

MODEL : SD-15C-24

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 150 mVp-p (Max) V2: mVp-p (Max) V3: mVp-p (Max) V4: mVp-p (Max)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	V1: 15 mVp-p (Max) V2: mVp-p (Max) V3: mVp-p (Max) V4: mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	21.6 V~ 26.4 V (TYP)	I/P: 48 VDC O/P:MIN LOAD Ta:25°C	29.52 V~ 21.07 V/ 24VDC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -1 %~ 1 % (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 36 VDC/72 VDC O/P: FULL/ 0% LOAD Ta:25°C	V1: -0.05%~ 0.05 % V2: %~ % V3: %~ % V4: %~ %	P
4	LINE REGULATION	V1: -0.2 %~ 0.2% (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 36 VDC/72 VDC O/P:FULL LOAD Ta:25°C	V1: -0.02%~ -0.02 % V2: %~ % V3: %~ % V4: %~ %	P
5	LOAD REGULATION	V1: -0.2 %~ 0.2 % (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 48 VDC O/P:FULL -MIN LOAD Ta:25°C	V1: -0.02 %~ 0.02 % V2: %~ % V3: %~ % V4: %~ %	P
6	CROSS REGULATION	V1: %~ % (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 48 VDC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: %~ % V2: %~ % V3: %~ % V4: %~ %	N
7	SET UP TIME	48VDC / 2500 ms (Max)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	48 VDC / 1881 ms	P
8	RISE TIME	48VDC / 25 ms (Max)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	48 VDC / 13 ms	P
9	HOLD UP TIME	48VDC / ms (Min)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	48 VDC / ms	N
10	OVER/UNDERSHOOT TEST	< ±5%	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	TEST: 2.5 %	P
11	DYNAMIC LOAD	V1: 2400 mVp-p	I/P: 48 VDC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	110 mVp-p①	P
12	TRANSIENT RECOVERY TIME	V1: 2400 mVp-p	I/P: 48 VDC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us	60.4 mVp-p②	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	18VDC~ 36VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	27.915 V~ 72 V	P
			I/P: LOW-LINE- 3V=35.8 V HIGH-LINE+ 5%= 75.6 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN ( AC POWER ON/OFF NO DAMAGE )	TEST: OK	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ (Typ) NO DAMAGE OSC	I/P: VDC ~ VDC O/P:FULL-MIN LOAD Ta:25°C	TEST:	N
3	POWER FACTOR	/ 48 VDC(TYP)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	PF= / 24 VDC	N
4	EFFICIENCY	81% (TYP)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	82.99 %	P
5	INPUT CURRENT	48 VDC / 0.53 A (Max)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	I =0.374 A/ 48 VDC	P
6	INRUSH CURRENT	48 VDC / A (Max) COLD START	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	I = A/ 48 VDC	N
7.	GAIN-PHASE MARGIN TEST	GAIN MARGIN < -10dB PHASE MARGIN>=60	(1)FULL LOAD/ 72 VDC (2)FULL LOAD/ 48 VDC (3)FULL LOAD/ 36 VDC (4)HALF LOAD/ 72 VDC (5)HALF LOAD/ 48 VDC (6)HALF LOAD/ 36 VDC (7)MIN. LOAD/ 72 VDC (8)MIN LOAD/ 48 VDC (9)MIN LOAD/ 36 VDC Ta:25°C	(1) -56dB 92.18° (2) -57.96 dB 92.19° (3) -64.41 dB 92.09° (4) -57.28 dB 92.41° (5) -59.25 dB 92.29° (6) -59.81 dB 92.21° (7) -62.18 dB 92.20° (8) -57.70 dB 92.17° (9) -63.4 dB 91.96°	p
8	COMONENT STRESS DERATING				P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105%~ 160 %(Typ)	I/P: 72 VDC 36 VDC I/P: 48 VDC O/P: TESTING Ta:25°C	133.45 %/ 72 VDC 136.41%/ 36 VDC 142.96 %/ 48 VDC <input checked="" type="checkbox"/> Hiccup Mode <input type="checkbox"/> Constant Current Limiting <input type="checkbox"/> Shunt down Re-power ON <input type="checkbox"/> Foldback Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 13.8 V~ 16.2 V(Typ)	I/P:----- O/P: MIN LOAD Ta:25°C	30.2 V/ 180 mA <input type="checkbox"/> Hiccup Model <input type="checkbox"/> Hold ON <input type="checkbox"/> Shunt down Re- power ON <input checked="" type="checkbox"/> Other	P
3	OVER TEMPERATURE PROTECTION	SPEC: > °C O.T.P. NO DAMAGE	I/P: 48 VDC O/P: FULL LOAD	°C / 48 VDC O.T.P. Active <input type="checkbox"/> Hiccup Mode <input type="checkbox"/> Shunt down Re-power ON <input type="checkbox"/> Other <input type="checkbox"/> Shut down o/p volotage · recovers automatically after temperature goes down	N
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 72 VDC O/P: FULL LOAD Ta:25°C	NO DAMAGE <input checked="" type="checkbox"/> Hiccup Mode <input type="checkbox"/> Constant Current Limiting <input type="checkbox"/> Shunt down Re-power ON <input type="checkbox"/> Other	P

**CONTROL FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	FAN ON/OFF CONTROL	> °C FAN ON < °C FAN OFF	I/P: VDC O/P: FULL LOAD	°C FAN ON °C FAN OFF	N
2	FAN SPEED CONTROL	-----	I/P: VDC O/P: FULL LOAD Ta:25°C	Fan Voltage= V	N
3	REMOTE CONTROL	Rc+ / Rc- V- V POWER ON V- V POWER OFF	I/P: VDC O/P: FULL LOAD Ta:25°C	V - V POWER ON V - V POWER OFF	N
4	POWER GOOD SIGNAL	DELAY 10ms ~ 500ms	I/P: VDC I/P: VDC O/P: FULL LOAD Ta:25°C	ms/ VDC ms/ VDC	N
5	POWER FAIL SIGNAL	> 1ms	I/P: VDC I/P: VDC O/P: FULL LOAD Ta:25°C	ms/ VDC ms/ VDC	N
6	CURRENT SHARING	PSU1-PSU2 < 10%	I/P: VDC O/P: FULL/50% LOAD Ta:25°C	O/P: 100% PSU1: W PSU2: W O/P: 50% PSU1: W PSU2: W	N

**ENVIRONMENT TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : 1. ROOM AMBIENT BURN-IN : HRS I/P: VDC O/P: LOAD Ta= °C 2. HIGH AMBIENT BURN-IN : HRS I/P: VDC O/P: LOAD Ta= °C			同环测
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P: VDC O/P: A Ta:25°C	TEST :	同环测
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: VDC O/P: % LOAD Ta= °C	TEST :	同环测
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL °C NO DAMAGE	I/P: VDC O/P:FULL LOAD Ta= °C HUMIDITY= 95 %R.H	TEST :	同环测
5	TEMPERATURE COEFFICIENT	± %(0-50°C)	I/P: VDC O/P:FULL LOAD	± %(0-50°C)	同环测
6	VIBRATION TEST	(1) Waveform: Sine Wave (2) Frequency:10-500Hz (3) Sweep Time:10min/sweep cycle (4) Acceleration:2G (5) Test Time:1 hour in each axis (X.Y.Z) (6) Ta:25°C		TEST :	同 SD-15B-5

**SAFETY TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 1.5 KVAC/min I/P-FG:1 KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 2.4 KVAC/min I/P-FG: 1.2 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25°C	I/P-O/P: 0.6 mA I/P-FG: 3.3 mA O/P-FG: 0.27 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C	I/P-O/P: 8.36 G Ω I/P-FG: 5.17 G Ω O/P-FG: 3.14 G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	mΩ	N
4	APPROVAL	TUV: Certificate NO : UL: File NO :			N

**E.M.C TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 <input type="checkbox"/> CLASS A <input type="checkbox"/> CLASS D	I/P: 24 VDC /50HZ O/P:FULL LOAD Ta:25°C	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	N
2	CONDUCTION	<input type="checkbox"/> EN55022 <input type="checkbox"/> EN55011 <input type="checkbox"/> CLASS A <input type="checkbox"/> CLASS B	I/P: 48 VDC (50HZ) O/P:FULL/50% LOAD Ta:25°C	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL Test by certified Lab	N
3	RADIATION	<input checked="" type="checkbox"/> EN55022 <input type="checkbox"/> EN55011 <input type="checkbox"/> CLASS A <input checked="" type="checkbox"/> CLASS B	I/P: 48 VDC (50HZ) O/P:FULL LOAD Ta:25°C	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL Test by certified Lab	P
4	E.S.D	EN61000-4-2 <input checked="" type="checkbox"/> LIGHT INDUSTRY <input type="checkbox"/> INDUSTRY AIR:8KV / Contact:4KV	I/P: 48 VDC /50HZ O/P:FULL LOAD Ta:25°C	<input type="checkbox"/> CRITERIA A <input type="checkbox"/> CRITERIA B	N
5	E.F.T	EN61000-4-4 <input checked="" type="checkbox"/> LIGHT INDUSTRY INPUT: 1KV <input type="checkbox"/> INDUSTRY INPUT: 2KV	I/P: 48 VDC /50HZ O/P:FULL LOAD Ta:25°C	<input type="checkbox"/> CRITERIA A <input type="checkbox"/> CRITERIA B	N
6	SURGE	IEC61000-4-5 <input type="checkbox"/> LIGHT INDUSTRY L-N :1KV L,N-PE:2KV <input type="checkbox"/> INDUSTRY L-N :2KV L,N-PE:4KV	I/P: 48 VDC /50HZ O/P:FULL LOAD Ta:25°C	<input type="checkbox"/> CRITERIA A <input type="checkbox"/> CRITERIA B	N
7	Test by certified Lab & Test Report Prepare				