



Test Report : RSDW20UW-05

20W 2"x1" 8.5~160Vdc Ultra-wide Input Railway DC-DC 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	VERDITC
1	VOLTAGE ACCURACY	-1.0% ~ +1.0 %	I/P:72VDC O/P:FULL LOAD Ta:25°C	-0.09%	P
2	RIPPLE & NOISE	100 mVp-p	I/P:72VDC O/P:FULL LOAD Ta:25°C	30 mV	P
3	LINE REGULATION	-0.2% ~ +0.2%	I/P:8.5VDC~160VDC O/P:FULL LOAD Ta:25°C	+0.09% ~ -0.01%	P
4	LOAD REGULATION	-0.3% ~ +0.3%	I/P:72VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-0.16% ~ +0.16%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	EFFICIENCY	85.5%	I/P:72VDC O/P:FULL LOAD Ta:25°C	88.64%	P
2	DC CURRENT	323 mA / FULL LOAD 5 mA / NO LOAD	I/P:72VDC O/P:NO / FULL LOAD Ta:25°C	216.0 mA / FULL LOAD 3.9 mA / NO LOAD	P
3	UNDER VOLTAGE LOCKOUT	POWER UP 9VDC (Typ) POWER DOWN 8VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	POWER UP 7.5VDC POWER DOWN 7.9VDC	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	SHORT PROTECTION	CONTINUOUS	I/P:160VDC O/P:FULL LOAD Ta:25°C	AUTOMATIC RECOVERY	P
2	OVER LOAD PROTECTION	110~180%	I/P:72VDC O/P:TESTING Ta:25°C	147.2%	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Power on : >4.05~160Vdc or open circuit Power off : R.C <1.2Vdc or short	I/P:72VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>2.4Vdc or Open Power off : R.C<2.2Vdc or Short	P
2	TRIM	-20%~ +15% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 500K ohms VR	I/P:72VDC O/P:FULL LOAD Ta:25°C	Trim DOWN -21.02% Trim UP +16.02%	P

■ SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	WITHSTAND VOLTAGE	I/P-O/P:3.0K VDC/min	I/P-O/P:3.0K 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

■ RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC										
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4HRS I/P:72VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:72VDC O/P:FULL LOAD Ta=67°C			P										
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>CENTER</td> <td>67.3°C</td> <td>109.3°C</td> </tr> </tbody> </table>				NO	Position	P/N	1	2	1	CASE	CENTER	67.3°C	109.3°C
NO	Position	P/N	1	2											
1	CASE	CENTER	67.3°C	109.3°C											
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:72VDC O/P: FULL LOAD Ta= -40°C	TEST : OK	P										

OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 0.636942 M.T.B.F : 1570K HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG