



# Test Report : RDDW08G-05

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8W DIP Package Reliable Railway DC-DC Converter

## ■ DESIGN VERIFY TEST

Output Function Test  
Input Function Test  
Protection Function Test  
Control Function Test

## ■ SAFETY TEST

Safety Test

## ■ RELIABILITY TEST

Environment Test  
Other

**DESIGN VERIFY TEST**
**OUTPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-1.5 % ~ +1.5 % (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	V1 : -0.44% V2 : -0.10%	P
2	RIPPLE & NOISE	50 mVp-p (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	V1 : 16 mV V2 : 17mV	P
3	LINE REGULATION	-0.5% ~ +0.5% (Max)	I/P:18VDC~75VDC O/P:FULL LOAD Ta:25°C	V1 : -0.02% ~ +0.01% V2 : -0.02% ~ +0.01%	P
4	LOAD REGULATION	-1.0% ~ +1.0% (Max)	I/P:48VDC O/P:0% LOAD-FULL LOAD Ta:25°C	V1 : -0.09% ~ +0.10% V2 : -0.06% ~ +0.10%	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	18 VDC ~75 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	15.6 ~75.0 VDC	P
2	EFFICIENCY	83% (Typ)	I/P:48VDC O/P:FULL LOAD Ta:25°C	85.1%	P
3	DC CURRENT	201 mA / FULL LOAD (Max) 5 mA / NO LOAD (Max)	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	195.0 mA / FULL LOAD 4.2 mA / NO LOAD	P
4	UNDER VOLTAGE LOCKOUT	POWER UP 17VDC (Typ) POWER DOWN 16VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	POWER UP 16.8VDC POWER DOWN 15.9VDC	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	CONTINUOUS	I/P:75VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P
2	OVER LOAD PROTECTION	120% ~ 180%	I/P:48VDC O/P:TESTING Ta:25°C	152.0% HICCUP MODE AUTO-RECOVER	P

## CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Power on : R.C - Vin >3.5Vdc~ 36Vdc or Open Power off : R.C - Vin <1.2Vdc or Short	I/P:48VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>2.3Vdc or Open Power off : R.C<1.7Vdc or Short	P

## SAFETY TEST

### SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1.5K VDC/min	I/P-O/P:1.5K 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	VERDICT								
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 8HRS I/P:48VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:48VDC O/P:FULL LOAD Ta=71°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>50.3°C</td> <td>92.2°C</td> </tr> </tbody> </table>				NO	Position	1	2	1	CASE	50.3°C	92.2°C
NO	Position	1	2										
1	CASE	50.3°C	92.2°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:48VDC 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 TOTAL FAILURE RATE : 0.796 M.T.B.F : 1255742HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN SHIAO	VINCENT ZENG