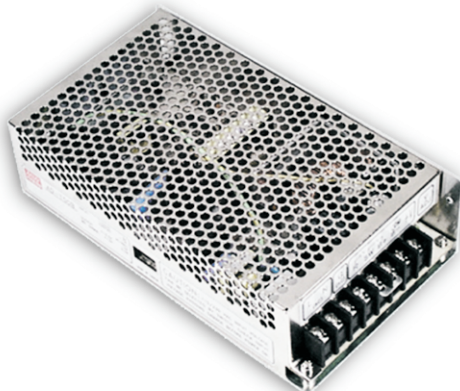




Jameco SKU Number: 2103265

155W Single Output with 5V, 3A DC-DC Converter

ADS-155 series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at PFC 67KHz, PWM 134KHz
- 2 years warranty

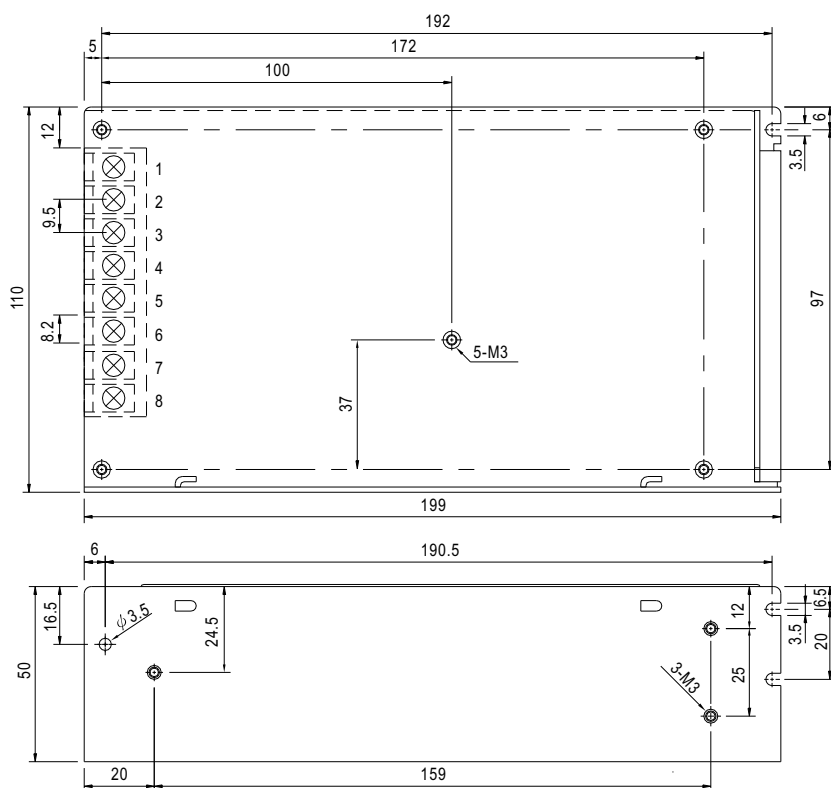


SPECIFICATION

MODEL		ADS-15512		ADS-15524		ADS-15548	
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2	CH1	CH2
	DC VOLTAGE	12V	5V	24V	5V	48V	5V
	RATED CURRENT	11.5A	3A	5.8A	3A	2.9A	3A
	CURRENT RANGE	0 ~ 12.5A	0 ~ 3A	0 ~ 6.5A	0 ~ 3A	0 ~ 3.2A	0 ~ 3A
	RATED POWER	153W		154.2W		154.2W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	100mVp-p	150mVp-p	100mVp-p	240mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	CH1:10.8 ~ 13.2V		CH1:21.6 ~ 26.4V		CH1:43.2 ~ 52.8V	
	VOLTAGE TOLERANCE Note.3	±2.0%	±3.0%	±1.0%	±3.0%	±1.0%	±5.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±2.0%	±0.5%	±2.0%	±1.0%	±1.0%
	SETUP, RISE TIME	1000ms, 90ms/230VAC      2000ms, 90ms/115VAC at full load					
HOLD UP TIME (Typ.)	24ms/230VAC      20ms/115VAC at full load						
INPUT	VOLTAGE RANGE	88 ~ 264VAC      124 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF>0.92					
	EFFICIENCY (Typ.)	77%		82%		82%	
	AC CURRENT (Typ.)	2.5A/115VAC      1.5A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC      40A/230VAC					
	LEAKAGE CURRENT	<1mA / 240VAC					
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is reoved					
	OVER VOLTAGE	CH1:13.8 ~ 16.2V		CH1:27.6 ~ 32.4V		CH1:55.2 ~ 64.8V	
		Protection type : Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	WORKING TEMP.	-10 ~ +60℃ (Refer to output load derating curve)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH					
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B					
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3					
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A					
OTHERS	MTBF	202.3K hrs min.    MIL-HDBK-217F (25℃)					
	DIMENSION	199*110*50mm (L*W*H)					
	PACKING	1Kg; 16pcs/16Kg/0.95CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. 906B Unit:mm

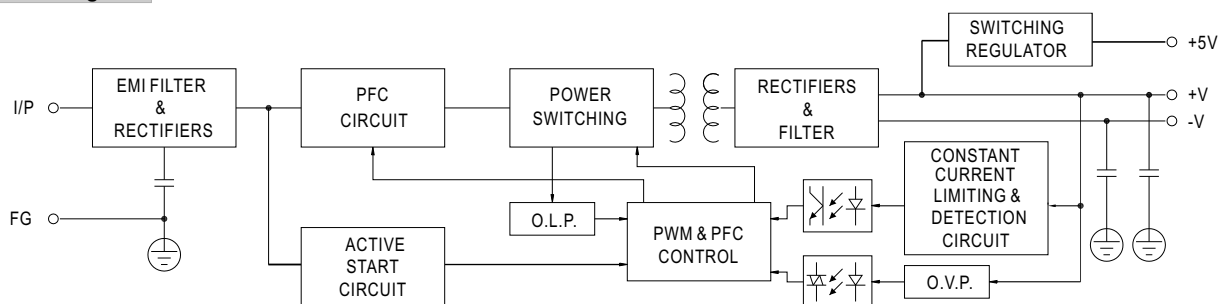


### Terminal Pin No. Assignment

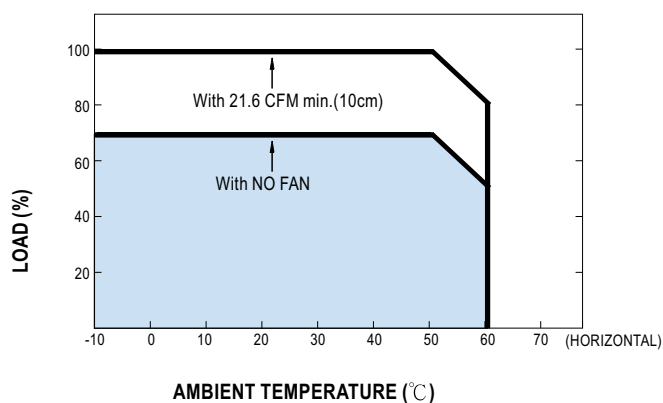
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	NC
2	AC/N	6,7	DC OUTPUT COM
3	FG $\equiv$	8	DC OUTPUT +V
4	+5V		

### ■ Block Diagram

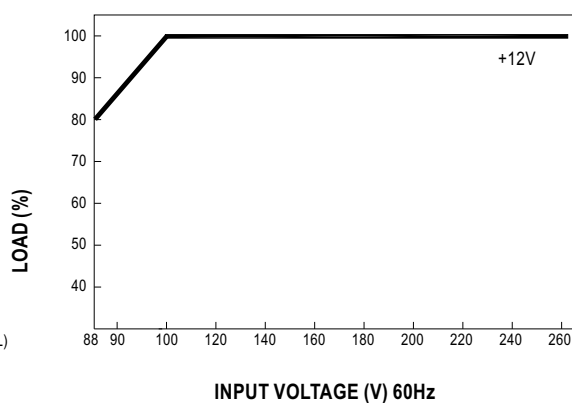
PFC fosc : 67KHz  
PWM fosc : 134KHz



### Derating Curve



### ■ Output Derating VS Input Voltage (15512)



# Quality Engineering Test Report

**SERIES: ADS-155 155W AC-DC SINGLE OUTPUT WITH CHARGER**

**SAMPLE: A.ADS-155-12 +V1: 12V / 11.5A +V2:5V /3A**  
**C.ADS-155-48 +V1:48V /2.9A +V2:5V/3A**  
**B.ADS-155-24 +V1:24V /5.8A +V2:5V/3A**

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:88~264VAC O/P:FULL LOAD	A:58.462VAC~264VAC	P
2	LINE REGULATION	I/P:88V~264VAC SPEC: O/P:FULL LOAD A :+V1 :±0.5% +V2 :±0.5% B :+V1 :±0.5% +V2 :±0.5% C :+V1 :±0.5% +V2 :±0.5%	A: +V1: 0%~0% +V2: 0%~0.122% B: +V1: -0.025%~0% +V2: 0%~0% C: +V1: 0%~0.0125% +V2: -0.123%~0%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A :+V1 : ±1% +V2 :±2% B : +V1 : ±1% +V2 :±2% C : +V1 : ±1% +V2 : ±1%	A: +V1: -0.099%~0.05% +V2: -0.62%~1.25% B: +V1: -0.025%~0% +V2: -0.5%~1.12% C: +V1: -0.125%~0% +V2: -0.51%~0.755%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:88~264VAC SPEC: O/P:MIN. TO FULL LOAD A :+V1 : ±2% +V2 : ±3% B : +V1 : ±1% +V2 : ±3% C : +V1 : ±1% +V2 : ±1%	A: +V1: -0.0496%~0.107% +V2: -0.239%~1.623% B: +V1: 0.029%~0.079% +V2: -0.377%~1.49% C: +V1: 0.027%~0.052% +V2: -0.263%~1.398%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A :+V1 :150mV +V2 :100mV B :+V1 :150mV +V2 :100mV C :+V1 :240mV +V2 :100mV	A: +V1: 22mV +V2: 47mV B: +V1: 19mV +V2: 46mV C: +V1: 25mV +V2: 57mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:1.5A O/P:FULL LOAD	A:0.904A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:40A O/P: FULL LOAD	A:21.281A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: O/P:MIN. LOAD A: V1:13.2V~10.8V B: V1:26.4V~21.6V C: V1:52.8V~43.2V	A: 10.464V~13.913V B: 20.33V~27.47V C: 41.3V~54.1V	P
9	SET UP TIME	I/P:230VAC SPEC:900mS O/P:FULL LOAD	A: 680.028mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:20mS O/P:FULL LOAD	A: 36.176mS	P
11	EFFICIENCY	I/P:230VAC SPEC: A:78% O/P:FULL LOAD B:82% C:82%	A:79.262% B:83.08% C:83.538%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC:105%~135% O/P:TESTING	A:119% B:112% C:124.4%	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<1mA N-FG--<1mA	A: L-FG:0.4mA N-FG:0.4mA	P
15	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.	A: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																																			
16	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3000VAC/ 1 min. (10mA CUT-OFF) I/P - FG: 1500VAC/ 1 min. (10mA CUT-OFF) O/P - FG: 500VAC/ 1 min. (10mA CUT-OFF)	A: I/P-O/P :3.64mA I/P-FG :2.746mA O/P-FG :3.65mA	P																																			
17	BURN-IN TEST	I/P: 230VAC O/P100% LOAD with 18.6CFM FAN TA:23.9°C BURN-IN DURATION :1hr	A: NON BREAK	P																																			
18	ENVIRONMENT TEST	1.LOW TEMPERATURE TEST I/P:230 VAC O/P:100% LOAD AMBIENT TEMPERATURE:-8.3°C	A :AFTER 15 hrs POWER ON OK	P																																			
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:54.2°C with 18.6CFM FAN	A :AFTER 2.5 hrs NON BREAK																																				
		3.HIGH HUMIDITY HIGH VOLTAGE ON/OFF TEST I/P:264VAC O/P:FULL LOAD AMBIENT TEMPERATURE : 25°C AMBIENT HUMIDITY : 95%	A : AFTER13 hrs POWER ON/OFFNON BREAK																																				
19	TEMPERATURE RISE TEST T rise OF PARTS	A: I/P :230VAC AFTER 1hr BURN-IN O/P :100%LOAD TA:23.9°C with 18.6CFM FAN <table><tr><td></td><td>POSITION</td><td>P/N</td><td>TEMP</td><td>T rise</td></tr><tr><td></td><td>BD1</td><td>BRIDGE DIODE</td><td>60.6°C</td><td>36.7°C</td></tr><tr><td></td><td>Q1</td><td>MAIN TRANSISTOR</td><td>52.3°C</td><td>28.4°C</td></tr><tr><td></td><td>T1</td><td>MAIN TRANSFORMER</td><td>67.0°C</td><td>43.1°C</td></tr><tr><td></td><td>D40</td><td>O/P DIODE</td><td>94.0°C</td><td>70.1°C</td></tr><tr><td></td><td>C44</td><td>O/P FILTER CAPACITOR</td><td>64.4°C</td><td>40.5°C</td></tr><tr><td></td><td>C5</td><td>I/P FILTER CAPACITOR</td><td>42.1°C</td><td>18.2°C</td></tr></table>			POSITION	P/N	TEMP	T rise		BD1	BRIDGE DIODE	60.6°C	36.7°C		Q1	MAIN TRANSISTOR	52.3°C	28.4°C		T1	MAIN TRANSFORMER	67.0°C	43.1°C		D40	O/P DIODE	94.0°C	70.1°C		C44	O/P FILTER CAPACITOR	64.4°C	40.5°C		C5	I/P FILTER CAPACITOR	42.1°C	18.2°C	P
	POSITION	P/N	TEMP	T rise																																			
	BD1	BRIDGE DIODE	60.6°C	36.7°C																																			
	Q1	MAIN TRANSISTOR	52.3°C	28.4°C																																			
	T1	MAIN TRANSFORMER	67.0°C	43.1°C																																			
	D40	O/P DIODE	94.0°C	70.1°C																																			
	C44	O/P FILTER CAPACITOR	64.4°C	40.5°C																																			
	C5	I/P FILTER CAPACITOR	42.1°C	18.2°C																																			
20	LIFE CYCLE	A: SUPPOSE C44 IS THE MOST CRITICAL COMPONENT with 18.6CFM FAN I/P:230VAC O/P:100% LOAD Ta:23.9°C Tc:64.4°C Life:113742.9hrs I/P:230VAC O/P:100% LOAD Ta:54.2°C Tc:98.5°C Life:15460.2hrs		P																																			
21	CRITICAL COMPONENT RECORD ( FOR QC INSPECTION REFERENCE ONLY )	A: FUSE : 3A/250V CHARGER 15A/250V BRIDGE DIODE : KBJ608G LINE FILTER : LF201 TRANSFOMER : TF-695 POWER SWITCHER : 2SK2039 OUTPUT DIODE : D9202 OUTPUT CAPACITOR : RUBYCON 2200uF/25V YXG 105°C INPUT CAPACITOR : HITACHI 150uF/400V HP3 85°C P.C.B : ADD-155																																					
DATE	SAMPLE	TEST RESULT		TEST	APPROVAL																																		
20001229	RD SAMPLE	PASS		VINCENT	Max Lin																																		
20000130	A101B30 AD155A AD155B AD155C	PASS		VINCENT	Max Lin																																		