



Test Report : MDD01M-12

1W 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:12VDC O/P:FULL LOAD Ta:25°C	V1 -0.77% V2 -0.60%	P
2	RIPPLE & NOISE	75 mVp-p (Max)	I/P:12VDC O/P:FULL LOAD Ta:25°C	V1 41mV V2 39mV	P
3	LINE REGULATION	-12% ~ +12% (Max)	I/P:10.8VDC~13.2VDC O/P:FULL LOAD Ta:25°C	V1 -10.74% ~ +10.87% V2 -10.51% ~ +10.93%	P
4	LOAD REGULATION	-10% ~ +10% (Max)	I/P:12VDC O/P:MINI LOAD-FULL LOAD Ta:25°C	V1 -1.38% ~ +1.55% V2 -1.33% ~ +1.47%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	75 % (Typ)	I/P:12VDC O/P:FULL LOAD Ta:25°C	75.1%	P
2	DC CURRENT	114 mA / FULL LOAD (Max) 22 mA / NO LOAD (Max)	I/P:12VDC O/P:NO / FULL LOAD Ta:25°C	112mA / FULL LOAD 21.73mA / NO LOAD	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	MOMENTARY 3sec. max	I/P:12VDC 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℃	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:12VDC O/P:FULL LOAD Ta=25℃ 2. HIGH AMBIENT BURN-IN : 8 HRS I/P:12VDC O/P:FULL LOAD Ta=85℃			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>42.1℃</td> <td>97.8℃</td> </tr> </tbody> </table>		NO	Position	1	2	1	CASE	42.1℃	97.8℃		
NO	Position	1	2										
1	CASE	42.1℃	97.8℃										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOURS	I/P:12VDC O/P: FULL LOAD Ta= -40℃	TEST : OK	P								

OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	MTBF	MIL-HDBK-217F,GB,25℃,Full Load TOTAL FAILURE RATE : 0.2297 M.T.B.F : 4354000 HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN	VINCENT ZENG