



# Test Report : SGAS06x24

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6W AC-DC High Reliable Extreme Small Wall-mounted Industrial Adaptor

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

## ■ SAFETY TEST

Safety Test

## ■ RELIABILITY TEST

Environment Test

Other test

**DESIGN VERIFY TEST**
**OUTPUT FUNCTION TEST**

| NO | TEST ITEM         | SPECICATION         | TEST CONDITION                                    | RESULT          |
|----|-------------------|---------------------|---|-----------------|
| 1  | RIPPLE & NOISE    | 80mVp-p (Max)       | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C            | 45 mVp-p        |
| 2  | VOLTAGE TOLERANCE | -2% ~ +2% (Max)     | I/P:90VAC~264VAC<br>O/P:FULL~MIN. LOAD<br>Ta:25°C | +1.38% ~ -0.28% |
| 3  | LINE REGULATION   | -0.5% ~ +0.5% (Max) | I/P:90VAC ~264VAC<br>O/P:FULL LOAD<br>Ta:25°C     | -0.04% ~ -0.08% |
| 4  | LOAD REGULATION   | -2% ~ +2% (Max)     | I/P:230VAC<br>O/P:FULL ~MIN LOAD<br>Ta:25°C       | +0.58% ~ -1.07% |
| 5  | SET UP TIME       | 1500 Ms(Max)        | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C            | 844.74mS        |
| 6  | RISE TIME         | 50 mS(Max)          | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C            | 48.687 mS       |
| 7  | HOLD UP TIME      | 5 mS (Min)          | I/P:115VAC<br>O/P:FULL LOAD<br>Ta:25°C            | 23.601 mS       |

**INPUT FUNCTION TEST**

| NO | TEST ITEM                 | SPECICATION                             | TEST CONDITION   | RESULT                             |
|----|---------------------------|---|--|------------------------------------|
| 1  | VOLTAGE RANGE             | 90VAC ~ 264VAC                          | I/P:TESTING<br>O/P:FULL LOAD<br>Ta:25°C                      | 45V ~ 264V                         |
| 2  | FREQUENCY RANGE           | 50HZ - 60HZ (Typ)<br>NO DAMAGE OSC      | I/P: 100VAC ~ 240VAC<br>O/P:FULL~MIN LOAD<br>Ta:25°C         | TEST: OK                           |
| 3  | EFFICIENCY                | 82%                                     | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C                       | 82.61%                             |
| 4  | AVERAGE EFFICIENCY        | 78.88% ( LEVEL VI)<br>79.03% ( LEVEL 5) | I/P:115/230VAC<br>O/P:25% 、 50% 、 75% 、 100% LOAD<br>Ta:25°C | 82.94% (115VAC)<br>81.63% (230VAC) |
| 5  | AC CURRENT                | 0.2A (Max)                              | I/P: 100VAC<br>O/P:FULL LOAD<br>Ta:25°C                      | 0.132 A                            |
| 6  | NO LOAD POWER CONSUMPTION | < 0.1W (Max)                            | I/P:230VAC<br>O/P: NO LOAD<br>Ta:25°C                        | 0.0458 W                           |

|   |                 |                    |  |                              |
|---|-----------------|--------------------|--|------------------------------|
| 7 | INRUSH CURRENT  | <50A<br>COLD START | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C | 35.375A                      |
| 8 | LEAKAGE CURRENT | < 0.25mA           | I/P:240VAC<br>O/P:Min LOAD<br>Ta:25°C  | L-FG: 0.02mA<br>N-FG: 0.02mA |

## PROTECTION FUNCTION TEST

| NO | TEST ITEM               | SPECICATION                      | TEST CONDITION                         | RESULT   |
|----|-------------------------|----------------------------------|--|--|
| 1  | OVER LOAD PROTECTION    | 105% ~ 180%                      | I/P:230VAC<br>O/P:TESTING<br>Ta:25°C   | 144.0%<br>HICCUP MODE<br>RESET : AUTO RECOVER  |
| 2  | OVER VOLTAGE PROTECTION | >120%                            | I/P:230VAC<br>O/P:MIN LOAD<br>Ta:25°C  | 118.1% (MMSZ5254BF)<br>Clamp by ZENER diode    |
| 3  | SHORT PROTECTION        | SHORT OUTPUT<br>1 HOUR NO DAMAGE | I/P:264VAC<br>O/P:FULL LOAD<br>Ta:25°C | NO DAMAGE<br>HICCUP MODE<br>RESET AUTO RECOVER |

## ■ SAFETY TEST

### SAFETY TEST

| NO | TEST ITEM            | SPECICATION          | TEST CONDITION                  | RESULT                       |
|----|----------------------|----------------------|---------------------------------|------------------------------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P:4242 VDC/min | I/P-O/P:4242 VDC/min<br>Ta:25°C | I/P-O/P: 0.03uA<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>100MΩ<br>NO DAMAGE   |

## ■ RELIABILITY TEST

### ENVIRONMENT TEST

| NO  | TEST ITEM                    | SPECICATION  | TEST CONDITION                               | RESULT    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
|---|------------------------------|--|--|-----------|----|----------|---|---|---|---|-----|--------|--------|--------|---|----|--------|--------|--------|---|----|--------|--------|--------|---|--------|--------|--------|--------|---|----|--------|--------|--------|---|---------|--------|--------|--------|---|---------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|--------|--------|--------|----|--------|--------|--------|--------|----|------|--------|--------|--------|
| 1   | TEMPERATURE RISE TEST        | 1. ROOM AMBIENT BURN-IN : 4HRS<br>I/P:230VAC O/P:100% LOAD Ta=25°C<br>2. HI AMBIENT BURN-IN : 16HRS<br>I/P:230VAC O/P:100% LOAD Ta=40°C<br>3. HI AMBIENT BURN-IN : 16HRS<br>I/P:230VAC O/P: 50% LOAD Ta=70°C |  |           |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="width: 5%;">NO</th> <th style="width: 15%;">Position</th> <th style="width: 15%;">1</th> <th style="width: 15%;">2</th> <th style="width: 15%;">3</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td style="text-align: center;">BD1</td><td style="text-align: center;">56.9°C</td><td style="text-align: center;">68.5°C</td><td style="text-align: center;">83.0°C</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">C1</td><td style="text-align: center;">60.1°C</td><td style="text-align: center;">71.7°C</td><td style="text-align: center;">84.5°C</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">C2</td><td style="text-align: center;">63.2°C</td><td style="text-align: center;">74.8°C</td><td style="text-align: center;">86.1°C</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">I/P L1</td><td style="text-align: center;">58.5°C</td><td style="text-align: center;">69.9°C</td><td style="text-align: center;">83.4°C</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">U1</td><td style="text-align: center;">82.2°C</td><td style="text-align: center;">95.4°C</td><td style="text-align: center;">97.7°C</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">T1 coil</td><td style="text-align: center;">74.2°C</td><td style="text-align: center;">85.8°C</td><td style="text-align: center;">92.2°C</td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: center;">T1 core</td><td style="text-align: center;">76.3°C</td><td style="text-align: center;">88.0°C</td><td style="text-align: center;">93.4°C</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">O/P D3</td><td style="text-align: center;">63.1°C</td><td style="text-align: center;">74.7°C</td><td style="text-align: center;">86.7°C</td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">O/P C6</td><td style="text-align: center;">54.0°C</td><td style="text-align: center;">65.6°C</td><td style="text-align: center;">82.3°C</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">O/P C7</td><td style="text-align: center;">49.3°C</td><td style="text-align: center;">61.2°C</td><td style="text-align: center;">80.4°C</td></tr> <tr><td style="text-align: center;">11</td><td style="text-align: center;">CASE</td><td style="text-align: center;">41.3°C</td><td style="text-align: center;">53.7°C</td><td style="text-align: center;">76.8°C</td></tr> </tbody> </table> |                              |  |  |           | NO | Position | 1 | 2 | 3 | 1 | BD1 | 56.9°C | 68.5°C | 83.0°C | 2 | C1 | 60.1°C | 71.7°C | 84.5°C | 3 | C2 | 63.2°C | 74.8°C | 86.1°C | 4 | I/P L1 | 58.5°C | 69.9°C | 83.4°C | 5 | U1 | 82.2°C | 95.4°C | 97.7°C | 6 | T1 coil | 74.2°C | 85.8°C | 92.2°C | 7 | T1 core | 76.3°C | 88.0°C | 93.4°C | 8 | O/P D3 | 63.1°C | 74.7°C | 86.7°C | 9 | O/P C6 | 54.0°C | 65.6°C | 82.3°C | 10 | O/P C7 | 49.3°C | 61.2°C | 80.4°C | 11 | CASE | 41.3°C | 53.7°C | 76.8°C |
| NO  | Position                     | 1  | 2  | 3         |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 1   | BD1                          | 56.9°C   | 68.5°C                                       | 83.0°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 2   | C1                           | 60.1°C   | 71.7°C                                       | 84.5°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 3   | C2                           | 63.2°C   | 74.8°C                                       | 86.1°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 4   | I/P L1                       | 58.5°C   | 69.9°C                                       | 83.4°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 5   | U1                           | 82.2°C   | 95.4°C                                       | 97.7°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 6   | T1 coil                      | 74.2°C   | 85.8°C                                       | 92.2°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 7   | T1 core                      | 76.3°C   | 88.0°C                                       | 93.4°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 8   | O/P D3                       | 63.1°C   | 74.7°C                                       | 86.7°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 9   | O/P C6                       | 54.0°C   | 65.6°C                                       | 82.3°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 10  | O/P C7                       | 49.3°C   | 61.2°C                                       | 80.4°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 11  | CASE                         | 41.3°C   | 53.7°C                                       | 76.8°C    |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |
| 2   | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOURS  | I/P : 230VAC<br>O/P : 100% LOAD<br>Ta= -20°C | TEST : OK |    |          |   |   |   |   |     |        |        |        |   |    |        |        |        |   |    |        |        |        |   |        |        |        |        |   |    |        |        |        |   |         |        |        |        |   |         |        |        |        |   |        |        |        |        |   |        |        |        |        |    |        |        |        |        |    |      |        |        |        |

### OTHER

| NO | TEST ITEM            | SPECICATION  | TEST CONDITION | RESULT |
|----|----------------------|--|----------------|--------|
| 1  | CAPACITOR LIFE CYCLE | SUPPOSE C6 IS THE MOST CRITICAL COMPONENT<br>I/P:230 VAC O/P:100% LOAD Ta=25°C LIFE TIME=171483.75HRS<br>I/P:230 VAC O/P:100% LOAD Ta=40°C LIFE TIME=76741.13HRS |                |        |
| 2  | MTBF                 | MIL-KDBK-217F NOTICES 2 PARTS COUNT<br>TOTAL FAILURE RATE : 1.210625<br>M.T.B.F : 826001.20 HRS  |                |        |

| TEST RESULT | TESTER       | APPROVAL    |
|-------------|--------------|-------------|
| PASS        | ARCHEN HSIAO | PETER CHENG |