD Ta=51.1°C |                |        |

|   |   | NO  | Position | ROOM AMBIENT Ta= 32.6 °C   | HIGH AMBIENT Ta= 51.1 °C |
|---|---|---|----------|--|--------------------------|
|   |   | 1   | LF1      | 76.8°C   | 93.3°C                   |
|   |   | 2   | LF2      | 62.8°C   | 78.9°C                   |
|   |   | 3   | L2       | 64.4°C   | 80.4°C                   |
|   |   | 4   | C2       | 60.4°C   | 76.6°C                   |
|   |   | 5   | C11      | 65.1°C   | 81.0°C                   |
|   |   | 6   | R5       | 67.1°C   | 83.2°C                   |
|   |   | 7   | D3       | 65.9°C   | 82.2°C                   |
|   |   | 8   | BD1      | 66.1°C   | 82.4°C                   |
|   |   | 9   | D2       | 67.6°C   | 83.8°C                   |
|   |   | 10  | Q2       | 66.9°C   | 83.2°C                   |
|   |   | 11  | L1       | 69.0°C   | 84.8°C                   |
|   |   | 12  | C5       | 70.2°C   | 86.2°C                   |
|   |   | 13  | C81      | 68.5°C   | 84.5°C                   |
|   |   | 14  | Q5       | 68.1°C   | 84.3°C                   |
|   |   | 15  | C101     | 68.6°C   | 84.9°C                   |
|   |   | 16  | C13      | 71.1°C   | 87.3°C                   |
|   |   | 17  | T1       | 87.0°C   | 104.6°C                  |
|   |   | 18  | U4       | 70.9°C   | 87.5°C                   |
|   |   | 19  | TSW1     | 63.9°C   | 80.4°C                   |
|   |   | 20  | CASE     | 57.3°C   | 76.4°C                   |
|   |   | 21  | RTH2     | 64.9°C   | 81.4°C                   |
|   |   | 22  | Q102     | 79.2°C   | 95.9°C                   |
|   |   | 23  | C109     | 76.4°C   | 93.0°C                   |
|   |   | 24  | U1       | 74.6°C   | 90.7°C                   |
| 2 | OVER LOAD BURN-IN TEST  | NO DAMAGE<br>1 HOUR ( MIN )   |          | I/P : 230 VAC<br>O/P : 127 % LOAD<br>Ta : 25°C                       | TEST : OK                |
| 3 | LOW TEMPERATURE<br>TURN ON TEST                                   | TURN ON AFTER 2 HOUR  |          | I/P : 264VAC/100VAC<br>O/P : 100 % LOAD<br>Ta= -35 °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<br>NO DAMAGE   |          | I/P : 272 VAC<br>O/P : FULL LOAD<br>Ta= 49.8 °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  | 1. Thermal shock Temperature : -40°C ~ +85°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 : 5 CYCLE<br>5. Input/Output condition : STATIC  |          |  | OK                       |
| 7 | THERMAL SHOCK TEST  | 1. Thermal shock Temperature : -30°C ~ +70°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 : 230VAC/Full Load AC ON/OFF TEST<br>turn on 58sec ; turn off 2sec |          |  | OK                       |





|    |                             |  |   |
|----|-----------------------------|--|---|
| 8  | VIBRATION TEST              | 1 Carton & 1 Set<br>(1) Waveform : Sine Wave<br>(2) Frequency : 10~500Hz<br>(3) Sweep Time : 12min/sweep cycle<br>(4) Acceleration : 2G<br>(5) Test Time : 60min in each axis (X.Y.Z)<br>(6) Ta : 25°C   | TEST : OK   |
| 9  | CAPACITOR LIFE CYCLE        | SUPPOSE C 109 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 | (1) 131599HRS<br>(2) 26362HRS<br>(3) 54213HRS<br>(4) 94394HRS |
| 10 | MTBF                        | 2006.1K hrs min. Telcordia SR-332 (Bellcore) ; 209.4K hrs min. MIL-HDBK-217F (25°C)  |   |
| 11 | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure (Expected Life): Above 30,000 hours @ TA 50°C  |   |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|--------|--------|----------|
| PASS        | FRANK  | GESG   | WANGDZ   |

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