



**Features**

- . Wide input 90V to 264VAC, 50~60Hz suitable for worldwide
- . Output voltage available from 5V to 36Vdc constant voltage
- . Class B Conducted and Radiated EMI for information devices
- . Meet ErP & DoE efficiency level VI requirements
- . No load power consumption < 0.1 W
- . High Efficiency up to 85% and high reliable design
- . Over-Voltage/Load/Temperature & Short Circuit protections

**Safety Standards**

- . IEC62368-1/IEC61558-1 CB report for worldwide use
- . UL62368-1 + CAN/CSA 62368-1 for USA and Canada
- . EN 62368-1:2014/A11:2017 for European Union
- . AS/NZS 62368.1:2018 for Australia and New Zealand
- . J62368-1 for Japan and K60950-1 for Korea market.



**Product Description:**

It is a 20W plug-in style single output UK type switching power adapter solution with wide range 90-264Vac input and designed strictly according to the international safety standards. It's approved by CE and UKCA under EN62368 and EN61558. The entire series supplies different models with output voltages ranging between 5Vdc and 36Vdc that can satisfy the demands for various types of consumer electronic devices, office facilities, telecommunication devices, industrial equipments and so on.

With the efficiency up to 85% and no load consumption power <0.1W, this 20W plug-in power adapter is designed according to worldwide satisfy regulations and adopts the 94V-0 flame retardant plastic housing and the temperature resistance is up to 120 degrees.

**Technical Specification**

Typ. Model	SAW20-050-3000BD	SAW20-090-2000BD	SAW20-120-1500BD	SAW20-150-1330BD	SAW20-240-0830BD
<b>Output</b>					
Output Voltage	5VDC	9VDC	12VDC	15VDC	24VDC
Output Current	3.0A Max.	2.0A Max.	1.5A Max.	1.33A Max.	0.83A Max.
Output Power	15W Max.	18W Max.	18W Max.	20W Max.	20W Max.
Voltage Tolerance	±5%	±5%	±5%	±5%	±5%
Ripple & Noise	200mVp-p	200mVp-p	200mVp-p	200mVp-p	250mVp-p
Standby Power	≤0.1W	≤0.1W	≤0.1W	≤0.1W	≤0.1W
<b>Input</b>					
Input voltage	90 - 264Vac or 127- 374Vdc				
Input Frequency	50-60Hz (When the input is AC)				
Input Current	0.6A Max. @ 100 ~240Vac 50/60Hz input				
Inrush Current	40A Max. @ 100 ~240Vac 50/60Hz input				
Power Factor	>0.5 @ 120Vac 60Hz input; >0.5 @230Vac 50Hz input				
Efficiency (Typ.)	81.38%	85.00%	85.00%	85.46%	85.46%
Leakage Current	≤0.25mA @ full input range				
<b>Protections</b>					
Over current	120~200% rated output power. Auto-Recovery when the fault is removed				
Short Circuit	No damage. Auto-Recovery when the fault is removed				
Over temperature	Shut down o/p voltage, re-power on to recover				
<b>Environmental</b>					
Operation Temperature	0°C to +40°C, 10%RH to 90%RH				
Operation Altitude	≤2000m @ full load and rated operating temperatures				
MTBF	≥50000Hrs @ full load and rated operating temperatures				
<b>Mechanical</b>					
Dimensions (L x W x H)	59.0 x 41.0 x 26.5mm (2.23 x 1.62 x 1.05 inch)				
Unit Weight	95g±5 grams				
Packing Information	100pcs/ Carton, carton dimensions:47*37*20cm, 9.5kgs/ Carton				

## TEST REPORT

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	RIPPLE & NOISE	200mVp-p (Max)	I/P:230VAC / O/P:FULL LOAD / Ta:25°C	62mVp-p	P
2	VOLTAGE TOLERANCE	-5% ~ +5% (Max)	I/P:90VAC~264VAC O/P:FULL~MIN. LOAD / Ta:25°C	-2% ~ +2% of output voltage	P
3	LINE REGULATION	-1% ~ +1% (Max)	I/P:90VAC ~264VAC O/P:FULL LOAD / Ta:25°C	-0.05% ~ +0.05% of output voltage	P
4	LOAD REGULATION	-3% ~ +3% (Max)	I/P:230VAC O/P:FULL ~MIN LOAD / Ta:25°C	-0.98% ~ +0.99% of output voltage	P
5	SET UP TIME	4000 mS (Max)	I/P:230VAC O/P:FULL LOAD / Ta:25°C	1970 mS	P
6	RISE TIME	100 mS (Max)	I/P: 230VAC O/P:FULL LOAD / Ta:25°C	40 mS	P
7	HOLD UP TIME	10 mS (Min)	I/P: 115VAC O/P:FULL LOAD / Ta:25°C	14 mS	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	VOLTAGE RANGE	90VAC~264VAC	I/P:TESTING O/P:FULL LOAD / Ta:25°C	79~264V	P
2	FREQUENCY RANGE	50HZ - 60HZ (Typ) NO DAMAGE OSC	I/P: 100VAC ~ 240VAC O/P:FULL~MIN LOAD / Ta:25°C	TEST: OK	P
3	EFFICIENCY	85.46% (Typ)	I/P:230VAC O/P:FULL LOAD / Ta:25°C	86.98%	P
4	AVERAGE EFFICIENCY	>85.46% ( LEVEL VI)	I/P:115/230VAC & O/P:25%、50%、75%、100% LOAD & Ta:25°C	85.68% (115VAC) 85.96% (230VAC)	P
5	AC CURRENT	0.6A (Max)	I/P:100VAC & O/P:FULL LOAD Ta:25°C	0.39A	P
6	NO LOAD POWER CONSUMPTION	<0.1W	I/P: 230VAC /O/P:NO LOAD Ta:25°C	0.050W	P
7	INRUSH CURRENT	<40A COLD START	I/P: 230VAC / O/P:FULL LOAD Ta:25°C	29.02A	P
8	LEAKAGE CURRENT	< 0.25mA	I/P:240VAC & O/P:Min LOAD Ta:25°C	L-FG:0.14mA N-FG:0.16mA	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	OVER LOAD PROTECTION	120 ~ 200% (Typ)	I/P:230VAC & O/P:TESTING Ta:25°C	158.5% HICCUP MODE	P
2	OVER VOLTAGE PROTECTION	CLAMP BY ZENER DIODE 115 ~ 135% (Typ)	I/P:230VAC O/P:MIN LOAD & Ta:25°C	CLAMP BY ZENER DIODE	P
3	SHORT PROTECTION	SHORT OUTPUT 1 HOUR NO DAMAGE	I/P:264VAC O/P:FULL LOAD & Ta:25°C	NO DAMAGE HICCUP MODE	P

### SAFETY TEST & E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDIDTION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC/min I/P- FG: 2KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:0.6 KVAC/min Ta:25°C	I/P-O/P:2.57mA I/P-FG: NA O/P-FG:NA 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: 9999MΩ I/P-FG: NA O/P-FG:NA NO DAMAGE	P
3	CONDUCTION	BS EN/EN55032(CISPR32), FCC PART 15 / CISPR22 CAN	I/P: 230 VAC (50HZ) O/P: FULL/50% LOAD Ta: 25°C	PASS Test by certified Lab	P
4	RADIATION	BS EN/EN55032(CISPR32), FCC PART 15 / CISPR22 CAN	I/P: 230 VAC (50HZ) O/P: FULL LOAD Ta: 25°C	PASS Test by certified Lab	P
5	SURGE	BS EN/EN61000-4-5 LIGHT INDUSTRY L-N: 1KV	I/P: 230 VAC/50HZ O/P: FULL LOAD Ta: 25°C	CRITERIA B	P
6	E.S.D	BS EN/EN61000-4-2 LIGHT INDUSTRY AIR: 8KV / Contact: 4KV	I/P: 230 VAC/50HZ O/P: FULL LOAD Ta: 25°C	CRITERIA B	P

TEST RESULT	TESTER	REVIEW	APPROVAL
<b>PASS</b>	<b>LINDA</b>	<b>JUDY</b>	<b>ZHANG DL</b>