



Test Report : DDRH-30-24

30W High Reliable 150~1500Vdc Ultra Wide Input DC-DC Converter

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

■ SAFETY TEST

Safety Test

■ RELIABILITY TEST

Environment Test

DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	VOLTAGE ACCURACY	-2.0% ~ +2.0 %	I/P:800VDC O/P:FULL LOAD Ta:25°C	-0.17%	P
2	RIPPLE & NOISE	100 mVp-p	I/P:800VDC O/P:FULL LOAD Ta:25°C	75mV	P
3	LINE REGULATION	-1.0% ~ +1.0%	I/P:150VDC~1500VDC O/P: FULL LOAD Ta:25°C	+0.01% ~ +0.00%	P
4	LOAD REGULATION	-1.0% ~ +1.0%	I/P:800VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-0.03% ~ +0.03%	P
5	HOLD UP TIME	16ms min.	I/P:800VDC O/P:FULL LOAD Ta:25°C	51.2ms	P
6	SETUP TIME	2s max.	I/P:800VDC O/P: FULL LOAD Ta:25°C	142.0ms	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	INPUT VOLTAGE RANGE	150 VDC ~1500 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	133.8VDC ~1500 VDC	P
2	EFFICIENCY	91%	I/P:800VDC O/P:FULL LOAD Ta:25°C	95.93%	P
3	DC CURRENT	50mA / FULL LOAD 0.2mA / NO LOAD	I/P:800VDC O/P:NO / FULL LOAD Ta:25°C	39.45mA / FULL LOAD 0.179 mA / NO LOAD	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	SHORT PROTECTION	CONTINUOUS	I/P:1500VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P
2	OVER LOAD PROTECTION	110% ~ 300%	I/P:800VDC O/P:TESTING Ta:25°C	174.4% HICCUP MODE AUTO-RECOVER	P
3	OVER VOLTAGE PROTECTION	YES	I/P:800VDC O/P: MIN LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P

4	DC INPUT REVERSE POLARITY	NO DAMAGE	I/P:800VDC O/P: FULL LOAD Ta:25°C	NO DAMAGE	P
5	UNDER VOLTAGE LOCKOUT	START-UP VOLTAGE 144Vdc(mxa) SHUTDOWN VOLTAGE 132Vdc(min)	I/P: TESTING O/P: FULL LOAD Ta:25°C	143.1VDC 133.8VDC	P

SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	WITHSTAND VOLTAGE	I/P-O/P:4.0KVAC/min	I/P-O/P:4.0KVAC/min Ta:25°C	I/P-O/P: 0.002mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>1000MΩ	I/P-O/P:500 VDC Ta:25°C	I/P-O/P>1000MΩ 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:800VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:800VDC O/P:FULL LOAD Ta=50°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:800VDC O/P:50% LOAD Ta=70°C			P																																																																																																				
		<table><tr><th>NO</th><th>Position</th><th>1</th><th>2</th><th>3</th></tr><tr><td>1</td><td>Ta</td><td>25.0°C</td><td>50.0°C</td><td>70.0°C</td></tr><tr><td>2</td><td>C101</td><td>35.9°C</td><td>60.9°C</td><td>77.0°C</td></tr><tr><td>3</td><td>C102</td><td>36.8°C</td><td>61.8°C</td><td>77.4°C</td></tr><tr><td>4</td><td>C103</td><td>36.2°C</td><td>61.2°C</td><td>76.9°C</td></tr><tr><td>5</td><td>C104</td><td>35.6°C</td><td>60.6°C</td><td>76.5°C</td></tr><tr><td>6</td><td>C105</td><td>40.8°C</td><td>65.8°C</td><td>79.6°C</td></tr><tr><td>7</td><td>C108</td><td>38.5°C</td><td>63.5°C</td><td>78.2°C</td></tr><tr><td>8</td><td>C202</td><td>45.3°C</td><td>70.3°C</td><td>81.7°C</td></tr><tr><td>9</td><td>C203</td><td>44.4°C</td><td>69.4°C</td><td>80.9°C</td></tr><tr><td>10</td><td>Q101</td><td>37.0°C</td><td>62.0°C</td><td>77.8°C</td></tr><tr><td>11</td><td>Q102</td><td>50.1°C</td><td>75.1°C</td><td>85.7°C</td></tr><tr><td>12</td><td>Q103</td><td>50.3°C</td><td>75.3°C</td><td>86.1°C</td></tr><tr><td>13</td><td>T2</td><td>45.8°C</td><td>70.8°C</td><td>83.4°C</td></tr><tr><td>14</td><td>BD1</td><td>36.6°C</td><td>61.6°C</td><td>77.6°C</td></tr><tr><td>15</td><td>CY2</td><td>46°C</td><td>71.0°C</td><td>82.6°C</td></tr><tr><td>16</td><td>T1</td><td>50.4°C</td><td>75.4°C</td><td>85.4°C</td></tr><tr><td>17</td><td>PH1</td><td>40.5°C</td><td>65.5°C</td><td>79.5°C</td></tr><tr><td>18</td><td>D201</td><td>63.8°C</td><td>88.8°C</td><td>91.2°C</td></tr><tr><td>19</td><td>CASE</td><td>42.6°C</td><td>67.6°C</td><td>81.0°C</td></tr></table>				NO	Position	1	2	3	1	Ta	25.0°C	50.0°C	70.0°C	2	C101	35.9°C	60.9°C	77.0°C	3	C102	36.8°C	61.8°C	77.4°C	4	C103	36.2°C	61.2°C	76.9°C	5	C104	35.6°C	60.6°C	76.5°C	6	C105	40.8°C	65.8°C	79.6°C	7	C108	38.5°C	63.5°C	78.2°C	8	C202	45.3°C	70.3°C	81.7°C	9	C203	44.4°C	69.4°C	80.9°C	10	Q101	37.0°C	62.0°C	77.8°C	11	Q102	50.1°C	75.1°C	85.7°C	12	Q103	50.3°C	75.3°C	86.1°C	13	T2	45.8°C	70.8°C	83.4°C	14	BD1	36.6°C	61.6°C	77.6°C	15	CY2	46°C	71.0°C	82.6°C	16	T1	50.4°C	75.4°C	85.4°C	17	PH1	40.5°C	65.5°C	79.5°C	18	D201	63.8°C	88.8°C	91.2°C	19	CASE	42.6°C	67.6°C	81.0°C
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2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:800VDC 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℃ TOTAL FAILURE RATE : 2.2207 M.T.B.F : 450,303 HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG