



# Test Report : MDS01N-12N

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1W SIP Package DC-DC Medical Grade Unregulated Converter

## ■ DESIGN VERIFY TEST

Output Function Test

Input 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            | VERDICT |
|----|------------------|-------------|---|-------------------|---------|
| 1  | VOLTAGE ACCURACY | -5%~+5%     | I/P:24VDC<br>O/P:FULL LOAD<br>Ta:25°C           | +0.7%             | P       |
| 2  | RIPPLE & NOISE   | 100 mVp-p   | I/P:24VDC<br>O/P:FULL LOAD<br>Ta:25°C           | 14mV              | P       |
| 3  | LINE REGULATION  | -12% ~ +12% | I/P:21.6VDC~26.4VDC<br>O/P:FULL LOAD<br>Ta:25°C | -10.43% ~ +10.34% | P       |
| 4  | LOAD REGULATION  | -10% ~ +10% | I/P:24VDC<br>O/P:MINI LOAD~FULL LOAD<br>Ta:25°C | -1.44% ~ +1.48%   | P       |

**INPUT FUNCTION TEST**

| NO | TEST ITEM  | SPECICATION                         | TEST CONDITION                             | RESULT                                  | VERDICT |
|----|------------|-------------------------------------|--|---|---------|
| 1  | EFFICIENCY | 82%                                 | I/P:24VDC<br>O/P:FULL LOAD<br>Ta:25°C      | 82.85%                                  | P       |
| 2  | DC CURRENT | 52 mA / FULL LOAD<br>8 mA / NO LOAD | I/P:24VDC<br>O/P:NO / FULL LOAD<br>Ta:25°C | 50.65mA / FULL LOAD<br>7.31mA / NO LOAD | P       |

**SAFETY TEST**
**SAFETY TEST**

| NO | TEST ITEM            | SPECICATION          | TEST CONDITION                  | RESULT                        | VERDICT |
|----|----------------------|----------------------|---------------------------------|-------------------------------|---------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P:6000 VDC/min | I/P-O/P:6000 VDC/min<br>Ta:25°C | I/P-O/P: 0.002mA<br>NO DAMAGE | P       |
| 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    | P       |

## ■ RELIABILITY TEST

### ENVIRONMENT TEST

| NO | TEST ITEM                    | SPECICATION  | TEST CONDITION  | RESULT    | VERDICT  |   |   |   |      |        |         |  |   |
|----|------------------------------|--|---|-----------|----------|---|---|---|------|--------|---------|--|---|
| 1  | TEMPERATURE RISE TEST        | 1. ROOM AMBIENT BURN-IN : 8 HRS<br>I/P:24VDC O/P:FULL LOAD Ta=25°C<br>2. HIGH AMBIENT BURN-IN : 8 HRS<br>I/P:24VDC O/P:FULL LOAD Ta=90°C | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>41.3°C</td> <td>106.1°C</td> </tr> </tbody> </table> | NO        | Position | 1 | 2 | 1 | CASE | 41.3°C | 106.1°C |  | P |
| NO | Position                     | 1  | 2   |           |          |   |   |   |      |        |         |  |   |
| 1  | CASE                         | 41.3°C   | 106.1°C   |           |          |   |   |   |      |        |         |  |   |
| 2  | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOURS  | I/P:24VDC<br>O/P: FULL LOAD<br>Ta= -40°C  | TEST : OK | P        |   |   |   |      |        |         |  |   |

### OTHER

| NO | TEST ITEM | SPECICATION   | TEST CONDITION | RESULT | VERDICT |
|----|-----------|---|----------------|--------|---------|
| 1  | MTBF      | MIL-HDBK-217F,GB,25°C,Full Load<br>TOTAL FAILURE RATE : 0.0666<br>M.T.B.F : 15,000K HRS |                |        | P       |

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