Quality Engineering Test Report

SERIES: TP-100 100W AC-DC TRIPLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A.TP-100A V1 : 5V / 10A B.TP-100B V1 : 5V / 10A C.TP-100C V1 : 5V / 10A
V2 : 12V / 4A V2 : 12V / 4A V2 : 15V / 3A
V3 : -5V / 0.6A V3 : -12V /0.6A V3 : -15V / 0.6A
D.TP-100D V1 : 5V / 10A
V2 : 24V / 2A
V3 : 12V / 0.6A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:90~264VAC O/P:FULL LOAD	A:66.7VAC~267VAC	P
2	LINE REGULATION	I/P:100~264VAC SPEC: O/P:FULL LOAD A: V1 :±1% V2 :±1% V3 :±1% B: V1 :±1% V2 :±1% V3 :±1% C: V1 :±1% V2 :±1% V3 :±1% D: V1 :±1% V2 :±1% V3 :±1%	A:V1: 0%~ 0% V2: -0.05%~ -0.05% V3: 0%~ 0.12% B:V1: 0%~ +0.12% V2: -0.05%~ -0.05% V3: 0%~ +0.05% C:V1: 0%~ 0% V2: -0.04%~ 0% V3: 0%~ 0% D:V1: 0%~ 0% V2: -0.05%~ +0.3% V3: -0.15%~ +0.47%	P
3	LOAD REGULATION	I/P：230VAC SPEC： O/P：MIN. TO FULL LOAD A: V1 :±3% V2 :±6% V3 :±4% B: V1 :±3% V2 :±6% V3 :±4% C: V1 :±3% V2 :±6% V3 :±4% D: V1 :±3% V2 :±6% V3 :±4%	A: V1: -0.24% ~ +0.35% V2: +0.3% ~ +0.82% V3: -0.12% ~ +0% B: V1: -0.12% ~ +0.24% V2: -0.15% ~ +0.1% V3: 0% ~ +0.05% C: V1: -0.12% ~ 0% V2: -0.04% ~ +0.08% V3: 0% ~ +0.04% D: V1: 0% ~ 0% V2: -0.46% ~ +0.92% V3: -1% ~ -1.62%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:85~264VAC SPEC: O/P:20% TO FULL LOAD A: V1 :±3% V2 :±7% V3 :±6% B: V1 :±3% V2 :±6% V3 :±6% C: V1 :±3% V2 :+10 ~ -6% V3 :±6% D: V1 :±3% V2 :±8% V3 :±6%	A:V1: +0%~ +0.61% V2: -2.99%~ +4.0% V3: -0.5%~ +0.12% B:V1: 0%~ +0.26% V2: -0.05%~ -1.82% V3: -0.1%~ +0.06% C:V1: -0.12%~ +0.62% V2: -0.91%~ +0.12% V3: -0.16%~ %+0.12 D:V1: 0%~ +0.26% V2: -1.25%~ +4% V3: +0.88%~ +4.56%	P
5	RIPPLE＆NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A: V1 :100mV V2 :120mV V3 :100mV B: V1 :100mV V2 :120mV V3 :100mV C: V1 :100mV V2 :150mV V3 :100mV D: V1 :100mV V2 :150mV V3 :100mV	A: V1:35mV V2:57mV V3:8mV B: V1:12mV V2:3mV V3:13mV C: V1:11mV V2:2mV V3:14mV D: V1:4mV V2:23mV V3:21mV	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
6	AC INPUT CURRENT	I/P:230VAC SPEC:0.75A O/P:FULL LOAD	A:0.598A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:40A O/P: FULL LOAD	A:28.62A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC : V1: -5%~+10% O/P:MIN. LOAD	A: 4.397V~5.637V B: 4.47V~5.80V C: 4.53V~5.83V C: 4.47V~5.83V	P
9	SET UP TIME	I/P:230VAC SPEC:800mS O/P:FULL LOAD	A: 381mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:20mS O/P:FULL LOAD	A: 28.1mS	P
11	EFFICIENCY	I/P:230VAC SPEC: O/P:FULL LOAD A:75% B:78% C:77% D:78%	A:77.3% B:79.31% C:78.25% D:78.85%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC:105%~150% O/P:TESTING	A:140% B:145.8% C:132% D:120%	P
13	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<3.5mA N-FG--<3.5mA	A: L-FG:1.2mA N-FG:1.2mA	P
14	INSULATION RESISTANCE	SPEC : O/P-FG 500VDC/100MΩ MIN. I/P-O/P 500VDC/100MΩ MIN. I/P-FG 500VDC/100MΩ MIN.	A: O/P-FG >100MΩ I/P-O/P >100MΩ I/P-FG >100MΩ	P
15	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3KVAC/ 1 min. (10mA CUT-OFF) I/P - FG: 1.5KVAC/ 1 min. (10mA CUT-OFF) O/P - FG: 0.5KVAC/ 1 min. (10mA CUT-OFF)	A: I/P-O/P :8.81mA I/P-FG :7.4mA O/P-FG :8.45mA	P
16	BURN-IN TEST	I/P: 230VAC O/P: 100% LOAD TA :25℃ BURN-IN DURATION : 1.5 hrs	A:NON BREAK	P
17	ENVIRONMENT TEST	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:100% LOAD AMBIENT TEMPERATURE:36.2℃	A:AFTER 5 hrs NON BREAK	P

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>18</td><td>TEMPERATURE RISE TEST
△T OF PARTS</td><td>A: I/P :230VAC AFTER 5 hr BURN-IN
O/P : 100% LOAD TA:36.2℃
<table>
<tr><th></th><th>POSITION</th><th>P/N</th><th>TEMP</th><th>△T</th></tr>
<tr><td></td><td>BD1</td><td>BRIDGE DIODE</td><td>62.4℃</td><td>26.24℃</td></tr>
<tr><td></td><td>Q1</td><td>MAIN TRANSISTOR</td><td>61.4℃</td><td>25.2℃</td></tr>
<tr><td></td><td>T1</td><td>MAIN TRANSFORMER WIRE</td><td>81℃</td><td>55℃</td></tr>
<tr><td></td><td>D55</td><td>O/P DIODE</td><td>64.4℃</td><td>44.8℃</td></tr>
<tr><td></td><td>C57</td><td>O/P FILTER CAPACITOR</td><td>78.7℃</td><td>42.5℃</td></tr>
<tr><td></td><td>LF1</td><td>LINE FILTER TRANSFORMER</td><td>71.2℃</td><td>35.0℃</td></tr>
<tr><td></td><td>C5</td><td>I/P FILTER CAPACITOR</td><td>55.5℃</td><td>19.3℃</td></tr>
<tr><td></td><td>D2</td><td>FLY DIODE</td><td>74.4℃</td><td>38.2℃</td></tr>
</table></td><td>P</td></tr>
<tr><td>19</td><td>LIFE CYCLE</td><td>A: SUPPOSE C16 IS THE MOST CRITICAL COMPONENT
I/P:230VAC O/P：100% LOAD Ta:25℃ Tc57:62.18℃ Life: 30252 hrs
I/P:230VAC O/P：100% LOAD Ta:40℃ Tc57:78.7℃ Life: 14551 hrs</td><td>P</td></tr>
<tr><td>20</td><td>CRITICAL COMPONENT RECORD
(FOR QC INSPECTION REFERENCE ONLY)</td><td>A: FUSE :5A/250V
BRIDGE DIODE :D3SB60
LINE FILTER :LINE FILTER TF-096
TRANSFOMER :TF471
POWER SWITCHER :2SK2652
OUTPUT DIODE :SBL3040PT
OUTPUT CAPACITOR : 2200uF/10V 105℃
INPUT CAPACITOR :RUBYCON 100uF/400V 85℃ USP</td><td></td></tr>
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DATE	SAMPLE	TEST RESULT	TEST	APPROVAL
2002/04/22	PRODUCT SAMPLE A203A32A **TP-100 A TP-100 B TP-100 C TP-100 D**	PASS	VINCENT	**Max Lin**
2002/10/21	PRODUCT SAMPLE A209A22A **TP-100 A TP-100 C**	PASS	VINCENT	**Max Lin**
2002/12/05	PRODUCT SAMPLE A211C35D **TP-100 D TP-100 B**	PASS	VINCENT	**Max Lin**