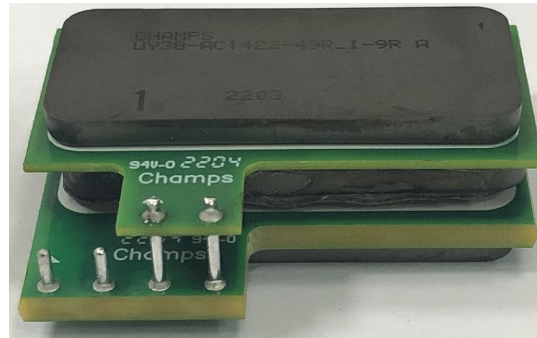


Champs-Tech UY38+ Series PSFB: FWCT + Current Doubler Transformers



General Notes:

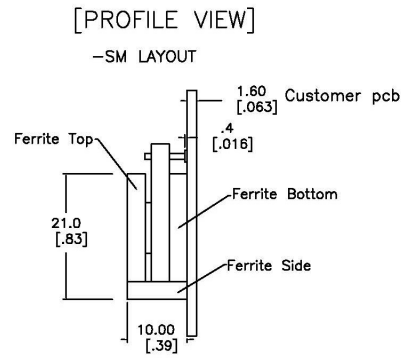
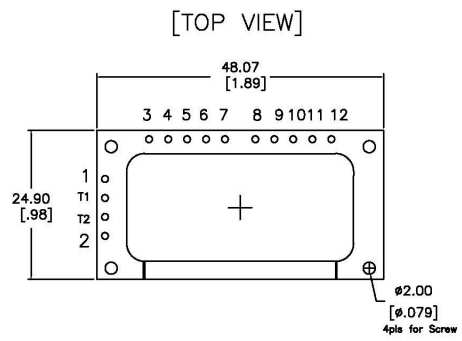
1. Topology: PSFB to Current Doubler and FWCT DC-DC Converter applications.
2. Add thermal pads in combination with heat sinks and clamps allows for higher power throughput at rated ambient and hot spot temperatures.
3. Size: 25mm wide x 48mm length x 10-12mm Height
4. Multilayer PCB optimization for lowest AC resistance & Proximity Loss Effect
5. Integer Turns available from 1T to 40T.
6. All designs can be supplied with planar windings embedded in the pcb of the Main Module of the converter. Installed power components, SM Assy and Heat Sink + incorporation into a module available.
7. Wide variety of PNs, Designs and Turns Ratios in stock. If not listed, Contact Us
8. Surface Mount, Thru-Hole, Pad-to-Pad, Embedded Planar Windings as Options

1. Input Voltage Range 210-440.

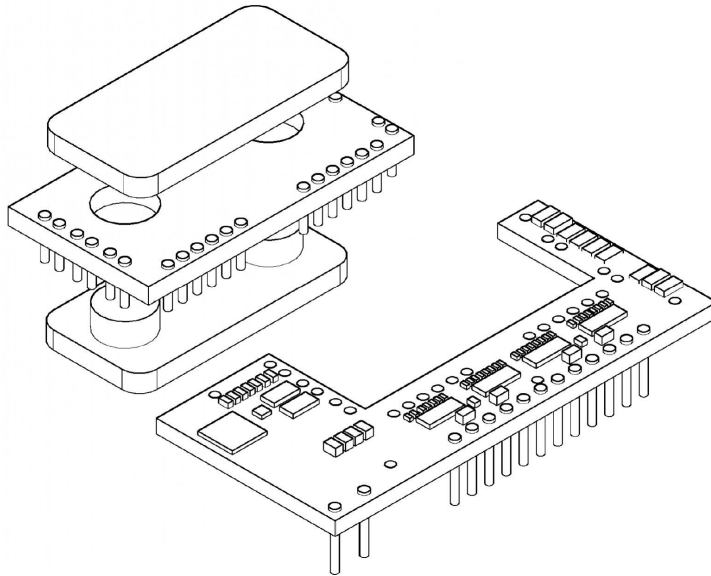
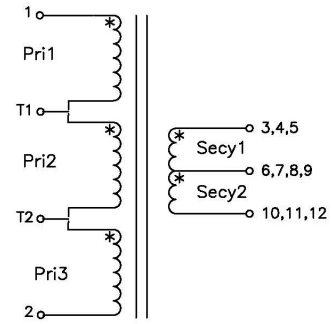
Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (A/c)	Pout (Watts)	Freq (KHz)	Secy Topology	Half Period Duty	Full Period Duty
UY38-1216-250D	210	440	250	4.0	1000	300		46%	92%
	200	320	17	65	1100	200		43.8%	87.6%

2. Input Voltage Range 350-420.

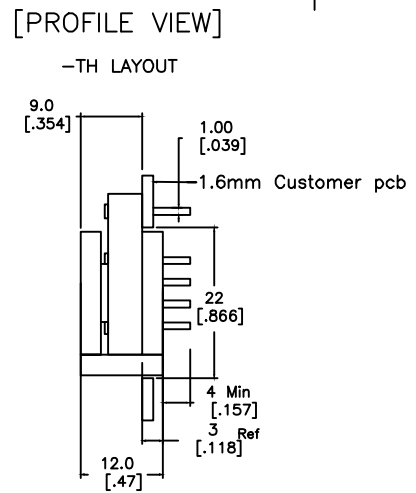
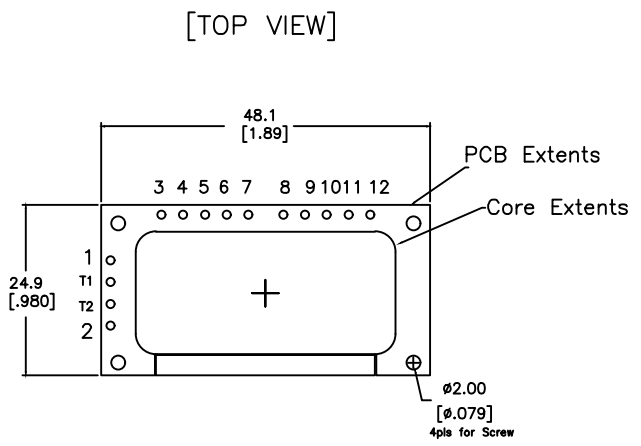
Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (A/c)	Pout (Watts)	Freq (KHz)	Secy Topology	Half Period Duty	Full Period Duty
UY38-160202-TH	300	420	28.0	21.5	600	200	FWCT or CDBL	38.5%	76.9%
UY38-240404-TH	360	420	25.0	48	1200	200	FWCT or CDBL	42.9%	85.8%
UY38-240404-250D	360	420	48.0	25.0	1200	200	FWCT or CDBL	41.2%	82.4%



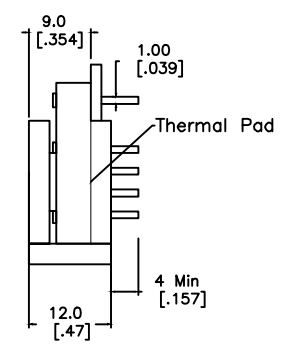
UY38-Schematic Typical



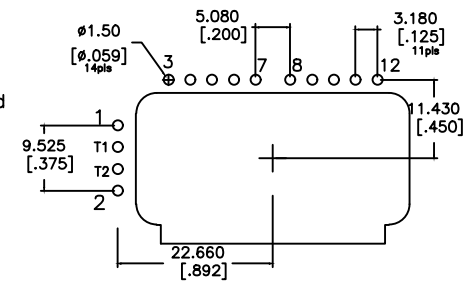
UY38 Mechanical Drawing



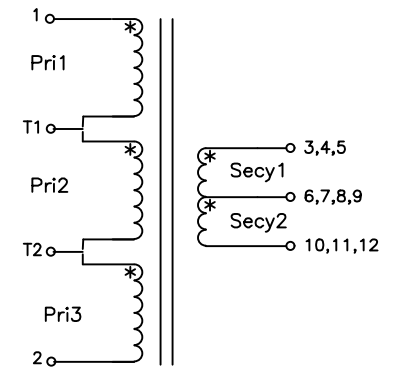
-TP Add Thermal Pad



THRU-HOLE LAYOUT [TOP VIEW]



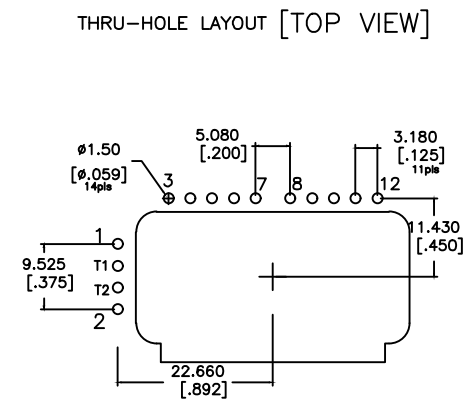
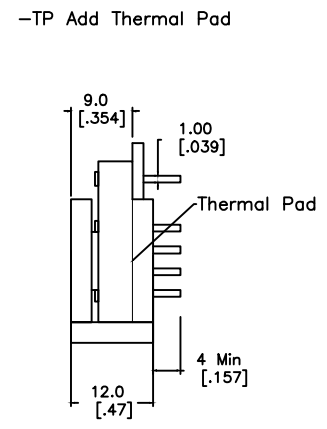
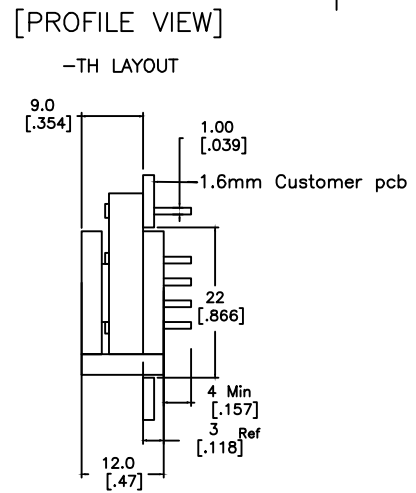
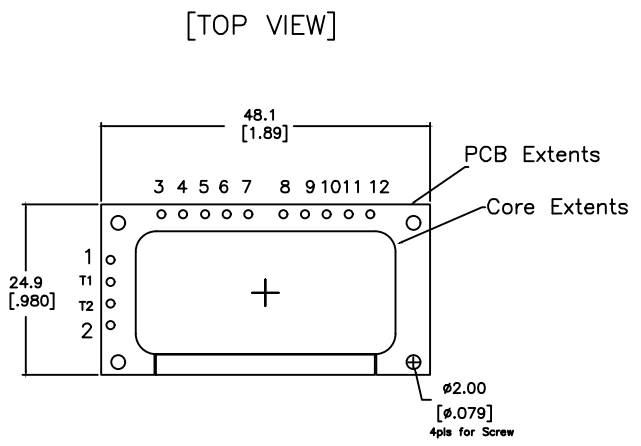
UY38-160202



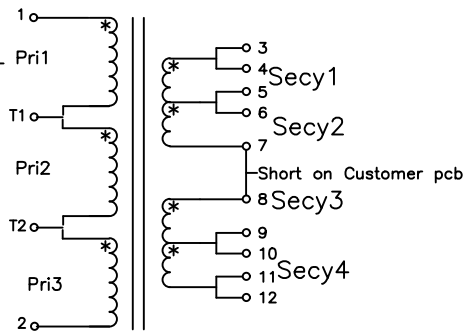
Electrical Information:

1. TURNS RATIO [1-2]:[3,4,5-6,7,8,9] & [6,7,8,9-10,11,12]=8:1 ±2%
2. INDUCTANCE [1-2] = 380 uH Nom. ±25% @100kHz/1.0V
3. LEAKAGE INDUCTANCE [1-2] : SHORT 3 thru 12 = 200 nH Nom @100kHz
4. DCR [1-2]=60 mohms Nom; [3,4,5-6,7,8,9]=[6,7,8,9-10,11,12]=1.5 mohms Nom
5. CAPACITANCE 1,2 to 3,12 = 420 pF Nom @100kHz
6. DIELECTRIC ISOLATION: [1,2] : [3,7][8,12] : CORE > 2500 VDC
DIELECTRIC ISOLATION: [3,7][8,12] : CORE > 500 VDC
7. RoHS & Reach Compliant
8. Temp Range: -55C To +130C [Inclusive of Temp Rise]

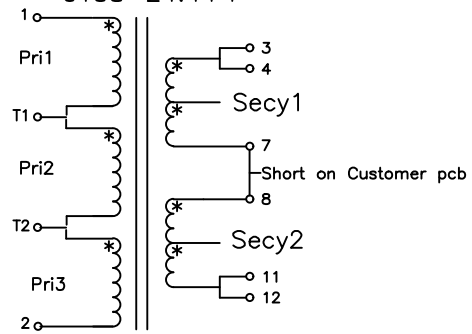
No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
DRAWN		SIGN	DATE	Champs-Tech PN UY38-160202-TH-250D UY38-160202-TH-TP-250D
CHKD		J.L.	3/30/26	Customer Part #:
APPR		H.E.	115.2.24-02	ISSUE A REV 00
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIZE SCALE 1:1		



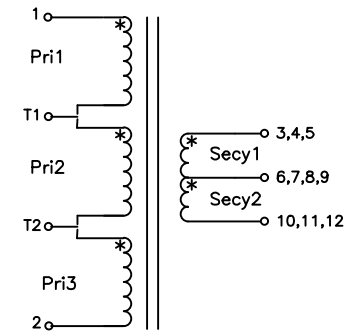
Option #1
UY38-24:2+2+2+2



Option #2
UY38-24:4+4



Option #3
UY38-24:2+2



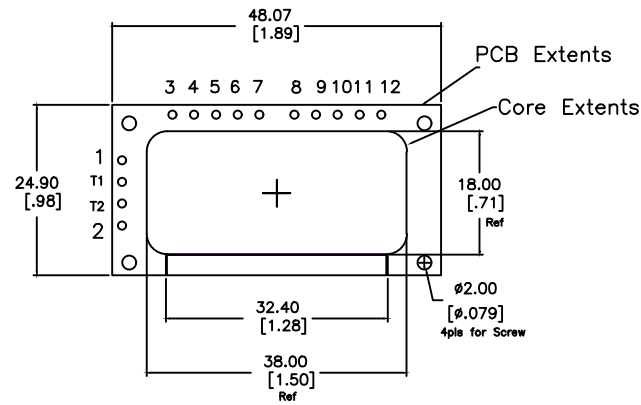
Electrical Information:

1. TURNS RATIO [1-2] : [3,4-7] & [8-11,12] = 6:1 ±2%
2. INDUCTANCE [1-2] = 860 uH Nom. ±25% @100kHz/1.0V
3. LEAKAGE INDUCTANCE [1-2] : SHORT 3 thru 12 = 300 nH Nom @100kHz
4. DCR [1-2]= 78 mohms Nom || [3-7]=[8-12]= 3 mohms Nom
5. CAPACITANCE 1,2 to 3,12 = 560 pF Nom @100kHz
6. DIELECTRIC ISOLATION: [1,2] : [3,7][8,12] : CORE > 2500 VDC
DIELECTRIC ISOLATION: [3,7][8,12] : CORE > 500 VDC
7. RoHS & Reach Compliant
8. Temp Range: -55C To +130C [Inclusive of Temp Rise]

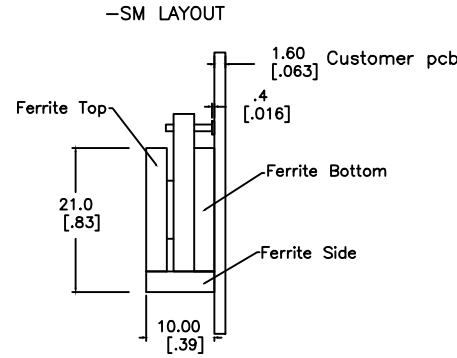
URNS RATIO [1-2]:[3,4,5-6,7,8,9] & [6,7,8,9-10,11,12]=12:1 ±2%
DCR [1-2]=78 mohms Nom; [3,4,5-6,7,8,9]=[6,7,8,9-10,11,12]=1.5 mohms Nom

No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
DRAWN		SIGN	DATE	Champs-Tech PN UY38-240404-TH-250D UY38-240404-TH-TP-250D
CHKD		J.L.	4/13/26	Customer Part #:
APPR		H.E.	115.2.24-02	ISSUE A REV 00
		SIZE	SCALE 1:1	

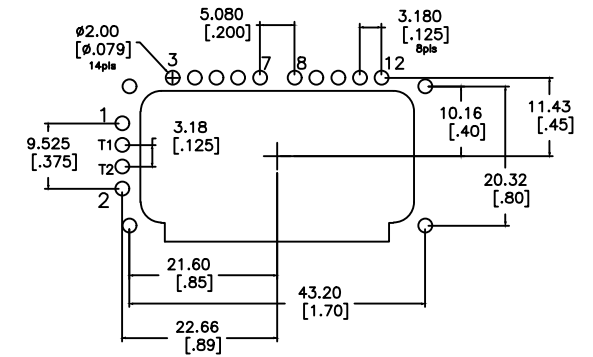
[TOP VIEW]



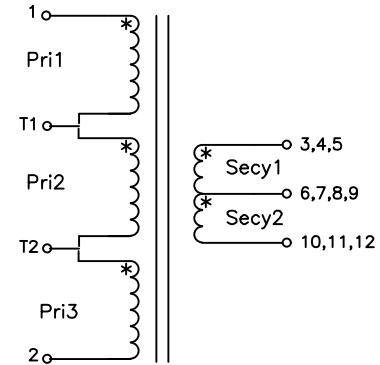
[PROFILE VIEW]



SUGGESTED PAD LAYOUT [TOP VIEW]



UY38-1216



Electrical Information:

1. TURNS RATIO [1-2]:[3,4,5-6,7,8,9] & [1-2]:[6,7,8,9-10,11,12]=1.5:1 ±2%
2. INDUCTANCE [1-2] = 186 uH Nom. ±25% @100kHz/1.0V
3. LEAKAGE INDUCTANCE [1-2] : SHORT 3 thru 12 = 200 nH Nom @100kHz
4. DCR [1-2]=18 mohms Nom; [3,4,5-6,7,8,9]=[6,7,8,9-10,11,12]=25 mohms Nom
5. CAPACITANCE 1,2 to 3,12 = 380 pF Nom @100kHz
6. DIELECTRIC ISOLATION: [1,2] : [3,7][8,12] : CORE > 2500 VDC
DIELECTRIC ISOLATION: [3,7][8,12] : CORE > 500 VDC
7. RoHS & Reach Compliant
8. Temp Range: -55C To +130C [Inclusive of Temp Rise]

No.		DESCRIPTION		REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION						
CHAMPS TECHNOLOGIES						
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN UY38-1216-250D		
.XXX ± 0.254	DRAWN	E.L.	4/2/26	Customer	ISSUE	REV
.XX ± 0.58	CHKD	J.L.		Part #:	A	00
.X ± 1.5	APPR	H.E.	115.3.25-01	SIZE	SCALE 1:1	