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ELECTRONICS

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Jameco Part Number 221584



■ Features :

- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- Full output 3~48V safety approval
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Fully enclosed plastic case
- Fix switching frequency and regulation
- Topology: Top switch circuit
- LED indicator for power on
- Approvals: UL / CUL / TUV / CB / CE
- 1 year warranty

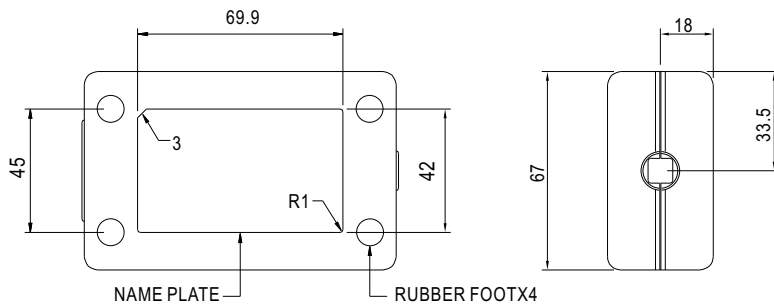
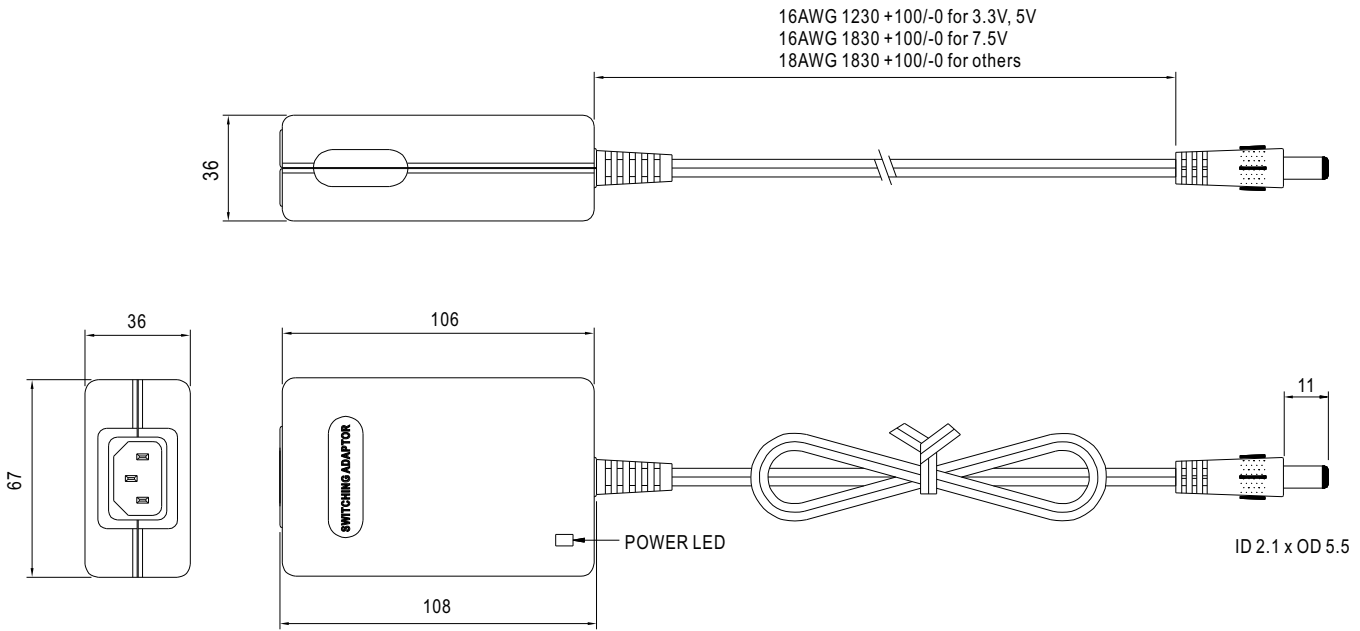


SPECIFICATION

ORDER NO.	P40A-0P2J	P40A-1P2J	P40A-1-1P2J	P40A-2P2J	P40A-3P2J	P40A-4P2J	P40A-5P2J	P40A-6P2J	P40A-7P2J	P40A-8P2J	
OUTPUT	SAFETY MODEL NO.	PSU40A-0	PSU40A-1	PSU40A-1-1	PSU40A-2	PSU40A-3	PSU40A-4	PSU40A-5	PSU40A-6	PSU40A-7	PSU40A-8
	DC VOLTAGE <small>Note.2</small>	3.3V	5V	7.5V	9V	12V	15V	18V	24V	28V	48V
	RATED CURRENT	4.54A	5A	4A	3.88A	3.33A	2.66A	2.22A	1.66A	1.42A	0.83A
	CURRENT RANGE	0 ~ 4.54A	0 ~ 5A	0 ~ 4A	0 ~ 3.88A	0 ~ 3.33A	0 ~ 2.66A	0 ~ 2.22A	0 ~ 1.66A	0 ~ 1.42A	0 ~ 0.83A
	RATED POWER	15W	25W	30W	35W	40W	40W	40W	40W	40W	40W
	RIPPLE & NOISE (max.) <small>Note.3</small>	50mVp-p	50mVp-p	80mVp-p	80mVp-p	80mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	3~5V	5~6V	6~8V	8~11V	11~13V	13~16V	16~21V	21~27V	27~33V	33~48V
		Fixed output by internal VR									
	VOLTAGE TOLERANCE <small>Note.4</small>	±10%	±6.0%	±5.0%	±5.0%	±4.0%	±3.0%	±3.0%	±3.0%	±3.0%	±2.0%
	LINE REGULATION <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
LOAD REGULATION <small>Note.6</small>	±8.0%	±5.0%	±4.0%	±4.0%	±3.0%	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	
SETUP, RISE, HOLD UP TIME	200ms, 50ms, 16ms at full load										
INPUT	VOLTAGE RANGE	90 ~ 264VAC 135 ~ 370VDC									
	FREQUENCY RANGE	47 ~ 63Hz									
	EFFICIENCY (Typ.)	65%	70%	72%	74%	75%	78%	78%	80%	80%	82%
	AC CURRENT	1A / 100VAC									
	INRUSH CURRENT (max.)	60A / 230VAC									
	LEAKAGE CURRENT(max.)	0.75mA / 240VAC									
PROTECTION	OVERLOAD	150 ~ 450% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed									
	OVER VOLTAGE	110 ~ 140% rated output voltage Protection type : Shut down o/p voltage, re-power on to recover									
	OVER TEMPERATURE	IC1Tj135°C Protection type : Shut down o/p voltage, recovers automatically after temperature goes down									
ENVIRONMENT	WORKING TEMP.	0 ~ +40°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, period for 60min. each along X, Y, Z axes									
SAFETY & EMC (Note. 7)	SAFETY STANDARDS	UL1950, CSA22.2, EN60950-1 approved									
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC									
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG:100M Ohms / 500VDC / 25°C / 70% RH									
	EMI CONDUCTION & RADIATION	Compliance to EN55022(CISPR22) class B									
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3									
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,11,ENV50204, light industry level, criteria A									
OTHERS	MTBF	500khrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	108*67*36mm (L*W*H)									
	PACKING	0.3kg; 54pcs/ 20kg / CARTON									
CONNECTOR	PLUG	Standard type P2J: 2.1φ * 5.5φ * 11mm, center positive for stock ; Other type available by customer requested									
	CABLE	Standard type see page2 ; Other type available by customer requested									
NOTE	<p>1.All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</p> <p>2.DC voltage: The output voltage set at point measure by plug terminal & 50% load.</p> <p>3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor.</p> <p>4.Tolerance: includes set up tolerance, line regulation, load regulation.</p> <p>5.Line regulation is measured from low line to high line at rated load.</p> <p>6.Load regulation is measured from 0% to 100% rated load.</p> <p>7.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.</p>										

■ Mechanical Specification

Unit:mm

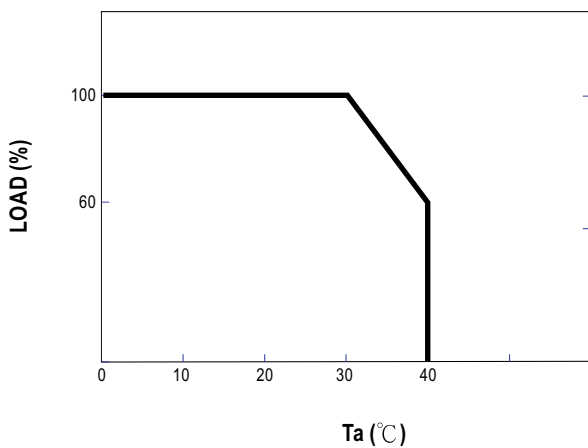


■ Plug Assignment

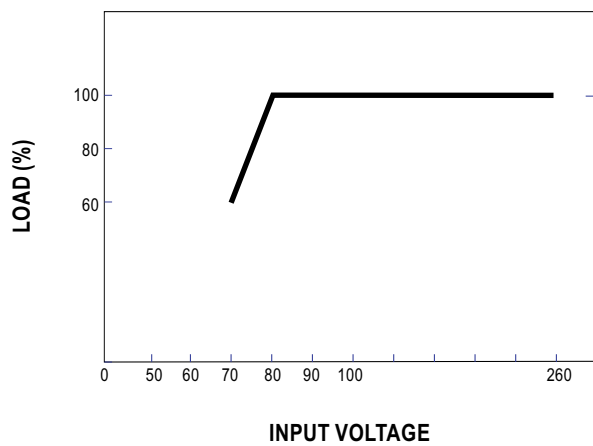
Standard plug: P2J (option)

P2J	
P/N	OUTPUT
CENTER	+

■ Derating Curve



■ Static Characteristics



Quality Engineering Test Report

SERIES: P40 40W AC-DC SINGLE OUTPUT DESKTOP

SAMPLE:	A. P40-0	+3.3V / 4.54A	F. P40-4	+15V / 2.66A
	B. P40-1	+5V / 5.0A	G. P40-5	+18V / 2.22A
	C. P40-1-1	+7.5V / 4.0A	H. P40-6	+24V / 1.6A
	D. P40-2	+9V / 3.88A	J. P40-8	+48V / 0.83A
	E. P40-3	+12V / 3.3A		

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RSULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P: TESTING SPEC:90~260VAC O/P:FULL LOAD	E:58VAC~260VAC	P
2	LINE REGULATION	I/P: 90~260VAC SPEC: 1% O/P:FULL LOAD	A: -0% ~ +0% B: -0.3% ~ +0.1% C: -0.1% ~ +0.1% D: -0.3% ~ +0% E: -0.2% ~ +0% F: -0% ~ +0% G: -0.1% ~ +0% H: -0.1% ~ +0% J: -0% ~ +0%	P
3	LOAD REGULATION	I/P:230VAC SPEC: A~D 5% E~H 3% O/P:MIN.TO FULL LOAD : J 2%	A: -4.2% ~ +4.2% B: -3.4% ~ +3.6% C: -2.7% ~ +3.2% D: -2.6% ~ +2.8% E: -0.1% ~ +0% F: -1.1% ~ +0.7% G: -0.7% ~ +0.7% H: -0.4% ~ +0.5% J: -0.2% ~ +0.1%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P: 90~260VAC SPEC: A~D 5% E~H 3% O/P:MIN.TO FULL LOAD J 2%	A: -4.2% ~ +6.0% B: -4.0% ~ +3.6% C: -2.9% ~ +3.2% D: -3.0% ~ +2.9% E: -1.5% ~ +1.8% F: -1.2% ~ +0.8% G: -0.8% ~ +0.8% H: -0.5% ~ +0.5% J: -0.2% ~ +0.2%	NOTE1
5	RIPPLE & NOISE	I/P:230VAC SPEC: A,B :50mV C~E :80mV F,G :100mV O/P:FULL LOAD H,J :150mV	A: 10mV B: 10mV C: 15mV D: 10mV E: 16mV F: 15mV G: 15mV H: 20mV J: 20mV	P
6	AC INPUT CURRENT	I/P:90VAC SPEC: 1.0A O/P:FULL LOAD	E:0.98A	P
7	MAX. INRUSH CURRENT	I/P:230VAC SPEC: 60A O/P:FULL LOAD	E:37.3A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: FIXED O/P:50% LOAD	A: 3.33V B: 5.03V C: 7.48V D: 9.02V E: 12.03V F: 14.98V G: 18.03V H: 24.20V J: 48.07V	P
9	SET UP TIME	I/P:230VAC SPEC: NONE O/P:FULL LOAD	E:124.2mS	P
		I/P:115VAC SPEC: 12mS		

10	HOLD UP TIME	O/P:FULL LOAD		E:18.4mS	P
11	EFFICIENCY	I/P:230VAC O/P:FULL LOAD	SPEC: A:68% B:70% C:72% D:74% E:75% F:78% G:78% H:80% J:82%	A:66.0% B:74.2% C:82.5% D:87.9% E:77.8% F:87.6% G:87.3% H:82.5% J:86.5%	P
12	OVER LOAD PROTECTION	I/P:230VAC O/P:TESTING	SPEC: NONE	A:202% B:190% C:215% D:253% E:267% F:280% G:317% H:238% J:395% PULSING MODE,AUTO RECOVERY	P
13	OVER VOLTAGE PROTECTION	I/P:230VAC O/P:TESTING	SPEC: 110%~140%	A:188% B:126% C:120% D:161%(12C2) E:122% F:118% G:120% H:123% J:110%	NOTE1
14	GROUND LEAKAGE CURRENT	I/P:240VAC O/P:FULL LOAD	SPEC: L--FG-- < 3.5mA N--FG-- < 3.5mA	E: L--FG:0.17mA N--FG:0.15mA	P
15	INSULATION RESISTANCE	SPEC: I/P--O/P 500VDC/10M Ohms MIN. I/P--FG 500VDC/10M Ohms MIN.		E: I/P--O/P: > 100M Ohms I/P--FG: > 100M Ohms	P

NEXT

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)	E: I/P--O/P: 4.48mA I/P--FG : 3.52mA	P																								
17	BURNIN TEST	I/P : 230VAC O/P : FULL LOAD TA : 25°C BURN-IN DURATION : 13 hrs	A:NO BREAK B:NO BREAK C:NO BREAK D:NO BREAK E:NO BREAK F:NO BREAK H:NO BREAK I:NO BREAK J:NO BREAK	P																								
18	TEMPERATURE RISE T _{rise} OF PARTS	E: I/P :230VAC AFTER 13 hrs BURN-IN O/P :FULL LOAD TA:25 °C	<table border="1"> <thead> <tr> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>T rise</th> </tr> </thead> <tbody> <tr> <td>IC1</td> <td>MAIN TRANSISTOR</td> <td>96.6°C</td> <td>71.6°C</td> </tr> <tr> <td>L1</td> <td>MAIN TRANSFORMER</td> <td>99.7°C</td> <td>74.7°C</td> </tr> <tr> <td>D3</td> <td>O/P DIODE</td> <td>99.5°C</td> <td>74.5°C</td> </tr> <tr> <td>C10</td> <td>O/P FILTER CAPACITOR</td> <td>73.4°C</td> <td>48.4°C</td> </tr> <tr> <td>C1</td> <td>I/P FILTER CAPACITOR</td> <td>78.3°C</td> <td>53.3°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	IC1	MAIN TRANSISTOR	96.6°C	71.6°C	L1	MAIN TRANSFORMER	99.7°C	74.7°C	D3	O/P DIODE	99.5°C	74.5°C	C10	O/P FILTER CAPACITOR	73.4°C	48.4°C	C1	I/P FILTER CAPACITOR	78.3°C	53.3°C	P
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C1	I/P FILTER CAPACITOR	78.3°C	53.3°C																									
19	LIFE CYCLE	E: SUPPOSE C10 IS THE MOST CRITICAL COMPONENT (C10 RUBYCON 2200uf/16V YXG 105°C 2000hrs) I/P:230VAC O/P:FULL LOAD Ta:25°C C10:73.4°C Life:17876hrs		P																								
20	CONSTRUCTION INSPECTION (FOR QC INSPECTION REFERENCE ONLY)	E: 1. PACKING : ----- 2. MARKING : MODEL PSU40A-3 INPUT 100~240V 47-63Hz OUTPUT +12V-3.3A CE,UL,CUL,TUV,CB MARK 3. TOPOLOGY : TOP SWITCH CIRCUIT 4. MECHANICAL : FULLY ENCLOSED PLASTIC CASE,O/P CABLE UL 18AWG*2C DC PLUG :2.1X5.5X11mm 1800mm LENGTH																										
21	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	E: FUSE : T2A / 250V BRIDGE DIODE : KBP206 LINE FILTER : EV-20 4槽 TRANSFORMER : EE-25 POWER SWITCHER : TOP227Y OUTPUT DIODE : MBR20100CT INPUT CAPACITOR : FuhYin 82u/400V 105°C OUTPUT CAPACITOR : RUBYCON 2200uf/16V YXG 105°C+1500u/16V HFR 105°C P.C.B : CEM-1 1 OZ																										
DATE	SAMPLE	TEST RESULT		TEST	APPROVAL																							
2000.5.10	P40A-3P2J P40A-6P2J	PASS		T.K.CHENG	MAX LIN																							
2001.3.5	P40A-0P2J P40A-1P2J P40A-1-1P2J P40A-2P2J P40A-4P2J P40A-5P2J P40A-8P2J	PASS		T.K.CHENG	MAX LIN																							

PREVIOUS