



# Test Report: GSM18U18

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18W AC-DC Single Output Medical 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                                                                                                                                                                           | VERDICT |
|----|--------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1  | RIPPLE & NOISE           | V1 : 150 mVp-p (Max )                          | I/P : 230VAC<br>I/P : 115VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                                                                   | V1 : 104 mVp-p (Max )                                                                                                                                                            | P       |
| 2  | OUTPUT VOLTAGE TOLERANCE | V1 : 3 %~ -3 % (Max)                           | I/P : 85 VAC / 264 VAC<br>O/P : FULL/ MIN LOAD<br>Ta : 25°C                                                                                                                                                                    | V1 : 2 %~ -2 %                                                                                                                                                                   | P       |
| 3  | LINE REGULATION          | V1 : 1 %~ -1 % (Max)                           | I/P : 85 VAC ~ 264 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                                                                         | V1 : 0 %~ -0 %                                                                                                                                                                   | P       |
| 4  | LOAD REGULATION          | V1 : 3 %~ -3 % (Max)                           | I/P : 230VAC<br>I/P : 115VAC<br>O/P : FULL ~MIN LOAD<br>Ta : 25°C                                                                                                                                                              | V1 : 2 %~ -2 %                                                                                                                                                                   | P       |
| 5  | SET UP TIME              | 230VAC : 500 ms (Max)<br>115VAC : 1000 ms(Max) | I/P : 230VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                                                                  | 230VAC/ 140 ms<br>115VAC/ 390 ms                                                                                                                                                 | P       |
| 6  | RISE TIME                | 230VAC : 30 ms (Max)<br>115VAC : 30 ms (Max)   | I/P : 230VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                                                                  | 230VAC/ 12 ms<br>115VAC/ 8 ms                                                                                                                                                    | P       |
| 7  | HOLD UP TIME             | 230VAC : 16 ms (TYP)<br>115VAC : 16 ms (TYP)   | I/P : 230VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                                                                  | 230VAC/ 120 ms<br>115VAC/ 40 ms                                                                                                                                                  | P       |
| 8  | OVER/UNDERSHOOT TEST     | < ±5%                                          | I/P : 230VAC<br>I/P : 115VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                                                                   | TEST : <5 %<br>TEST : <5 %                                                                                                                                                       | P       |
| 9  | DYNAMIC LOAD             | V1 : 1800 mVp-p                                | I/P : 230VAC<br>I/P : 115VAC<br>(1).O/P : FULL /Min LOAD 90%DUTY/<br>1KHZ<br>(2).O/P : FULL /Min LOAD 90%DUTY/<br>3KHZ<br>(3).O/P : FULL /Min LOAD 90%DUTY/<br>5KHZ<br>(4).O/P : FULL /Min LOAD 50%DUTY/<br>120HZ<br>Ta : 25°C | (1)432 mVp-p /230V<br>(2)360 mVp-p /230V<br>(3)350 mVp-p /230V<br>(4)452 mVp-p /230V<br><br>(1)460 mVp-p /115V<br>(2)360 mVp-p /115V<br>(3)350 mVp-p /115V<br>(4)480 mVp-p /115V | P       |

## INPUT FUNCTION TEST

| NO | TEST ITEM             | SPECIFICATION                                     | TEST CONDITION                                                                                                                             | RESULT                                       | VERDICT |
|----|-----------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------|
| 1  | INPUT VOLTAGE RANGE   | 85 VAC~264 VAC                                    | I/P : TESTING<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                              | 66.2 V~264V                                  | P       |
|    |                       |                                                   | I/P :<br>LOW-LINE-3V= 82 V<br>HIGH-LINE+15%=300 V<br>O/P : FULL/MIN LOAD<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 OSC                      | I/P : 85 VAC ~ 264 VAC<br>O/P : FULL~MIN LOAD<br>Ta : 25°C                                                                                 | TEST : OK                                    | P       |
| 3  | EFFICIENCY            | 87 % (TYP)                                        | I/P : 230VAC<br>I/P : 115VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                               | 87.125 % /230V<br>87.706 % /115V             | P       |
| 4  | INPUT CURRENT         | 230V/ 0.25 A (TYP)<br>115V/ 0.5 A (TYP)           | I/P : 230VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                              | I = 0.188 A/ 230 VAC<br>I = 0.308 A/ 115 VAC | P       |
| 5  | INRUSH CURRENT        | 230V/ 55 A (TYP)<br>115V/ 30 A(TYP)<br>COLD START | I/P : 230VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                              | I = 42 A/ 230 VAC<br>I = 25 A/ 115 VAC       | P       |
| 6  | LEAKAGE CURRENT       | < 50 uA / 264 VAC<br><br>TOUCH CURRENT            | I/P : 264 VAC<br>O/P : Min LOAD<br>Ta : 25°C                                                                                               | L-FG : 46 uA<br>N-FG : 46 uA                 | P       |
| 7  | NO LOAD CONSUMPTION   | < 0.1 W                                           | I/P : 115VAC<br>I/P : 230VAC<br>O/P : NO LOAD<br>Ta : 25°C                                                                                 | < 0.036 W<br>< 0.065 W                       | P       |

## PROTECTION FUNCTION TEST

| NO | TEST ITEM               | SPECIFICATION                          | TEST CONDITION                                               | RESULT                                                       | VERDICT |
|----|-------------------------|----------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|---------|
| 1  | OVER LOAD PROTECTION    | 105 % ~ 170 %                          | I/P : 230VAC<br>I/P : 115 VAC<br>O/P : TESTING<br>Ta : 25°C  | 144%/ 230 VAC<br>137 %/ 115 VAC<br>Hiccup Mode               | P       |
| 2  | OVER VOLTAGE PROTECTION | CH1 : 18.9 V ~ 25.2 V                  | I/P : 230VAC<br>I/P : 115 VAC<br>O/P : MIN LOAD<br>Ta : 25°C | 20.1 V/ 230 VAC<br>24.7 V/ 115 VAC<br>Shut down Re- power ON | P       |
| 3  | SHORT PROTECTION        | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE | I/P : 264 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                | NO DAMAGE<br>Hiccup Mode                                     | P       |

## COMPONENT STRESS TEST

| NO | TEST ITEM                                              | SPECIFICATION          | TEST CONDITION                                                                                                                               | RESULT                                 | VERDICT |
|----|--------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------|
| 1  | Power Transistor<br>( D to S) or (C to E) Peak Voltage | Q 1 Rated :<br>6A/600V | I/P : High-Line +3V = 267 V<br>O/P : (1)Full Load Turn on<br>(2) Output Short<br>(3)Full load continue<br>Ta : 25°C                          | (1) 512 V<br>(2) 510 V<br>(3) 496 V    | P       |
| 2  | Diode Peak Voltage                                     | D100 Rated : 20A/150V  | I/P : High-Line +3V = 267 V<br>O/P : (1)Full Load Turn on<br>(2)Output Short<br>(3)Full load continue<br>Ta : 25°C                           | (1) 130 V<br>(2) 130 V<br>(3) 120 V    | P       |
| 3  | Input Capacitor Voltage                                | C5 Rated : 56u/400V    | I/P : High-Line +3V = 267 V<br>O/P : (1)Full Load Turn on /Off<br>(2) Min load Turn on /Off<br>(3)Full Load /Min load<br>Change<br>Ta : 25°C | (1) 384 V<br>(2) 390 V<br>(3) 380 V    | P       |
| 4  | Control IC Voltage Test                                | U1 Rated : 10V~27V     | I/P : High-Line +3V = 267 V<br>O/P : (1)Full Load Turn on /Off<br>(2) Min load Turn on /Off<br>(3)Full Load /Min load<br>Change<br>Ta : 25°C | (1) 15.2 V<br>(2) 14.4 V<br>(3) 15.0 V | P       |

## ■ SAFETY & E.M.C. TEST

### SAFETY TEST

| NO | TEST ITEM            | SPECIFICATION          | TEST CONDITION                        | RESULT                         | VERDICT |
|----|----------------------|------------------------|---------------------------------------|--------------------------------|---------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P : 4 KVAC/min   | I/P-O/P : 4.4 KVAC/min<br>Ta : 25°C   | I/P-O/P : 0.70 mA<br>NO DAMAGE | P       |
| 2  | ISOLATION RESISTANCE | I/P-O/P : 500VDC>100MΩ | I/P-O/P : 500 VDC<br>Ta : 25°C /70%RH | I/P-O/P : 30 GΩ<br>NO DAMAGE   | P       |

### E.M.C TEST

| NO | TEST ITEM                                   | SPECIFICATION                                       | TEST CONDITION                                                          | RESULT                        | VERDICT |
|----|---------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------|-------------------------------|---------|
| 1  | HARMONIC                                    | EN61000-3-2<br>CLASS A                              | I/P:240VAC/230VAC/220VACVAC/60HZ<br>O/P:100%,75%,50%,25%LOAD<br>Ta:25°C | PASS                          | P       |
| 2  | CONDUCTION                                  | EN55011<br>CLASS B                                  | I/P : 230VAC (50HZ)<br>O/P : FULL/50% LOAD<br>Ta : 25°C                 | PASS<br>Test by certified Lab | P       |
| 3  | RADIATION                                   | EN55011<br>CLASS B                                  | I/P : 230VAC (50HZ)<br>O/P : FULL LOAD<br>Ta : 25°C                     | PASS<br>Test by certified Lab | P       |
| 4  | E.S.D                                       | EN61000-4-2<br>MEDICAL<br>AIR : 8KV / Contact : 6KV | I/P : 230VAC /50HZ<br>O/P : FULL LOAD<br>Ta : 25°C                      | CRITERIA A                    | P       |
| 5  | E.F.T                                       | EN61000-4-4<br>MEDICAL<br>INPUT : 2KV               | I/P : 230VAC /50HZ<br>O/P : FULL LOAD<br>Ta : 25°C                      | CRITERIA A                    | P       |
| 6  | SURGE                                       | EN61000-4-5<br>MEDICAL<br>L-N : 1KV<br>L,N-PE : 2KV | I/P : 230VAC /50HZ<br>O/P : FULL LOAD<br>Ta : 25°C                      | CRITERIA A                    | P       |
| 7  | Test by certified Lab & Test Report Prepare |                                                     |                                                                         |                               |         |

## ■ RELIABILITY TEST

### ENVIRONMENT TEST

| NO | TEST ITEM                                                         | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | TEST CONDITION                                                     | RESULT                | VERDICT |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
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| 1  | TEMPERATURE RISE TEST                                             | <div>MODEL : GSM18U05</div> <div>1. ROOM AMBIENT BURN-IN : 3 HRS</div> <div>I/P : 230VAC O/P : FULL LOAD Ta= 33.3 °C</div> <div>2. HIGH AMBIENT BURN-IN : 75 HRS</div> <div>I/P : 230VAC O/P : FULL LOAD Ta= 40 °C</div> <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT<br/>Ta=33.3 °C</th><th>HIGH AMBIENT<br/>Ta= 40°C</th></tr><tr><td>1</td><td>LF1</td><td>52.5°C</td><td>60.0°C</td></tr><tr><td>2</td><td>BD1</td><td>60.1°C</td><td>67.5°C</td></tr><tr><td>3</td><td>Q1</td><td>73.1°C</td><td>80.1°C</td></tr><tr><td>4</td><td>D1</td><td>70.5°C</td><td>77.3°C</td></tr><tr><td>5</td><td>C5</td><td>59.0°C</td><td>65.5°C</td></tr><tr><td>6</td><td>C40</td><td>67.4°C</td><td>73.3°C</td></tr><tr><td>7</td><td>U1</td><td>61.7°C</td><td>68.1°C</td></tr><tr><td>8</td><td>T1</td><td>74.9°C</td><td>80.5°C</td></tr><tr><td>9</td><td>C105</td><td>68.1°C</td><td>73.5°C</td></tr><tr><td></td><td>D100</td><td>78.2°C</td><td>83.7°C</td></tr><tr><td></td><td>C110</td><td>58.0°C</td><td>63.5°C</td></tr></table> |                                                                    |                       | NO      | Position | ROOM AMBIENT<br>Ta=33.3 °C | HIGH AMBIENT<br>Ta= 40°C | 1 | LF1 | 52.5°C | 60.0°C | 2 | BD1 | 60.1°C | 67.5°C | 3 | Q1 | 73.1°C | 80.1°C | 4 | D1 | 70.5°C | 77.3°C | 5 | C5 | 59.0°C | 65.5°C | 6 | C40 | 67.4°C | 73.3°C | 7 | U1 | 61.7°C | 68.1°C | 8 | T1 | 74.9°C | 80.5°C | 9 | C105 | 68.1°C | 73.5°C |  | D100 | 78.2°C | 83.7°C |  | C110 | 58.0°C | 63.5°C | P |
| NO | Position                                                          | ROOM AMBIENT<br>Ta=33.3 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | HIGH AMBIENT<br>Ta= 40°C                                           |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 1  | LF1                                                               | 52.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60.0°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 2  | BD1                                                               | 60.1°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 67.5°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 3  | Q1                                                                | 73.1°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 80.1°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 4  | D1                                                                | 70.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 77.3°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 5  | C5                                                                | 59.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 65.5°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 6  | C40                                                               | 67.4°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 73.3°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 7  | U1                                                                | 61.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 68.1°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 8  | T1                                                                | 74.9°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 80.5°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 9  | C105                                                              | 68.1°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 73.5°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
|    | D100                                                              | 78.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 83.7°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
|    | C110                                                              | 58.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 63.5°C                                                             |                       |         |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 2  | OVER LOAD BURN-IN TEST                                            | NO DAMAGE<br>1 HOUR ( MIN )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | I/P : 230VAC<br>O/P : 124 % LOAD<br>Ta : 25°C                      | TEST : OK             | P       |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 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             | P       |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 4  | HIGH HUMIDITY<br>HIGH TEMPERATURE<br>HIGH VOLTAGE<br>TURN ON TEST | AFTER 12 HOURS<br>IN CHAMBER ON<br>CONTROL 40 °C<br>NO DAMAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | I/P : 272 VAC<br>O/P : FULL LOAD<br>Ta= 40 °C<br>HUMIDITY= 95 %R.H | TEST : OK             | P       |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 5  | TEMPERATURE<br>COEFFICIENT                                        | ± 0.03 %/°C (0~50°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I/P : 230VAC<br>O/P : FULL LOAD                                    | ± 0.029 %/°C (0~50°C) | P       |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 6  | STORAGE TEMPERATURE TEST                                          | 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 : 5 CYCLE<br>5. Input/Output condition : STATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                    |                       | P       |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |
| 7  | THERMAL SHOCK TEST                                                | 1. Thermal shock Temperature : -30°C~ +45°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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                    |                       | P       |          |                            |                          |   |     |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |      |        |        |  |      |        |        |  |      |        |        |   |



# 18W AC-DC Single Output Medical Adaptor **GSM18U** series

|    |                             |                                                                                                                                                                                                                                                                            |                                                                   |   |
|----|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---|
| 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℃                                                                      |                                                                   | P |
| 9  | CAPACITOR<br>LIFE CYCLE     | SUPPOSE C 105 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) 187878HRS<br>(2) 72727 HRS<br>(3) 114905 HRS<br>(4) 199999HRS | P |
| 10 | MTBF                        | MIL-HDBK-217F NOTICE S2 PARTS COUNT<br>TOTAL FAILURE RATE : 796.7 KHRS                                                                                                                                                                                                     |                                                                   | P |
| 11 | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure (Expected Life): Above 30,000 hours @ TA 40℃                                                                                                                                                                                       |                                                                   | P |

| SAMPLE         | TESTER     | REVIEW     | APPROVAL      |
|----------------|------------|------------|---------------|
| PRODUCT SAMPLE | DANIEL GAO | SANFORD SU | VINCENT TSENG |

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