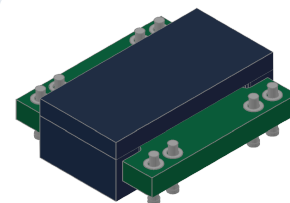




Champstech 20N1 Series

Active Clamp Forward



Key features & specifications

TOPOLOGY Active Clamp Forward	POWER 10–60 W typical
FREQ. RANGE 240 kHz nom. · 100–500 kHz typ.	EFFICIENCY 94% typical
FOOTPRINT 17.8 × 21.0 mm	HEIGHT 7.0 mm low profile
TURNS 1T–16T integer	MOUNTING SMT · thru-hole · pad-to-pad · embedded
ISOLATION 1500–2250 Vdc	INSULATION CLASS H
OPER. TEMP. –55 to +155 °C	

General notes

1. Champs' 20N1 series is earmarked to function in Opto-Isolated Active Clamp Forward circuits. The series originated as described by the LT3753 IC from Analog Devices. It can be and has been adapted successfully for all other ACF ICs from other manufacturers. Consult Champs-Tech application engineers.
2. The Secondary Side SR FETs are typically controlled by a Secondary Side IC [e.g. LT8311] – or through Direct Drive via Secondary winding supplied for V_{in} range 2:1.
3. In other applications the 20N1 Series can operate over a wider V_{in} range or configured for different Input & Output Voltage and Rated Power. Increased height allows increased power output due to higher current capability.
4. Integer Turns available from 1T to 16T. Can be used as Primary or Secondary. Mechanical configuration and outline allow for a “flex” arrangement. Contact factory for information on any power topology design.
5. All designs can be supplied with planar windings embedded in the pcb of the Main Module of the converter. Heat Sink and installed power components SM assembly and installation and incorporation into a module are also available.
6. Operating temp. = ambient + temperature rise. Must not exceed insulation class limit.
7. Contact Applications Engineering for custom variations

Part number & parameter table

Champs PN catalog – one table, all input-voltage ranges, sorted by V_{in} then V_{out} (ascending). All values at $T_{amb} = 25\text{ °C}$ unless noted.

Champs PN	V_{in} Min (V)	V_{in} Max (V)	V_{out} (V)	I_{out} (A dc)	P_{out} (W)	Freq (kHz)	Volt- μ Sec [Rated]	Output Inductor PN
20N1-0302	9	18	3.3	18.0	60	240	40	PQL2050-3R3-22-TH
20N1-0303	9	18	5.0	12.0	60	240	40	PQL2050-4R9-14-TH
20N1-0306	9	18	12.0	5.0	60	240	40	PQI2050-20HX-TH-10m
20N1-0312	9	18	24.0	2.5	60	240	40	PQI2050-100-6-LTC
20N1-0702-40R	18	36	3.3	18.0	60	240	90	PQL2050-3R3-22-TH
20N1-0603-40R	18	36	5.0	12.0	60	240	80	PQL2050-4R9-14-TH
20N1-0606-40R	18	36	12.0	5.0	60	240	80	PQI2050-20HX-TH-10m
20N1-0612-40R	18	36	24.0	2.5	60	240	80	PQI2050-100-6-LTC
20N1-1202-80R	36	72	3.3	18.0	60	240	100	PQL2050-3R3-22-TH

Champs PN	Vin Min (V)	Vin Max (V)	Vout (V)	Iout (A dc)	Pout (W)	Freq (kHz)	Volt-μSec [Rated]	Output Inductor PN
20N1-0802-80R	36	72	5.0	12.0	60	240	100	PQL2050-4R9-14-TH
20N1-1005	36	72	12.0	5.0	60	240	130	PQI2050-20HX-TH-10m
20N1-1012	36	60	24.0	2.55	60	240	130	PQI2050-100-6-LTC

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Simulation & STP files available on request – [Contact Us](#)

Mechanical outline & package dimensions

L × W × H

21.0 × 17.8 × 7.0 mm

Weight

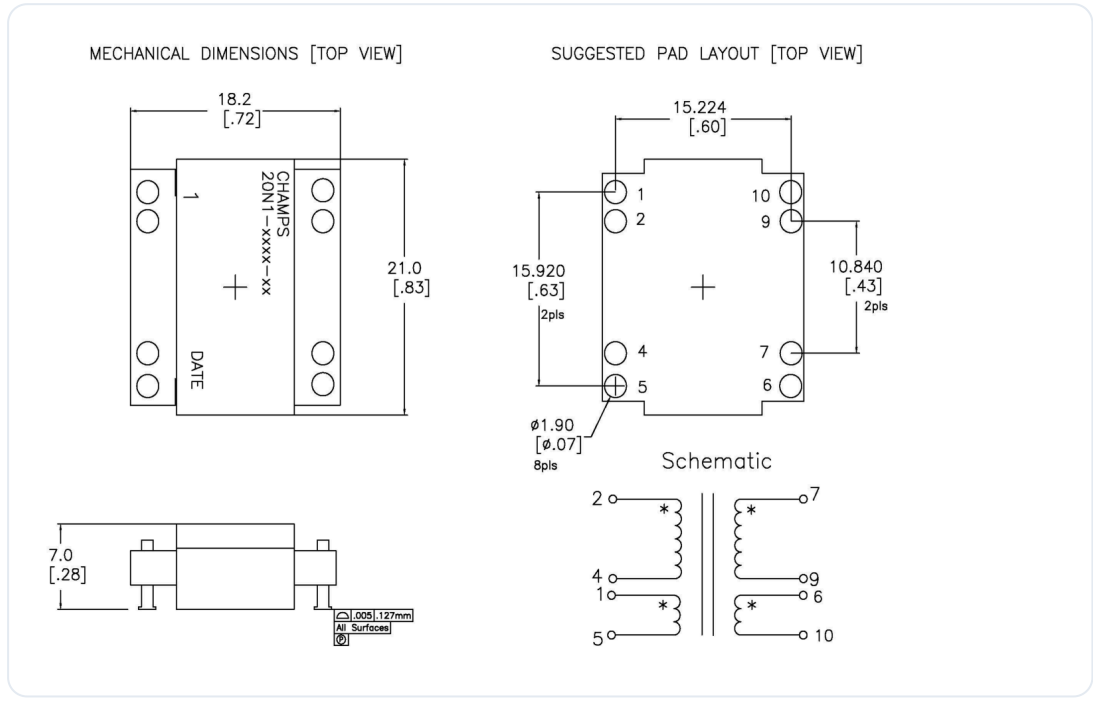
10 g

Tolerances

±0.78 mm unless noted

Finish

RoHS · Sn/Ag 96/4



Champs Technologies USA

Tel +1 (347) 349-0768

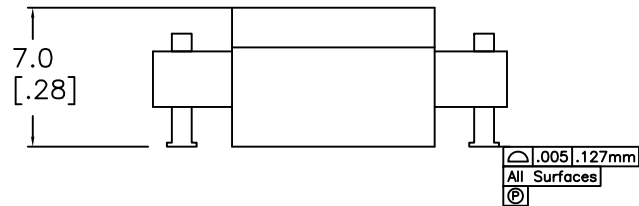
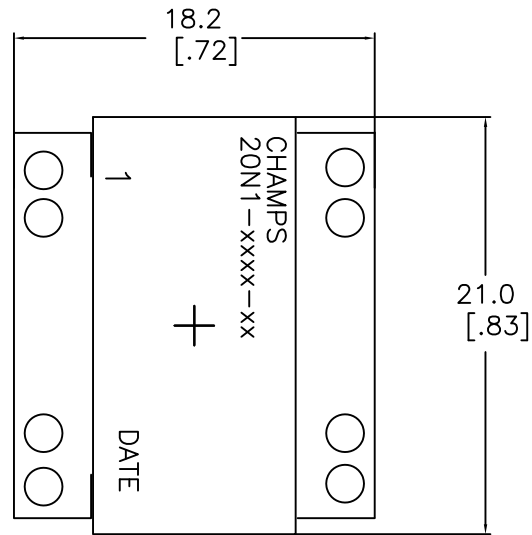
Email harold.eicher@champs-tech.com

Champs Technologies Taiwan

Tel +886-4-2662-1309

Email cathy@champstech.com

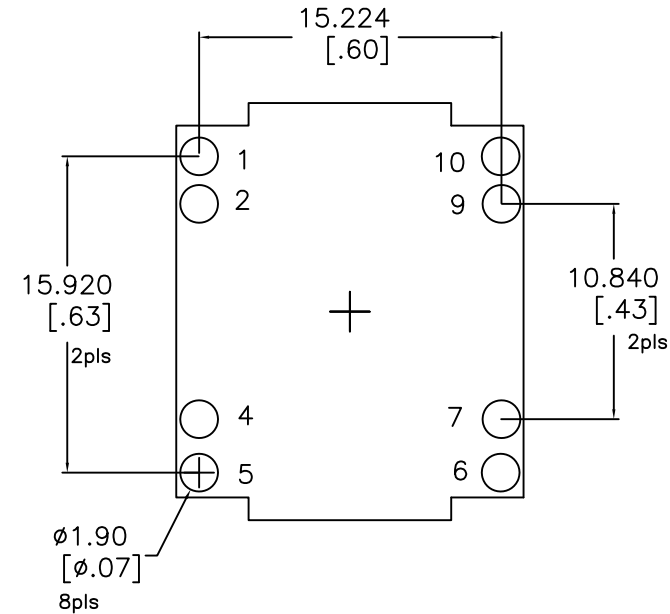
MECHANICAL DIMENSIONS [TOP VIEW]



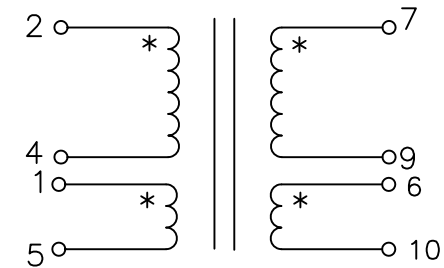
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 0.167 ±2%
TURNS RATIO [1-5] : [2-4] = xx ±2% || [6-10] : [2-4] = xx ±2%
2. DCR [2-4] = 77 mohm Nom, [7-9] = 1.7 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4]= 80 uH ±10%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 200 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc] [7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

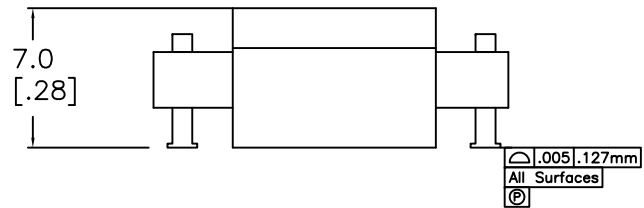
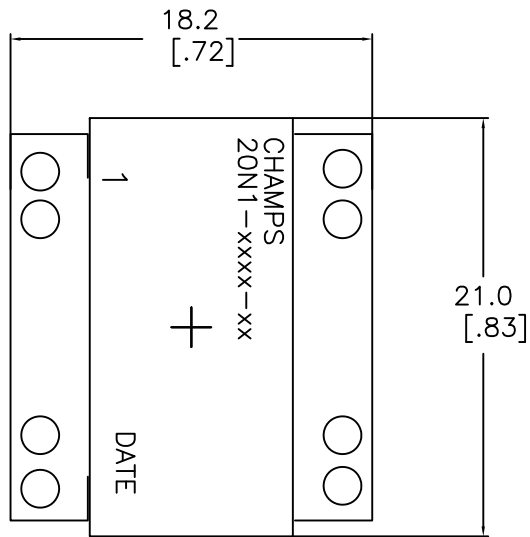


Schematic



No.	DESCRIPTION	REVISIONS	DATE	APPR
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TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED	SIGN	DATE	Champs-Tech PN 20N1-1202-80R	
.XXX ± 0.254	DRAWN	HE	10.24.19	Customer
.XX ± 0.508	CHKD			Part #:
.X ± 0.78	APPR			SIZE
ANGLE ±				SCALE 3:1
				ISSUE A
				REV 00

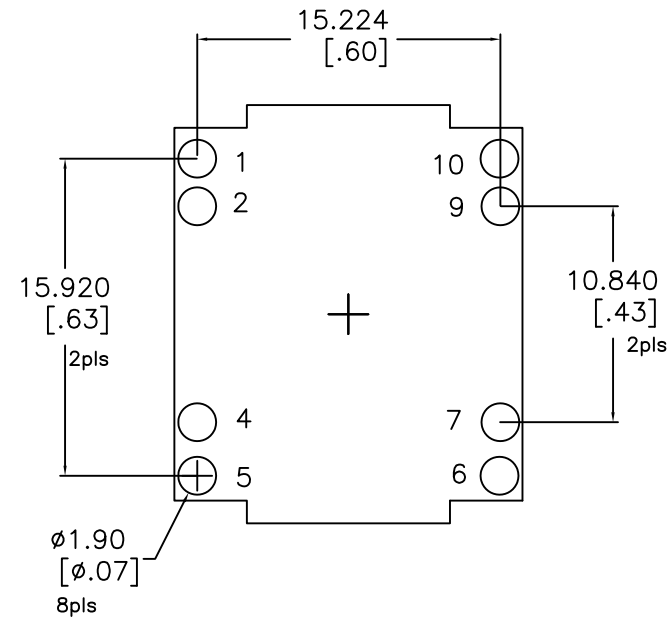
MECHANICAL DIMENSIONS [TOP VIEW]



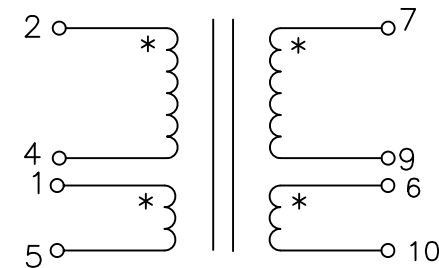
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 0.25 ±2%
TURNS RATIO [1-5] : [2-4] = xx ±2% || [6-10] : [2-4] = xx ±2%
2. DCR [2-4] = 28 mohm Nom, [7-9] = 1.7 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4]= 80 uH ±10%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 150 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc] [7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

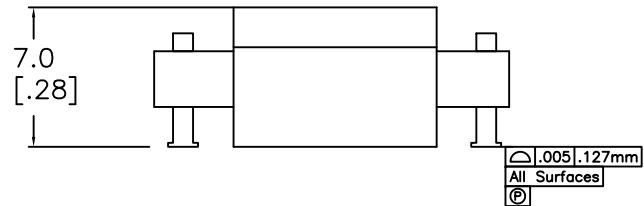
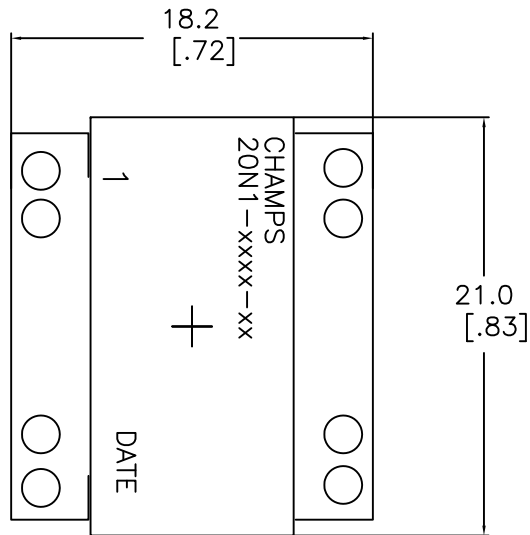


Schematic

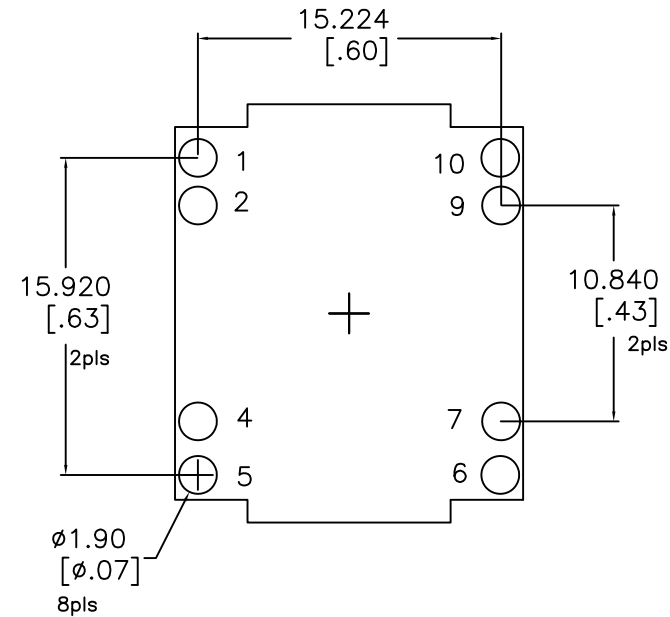


No.	DESCRIPTION	REVISIONS	DATE	APPR
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CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN 20N1-0802-80R
.XXX ± 0.254	DRAWN	HE	10.24.19	Customer
.XX ± 0.508	CHKD			Part #:
.X 0.78	APPR			SIZE
ANGLE ±				SCALE 3:1
				ISSUE A
				REV 00

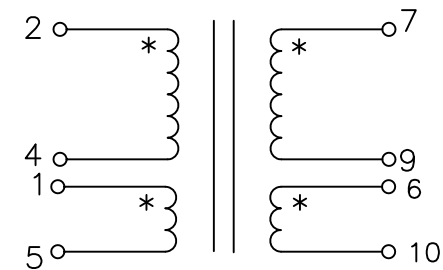
MECHANICAL DIMENSIONS [TOP VIEW]



SUGGESTED PAD LAYOUT [TOP VIEW]



Schematic

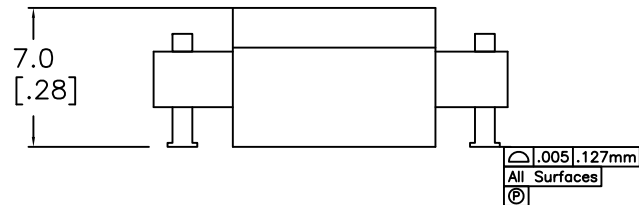
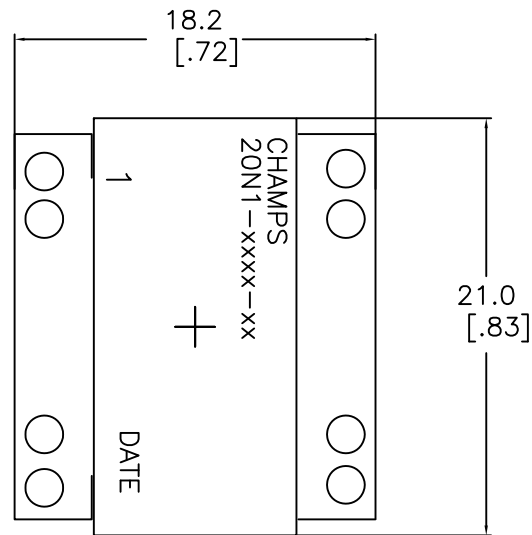


NOTES:

1. TURNS RATIO [7-9] : [2-4] = 0.50 $\pm$ 2%
TURNS RATIO [1-5] : [2-4] = xx $\pm$ 2% || [6-10] : [2-4] = xx $\pm$ 2%
2. DCR [2-4] = 41 mohm Nom, [7-9] = 12.0 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4]= 278 uH $\pm$ 25%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 150 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc]
[7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature 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 20N1-1005
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XX $\pm$ 0.508	CHKD			Part #:
X $\pm$ 0.78	APPR			SIZE
ANGLE $\pm$				SCALE 3:1
				ISSUE A
				REV 00

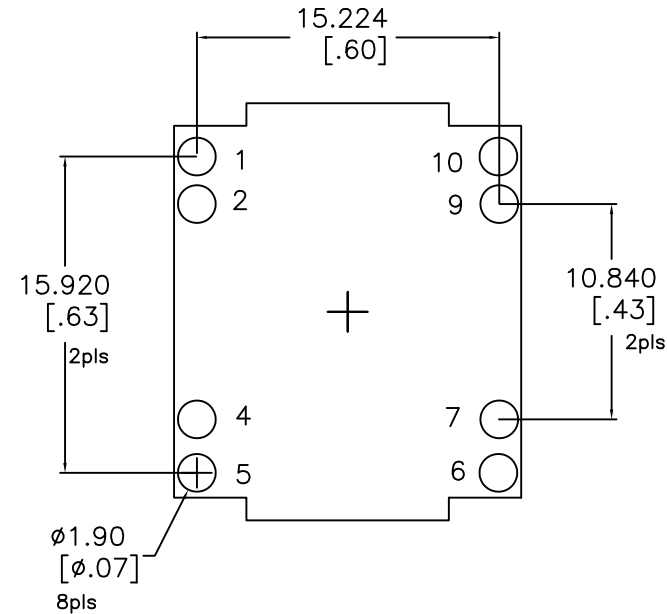
MECHANICAL DIMENSIONS [TOP VIEW]



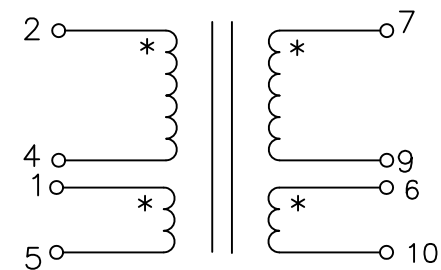
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 1.20 $\pm$ 2%
TURNS RATIO [1-5] : [2-4] = xx $\pm$ 2% || [6-10] : [2-4] = xx $\pm$ 2%
2. DCR [2-4] = 41 mohm Nom, [7-9] = 77 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4]= 278 uH $\pm$ 25%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 180 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc] [7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

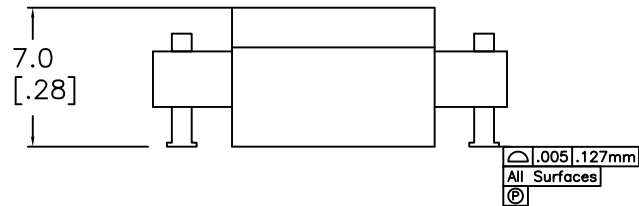
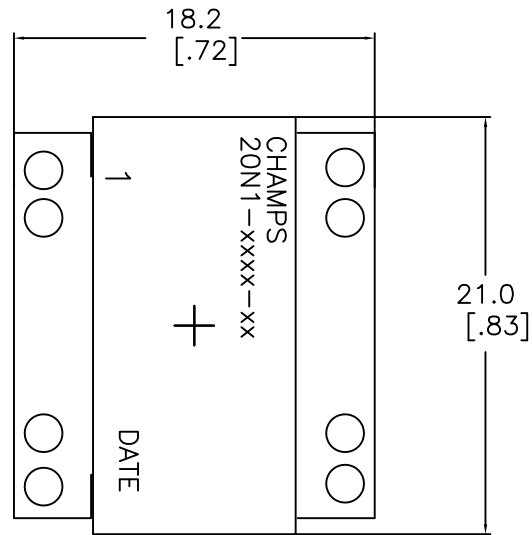


Schematic



No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN 20N1-1012
.XXX $\pm$ 0.254	DRAWN	HE	10.24.19	Customer
.XX $\pm$ 0.508	CHKD			Part #:
.X $\pm$ 0.78	APPR			SIZE
ANGLE $\pm$				SCALE 3:1
				ISSUE A
				REV 00

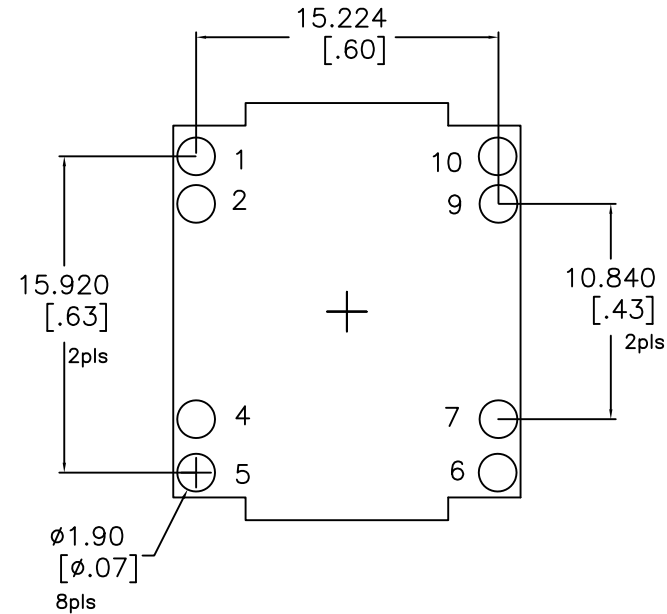
MECHANICAL DIMENSIONS [TOP VIEW]



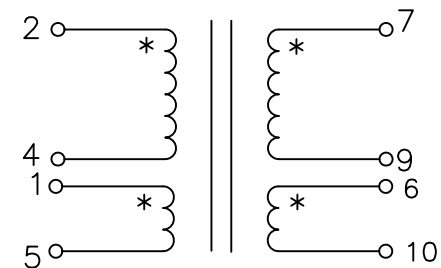
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 0.286 ±2%
TURNS RATIO [1-5] : [2-4] = xx ±2% || [6-10] : [2-4] = xx ±2%
2. DCR [2-4] = 22 mohm Nom, [7-9] = 1.7 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4] = 40 uH ±10%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 120 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc] [7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

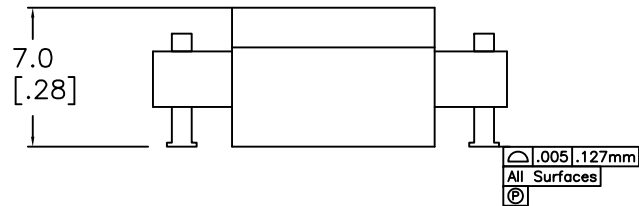
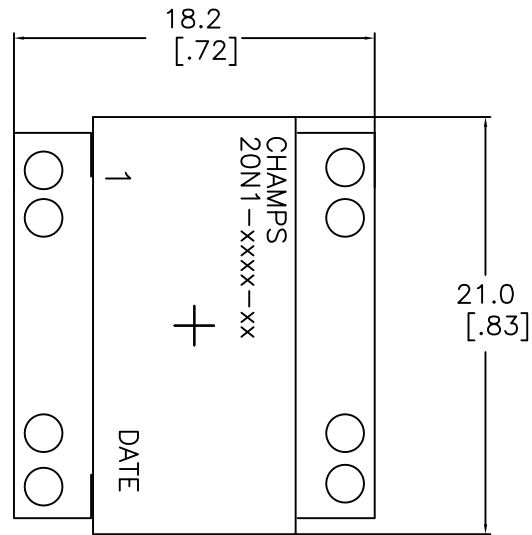


Schematic



No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN 20N1-0702-40R
.XXX ± 0.254	DRAWN	HE	10.24.19	Customer
.XX ± 0.508	CHKD			Part #:
.X ± 0.78	APPR			SIZE
ANGLE ±				SCALE 3:1
				ISSUE A
				REV 00

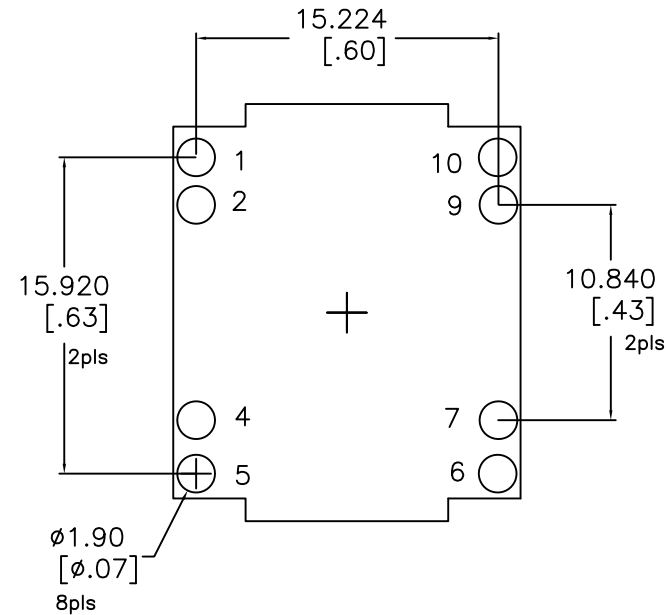
MECHANICAL DIMENSIONS [TOP VIEW]



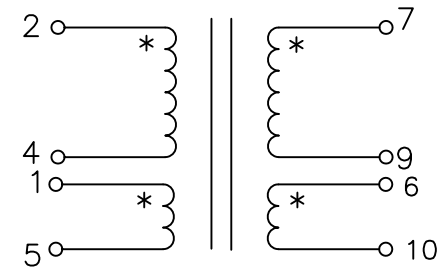
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 0.50 $\pm$ 2%
TURNS RATIO [1-5] : [2-4] = xx $\pm$ 2% || [6-10] : [2-4] = xx $\pm$ 2%
2. DCR [2-4] = 17.5 mohm Nom, [7-9] = 3.5 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4] = 40 μ H $\pm$ 10%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 100 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc]
[7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

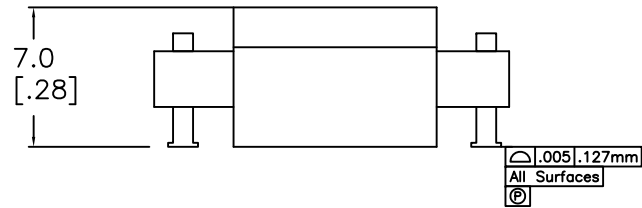
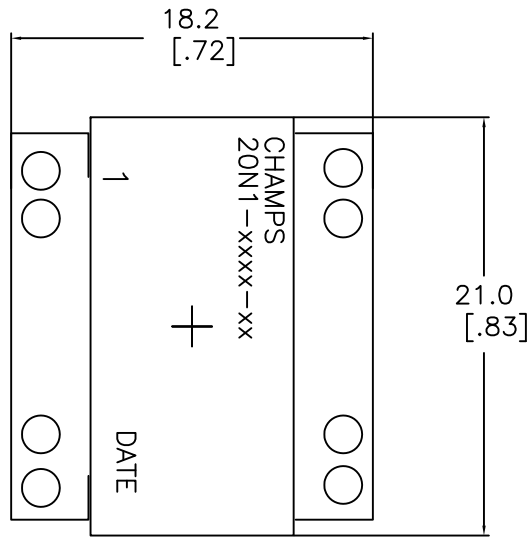


Schematic



No.	DESCRIPTION	REVISIONS	DATE	APPR
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CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN 20N1-0603-40R
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.XX $\pm$ 0.508	CHKD			Part #:
.X $\pm$ 0.78	APPR			SIZE
ANGLE $\pm$				SCALE 3:1
				ISSUE A
				REV 00

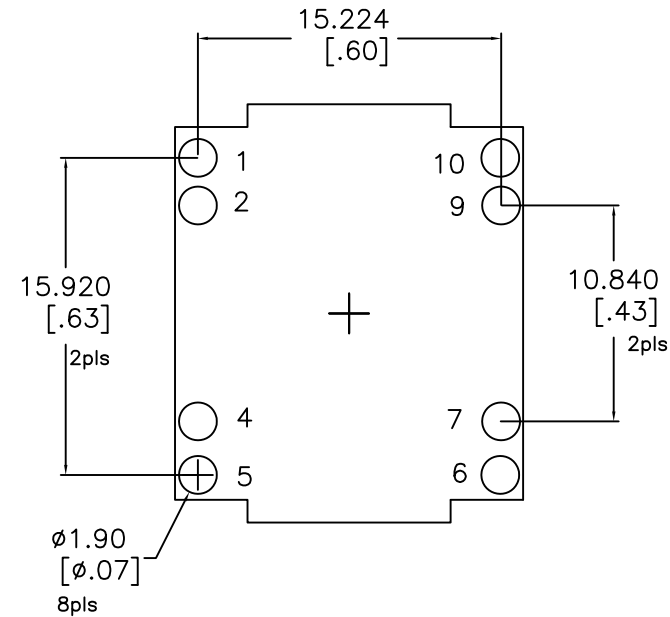
MECHANICAL DIMENSIONS [TOP VIEW]



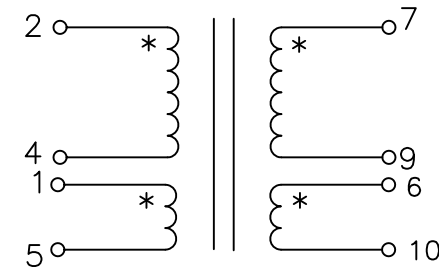
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 1.0 ±2%
TURNS RATIO [1-5] : [2-4] = xx ±2% || [6-10] : [2-4] = xx ±2%
2. DCR [2-4] = 17.5 mohm Nom, [7-9] = 17.5 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4]= 40 uH ±10%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 120 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc]
[7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

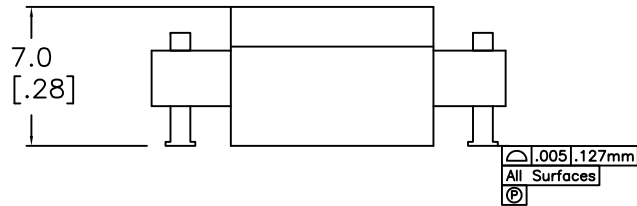
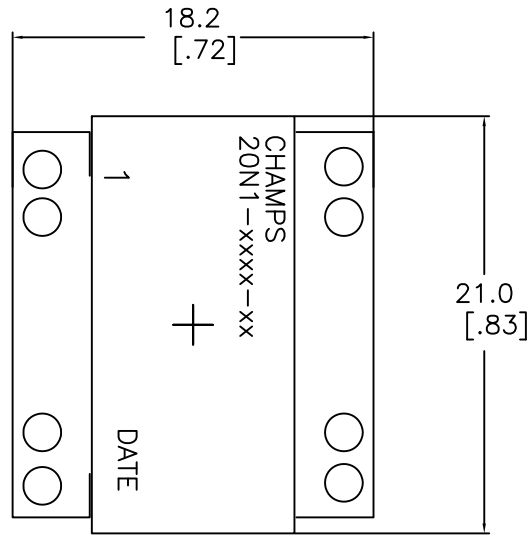


Schematic



No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN 20N1-0606-40R
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XX ± 0.508	CHKD			Part #:
X ± 0.78	APPR			SIZE
ANGLE ±				SCALE 3:1
				ISSUE A
				REV 00

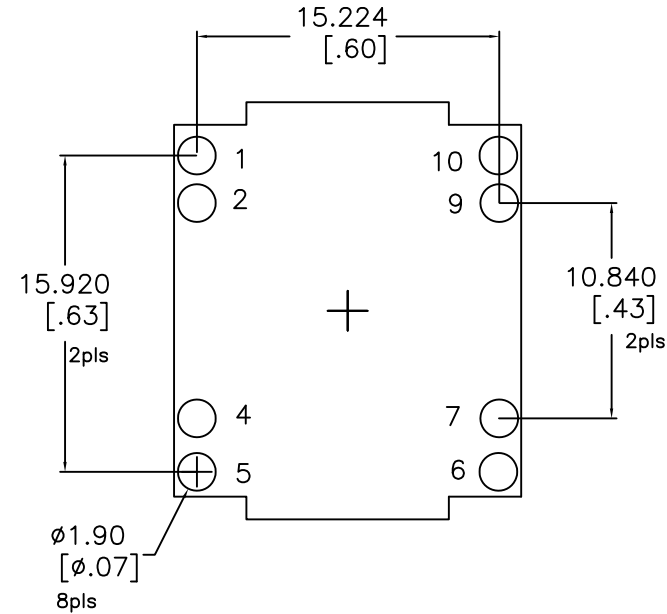
MECHANICAL DIMENSIONS [TOP VIEW]



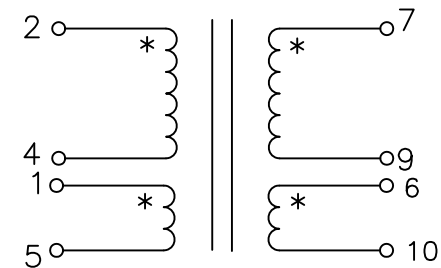
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 1:2 ±2%
TURNS RATIO [1-5] : [2-4] = xx ±2% || [6-10] : [2-4] = xx ±2%
2. DCR [2-4] = 17.5 mohm Nom, [7-9] = 77 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4]= 40 uH ±10%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 150 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc]
[7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

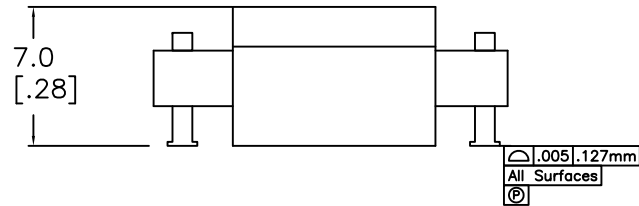
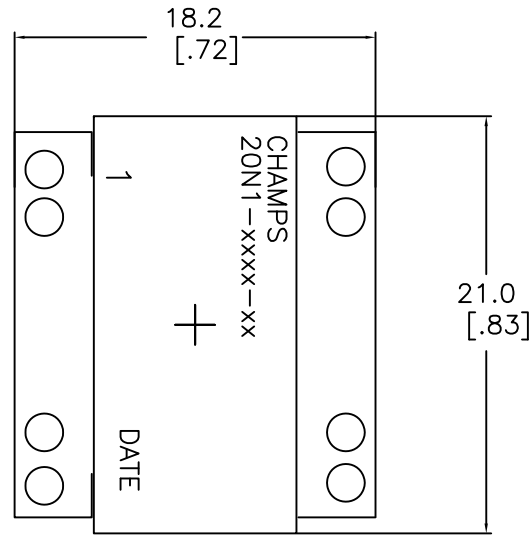


Schematic



No.	DESCRIPTION	REVISIONS	DATE	APPR
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.XX ± 0.508	CHKD			Part #:
.X ± 0.78	APPR			SIZE
ANGLE ±				SCALE 3:1
				ISSUE A
				REV 00

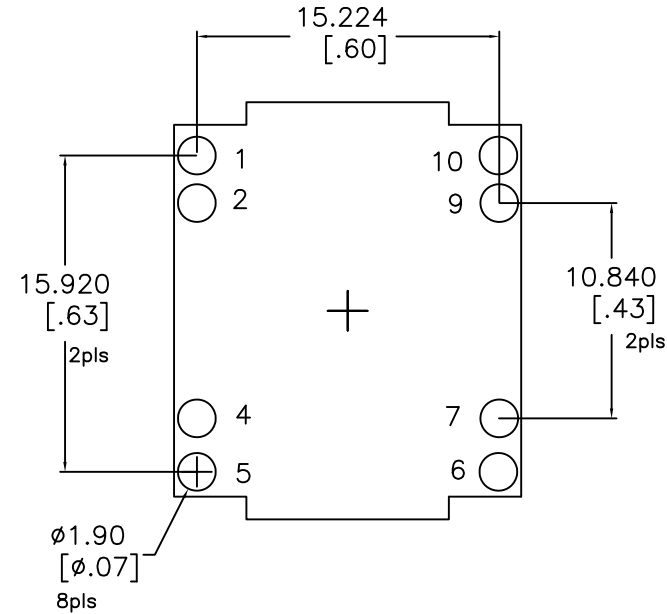
MECHANICAL DIMENSIONS [TOP VIEW]



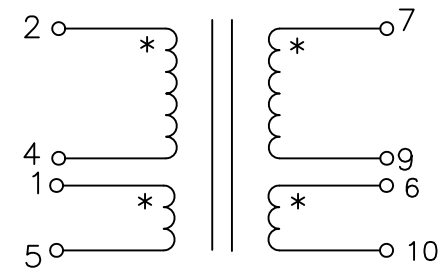
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 0.667 ±2%
TURNS RATIO [1-5] : [2-4] = xx ±2% || [6-10] : [2-4] = xx ±2%
2. DCR [2-4] = 3.5 mohm Nom, [7-9] = 1.7 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4] = 25 uH ±25%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 35 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc]
[7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]

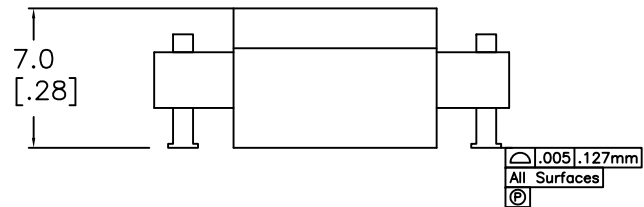
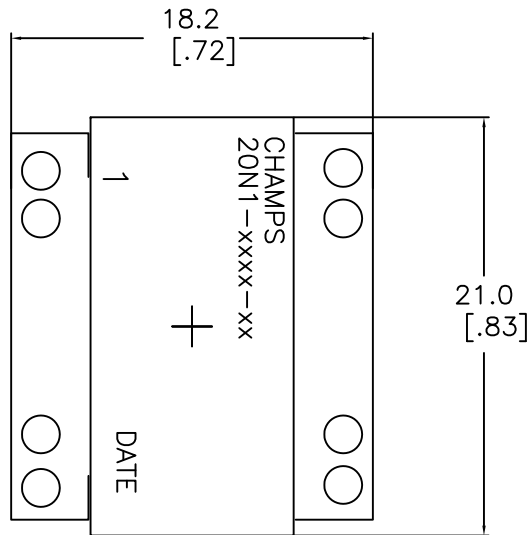


Schematic

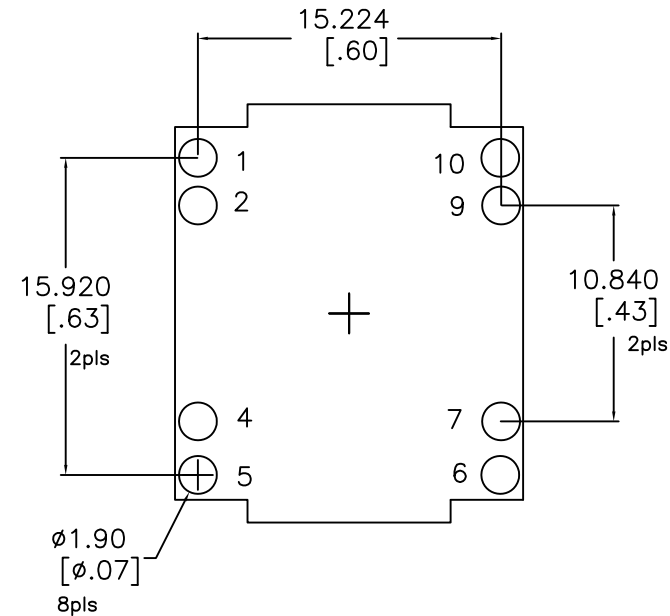


No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN 20N1-0302
.XXX ± 0.254	DRAWN	HE	10.24.19	Customer
.XX ± 0.508	CHKD			Part #:
.X ± 0.78	APPR			SIZE
ANGLE ±				SCALE 3:1
				ISSUE A
				REV 00

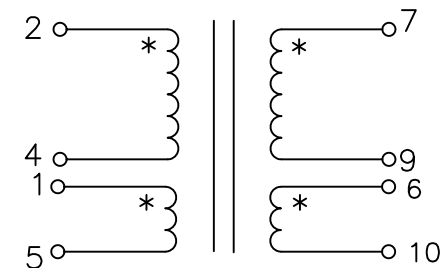
MECHANICAL DIMENSIONS [TOP VIEW]



SUGGESTED PAD LAYOUT [TOP VIEW]



Schematic

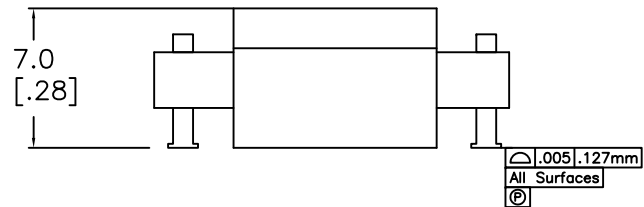
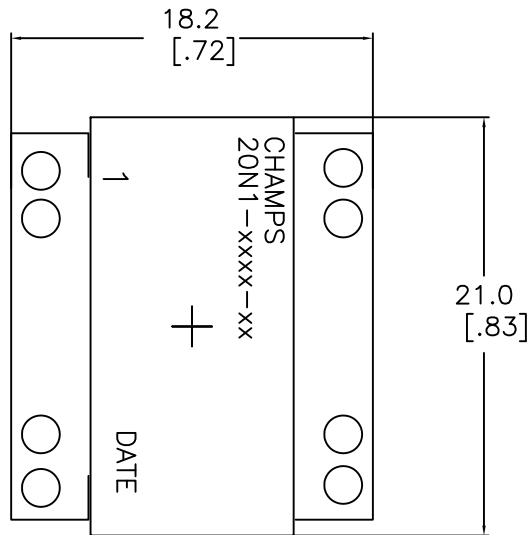


NOTES:

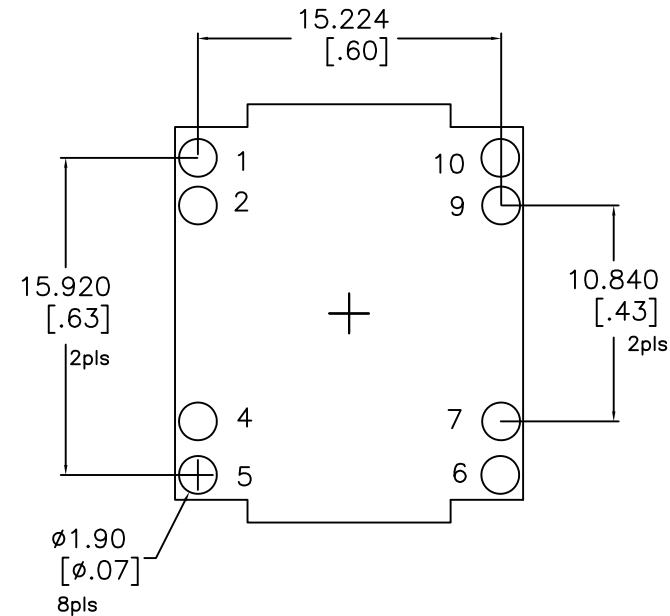
1. TURNS RATIO [7-9] : [2-4] = 1.0 $\pm$ 2%
TURNS RATIO [1-5] : [2-4] = xx $\pm$ 2% || [6-10] : [2-4] = xx $\pm$ 2%
2. DCR [2-4] = 3.5 mohm Nom, [7-9] = 3.5 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4]= 25 uH $\pm$ 25%, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 35 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc] [7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature 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 20N1-0303
XXX $\pm$ 0.254	DRAWN	HE	10.24.19	Customer
XX $\pm$ 0.508	CHKD			Part #:
X $\pm$ 0.78	APPR			SIZE
ANGLE $\pm$				SCALE 3:1
				ISSUE A
				REV 00

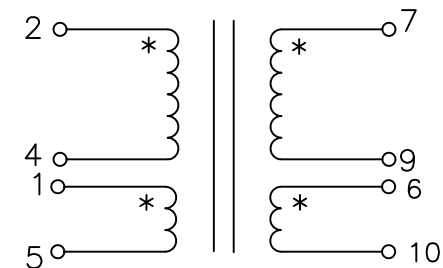
MECHANICAL DIMENSIONS [TOP VIEW]



SUGGESTED PAD LAYOUT [TOP VIEW]



Schematic

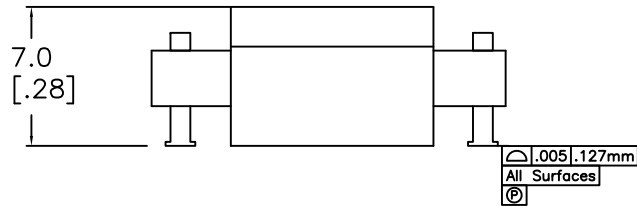
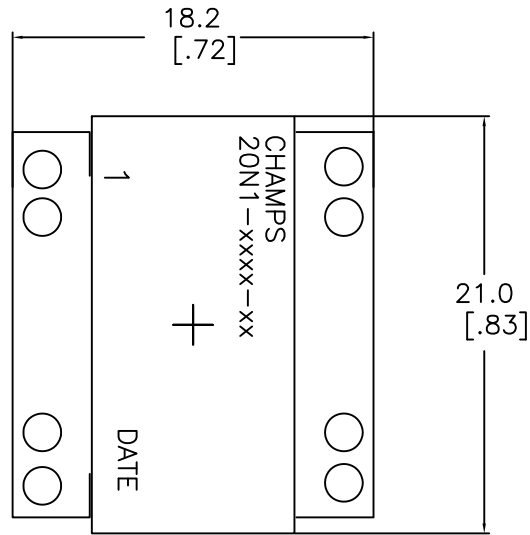


NOTES:

1. TURNS RATIO [7-9] : [2-4] = 2:1 $\pm 2\%$
TURNS RATIO [1-5] : [2-4] = xx $\pm 2\%$ || [6-10] : [2-4] = xx $\pm 2\%$
2. DCR [2-4] = 3.5 mohm Nom, [7-9] = 17.5 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4] = 25 μ H $\pm 10\%$, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 40 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc] [7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature 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 20N1-0306
XXX ± 0.254	DRAWN	HE	10.24.19	Customer
XX ± 0.508	CHKD			Part #:
X ± 0.78	APPR			SIZE
ANGLE $\pm$				SCALE 3:1
				ISSUE A
				REV 00

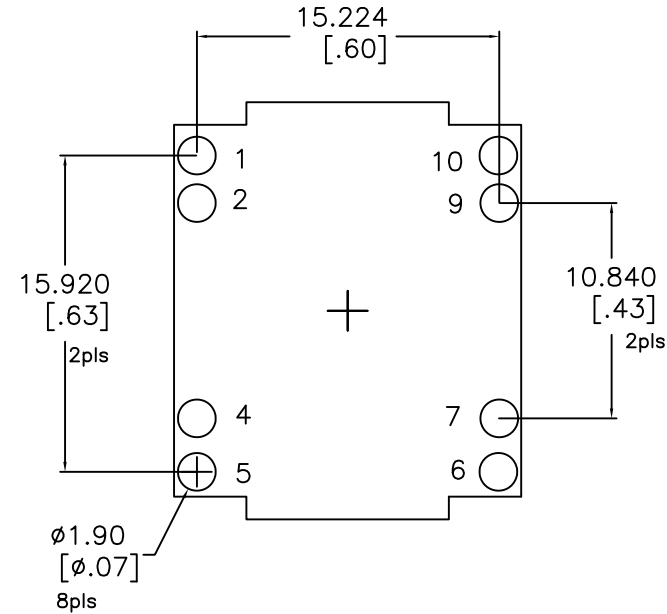
MECHANICAL DIMENSIONS [TOP VIEW]



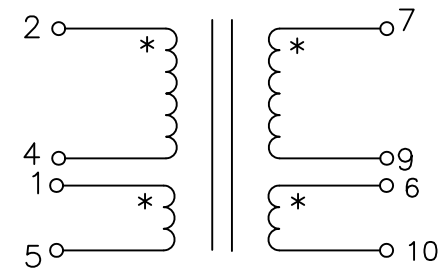
NOTES:

1. TURNS RATIO [7-9] : [2-4] = 4:1 $\pm 2\%$
TURNS RATIO [1-5] : [2-4] = xx $\pm 2\%$ || [6-10] : [2-4] = xx $\pm 2\%$
2. DCR [2-4] = 3.5 mohm Nom, [7-9] = 77 mohm Nom. [1-5] = 300 mohm Nom.
3. Inductance [2-4] = 25 uH $\pm 10\%$, 100KHz, 1.0 VRMS @ 25C
4. Leakage Inductance [2-4] Short [7-9] = 50 nH Nom @100 KHz
5. Dielectric Strength [2-4], [1-5] to [7-9] & Core 1500 VDC Nom [Capable 2250Vdc] [7-9], [6-10] to CORE 500 VDC
6. RoHS & REACH Compliant
7. Rated Temperature Range: -55C to +130C [Inclusive of Temp Rise]

SUGGESTED PAD LAYOUT [TOP VIEW]



Schematic

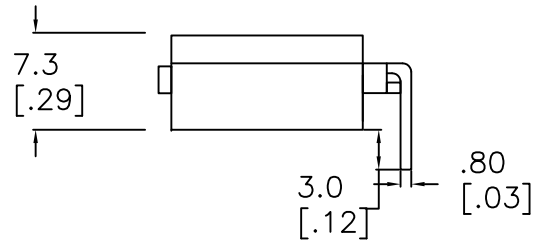
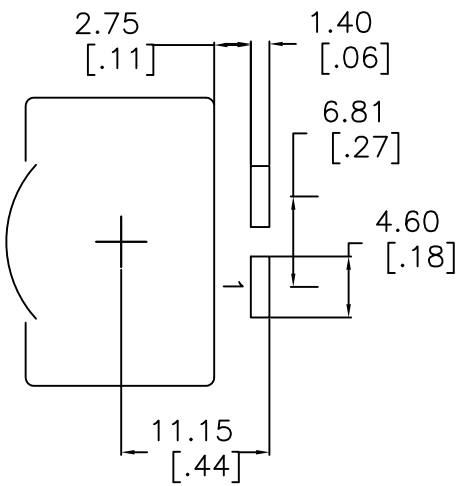
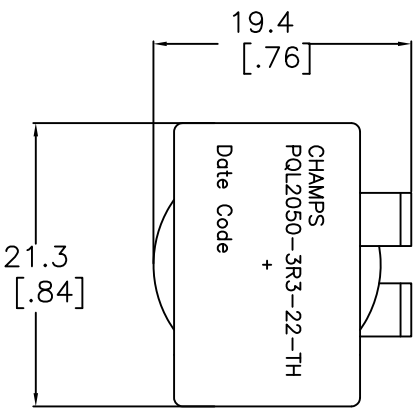


No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN 20N1-0312
.XXX ± 0.254	DRAWN	HE	10.24.19	Customer
.XX ± 0.508	CHKD			Part #:
.X ± 0.78	APPR			SIZE
ANGLE $\pm$				SCALE 3:1
				ISSUE A
				REV 00

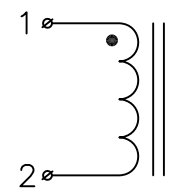
A
B
C
D
E
F

1 2 3 4 5 6 7 8

SUGGESTED THRU-HOLE LAYOUT



Schematic

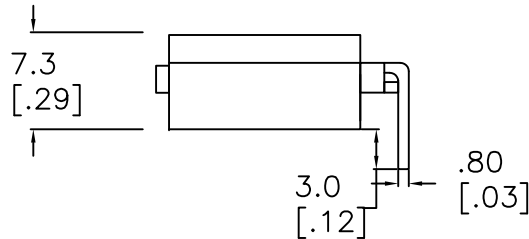
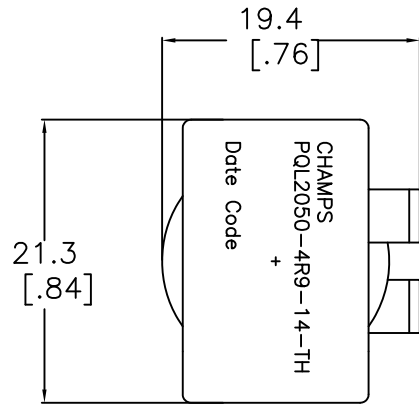


NOTES:

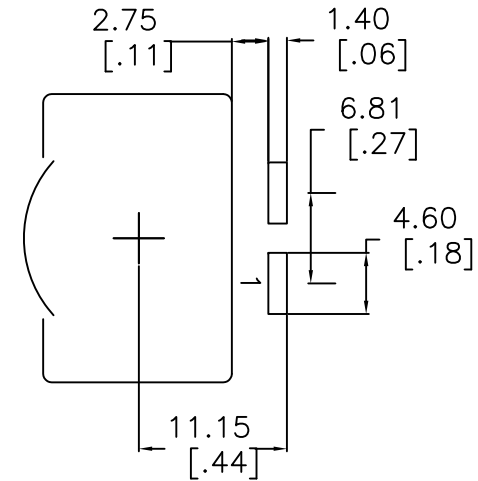
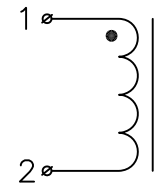
- 1. INDUCTANCE [1-2] = 3.3 uH ±10% @100kHz 1.0V @ 0Adc
- 2. INDUCTANCE [1-2] = Within Range ±10% Measured Value at 0Adc @Irated 22Adc
- 3. DCR [1-2] = 2.2 mohms Nom.
- 4. DIELECTRIC ISOLATION > 500 VDC [1-2] : CORE
- 5. SATURATION CURRENT @25C = 26Adc | @100C = 24Adc
- 6. HEATING CURRENT FOR 45C RISE AT 25C AMBIENT = 32 Adc
- 7. Operating Ambient Temperature: -55C to +130C
- 8. RoHS Level 6/6, REACH & CMRT Compliant || 96/4 Sn/Ag Pin Composition

No.		DESCRIPTION		REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION		CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN PQL2050-3R3-22-TH		
DRAWN		HE	01.15.18	Customer		ISSUE A
CHKD				Part #:		REV 00
APPR				SIZE	SCALE 2:1	

SUGGESTED THRU-HOLE LAYOUT



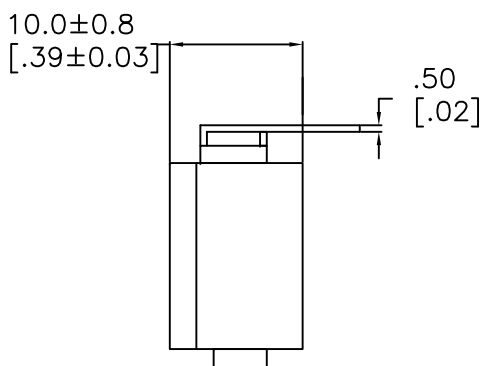
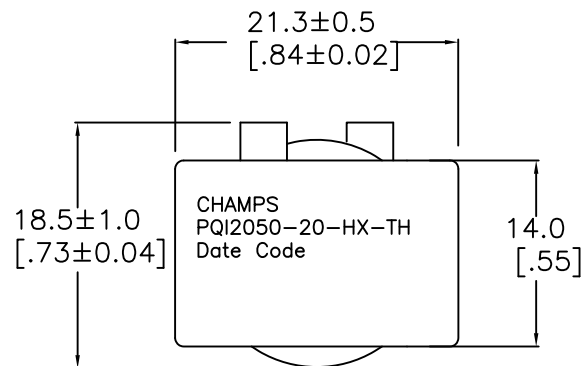
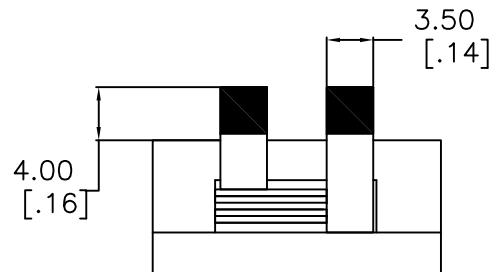
Schematic



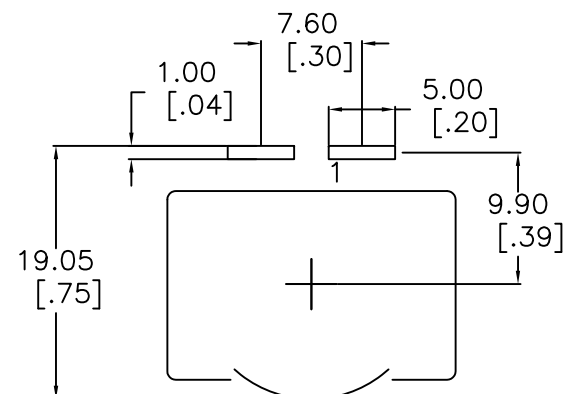
NOTES:

1. INDUCTANCE [1-2] = 4.9 μ H $\pm$ 10% @100kHz 1.0V @ 0Adc
2. INDUCTANCE [1-2] = Within Range $\pm$ 10% Measured Value at 0Adc @Irated 14Adc
3. DCR [1-2] = 2.2 mohms Nom.
4. DIELECTRIC ISOLATION > 500 VDC [1-2] : CORE
5. SATURATION CURRENT @25C = 16Adc | @100C = 15Adc
6. HEATING CURRENT FOR 45C RISE AT 25C AMBIENT = 32 Adc
7. Operating Ambient Temperature: -55C to +130C
8. RoHS Level 6/6, REACH & CMRT Compliant || 96/4 Sn/Ag Pin Composition

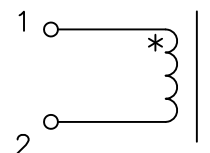
No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN PQL2050-4R9-14-TH
.XXX $\pm$ 0.254	DRAWN	HE	01.15.18	Customer
.XX $\pm$ 0.38	CHKD			Part #:
.X $\pm$ 0.78	APPR			SIZE SCALE 2:1
ANGLE $\pm$				ISSUE A REV 00



SUGGESTED THRU-HOLE LAYOUT



Schematic



ELECTRICAL INFO:

INDUCTANCE [1-2] = 20uH Nom, 18 Min. @100kHz/1.0V 6Adc

INDUCTANCE [1-2] = 17 uH Min. @100kHz/1.0V 6Adc

DCR [1-2] = 3.6 mohms Nom || 4.5Max

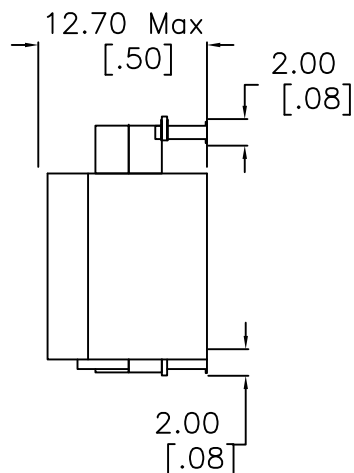
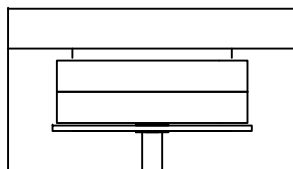
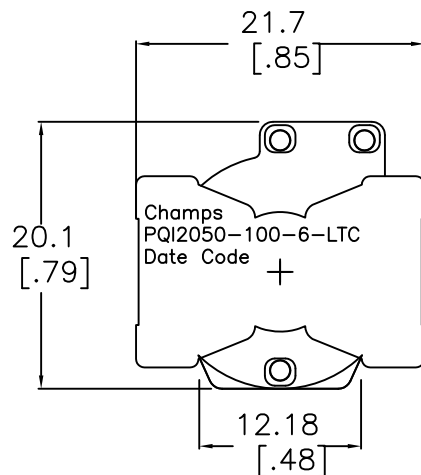
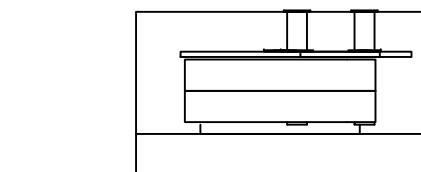
DIELECTRIC ISOLATION > 500 VDC [1-2] : CORE

SATURATION CURRENT @25C = 7Adc | @100C = 6.4Adc

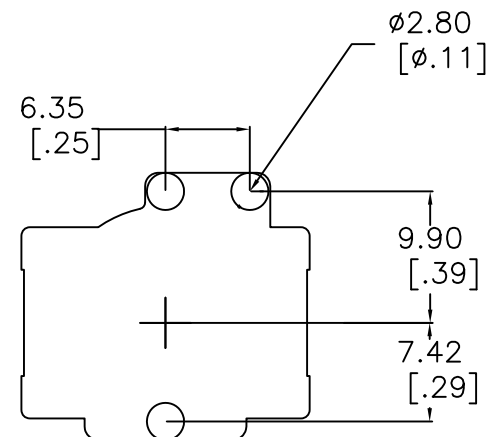
HEATING CURRENT FOR 40C RISE AT 25C AMBIENT = 22 Adc

Operating Temp Range -55C to +130C [Inclusive of Temp Rise]

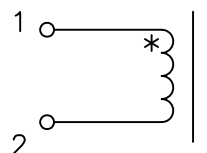
No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES/UNITS in MM UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs-Tech PN PQI2050-20-HX-TH-10MM
.XXX ± .25	DRAWN	DK	11.19.18	Customer
.XX ± .51	CHKD			Part #:
.X ANGLE ± 1.0	APPR	HE		INDUCTOR
		SIZE	SCALE 2:1	ISSUE A
				REV 00



SUGGESTED
PAD
LAYOUT



Schematic



INDUCTANCE [1-2] = 100.0uH Nom, 90 Min. @10kHz/0.1V 6.0 Adc
 INDUCTANCE [1-2] = 85 uH Min @10kHz/0.1V 6.8 Adc
 DCR [1-2] = 76 mohms Nom, 86 Max
 DIELECTRIC ISOLATION > 500 VDC [1-2] : CORE
 SATURATION CURRENT @25C = 6.8 Adc | @85C = 6.0 Adc
 HEATING CURRENT FOR 40C RISE AT 25C AMBIENT = 5.5Adc
 RoHS Level 6/6 and REACH Compliant
 OPERATING 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	DRAWN	SIGN DK	DATE 8/20/08	Champs-Tech PN PQI2050-100-6-LTC
	CHKD			Customer Part #: INDUCTOR
	APPR	HE	8/27/13	ISSUE A REV 00
				SIZE SCALE 2:1