

- Features :
- 2:1 wide input range
- Protections: Short circuit/Over load /voltage
- Built-in EMI filter, low ripple noise
- 100% full load burn-in test
- Low cost
- High reliability
- 2 years warranty

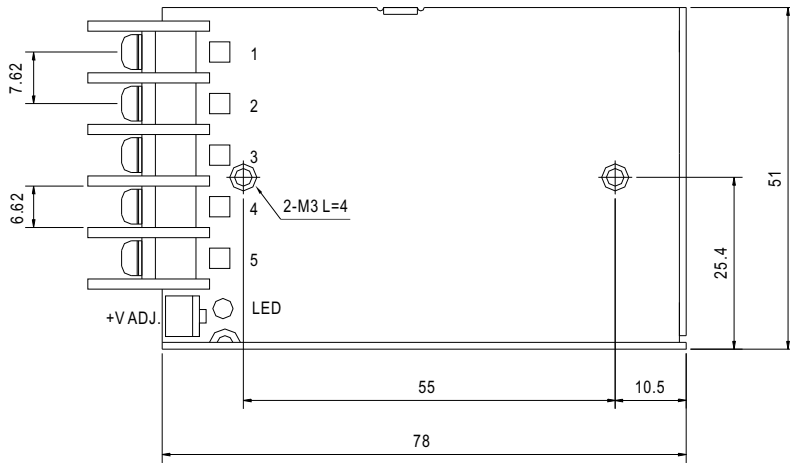


SPECIFICATION

MODEL		SD-15A-05	SD-15B-05	SD-15C-05	SD-15A-12	SD-15B-12	SD-15C-12	SD-15A-24	SD-15B-24	SD-15C-24
OUTPUT	DC VOLTAGE	5V			12V			24V		
	RATED CURRENT	3A			1.25A			0.625A		
	CURRENT RANGE	0 ~ 3A			0 ~ 1.25A			0 ~ 0.625A		
	RATED POWER	15W			15W			15W		
	RIPPLE & NOISE (max.) Note.2	100mVp-p			120mVp-p			150mVp-p		
	VOLTAGE ADJ. RANGE	4.75~5.5VDC			10.8~13.2VDC			21.6~26.4VDC		
	VOLTAGE TOLERANCE Note.3	±2.0%			±1.0%			±1.0%		
	LINE REGULATION	±0.5%			±0.3%			±0.2%		
	LOAD REGULATION	±0.5%			±0.3%			±0.2%		
SETUP, RISE ,HOLD UP TIME	2.5s, 25ms, --- 12VDC/24VDC/48VDC at full load									
INPUT	VOLTAGE RANGE	A: 9.2 ~18VDC		B: 18 ~ 36VDC		C: 36~72VDC				
	EFFICIENCY(Typ.)	68%	76%	75%	72%	76%	79%	70%	77%	78%
	DC CURRENT(Typ.)	1.9A/12VDC		0.9A/24VDC		0.45A/48VDC				
PROTECTION	OVER LOAD	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	5.75 ~ 6.75V			13.8~ 16.2V			27.6 ~ 32.4V		
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)								
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min.each along X, Y, Z axes								
SAFETY & EMC	WITHSTAND VOLTAGE	I/P-O/P:2KVAC I/P-FG:1KVAC O/P-FG:0.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P,I/P-FG,O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH								
	EMI CONDUCTION&RADIATION	Compliance to EN55022(CISPR22) CLASS B								
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,6,8;ENV50204,EN55024,light industry level,criteria A								
OTHERS	DIMENSION	78*51*28mm (L*W*H)								
	PACKING	0.18kg,60 PCS/11.8kg								
NOTE	1. All parameters NOT specially mentioned are measured at normal input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.									

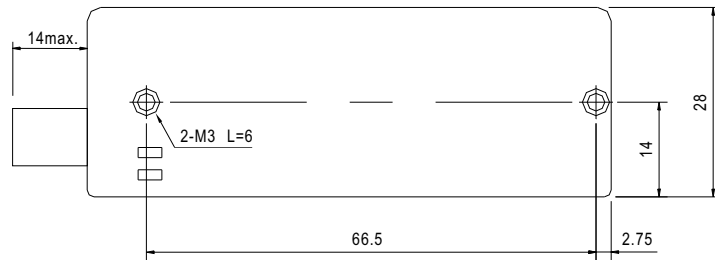
Mechanical Specification

Case No. 931A Unit:mm



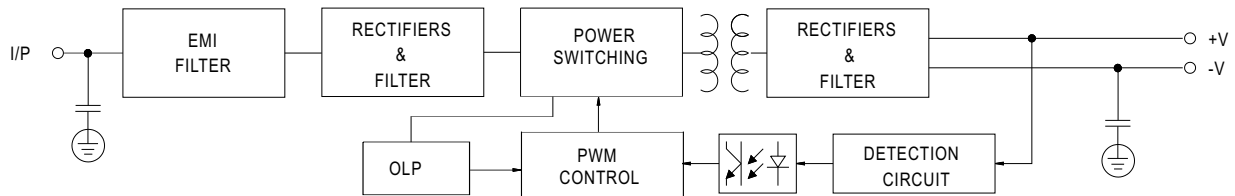
Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V+	4	DC OUTPUT +V
2	DC INPUT V-	5	DC OUTPUT -V
3	FG \equiv		

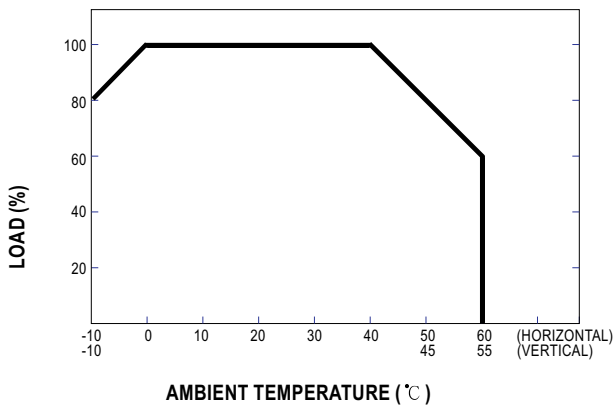


Block Diagram

fosc : 96KHz



Derating Curve



MODEL : SD-15A-5

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 100 mVp-p (Max) V2: mVp-p (Max) V3: mVp-p (Max) V4: mVp-p (Max)	I/P: 12 VDC O/P:FULL LOAD Ta:25°C	V1: 35 mVp-p (Max) V2: mVp-p (Max) V3: mVp-p (Max) V4: mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	4.75 V- 5.5 V (TYP)	I/P: 12 VDC O/P:MIN LOAD Ta:25°C	V- V/ 12VDC	N
3	OUTPUT VOLTAGE TOLERANCE	V1: -2 %~ 2% (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 9.2VDC/18VDC O/P: FULL/ 0% LOAD Ta:25°C	V1: 0.24 %~ -0.14 % V2: %~ % V3: %~ % V4: %~ %	P
4	LINE REGULATION	V1: -0.5 %~ 0.5 % (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 9.2VDC/18VDC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 % V2: %~ % V3: %~ % V4: %~ %	P
5	LOAD REGULATION	V1: -0.5 %~ 0.5 % (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 12VDC O/P:FULL -MIN LOAD Ta:25°C	V1: -0.12 %~ 0.12 % V2: %~ % V3: %~ % V4: %~ %	P
6	CROSS REGULATION	V1: %~ % (Max) V2: %~ % (Max) V3: %~ % (Max) V4: %~ % (Max)	I/P: 12VDC 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	12VDC / 2500 ms (Max)	I/P: 12VDC O/P:FULL LOAD Ta:25°C	12VDC / 644 ms	P
8	RISE TIME	12VDC / 25 ms (Max)	I/P: 12VDC O/P:FULL LOAD Ta:25°C	12VDC / 5 ms	P
9	HOLD UP TIME	12VDC/ ms (Min)	I/P: 12VDC O/P:FULL LOAD Ta:25°C	12VDC / ms	N
10	OVER/UNDERSHOOT TEST	< ±5%	I/P: 12VDC O/P:FULL LOAD Ta:25°C	TEST: 4.8 %	P
11	DYNAMIC LOAD	V1: 1000 mVp-p	I/P: 12VDC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	210 mVp-p①	P
12	TRANSIENT RECOVERY TIME	V1: 1000 mVp-p	I/P: 12VDC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us	110mVp-p②	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	9.2VDC~ 18VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	7.99 V~ 264 V	P
			I/P: LOW-LINE- V=9 V HIGH-LINE+ %= 18.9 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	/ 12 VDC(TYP)	I/P: 12 VDC O/P:FULL LOAD Ta:25°C	PF= / 12 VDC	N
4	EFFICIENCY	68% (TYP)	I/P: 12 VDC O/P:FULL LOAD Ta:25°C	63.39%	P
5	INPUT CURRENT	12 VDC / 2.2 A (Max)	I/P: 12 VDC O/P:FULL LOAD Ta:25°C	I =1.743 A/ 12 VDC	P
6	INRUSH CURRENT	12 VDC / A (Max) COLD START	I/P: 12 VDC O/P:FULL LOAD Ta:25°C	I = A/ 12 VDC	N
7.	GAIN-PHASE MARGIN TEST	GAIN MARGIN < -10dB PHASE MARGIN>=60	(1)FULL LOAD/ 18 VDC (2)FULL LOAD/ 12 VDC (3)FULL LOAD/ 18 VDC (4)HALF LOAD/ 18 VDC (5)HALF LOAD/ 12 VDC (6)HALF LOAD/ 18 VDC (7)MIN. LOAD/ 18 VDC (8)MIN LOAD/ 12 VDC (9)MIN LOAD/ 18 VDC Ta:25°C	(1) (2) (3) (4) (5) (6) (7) (8) (9)	N
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: 18 VDC 18 VDC I/P: 12 VDC O/P: TESTING Ta:25°C	116.5 %/ 18 VDC 118.68%/ 9 VDC 117.23 %/ 12VDC <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: 5.75 V~ 6.75 V(Typ)	I/P:----- O/P: MIN LOAD Ta:25°C	6.28 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: 12 VDC O/P: FULL LOAD	°C / 12 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: 18 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 SD-15B-5
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: VDC O/P: A Ta:25°C	TEST :	同 SD-15B-5
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: VDC O/P: % LOAD Ta= °C	TEST :	同 SD-15B-5
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 SD-15B-5
5	TEMPERATURE COEFFICIENT	± %(0-50°C)	I/P: VDC O/P:FULL LOAD	± %(0-50°C)	同 SD-15B-5
6	VIBRATION TEST	1 Carton & 1 Set Operating at I/P: VDC NO LOAD (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 :	P

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 2 KVAC/min I/P-FG:1.5 KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25°C	I/P-O/P: 0.66 mA I/P-FG: 3.33mA O/P-FG: 0.27mA NO DAMAGE	NOTE 1
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: 9999G Ω I/P-FG: 9999G Ω O/P-FG: 9999G 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: 12VDC /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: 12VDC (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: 12VDC (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 type="checkbox"/> LIGHT INDUSTRY <input type="checkbox"/> INDUSTRY AIR:8KV / Contact:4KV	I/P: 12VDC /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 type="checkbox"/> LIGHT INDUSTRY INPUT: 1KV <input type="checkbox"/> INDUSTRY INPUT: 2KV	I/P: 12VDC /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: 12VDC /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				