



# Test Report : RDDW08F-15

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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:24VDC O/P:FULL LOAD Ta:25°C	V1 : -0.22% V2 : +0.10%	P
2	RIPPLE & NOISE	50 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1 : 13 mV V2 : 18 mV	P
3	LINE REGULATION	-0.5% ~ +0.5% (Max)	I/P:9VDC-36VDC O/P:FULL LOAD Ta:25°C	V1 : -0.13% ~ +0.01% V2 : -0.01% ~ +0.15%	P
4	LOAD REGULATION	-1.0% ~ +1.0% (Max)	I/P:24VDC O/P:0% LOAD-FULL LOAD Ta:25°C	V1 : -0.07% ~ +0.01% V2 : -0.01% ~ +0.30%	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	9 VDC ~36 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	8.15 ~36.0 VDC	P
2	EFFICIENCY	85% (Typ)	I/P:24VDC O/P:FULL LOAD Ta:25°C	85.4%	P
3	DC CURRENT	390 mA / FULL LOAD (Max) 15 mA / NO LOAD (Max)	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	338 mA / FULL LOAD 14.9 mA / NO LOAD	P
4	UNDER VOLTAGE LOCKOUT	POWER UP 8.8VDC (Typ) POWER DOWN 8.0VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	POWER UP 8.45VDC POWER DOWN 8.01VDC	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	CONTINUOUS	I/P:36VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P
2	OVER LOAD PROTECTION	120% ~ 180%	I/P:24VDC O/P:TESTING Ta:25°C	162.0% 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:24VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>2.1Vdc 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:24VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:24VDC 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>49.9°C</td> <td>86.9°C</td> </tr> </tbody> </table>				NO	Position	1	2	1	CASE	49.9°C	86.9°C
NO	Position	1	2										
1	CASE	49.9°C	86.9°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 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 TOTAL FAILURE RATE : 0.755 M.T.B.F : 1323928HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	VINCENT ZENG