Quality Engineering Test Report

SERIES: TP-75 75W AC-DC TRIPLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A.TP-75A V1 : 5V / 7A
V2 : 12V / 3A
V3 : -5V / 0.6A

B.TP-75B V1 : 5V / 7A
V2 : 12V / 3A
V3 : -12V /0.4A

C.TP-75C V1 : 5V / 6A
V2 : 15V /2.5A
V3 : -15V /0.5A

D.TP-75D V1 : 5V / 7A
V2 : 24V / 1.5A
V3 : 12V / 0.4A

E:TP-7503 V1 : 5V / 9A
V2 : 3.3V / 8A
V3 : 12V / 0.3A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:90V~264VAC O/P:FULL LOAD	B:58.7VAC~267VAC	P
2	LINE REGULATION	I/P:90V~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% E: V1 :±1% V2 :±1% V3 :±1%	A:V1: 0%~ +0% V2: 0%~ +0% V3: 0%~ +0% B:V1: -0.1%~ +0% V2: -0%~ +0% V3: -0%~ +0% C:V1: 0%~ 0% V2: 0%~ 0% V3: -0.03%~ -0.03% D:V1: 0%~ 0% V2: 0%~ 0% V3: 0%~ 0.5% E:V1: 0%~ 0% V2: 0%~ 0% V3: 0%~ +0.05%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A: V1 :±3% V2 :±4% V3 :±8% B: V1 :±3% V2 :±4% V3 :±8% C: V1 :±3% V2 :±4% V3 :±8% D: V1 :±3% V2 :±4% V3 :±8% E: V1 :±3% V2 :±4% V3 :±8%	A:V1: -0.12%~ +0.12% V2: -0.36%~ +0.31% V3: -0.12%~ +0% B:V1: -0.35%~ +0.35% V2: +0%~ +0.14% V3: 0%~ +0.05% C:V1: -0.49%~ +0.3% V2: +0.07%~ +0.03% V3: -0.36%~ +0% D:V1: -0.12%~ +0.12% V2: -0.128%~ +0.05% V3: -0.05%~ +0.05% E: V1: -0.24%~ +0.12% V2: -0.36%~ +0.18% V3: -0.1%~ +0.05%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:90V~264VAC SPEC: O/P:20% TO FULL LOAD A: V1 :±3% V2 :±4% V3 :±8% B: V1 :±3% V2 :±4% V3 :±8% C: V1 :±3% V2 :±4% V3 :±8% D: V1 :±3% V2 :±4% V3 :±8% E: V1 :±3% V2 :±4% V3 :±8%	A:V1: -0.12%~ +0.12% V2: -0.68%~ +0.05% V3: -0.24%~ +0.12% B:V1: -0.6%~ +0.35% V2: +0.04%~ +0.15% V3: -0.15%~ +0.1% C:V1: -0.86%~ +0.11% V2: -0.046%~ +0.118% V3: -0.046%~ -4.4% D:V1: -0.12%~ +0.12% V2: -0.18%~ +0.05% V3: -0.05%~ +0.05% E:V1: -0.26%~ +0.12% V2: -0.18%~ +0.36% V3: -0.1%~ +1.3%	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
5	RIPPLE&NOISE	I/P:230VAC O/P:FULL LOAD SPEC: A: V1 :100mV V2 :120mV V3 :100mV B: V1 :100mV V2 :120mV V3 :120mV C: V1 :100mV V2 :120mV V3 :120mV D: V1 :100mV V2 :120mV V3 :120mV E: V1 :100mV V2 :50mV V3 :120mV	A: V1: 35mV V2: 38mV V3: 6mV B: V1: 26mV V2: 11mV V3: 10mV C: V1: 34mV V2: 15mV V3: 12mV D: V1: 33mV V2: 58mV V3: 4mV E: V1: 28mV V2: 19mV V3: 1mV	P
6	AC INPUT CURRENT	I/P:230VAC O/P:FULL LOAD SPEC:0.8A	B:0.456A	P
7	MAX. INRUSH CURREN	I/P:230VAC O/P: FULL LOAD SPEC:40A	B:13.8A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC O/P:MIN. LOAD SPEC: V1: -5%~+10%	A: 4.48V~5.795V B: 4.452V~5.819V C: 4.466V~5.785V D: 4.571V~5.834V E: 4.506V~5.841V	P
9	SET UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:800mS	B: 412mS	P
10	HOLD UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:20mS	B: 47.4mS	P
11	EFFICIENCY	I/P:230VAC O/P:FULL LOAD SPEC: A:70% B:70% C:70% D:70% E:70%	A: 70.75% B: 73.68% C: 75.2% D: 73.419% E: 72.393%	P
12	OVER LOAD PROTECTION	I/P:230VAC O/P:TESTING SPEC:105%~150%	A: 116% B: 120% C: 127% D: 118% E: 117.9%	P
13	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<2mA N-FG--<2mA	A: L-FG:0.95mA N-FG:0.7mA	P
14	INSULATION RESISTANCE	SPEC: O/P-FG 500VDC/100M Ohms MIN. I/P-O/P 500VDC/100M Ohms MIN. I/P-FG 500VDC/100M Ohms MIN.	B: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	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)	B: I/P-O/P :4.6mA I/P-FG :4.7mA O/P-FG :12.2mA	P
16	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA:27.4ºC BURN-IN DURATION :4 hrs	A:NON BREAK	P
17	ENVIRONMENT TEST (SAMPLE C:)	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:33.5ºC	A:AFTER 3 hrs NON BREAK	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
18	TEMPERATURE RISE TEST T rise OF PARTS	A: I/P :230VAC O/P :FULL LOAD AFTER 4 hr BURN-IN TA:27.4ºC		P
19	LIFE CYCLE	A: SUPPOSE C16 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25ºC Tc16:91.5ºC Life: 21617.8 hrs I/P:230VAC O/P:FULL LOAD Ta:30ºC Tc16:93.4ºC Life: 20468.7 hrs		P
20	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	A: FUSE :3AL/250V BRIDGE DIODE :D3SB60 LINE FILTER :LINE FILTER TF-578 TRANSFOMER :TF-746 POWER SWITCHER :2SK2652 OUTPUT DIODE :BYQ28X-200 OUTPUT CAPACITOR :2200uF/10V 105ºC LXZ INPUT CAPACITOR :100uF/400V 105ºC P.C.B :TP - 75-R1		

	POSITION	P/N	TEMP	T rise
	BD1	BRIDGE DIODE	85.3ºC	58.9ºC
	Q1	MAIN TRANSISTOR	81.2ºC	53.8ºC
	T1	MAIN TRANSFORMER WIRE	103.6ºC	76.2ºC
	D19	O/P DIODE	98.3ºC	70.9ºC
	C56	O/P FILTER CAPACITOR	91.5ºC	64.1ºC
	RG1	REGULATOR	119.1ºC	91.7ºC
	LF1	LINE FILTER TRANSFORMER	71.6ºC	44.2ºC
	C5	I/P FILTER CAPACITOR	72.7ºC	45.3ºC
	D2	FLY DIODE	79.6ºC	52.2ºC

DATE	SAMPLE	TEST RESULT	TEST	APPROVAL
20010413	RD SAMPLE TP75A TP75B TP75C TP75D TP7503	PASS	VINCENT	Max Lin
20010711	PRODUCT A104C26 TP75A TP75B TP75C TP75D TP7503	PASS	VINCENT	Max Lin
20020827	PRODUCT A205D26 TP75B TP75C	PASS	VINCENT	Max Lin