



Test Report : IOB-05-05

5W AC-DC Industrial On Board Type Power Module

■ 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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	150 mVp-p (Max)	I/P:230VAC O/P:FULL LOAD Ta:25°C	75 mVp-p	P
2	VOLTAGE TOLERANCE	-5% ~ +5%	I/P:85VAC~305VAC O/P:FULL~MIN. LOAD Ta:25°C	+0.70%	P
3	LINE REGULATION	-1.5% ~ +1.5%	I/P:85VAC~305VAC O/P:FULL LOAD Ta:25°C	-0.53% ~ -0.06%	P
4	LOAD REGULATION	-3% ~ +3%	I/P:230VAC O/P:FULL ~MIN LOAD Ta:25°C	+0.85% ~ +1.29%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE RANGE	85VAC ~ 350VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	29V ~ 305V	P
2	FREQUENCY RANGE	47HZ - 60HZ (Typ) NO DAMAGE OSC	I/P: 85VAC ~ 305VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	76%	I/P:230VAC O/P:FULL LOAD Ta:25°C	76.21 %	P
4	AC CURRENT	0.2 A (Typ)	I/P: 100VAC O/P:FULL LOAD Ta:25°C	0.136 A	P
5	INRUSH CURRENT	< 40A COLD START	I/P:230VAC O/P:FULL LOAD Ta:25°C	15 A	P
6	NO LOAD POWER CONSUMPTION	< 0.15W (Max)	I/P:230VAC O/P: NO LOAD Ta:25°C	0.0757 W	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	SHORT OUTPUT 1 HOUR NO DAMAGE	I/P:305VAC O/P:FULL LOAD Ta:25°C	NO DAMAGE HICCUP MODE RESET AUTO RECOVER	P
2	OVER LOAD PROTECTION	>110%	I/P:230VAC O/P:TESTING Ta:25°C	155% HICCUP MODE RESET : AUTO RECOVER	P

3	OVER VOLTAGE PROTECTION	YES	I/P:230VAC O/P:MIN LOAD Ta:25°C	PROTECTION TYPE: OUTPUT VOLTAGE CLAMP	P
---	-------------------------	-----	---------------------------------------	---	---

SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:3000 VAC/min	I/P-O/P:3000 VAC/min Ta:25°C	I/P-O/P: 1.274mA 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 : 4HRS I/P:230VAC O/P:100% LOAD Ta=25℃ 2. HI AMBIENT BURN-IN : 4HRS I/P:230VAC O/P:100% LOAD Ta=50℃ 3. HI AMBIENT BURN-IN : 4HRS I/P:230VAC O/P:50% LOAD Ta=85℃ <table><tr><th>NO</th><th>Position</th><th>1</th><th>2</th><th>3</th></tr><tr><td>1</td><td>BD1</td><td>49.9℃</td><td>78.2℃</td><td>96.8℃</td></tr><tr><td>2</td><td>U1</td><td>63.9℃</td><td>92.0℃</td><td>105.2℃</td></tr><tr><td>3</td><td>D3</td><td>73.7℃</td><td>102.0℃</td><td>107.3℃</td></tr><tr><td>4</td><td>T1 線圈</td><td>59.7℃</td><td>87.7℃</td><td>101.9℃</td></tr><tr><td>5</td><td>T1 鐵芯</td><td>59.0℃</td><td>88.1℃</td><td>101.9℃</td></tr></table>			NO	Position	1	2	3	1	BD1	49.9℃	78.2℃	96.8℃	2	U1	63.9℃	92.0℃	105.2℃	3	D3	73.7℃	102.0℃	107.3℃	4	T1 線圈	59.7℃	87.7℃	101.9℃	5	T1 鐵芯	59.0℃	88.1℃	101.9℃		P
NO	Position	1	2	3																																
1	BD1	49.9℃	78.2℃	96.8℃																																
2	U1	63.9℃	92.0℃	105.2℃																																
3	D3	73.7℃	102.0℃	107.3℃																																
4	T1 線圈	59.7℃	87.7℃	101.9℃																																
5	T1 鐵芯	59.0℃	88.1℃	101.9℃																																
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOURS	I/P : 230VAC O/P : 100%LOAD Ta= -20℃	TEST : OK	P																															

OTHER

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	MTBF	MIL-KDBK-217F NOTICES 2 PARTS COUNT TOTAL FAILURE RATE : 0.1 M.T.B.F : >10000KHRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG