



# Test Report : MDD02N-05

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2W SIP Package DC-DC Medical Grade Unregulated Converter

## ■ 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	VERDICT
1	VOLTAGE ACCURACY	-5%~+5% (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1 -0.62% V2 +0.38%	P
2	RIPPLE & NOISE	75 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1 18mV V2 16mV	P
3	LINE REGULATION	-12% ~ +12% (Max)	I/P:21.6VDC~26.4VDC O/P:FULL LOAD Ta:25°C	V1 -12.33% ~ +11.96% V2 -12.27% ~ +11.81%	P
4	LOAD REGULATION	-10% ~ +10% (Max)	I/P:24VDC O/P:MINI LOAD-FULL LOAD Ta:25°C	V1 -4.18% ~ +5.61% V2 -4.56% ~ +4.88%	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	77 % (Typ)	I/P:24VDC O/P:FULL LOAD Ta:25°C	77.7%	P
2	DC CURRENT	106 mA / FULL LOAD (Max) 11 mA / NO LOAD (Max)	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	102.8mA / FULL LOAD 10.2mA / NO LOAD	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	MOMENTARY 3sec. max	I/P:24VDC O/P:FULL LOAD Ta:25°C	NO DAMAGE OK	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 Ta:25°C	I/P-O/P: 0.002mA NO DAMAGE	P

2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P:500 VDC Ta:25°C	I/P-O/P>100MΩ NO DAMAGE	P
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## ■ RELIABILITY TEST

### ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT								
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 8 HRS I/P:24VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8 HRS I/P:24VDC O/P:FULL LOAD Ta=85°C			P								
		<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>42.3°C</td> <td>104.7°C</td> </tr> </tbody> </table>		NO	Position	1	2	1	CASE	42.3°C	104.7°C		
NO	Position	1	2										
1	CASE	42.3°C	104.7°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOURS	I/P:24VDC O/P: FULL LOAD 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 TOTAL FAILURE RATE : 0.2340 M.T.B.F : 4274000 HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN	VINCENT ZENG