

# Champs Technologies



Inductance Range: 0.405uH to 6.2uH

Current Rating: up to 78A

Height: 7.4 mm Max

Footprint : 19 mm x 21.8 mm Max.

Isolation (Wdg : Core ) > 500Vdc

**RoHS**  
Compliant

## Electrical Specifications @ 25°C – Operating Temperature -5°C to + 125°C

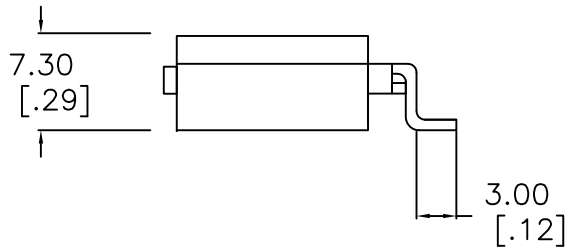
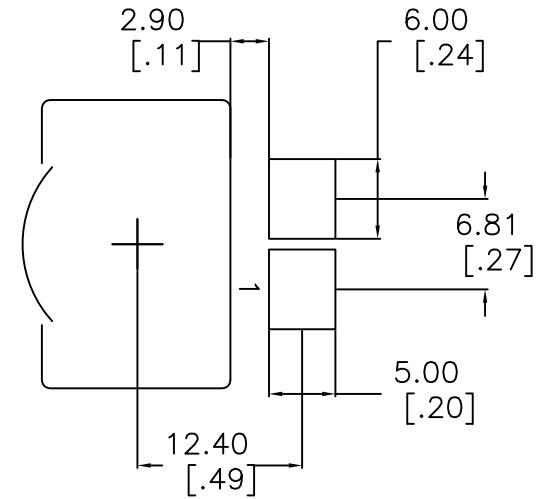
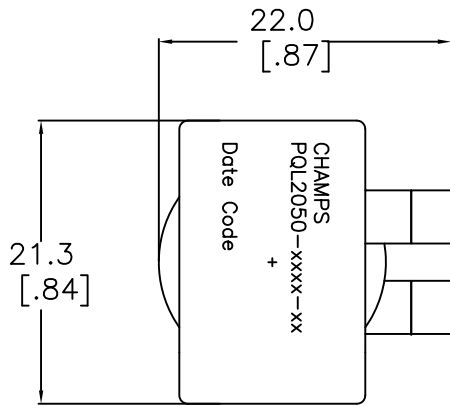
Part Number	Pulse Equiv Number	DCR (mΩ) Nom	Inductance @ 0Adc (μH±10%)	Irated (Adc)	Saturation Current		RMS Current (A)	Max Ht (mm)
					25°C	100°C		
<b>2-Turn Series</b>								
PQL2050-0R450-78	PA1292.450	1.00	0.45	78	95	89.0	52	7.3
PQL2050-0R630-56	PA1292.650	1.00	0.63	56	65	61.0	52	7.3
PQL2050-0R850-43	PA1292.910	1.00	0.85	43	48	45.0	52	7.3
PQL2050-1R050-35	PA1292.112	1.00	1.05	35	38	35.0	52	7.3
PQL2050-1R250-28	PA1292.132	1.00	1.25	28	32	30.0	52	7.3
PQL2050-1R450-25	PA1292.152	1.00	1.45	25	28	26.0	52	7.3
<b>3-Turn Series</b>								
PQL2050-0R950-57	PA1393.102	1.52	0.95	57	65	60.0	42	7.3
PQL2050-1R400-40	PA1393.152	1.52	1.40	40	45	42.0	42	7.3
PQL2050-1R900-28	PA1393.202	1.52	1.90	28	33	30.0	42	7.3
PQL2050-2R400-23	PA1393.252	1.52	2.40	23	26	23.0	42	7.3
PQL2050-2R800-19	PA1393.302	1.52	2.80	19	22	19.0	42	7.3
PQL2050-3R400-16	PA1393.352	1.52	3.40	16	18	16.0	42	7.3
<b>4-Turn Series</b>								
PQL2050-1R600-45	PA1494.152	2.19	1.60	45	52	48.0	37	7.3
PQL2050-2R400-30	PA1494.242	2.19	2.40	30	35	31.0	37	7.3
PQL2050-3R300-22	PA1494.362	2.19	3.30	22	26	22.0	37	7.3
PQL2050-4R000-18	PA1494.442	2.19	4.00	18	21	18.0	37	7.3
PQL2050-4R900-15	PA1494.532	2.19	4.90	15	17	15.0	37	7.3
PQL2050-5R800-12	PA1494.622	2.19	5.80	12	14	12.0	37	7.3

Note: Inductance at Rated Current is within 0 to -10% range of Inductance Measured at 0Adc

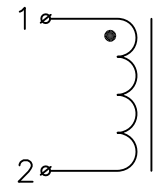
Note: Inductance at Saturation Current is within 0 to -15% range of Inductance Measured at 0Adc

1 2 3 4 5 6 7 8

SUGGESTED PAD LAYOUT



Schematic



NOTES:

1. INDUCTANCE [1-2] = 10.0 uH ±10% @100kHz 1.0V @ 0Adc
2. INDUCTANCE [1-2] = Within Range ±10% Measured Value at 0Adc @Irated 6Adc
3. DCR [1-2] = 2.2 mohms Nom., 2.6 Max
4. DIELECTRIC ISOLATION > 500 VDC [1-2] : CORE
5. SATURATION CURRENT @25C = 7.5Adc | @100C = 6.5Adc
6. HEATING CURRENT FOR 45C RISE AT 25C AMBIENT = 25 Adc
7. Rated Temperature: -55C to +130C [Inclusive of Temp Rise]
8. RoHS Level 6/6 Compliance || 96/4 Sn/Ag Pin Composition || REACH Compliant

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



# Champs-Tech PQI-2050 Power Inductors



- Inductance Range: 900nH to 500μH
- Current Rating: to 52A
- High Efficiency PQI Structure
- Low DCR || RoHS Compliant
- Various Mech. Options & Height
- Typical Use: Output Filter Inductors



Part #	Induct +/-10% @0Adc (μH)	Induct Min @Irated (μH)	Irated Adc	DCR mΩ		Saturation Current		Heat I (A)
				Nom	Max	25°C	100°C	
PQI-2050-0R9-LTC	0.90	0.82	45	0.50	0.70	50	45	54
PQI-2050-0R9-HX	0.90	0.82	45	0.60	0.75	50	45	54
PQI-2050-1R5-LTC	1.50	1.35	40	0.80	1.00	45	42	45
PQI-2050-1R5-HX	1.50	1.35	40	0.90	1.15	45	42	44
PQI-2050-2R0-LTC	2.00	1.80	40	1.00	1.20	45	42	43
PQI-2050-2R0-HX	2.00	1.80	40	1.15	1.35	45	42	42
PQI-2050-2R5-LTC	2.50	2.20	30	1.90	2.18	36	34	38
PQI-2050-2R5-HX	2.50	2.20	30	1.20	1.45	36	34	41
PQI-2050-3R3-LTC	3.30	2.90	28	2.35	2.75	33	31	31
PQI-2050-3R3-HX	3.30	2.90	28	1.50	1.80	33	31	37
PQI-2050-4R7-LTC	4.70	4.20	24	2.83	3.34	28	25	28
PQI-2050-4R7-HX	4.70	4.20	24	1.80	2.10	28	25	34
PQI-2050-5R8-LTC	5.80	5.20	18	2.83	3.34	22	20	28
PQI-2050-5R8-HX	5.80	5.20	18	1.80	2.10	22	20	34
PQI-2050-6R8-LTC	6.80	6.10	16	2.80	3.34	19	17	28
PQI-2050-6R8-HX	6.80	6.10	16	1.80	2.10	19	17	34
PQI-2050-08-LTC	8.00	7.20	20	4.80	5.50	22	20	21
PQI-2050-08-HX	8.00	7.20	20	4.20	5.00	22	20	22

Notes:

1. Saturation current is that current which causes Inductance value to drop 15% at stated operating ambient temperature.
2. Heating current is that DC current which causes temp rise ~45 °C from ambient at 25 °C
3. Dielectric Withstand Voltage Minmum 500 Vdc

Add -LTC, -HX or -HX2 to PN to complete Part No.



## Champs-Tech PQI-2050 Power Inductors

Part #	Induct +/-10% @0Adc ( $\mu$ H)	Induct Min @Irated ( $\mu$ H)	Irated Adc	DCR $m\Omega$		Saturation Current		Heat I (A)
				Nom	Max	25°C	100°C	
PQI-2050-10-LTC	10.0	9.0	14.5	4.80	5.50	17	15	21
PQI-2050-10-HX	10.0	9.0	14.5	4.20	5.00	17	15	22
PQI-2050-16-LTC	16.0	14.0	12.8	6.30	7.10	14	12.8	18
PQI-2050-16-HX	16.0	14.0	12.8	5.20	6.00	14	12.8	18
PQI-2050-20-LTC	20.0	18.0	11.0	8.70	9.60	13	11.8	16
PQI-2050-23-LTC	23.0	20.7	10.0	8.70	9.60	11	10.0	16
PQI-2050-27-LTC	27.0	24.5	8.0	8.70	9.60	9.8	8.8	15
PQI-2050-27b-LTC	27.0	24.5	9.6	15.9	18.5	11	10.0	11.5
PQI-2050-33-LTC	33.0	31.0	7.5	14.0	17.0	9.0	8.0	10.0
PQI-2050-36-LTC	36.0	33.1	7.0	14.0	17.0	8.5	7.5	10.0
PQI-2050-39-LTC	39.0	36.0	6.5	14.0	17.0	7.5	7.0	10.0
PQI-2050-46-LTC	46.0	41.4	6.5	26.0	30.0	7.5	7.0	8.0
PQI-2050-57-LTC	57.0	52.0	5.8	34.5	39.0	6.5	5.8	6.5
PQI-2050-75-LTC	75.0	67.0	5.0	41.0	46.0	5.7	5.2	6.0
PQI-2050-100-LTC	100.0	90.0	4.8	56.0	63.0	5.8	5.0	5.8
PQI-2050-200-LTC	200.0	185.0	2.5	58.0	64.0	3.0	2.75	5.0
PQI-2050-240-LTC	240.0	220.0	2.3	61.0	68.0	2.8	2.3	4.2
PQI-2050-300-LTC	300.0	270.0	2.10	90.0	110	2.8	2.4	3.3
PQI-2050-350-LTC	350.0	330.0	2.0	133	155	2.5	2.2	3.0
PQI-2050-400-LTC	400.0	365.0	1.5	190	210	1.85	1.60	2.5
PQI-2050-500-LTC	500.0	460	1.5	246	275	2.0	1.7	2.0

Notes:

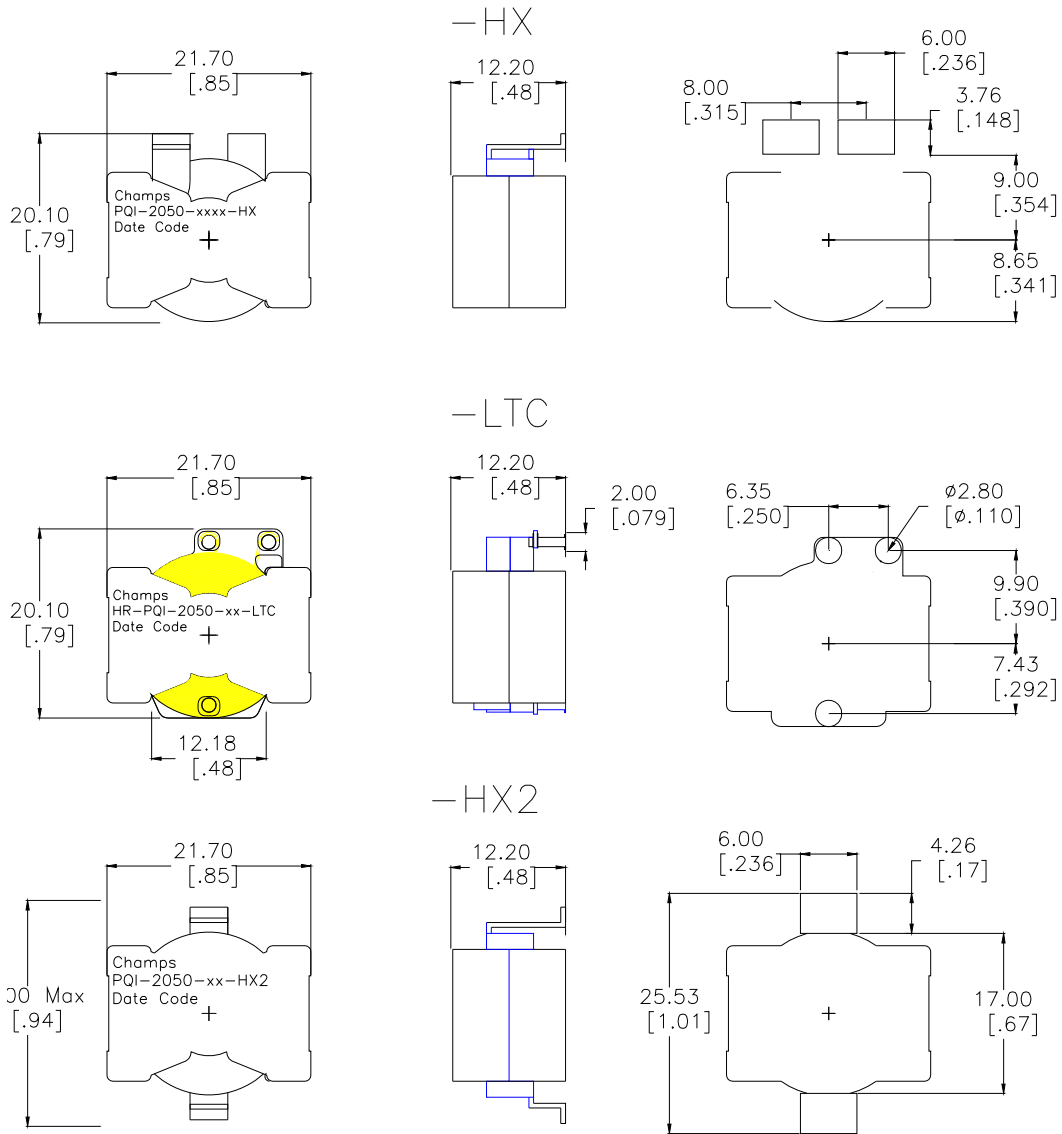
1. Saturation current is that current which causes Inductance value to drop 15% at stated operating ambient temperature.
2. Heating current is that DC current which causes temp rise  $\sim 45^\circ\text{C}$  from ambient at  $25^\circ\text{C}$
3. Dielectric Withstand Voltage Minmum 500 Vdc

Add -LTC, -HX or -HX2 to PN to complete Part No.

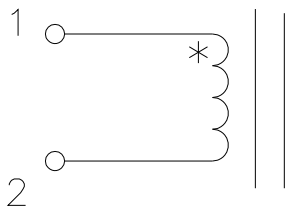


# Champs-Tech PQI-2050 Power Inductors

Add -LTC, -HX or -HX2 to PN to complete Part No.



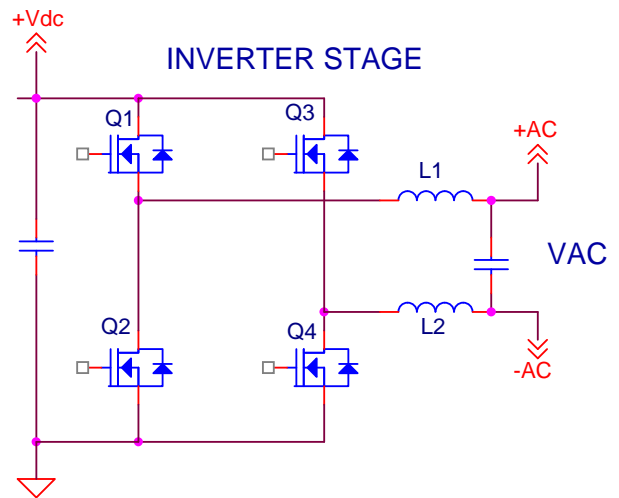
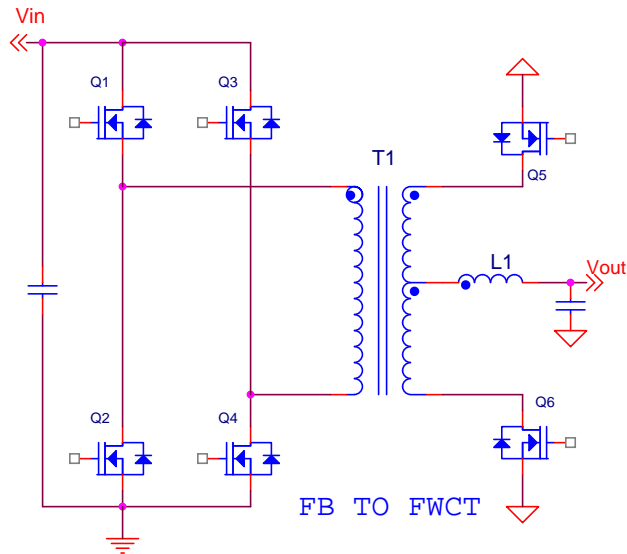
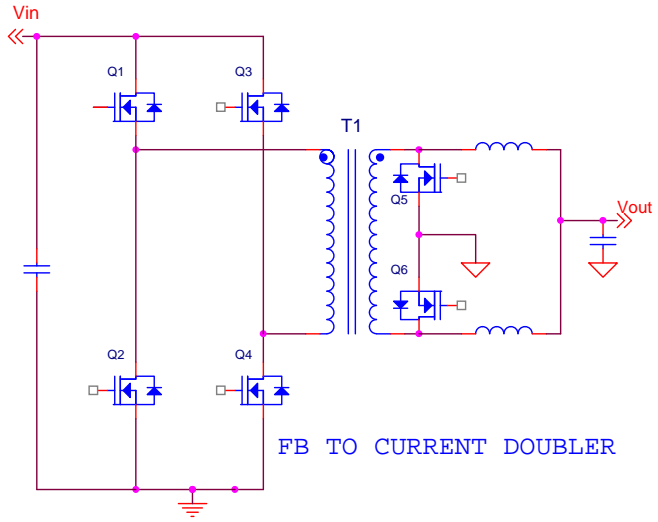
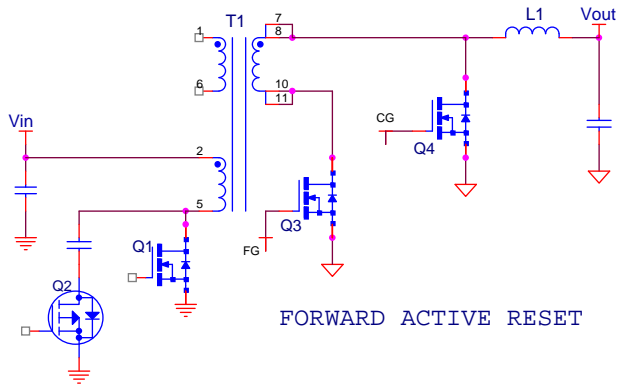
## Schematic



## Mechanical Outline Drawing Pad Layout & Schematic



# Champs-Tech PQI-2050 Power Inductors





# Champs-Tech PQI-26 Power Inductors

- Inductance Range: 1.5uH to 900uH
- High Efficiency PQI Structure
- Low DCR || RoHS Compliant
- Typical Use: Output Filter Inductors



Part #	Induct +/-10% @0Adc (μH)	Induct Min @Irated (μH)	Irated Adc	DCR mΩ		Saturation Current		Heat I (A)
				Nom	Max	25°C	100°C	
PQI26-1R5-HX	1.50	1.35	56	0.85	0.95	62	56	54
PQI26-2R0-HX	2.00	1.75	64	0.95	1.25	74	64	54
PQI26-3R0-HX	3.00	2.70	40	1.10	1.36	45	40	45
PQI26-4R7-HX	4.70	4.20	36	1.40	1.60	41	36	40
PQI26-5R8-HX	5.80	5.2	28	1.85	2.15	33	28	35
PQI26-6R8-HX	6.80	6.10	30	2.30	2.75	34	30	30
PQI26-8R0-HX	8.00	7.20	30	2.75	3.15	35	30	28
PQI26-10R-HX	10.0	9.0	24	2.75	3.15	28	24	28
PQI26-13R5-HX	13.5	12.0	21	2.75	3.15	25	21	28
PQI26-16R-HX	16.0	14.0	20	3.90	4.50	23	20	24
PQI26-18R-HX	18.0	16.0	16	3.90	4.50	18	16	24
PQI26-22R-HX	22.0	19.5	13	3.90	4.50	14.8	13	24
PQI26-27R0-LTC	27.0	24.0	13.5	8.80	10.0	15.5	13.5	16
PQI26-33R0-LTC	33.0	29.5	12.5	9.80	11.0	14	12.5	15
PQI26-39R0-LTC	39.0	35.0	10.5	9.80	11.0	12	10.5	15
PQI26-42R0-LTC	42.0	37.8	11.8	10.5	12.6	13.5	11.8	14
PQI26-54R0-LTC	54.0	48.6	11.2	15.0	17.5	13	11.2	12
PQI26-68R0-LTC	68.0	61.0	9.0	15.0	17.5	10.5	9.0	12

Notes:

1. Saturation current is that current which causes Inductance value to drop 15% at stated operating ambient temperature.
2. Heating current is that DC current which causes temp rise ~45 °C from ambient at 25 °C
3. Dielectric Withstand Voltage Minmum 500 Vdc

Add -LTC, -HX or -TP { Thermal Pad} to PN to complete Part No. Callout



## Champs-Tech PQI-26 Power Inductors

Part #	Induct +/-10% @0Adc ( $\mu$ H)	Induct Min @Irated ( $\mu$ H)	Irated Adc	DCR $m\Omega$		Saturation Current		Heat I (A)
				Nom	Max	25°C	100°C	
PQI26-82R-LTC	82.0	73.0	8.0	18.0	20.5	9.2	8.0	11
PQI26-100-LTC	100.0	90.0	8.0	26.0	30.0	9.2	8.0	9.0
PQI26-130-LTC	130.0	115.0	7.5	35.0	41.0	9.0	7.5	8.0
PQI26-180-LTC	180.0	160.0	7.5	69.0	81.0	8.5	7.5	6.0
PQI26-220-LTC	220.0	198.0	5.0	58.0	63.0	6.0	5.0	6.8
PQI26-330-LTC	330.0	295.0	4.0	69.0	81.0	4.8	4.0	6.0
PQI26-470-LTC	470.0	420.0	3.5	105.0	120.0	3.6	3.5	4.5
PQI26-580-LTC	580.0	520.0	2.5	105.0	120.0	3.0	2.5	4.5
PQI26-650-LTC	650.0	580.0	2.2	105.0	120.0	2.6	2.2	4.5
PQI26-760-LTC	760.0	645.0	1.8	105.0	120.0	2.2	1.8	4.5
PQI26-900-LTC	900.0	810.0	1.6	105.0	120.0	1.9	1.6	4.5

Notes:

1. Saturation current is that current which causes Inductance value to drop 15% at stated operating ambient temperature.
2. Heating current is that DC current which causes temp rise  $\sim$ 45 °C from ambient at 25 °C
3. Dielectric Withstand Voltage Minmum 500 Vdc

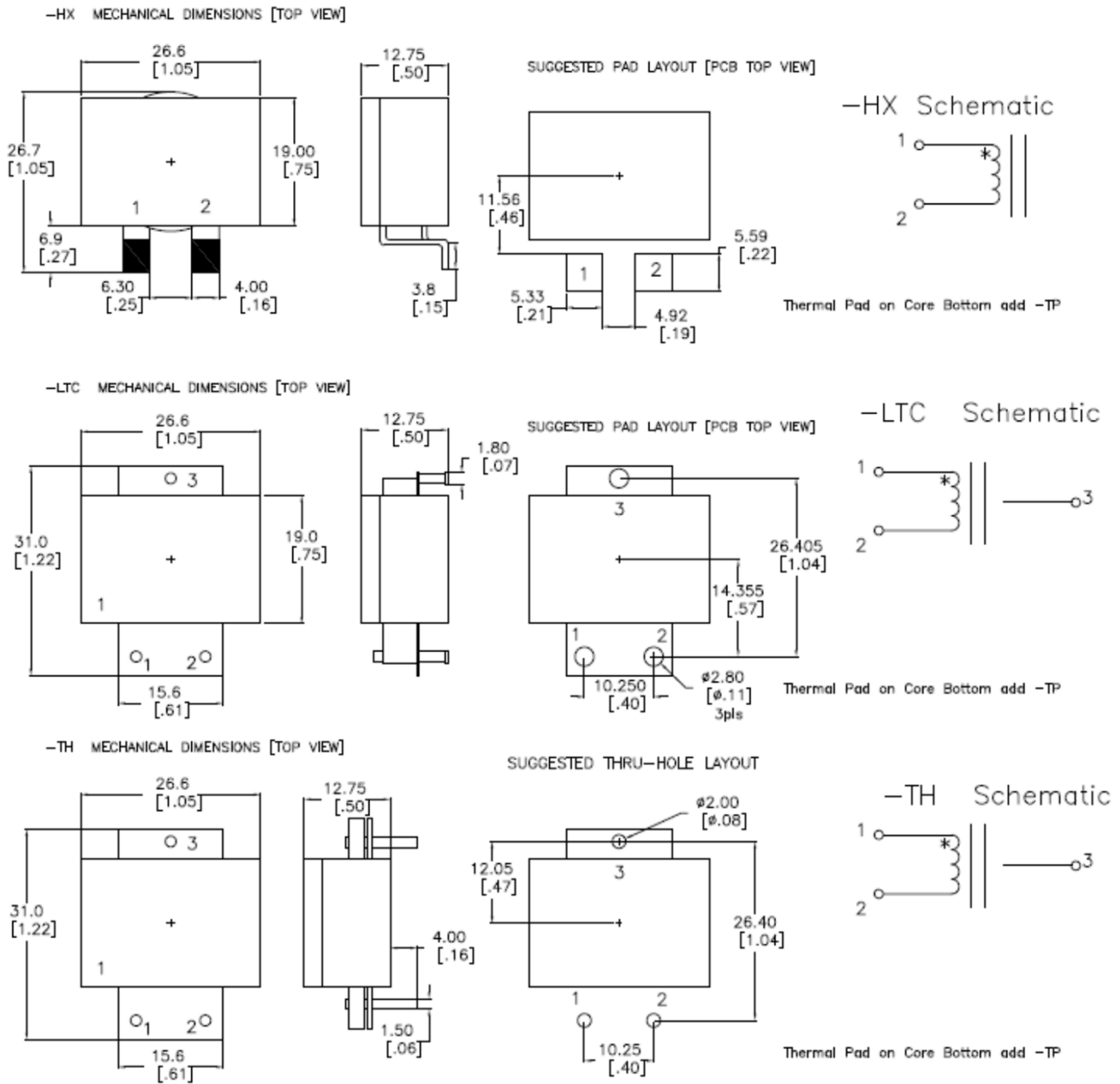
Add -LTC, -HX or -TP [Thermal Pad] to PN to complete Part No. Callout





# Champs-Tech PQI-26 Power Inductors

Add -LTC, -HX, -TH + -TP [Thermal Pad] to PN to complete Part No.



## Mechanical Outline Drawing Pad Layout & Part Callout



# Champs-Tech PQI-26 Power Inductors

