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	REV	DESCRIPTION	DATE	APPROVED
	A	INITIAL RELEASE	01/10/01	PM
	B	REVISE FORMAT, RFS. 14569, BS	09/24/08	HM
	C	ADD MIN. LOAD REQUIREMENT, RFS. 19630, BS	09/23/10	HM
	D	REMOVE 'TUV', UPDATE LABEL, RFS. 21154, BS	06/27/11	HM



## USE TOSHIBA P/N: TK20A60V MOSFET FOR BOARD LOCATION Q1



### 1. NOTES:

DIMENSIONS ARE IN MM UNLESS SPECIFIED OTHERWISE.

### 2. ELECTRICAL SPECIFICATIONS:

INPUT VOLTAGE:	90 VAC TO 264 VAC
INPUT CURRENT:	< 1.3 A RMS AT 90 VAC INPUT
INPUT FREQUENCY:	47 HZ - 63 HZ
OUTPUT VOLTAGE / CURRENT:	+ 5 VDC @ 0 - 5.0 A; +12 VDC @ 0-1.5A; -12VDC @ 0-0.5A
OUTPUT CURRENT :	MIN. LOAD REQUIRED AT LEAST 20% OF TYPICAL MAIN
OUTPUT POWER (RATED):	50 WATTS MAX
OUTPUT RIPPLE (PEAK TO PEAK):	≤ 1% OR 100mV MAX, WHICHEVER IS SMALLER, FOR ALL OUTPUT
OUTPUT REGULATION (LINE/LOAD):	± 5 % FOR MAIN OUTPUT, ±10% FOR SECOND AND ± 1.5% FOR THIRD OUTPUT
TURN ON/ TURN OFF OVERTHOOT:	4% MAX 500 uS MAX RECOVERY TIME FOR 25% STEP LOAD
TURN-ON DELAY:	1 SEC MAX
HOLD-UP TIME:	16 mSEC MIN AT NOMINAL INPUT AND FULL LOAD
INRUSH CURRENT:	20 A MAX AT COLD START FOR N.A. (40A FOR EURO)
EFFICIENCY:	75 % TYPICAL
SWITCHING FREQUENCY:	44 KHZ TYPICAL
ADJUSTABILITY:	FACTORY SET
OVER-VOLTAGE PROTECTION:	VOLTAGE LIMITED LESS 130% OF NOMINAL VOLTAGE FOR MAIN OUTPUT
OVER-CURRENT / SHORT CIRCUIT:	1.1 - 1.3 I <sub>o</sub> HICCUP WITH AUTO RECOVERY
OTHER PROTECTION:	INPUT FUSING
SAFETY APPROVALS :	UL 60950 / 1950, CULTO 22.2 # 234, 950, CE CLASS I
DIELECTRIC WITHSTAND VOLTAGE:	1500VAC PRIMARY-SECONDARY;1500 VAC PRIMARY- GROUND
LEAKAGE CURRENT:	3.5 mA MAX
EMI:	COMPLIES WITH EN55022, CLASS B AND FCC PART 15 CLASS B WHEN TESTED WITH A RESISTIVE LOAD, BOTH CONDUCTED AND RADIATED
CE MARK :	TESTED TO COMPLY WITH EN61000-3-2, EN61000-3-3 AND EN50082-1 INCLUDING EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11, UNIT IS ELIGIBLE FOR CE MARK.
MTBF:	200,000 HOURS AT 25°C AMBIENT TEMPERATURE
OPERATING TEMPERATURE:	0°C TO 40° C
STORAGE TEMPERATURE:	-20°C TO 85° C
HUMIDITY:	0% TO 90% RELATIVE HUMIDITY
WEIGHT:	531 g
ROHS:	COMPLIES WITH EU 2002/95/EC AND CHINA SJ/T 11363-2006

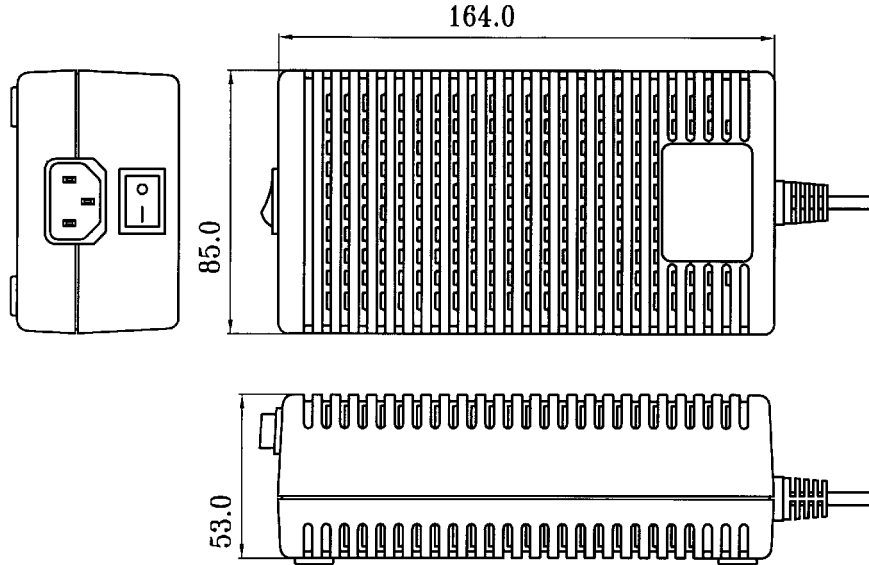
Foot Note: Globtek Inc. will not be liable for the safety and performance of these power supplies if unauthorized access and repair occurs. End user should consult applicable UL, CSA or EN standards for proper installation instructions	DASH NO.	PART NO	REV.	DESCRIPTION	NOTES	
	<b>TABULATION BLOCK</b>					
Limitation of Use: Globtek product are not authorized for use as mission critical components in life support, hazardous environment, nuclear or aircraft applications without prior written approval from the CEO of Globtek Inc.	TOLERANCES: DECIMALS    ANGULAR .xx +/- 0.1    +/- 1° .xxx +/- .005		<b>GlobTek, Inc.</b> 186 Veterans Dr. Northvale, NJ 07647 www.globtek.com Tel. 201-784-1000 Fax 201.784.0111			
	INIT.BY: BS	DATE: 09/24/08				MILLIMETERS    ANGULAR .xx +/- 0.3    +/- 1° .xxx +/- .013
Contents of this document are subject to change without prior notice	DRAWN: NF	DATE: 09/24/08	FSCN No.: G, N	SIZE A	MODEL NO: HES61-30	REV. D
	APRVD : HM	DATE: 09/24/08	SCALE: NONE		PART NO: TR9CV5000N05-R(R)	SHEET 1 OF 3

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**3. ENCLOSURE**

UPPER HOUSING: HIGH IMPACT PLASTIC, 94V0 POLYCARBONATE, COLOR BLACK  
LOWER HOUSING: HIGH IMPACT PLASTIC 94V0 POLYCARBONATE, COLOR BLACK  
SIZE: 164 x 85 x 55 ± 1 mm



**4. INPUT CONNECTOR:**

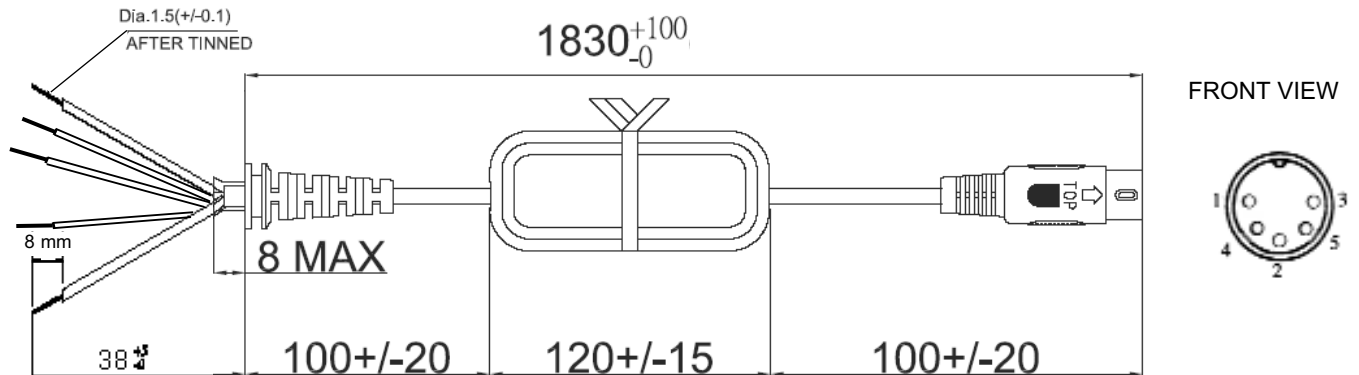
CONFIGURATION: CLASS 1 MODEL IEC320 / C14, AC POWER RECEPTACLE WITH 3 MALE PRONGS

**5. OUTPUT CORD:**


5 CONDUCTOR: 2 CONDUCTORS, 20 AWG STRANDED WIRE AND 3 CONDUCTORS, 18 STRANDED WIRE, ROUND UL 2464 CORD TYPE, COLOR BLACK , LENGTH OF CORD: 1830+100,-0 mm.  
CORD IS MEASURED FROM THE HOUSING TO THE END OF OVERMOLD OF THE CONNECTOR.  
CABLE IS TO BE MARKED WITH WIRE GAUGE, AND ALL APPLICABLE RATING AND SAFETY APPROVALS.

**6. OUTPUT CONNECTOR:**

5 PIN MALE DIN CONNECTOR WITH 180° PIN SPAN



PIN 1: COMMON  
PIN 2: GROUND  
PIN 3: +5 VDC  
PIN 4: -12 VDC  
PIN 5: +12 VDC  
SHELL: N/C

 <b>GlobTek, Inc.</b> www.globtek.com	186 Veterans Dr. Northvale, NJ 07647 Tel. 201-784-1000 Fax 201.784.0111
	DWG TITLE: TRIPLE OUTPUT SWITCHING POWER SUPPLY 50 WATTS 5V@5A, +12V@1.5A, -12V@0.5A, DESKTOP, UNIVERSAL INPUT
MODEL NO: HES61-30	REV. D
PART NO: TR9CV5000N05-R(R)	SHEET 2 OF 3

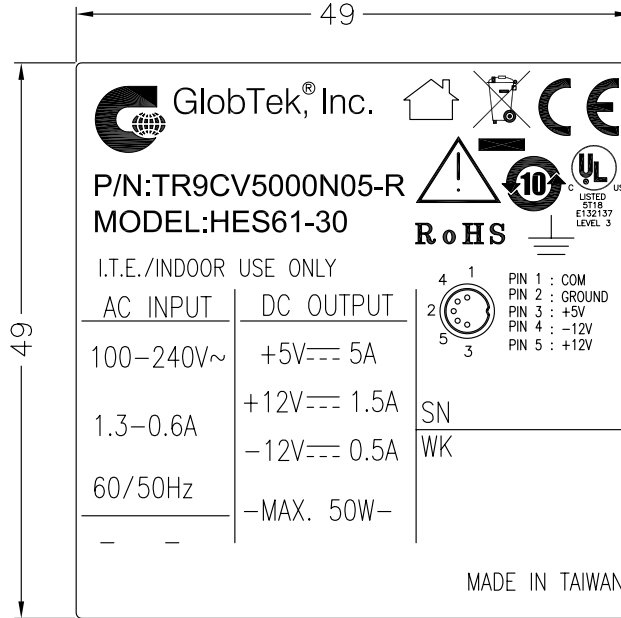
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**8. LABEL:**

MATERIAL: .007 (0.18) THICK FLAT THERMAL TRANSFER, IMPRINTABLE, WHITE OR GRAY POLYESTER SHEET WITH BLACK NOMENCLATURE.

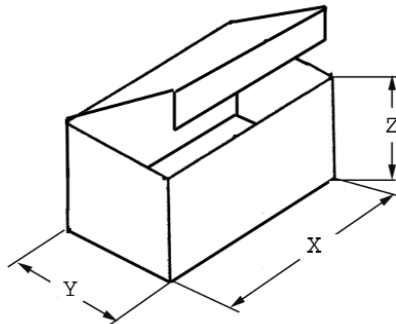
MANUFACTURER: STEVEN LABEL, MATERIAL I.D. NO.3302-33, UL FILE NO. MH12821(N), UL MATERIAL DESIGNATION FILE NO. GHW332RL. OPTIONAL LABEL MATERIAL CAN BE SUBSTITUTED PROVIDING MATERIAL IS UL LISTED AND COMPLEIS WITH APPLICABLE SAFETY REQUIREMENTS.




**ACTUAL POSITIONING OF SYMBOLS AND TEXT IS SUBJECT TO CHANGE AT TIME OF MANUFACTURE**

**9. INDIVIDUAL PACKING BOX:**

MATERIAL: CORRUGATED FIBERBOARD, F-FLUTE 0.8 (2.0) THICK, DOUBLE WALL CONSTRUCTION. EXTERNAL FINISH: WHITE, COATED WITH GLOSS FINISH (AQUEOUS OR VARNISH) STYLE: TUCK SIDES WITH LOCKING TABS ON BOTH SIDES OF BOX. NO PRINTING ON THE OUTSIDE OF BOX.



X = 245 mm  
Y = 135 mm  
Z = 90 mm

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MODEL NO: HES61-30	REV. D
PART NO: TR9CV5000N05-R(R)	SHEET 3 OF 3