



# Test Report : RSDW20G-15

---

20W 2"x1" Package Reliable Railway DC-DC Converter

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

## ■ SAFETY TEST

Safety Test

## ■ RELIABILITY TEST

Other Test

## DESIGN VERIFY TEST

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	VOLTAGE ACCURACY	-1.5% ~ +1.5 %	I/P:48VDC O/P:FULL LOAD Ta:25°C	-0.17%	P
2	RIPPLE & NOISE	60 mVp-p	I/P:48VDC O/P:FULL LOAD Ta:25°C	14 mV	P
3	LINE REGULATION	-0.2% ~ +0.2%	I/P:18VDC~75VDC O/P:FULL LOAD Ta:25°C	-0.00% ~ +0.00%	P
4	LOAD REGULATION	-0.5% ~ +0.5%	I/P:48VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-0.01% ~ +0.02%	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	EFFICIENCY	89%	I/P:48VDC O/P:FULL LOAD Ta:25°C	89.23%	P
2	DC CURRENT	465 mA / FULL LOAD 25 mA / NO LOAD	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	464.6 mA / FULL LOAD 11.11 mA / NO LOAD	P
3	UNDER VOLTAGE LOCKOUT	POWER UP 17VDC (Typ) POWER DOWN 16VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	POWER UP 16.7VDC POWER DOWN 16.0VDC	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	SHORT PROTECTION	CONTINUOUS	I/P:75VDC O/P:FULL LOAD Ta:25°C	AUTOMATIC RECOVERY	P
2	OVER LOAD PROTECTION	110~160%	I/P:48VDC O/P:TESTING Ta:25°C	118.45%	P

## CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Power on : >5.5~75Vdc or open circuit Power off : R.C <1.2Vdc or short	I/P:48VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>3.2Vdc or Open Power off : R.C<2.7Vdc or Short	P
2	TRIM	-10%~ +10% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 500K ohms VR	I/P:48VDC O/P:FULL LOAD Ta:25°C	Trim DOWN -12.82% Trim UP +12.94%	P

## ■ SAFETY TEST

### SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
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

### OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 1.38888 M.T.B.F : 720K HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG