

Distributed by:

JAMECO[®]
ELECTRONICS

www.Jameco.com ♦ 1-800-831-4242

The content and copyrights of the attached
material are the property of its owner.

Jameco Part Number 123482



Declaration of RoHS Conformity

To minimize the environmental impact and take more responsibility to the earth we live, MEAN WELL hereby confirms that the following product series comply with Directive 2002/95/EC of the European Parliament - RoHS (Restriction of Hazardous Substances).

Content of Compliance

Lead	<0.1 % by weight (1000 ppm)
Mercury	<0.1 % by weight (1000 ppm)
Cadmium	<0.01 % by weight (100 ppm)
Hexavalent Chrome (Cr ⁺⁶)	<0.1 % by weight (1000 ppm)
PBBs	<0.1 % by weight (1000 ppm)
PBDEs	<0.1 % by weight (1000 ppm)

Product Series

Please refer to the attached list for details.

Delivery

The actual delivery date for RoHS compliance products will depend on our inventory status.

Please contact our sales representatives for details.

How to Recognize

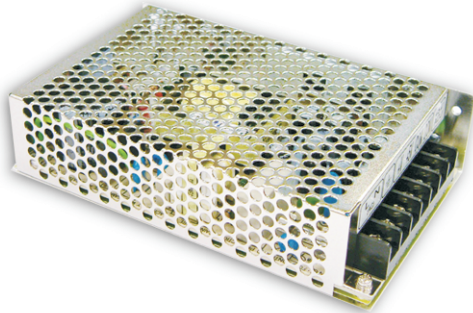
The serial number on each PSU originally was Cxxxxxxxx and right now will be changed to Rxxxxxxxx or Exxxxxxxx (or add "R" for serial number that only specify the production weeks) for RoHS compliance products for the ease of identification.

Jerry Lin / President
MEAN WELL Enterprises Co., Ltd.

Product Family	Series
G3	RS-25/35/50/75/100/150, RD-35/50/65/85/125, RID-50/65/85/125, RT-50/65/85/125, RQ-50/65/85/125
G2	S-25/40/60/100F/150/240, T-40, D/ID/T/IT/Q/IQ-60, D/T/Q-120, SC-150
PFC	SP-75/100/150/200/320/480/500/750, USP-225/350, TP-75/100/150, QP-100/150/200/320/375
AD	ADS-55/155, AD-55/155, ADD-55/155
CL/PL	CLG-60/100, PLN-30/60/100
DIN	MDR-20/40/60, DR-30/45/60/75/100/120, DRH-120, DRP-240/480/480S, DRT-240/480/960, DR-RDN20, DR-UPS40
Modular	MP-450/650/1K0, MS-75/150/300, MD-100
Parallel	PSP-500/600/1000/1500, RSP-1000/1500, RCP-1000, RCP-1U
Open Frame	NFM-05/10/15/20, PM-05/10/15/20, PS/PD-25, PS-35, PS/PD/PT-45, PS/PD/PT-65, RPD/RPT-65, PD-110, PQ-100, PPQ-100, PPS/PPT-125, LPS-50/75/100, LPP-100/150, ASP-150, PPS-200, PID-250, MPS-30, MPS/MPD/MPT-45, RPS/RPD/RPT-60, MPS/MPD/MPT-65, RPS/RPD/RPT-75, MPS/MPD/MPT/MPQ-120, MPS/MPD/MPT/MPQ-200
Charger	GC-30, PA/PB/PS-120, ESC/ESP-120, ESC/ESP-240, PB-300/360
Adaptor	GS-06/15/18/25, ES-18/25, P25, P30, P40, P50, P66, U65S, MES-30/50, ATX-100, AS-120P
PC/IPC Power	YP-350J, IPC-200/250/300
DC/DC Converter	SD-25/50/100/150/200/350, SDM30, ASD10H/15H, NSD10/15, SBT, SFT, DET, SRS, SUS, SPR, SPU, SCW, SLW, SKE SKA, DCW, DLW, DKE, DKA, TKA
Inverter	TN/TS-1500, A301/A302
Power Cord	YP** + YC**

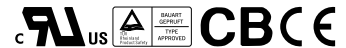
**** For other products not listed above, please contact our sales representatives for availability**

2007.04 update



■ Features :

- Universal AC input / Full range
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- LED indicator for power on
- Fixed switching frequency at 50KHz
- 2 years warranty

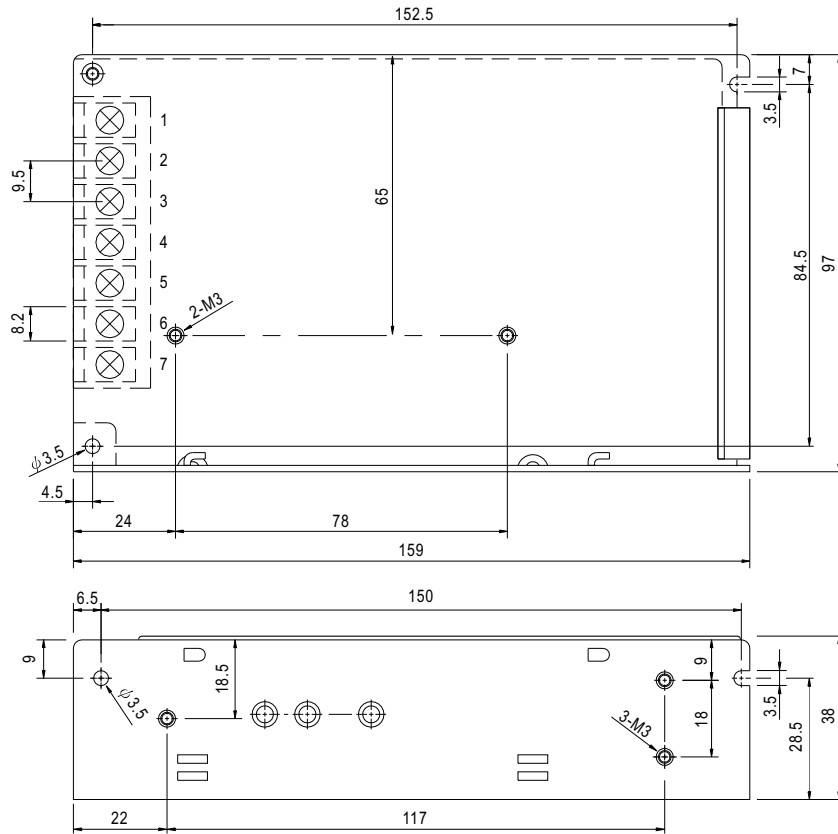


SPECIFICATION

MODEL		T-60A			T-60B			T-60C		
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3
	DC VOLTAGE	5V	12V	-5V	5V	12V	-12V	5V	15V	-15V
	RATED CURRENT	5A	2.5A	0.5A	5A	2.5A	0.5A	5A	2A	0.5A
	CURRENT RANGE	0.5 ~ 7A	0.2 ~ 3.5A	0 ~ 1A	0.5 ~ 7A	0.2 ~ 3.5A	0 ~ 1A	0.5 ~ 7A	0.2 ~ 3A	0 ~ 1A
	RATED POWER	57.5W			61W			62.5W		
	RIPPLE & NOISE (max.) Note.2	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	CH1 : 4.75 ~ 5.5V			CH1 : 4.75 ~ 5.5V			CH1 : 4.75 ~ 5.5V		
	VOLTAGE TOLERANCE Note.3	±2.0%	±6.0%	±6.0%	±2.0%	±6.0%	±6.0%	±2.0%	±6.0%	±6.0%
	LINE REGULATION	±0.5%	±1.0%	±0.5%	±0.5%	±1.0%	±0.5%	±0.5%	±1.0%	±0.5%
	LOAD REGULATION	±1.0%	±4.0%	±1.0%	±1.0%	±4.0%	±1.0%	±1.0%	±4.0%	±1.0%
	SETUP, RISE TIME	300ms, 50ms/230VAC			800ms, 50ms/115VAC at full load					
HOLD TIME (Typ.)	80ms/230VAC			10ms/115VAC at full load						
INPUT	VOLTAGE RANGE	85 ~ 264VAC		120 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz								
	EFFICIENCY(Typ.)	72%			72%			72%		
	AC CURRENT (Typ.)	2A/115VAC		1A/230VAC						
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC		40A/230VAC						
	LEAKAGE CURRENT	<3.5mA / 240VAC								
PROTECTION	OVER LOAD	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	5V: 5.75 ~ 6.75V Protection type : Hiccup mode, recovers automatically after fault condition is removed								
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) on +5V output								
	VIBRATION	10~500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes								
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL1012, UL60950, TUV EN60950 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								
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B								
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3								
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A								
	MTBF	281.1K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	159*97*38mm (L*W*H)								
	PACKING	0.55Kg; 24pcs/14.1Kg/0.75CUFT								
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC 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

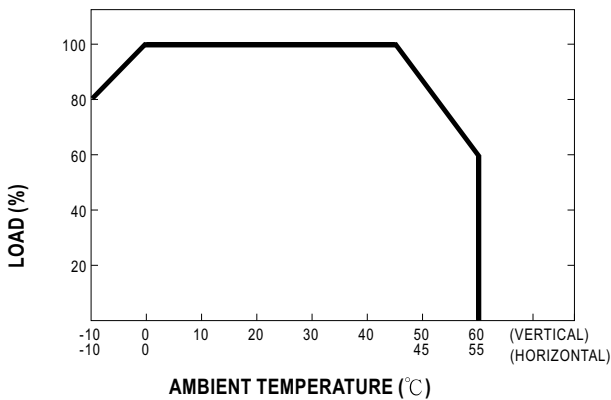
Case No. 901 Unit:mm



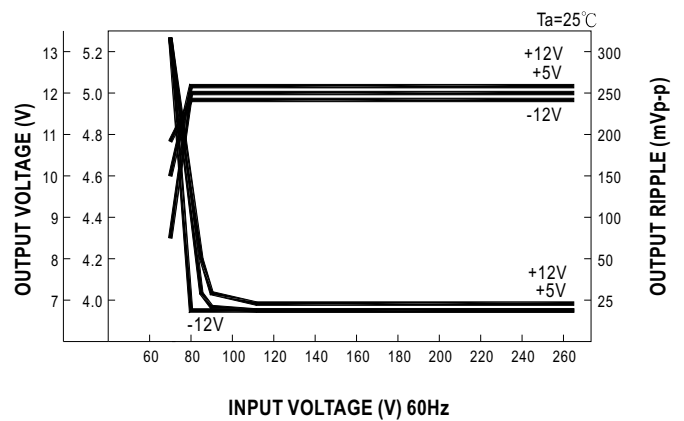
Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DC OUTPUT -V	7	DC OUTPUT +V1
2	AC/N	5	DC OUTPUT +V2		
3	FG \perp	6	DC OUTPUT COM		

Output Derating



Static Characteristics (B)



Quality Engineering Test Report

SERIES: T-60 60W AC-DC TRIPLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A.T-60A V1 : 5V / 5A B.T-60B V1 : 5V / 5A C.T-60C V1 : 5V / 5A
V2 : 12V / 2.5A V2 : 12V / 2.5A V2 : 15V / 2A
V3 : -5V / 0.5A V3 : -12V / 0.5A V3 : -15V / 0.5A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:85~264VAC O/P:FULL LOAD	C:61.68VAC~267VAC	P
2	LINE REGULATION	I/P:85~264VAC SPEC: O/P:FULL LOAD A: V1 :±0.5% V2 :±1% V3 :±0.5% B: V1 :±0.5% V2 :±1% V3 :±0.5% C: V1 :±0.5% V2 :±1% V3 :±0.5%	A: V1: +0.12% ~ +0.12% V2: -0.05% ~ +0.41% V3: -0.00% ~ +0.12% B: V1: -0.00% ~ +0.00% V2: -0.05% ~ +0.20% V3: -0.00% ~ +0.00% C: V1: -0.00% ~ +0.00% V2: -0.04% ~ +0.04% V3: -0.00% ~ +0.00%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A: V1 :±1% V2 :±4% V3 :±1% B: V1 :±1% V2 :±4% V3 :±1% C: V1 :±1% V2 :±4% V3 :±1%	A: V1: -0.12% ~ +0.00% V2: -0.26% ~ +0.77% V3: -0.12% ~ +0.12% B: V1: -0.12% ~ +0.00% V2: +0.26% ~ +1.42% V3: -0.00% ~ +0.00% C: V1: -0.12% ~ +0.00% V2: -0.65% ~ +1.09% V3: -0.00% ~ +0.00%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:85~264VAC SPEC: O/P:20% TO FULL LOAD A: V1 :±2% V2 :±6% V3 :±6% B: V1 :±2% V2 :±6% V3 :±6% C: V1 :±2% V2 :±6% V3 :±6%	A: V1: -0.06% ~ +0.20% V2: -1.20% ~ +4.16% V3: -0.14% ~ +0.24% B: V1: -0.06% ~ +0.30% V2: -1.25% ~ +4.06% V3: +0.725% ~ +0.93% C: V1: -0.12% ~ +0.12% V2: -0.09% ~ +5.50% V3: +0.79% ~ +0.91%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A: V1 :100mV V2 :100mV V3 :100mV B: V1 :100mV V2 :100mV V3 :100mV C: V1 :100mV V2 :100mV V3 :100mV	A: V1: 29mV V2: 13mV V3: 13mV B: V1: 12mV V2: 14mV V3: 9mV C: V1: 11mV V2: 12mV V3: 13mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:1A O/P:FULL LOAD	C:0.79A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:60A O/P: FULL LOAD	C:37.7A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: O/P:MIN. LOAD A: V1 :-5%~+10% B: V1 :-5%~+10% C: V1 :-5%~+10%	A: 4.47V~5.78V B: 4.50V~5.78V C: 4.41V~5.82V	P
9	SET UP TIME	I/P:230VAC SPEC:300mS O/P:FULL LOAD	C: 244.92mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:80mS O/P:FULL LOAD	C: 93mS	P
11	EFFICIENCY	I/P:230VAC SPEC: O/P:FULL LOAD A:72% B:72% C:72%	A:72.87% B:72.02% C:73.97%	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																																													
12	OVER LOAD PROTECTION	I/P:115VAC SPEC:105%~150% O/P:TESTING	A:143% B:137.7% C:128%	P																																													
13	OVER VOLTAGE PROTECTION	I/P:230VAC SPEC:V1:5.75~6.75V O/P:FULL LOAD	A : 6.12V B : 6.27V C : 6.13V	P																																													
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG-<3.5mA N-FG-<3.5mA	C: L-FG:1.95mA N-FG:1.96mA	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.	C: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P																																													
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)	C: I/P-O/P :4.31mA I/P-FG :6.61mA O/P-FG :2.61mA	P																																													
17	EMS TEST	EFT TEST: EN50082-1 IEC1000-4-4	C: CRITERIA A OK	P																																													
		SURGE TEST: EN50082-1 IEC1000-4-5	C: CRITERIA A OK	P																																													
18	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA:25.4°C BURN-IN DURATION : 2 hrs	NON BREAK	P																																													
19	ENVIRONMENT TEST (SAMPLE C:)	1.LOW TEMPERATURE TEST I/P:80 VAC O/P:FULL LOAD AMBIENT TEMPERATURE:-10°C	AFTER 1.5 hrs POWER ON OK	P																																													
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:43°C	AFTER 44.25 hrs NON BREAK																																														
		3.ACCELERATED LIFE TEST I/P:267VAC O/P:FULL LOAD POWER ON :3 min POWER OFF :5 sec AMBIENT TEMPERATURE:86.7°C AMBIENT HUMIDITY:95%	AFTER 4.25 hrs NON BREAK																																														
20	TEMPERATURE RISE TEST T rise OF PARTS	C: I/P :230VAC O/P :FULL LOAD AFTER 2 hr BURN-IN TA:25.4°C	<table border="1"> <thead> <tr> <th></th> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>T rise</th> </tr> </thead> <tbody> <tr> <td></td> <td>BD1</td> <td>BRIDGE DIODE</td> <td>77.6°C</td> <td>52.2°C</td> </tr> <tr> <td></td> <td>Q1</td> <td>MAIN TRANSISTOR</td> <td>81.9°C</td> <td>56.5°C</td> </tr> <tr> <td></td> <td>T1</td> <td>MAIN TRANSFORMER</td> <td>87°C</td> <td>61.6°C</td> </tr> <tr> <td></td> <td>D4</td> <td>O/P DIODE</td> <td>76.1°C</td> <td>50.7°C</td> </tr> <tr> <td></td> <td>C21</td> <td>O/P FILTER CAPACITOR</td> <td>80°C</td> <td>54.6°C</td> </tr> <tr> <td></td> <td>L2</td> <td>O/P CHOCK</td> <td>76°C</td> <td>50.6°C</td> </tr> <tr> <td></td> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>67.1°C</td> <td>41.7°C</td> </tr> <tr> <td>*</td> <td>D1</td> <td>FLY DIODE</td> <td>92.7°C</td> <td>67.3°C</td> </tr> </tbody> </table>		POSITION	P/N	TEMP	T rise		BD1	BRIDGE DIODE	77.6°C	52.2°C		Q1	MAIN TRANSISTOR	81.9°C	56.5°C		T1	MAIN TRANSFORMER	87°C	61.6°C		D4	O/P DIODE	76.1°C	50.7°C		C21	O/P FILTER CAPACITOR	80°C	54.6°C		L2	O/P CHOCK	76°C	50.6°C		C5	I/P FILTER CAPACITOR	67.1°C	41.7°C	*	D1	FLY DIODE	92.7°C	67.3°C	* NOTE1
	POSITION	P/N	TEMP	T rise																																													
	BD1	BRIDGE DIODE	77.6°C	52.2°C																																													
	Q1	MAIN TRANSISTOR	81.9°C	56.5°C																																													
	T1	MAIN TRANSFORMER	87°C	61.6°C																																													
	D4	O/P DIODE	76.1°C	50.7°C																																													
	C21	O/P FILTER CAPACITOR	80°C	54.6°C																																													
	L2	O/P CHOCK	76°C	50.6°C																																													
	C5	I/P FILTER CAPACITOR	67.1°C	41.7°C																																													
*	D1	FLY DIODE	92.7°C	67.3°C																																													
21	LIFE CYCLE	C: SUPPOSE C21 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25°C Tc21:79.6°C Life: 28659hrs I/P:230VAC O/P:FULL LOAD Ta:45°C Tc21:88.6°C Life: 15358hrs		P																																													
22	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	C: FUSE :3A/250V BRIDGE DIODE :D3SB60 LINE FILTER :EE-25 TF096C1 TRANSFOMER :EER-35 TF155-1-R1 POWER SWITCHER :2SK727 TO-3P OUTPUT DIODE :SF10SC4 OUTPUT CAPACITOR :ELNA 2200uF/10V RJH 105°C INPUT CAPACITOR :JAMICON 150uF/400V 85°C P.C.B :T-60N-R3 CEM-1 2 OZ SS																																															

DATE	SAMPLE	TEST RESULT	TEST	APPROVAL
19980423	T-60	NOTE1:WORKING TEMPERATURE >=43°C OUTPUT SHOULD DERATING	H.C.LIOU	Max Lin
19990518	T-60C	PASS	H.C.LIOU	Max Lin