



Test Report : IOB-15-09

15W 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	55 mVp-p	P
2	VOLTAGE TOLERANCE	-2% ~ +2%	I/P:85VAC~305VAC O/P:FULL~MIN. LOAD Ta:25°C	+0.87%	P
3	LINE REGULATION	-0.5% ~ +0.5%	I/P:85VAC~305VAC O/P:FULL LOAD Ta:25°C	-0.08% ~ +0.03%	P
4	LOAD REGULATION	-1.5% ~ +1.5%	I/P:230VAC O/P:FULL ~MIN LOAD Ta:25°C	-0.10% ~ +0.07%	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	33V ~ 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	82%	I/P:230VAC O/P:FULL LOAD Ta:25°C	82.44 %	P
4	AC CURRENT	0.4 A (Typ)	I/P: 100VAC O/P:FULL LOAD Ta:25°C	0.345 A	P
5	INRUSH CURRENT	< 35A COLD START	I/P:230VAC O/P:FULL LOAD Ta:25°C	15.9 A	P
6	NO LOAD POWER CONSUMPTION	< 0.25W (Max)	I/P:230VAC O/P: NO LOAD Ta:25°C	0.0416 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	120.4% 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
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SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECICATION	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: <5mA 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:10% LOAD Ta=80℃ <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>47.1℃</td><td>77.1℃</td><td>86.1℃</td></tr><tr><td>2</td><td>D3</td><td>46.8℃</td><td>76.8℃</td><td>86.6℃</td></tr><tr><td>3</td><td>D4</td><td>74.0℃</td><td>104.0℃</td><td>88.0℃</td></tr><tr><td>4</td><td>D5</td><td>77.1℃</td><td>107.1℃</td><td>88.5℃</td></tr><tr><td>5</td><td>Q1</td><td>59.2℃</td><td>89.2℃</td><td>87.8℃</td></tr><tr><td>6</td><td>U1</td><td>52.4℃</td><td>82.4℃</td><td>87.7℃</td></tr><tr><td>7</td><td>T1 線圈</td><td>68.0℃</td><td>98.0℃</td><td>86.6℃</td></tr><tr><td>8</td><td>T1 鐵芯</td><td>65.2℃</td><td>95.2℃</td><td>86.5℃</td></tr></table>			NO	Position	1	2	3	1	BD1	47.1℃	77.1℃	86.1℃	2	D3	46.8℃	76.8℃	86.6℃	3	D4	74.0℃	104.0℃	88.0℃	4	D5	77.1℃	107.1℃	88.5℃	5	Q1	59.2℃	89.2℃	87.8℃	6	U1	52.4℃	82.4℃	87.7℃	7	T1 線圈	68.0℃	98.0℃	86.6℃	8	T1 鐵芯	65.2℃	95.2℃	86.5℃		P
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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	SPECICATION	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
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PASS	ARCHEN HSIAO	PETER CHENG
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