

Champs-Tech DC1929A PNs for Analog Ref Designs & Demo Boards

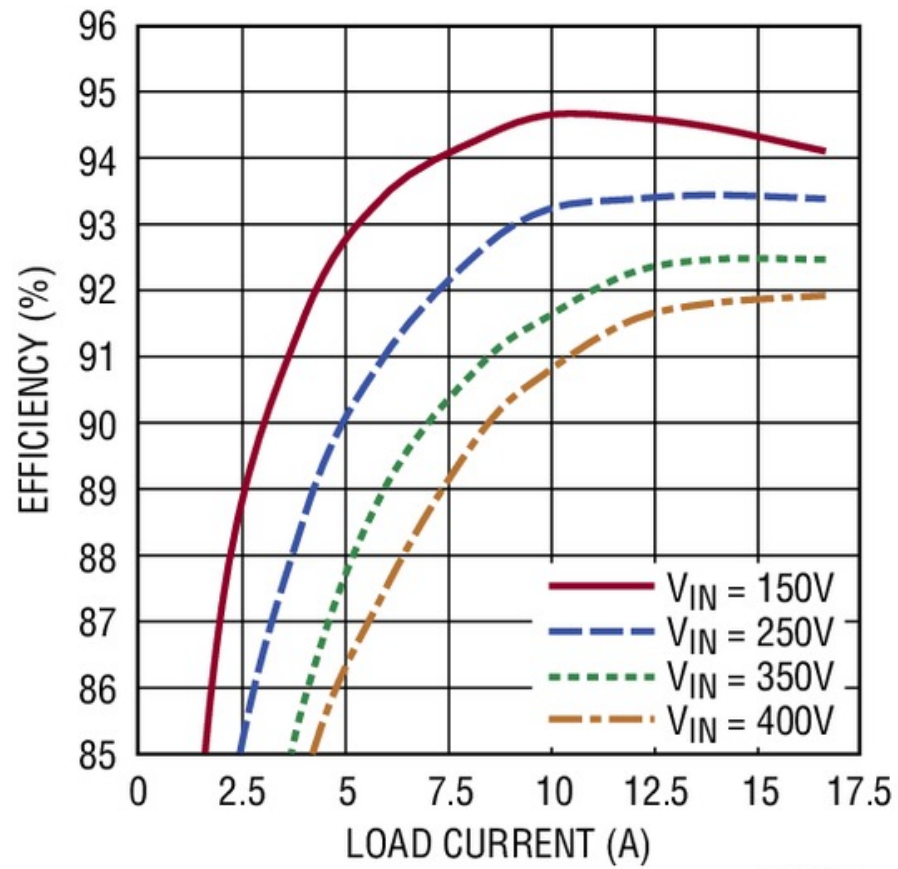


- Forward Active Clamp Topology -
- Highest Efficiency. Planar Design.
- Aggressive Interleave planar construction -- lowest achievable Leakage Inductance.
- Multilayer PCB optimization for lowest AC resistance and Proximity Effect.
- Wide variety of Turns Ratios in stock.
- Contact Us for DC-DC Module Design
- Contact Us for SM Assembly of all Components for DC-DC Converter

1. Ref Design DC1929A Based. "Off-Line" Input Voltage Range 150-420.

Champs PNs & DC1929A Catalog

Champs PN	Vin (Min)	Vin (Max)	Vout	Io
80R2-5AC-3125002-1M2	150	420	5	30.0
80R2-12AC-3124005-1M2	180	400	12	16.7
80R2-15AC-3115006-1M2	180	400	15	12.5
80R2-24AC-3124010CT-1M2	150	400	24	10.0
80R2-24AC-3206CT-1M2	300	400	24	10.0
80R2-28AC-3222008	180	400	28	10.0
80R2-30AC-3208-1M2	300	400	30	8.0
80R2-24AC-3124010CT-1M2	300	400	57	3.0
Linear Technology DC1929A URL				



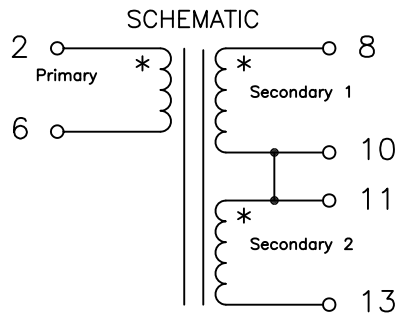
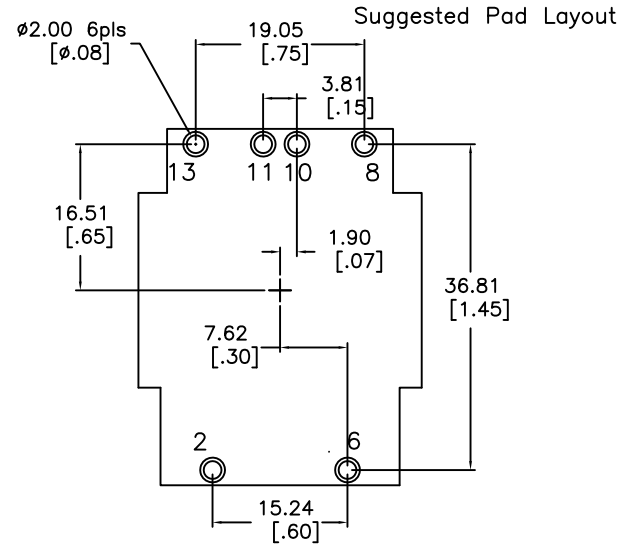
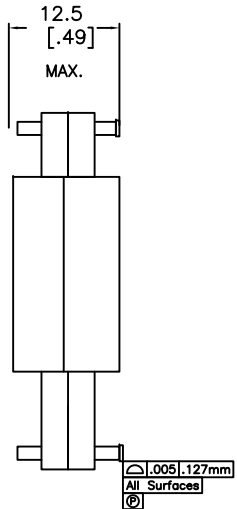
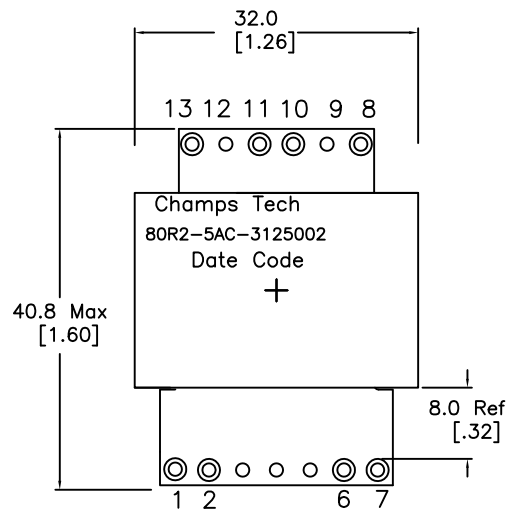
3752 TA06b

Options include discrete component or integrated complete DC-DC Converter Module:

- **Surface Mount Discrete Component Design.**
- **Discrete Component Implemented in Pad-to-Pad Mounting.**
- **Component implemented as Half-Embedded Design + SM Assembly of all components required of DC-DC Converter.**
- **Implemented as a Fully Embedded Design + SM Assembly of all components required of DC-DC Converter.**
- **SMT Component Assembly of PCB Including Planar Magnetics Inclusive of Converter Testing. Volume capacity 100K per month**

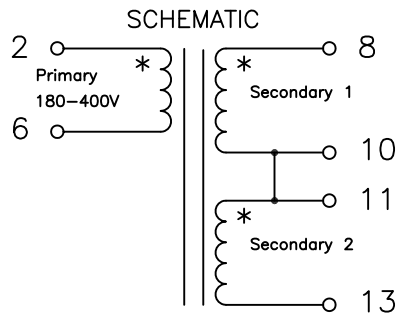
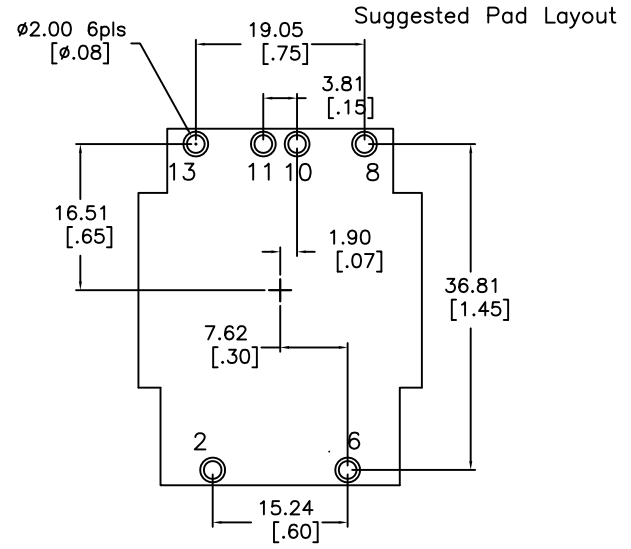
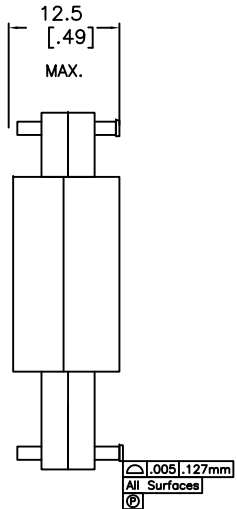
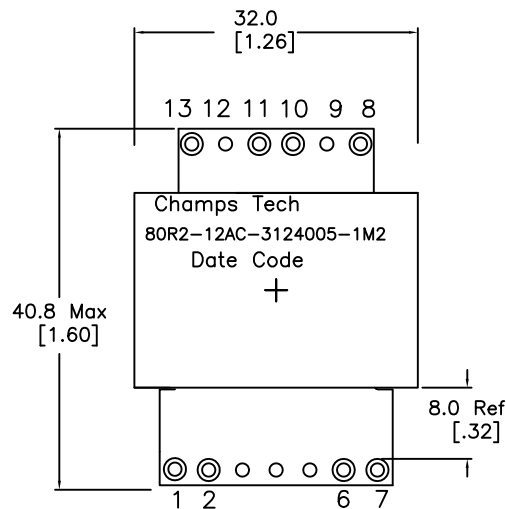
Notes:

1. Consult Linear Tech Ref Design BOM and Schematic for exact device as specified for use by Linear in that Reference Design.
2. In all cases Champs Technologies makes no representation as to suitability of the Reference Design itself as that is the design responsibility and Intellectual Property of Linear Technology.
3. Champs Technologies responsibility is limited to the use of its component as described in the Data Sheet and any warranty express or implied is limited to component replacement if found defective.



- ELECTRICAL INFORMATION:**
 TURNS RATIO [8-13] : [2-6] = 0.065 +/-2%
- DCR [2-6]= 186 mohm Nom, [8-10] = [11-13] = 1.38 mohm Nom,
 - Inductance [2-6] = 1.2mH Nom, 1.08 Min, 1.32 Max @100KHz, 1.0 VRMS @ 25C
 - Leakage Inductance [2-6]= Short [8-13] = 4.0 uH Nom @100 KHz
 - Dielectric Strength 6 Sec Min: [2,6] to [8,13] : Core 3750 VAC II [8,13] :Core 500 Vdc
 - Weight 30 grams Max | RoHS Compliant | Pin Composition Tin/Silver Plating
 - Volt-usec Rating = 1020 @100C
 - Operating Ambient Temp Rating: -55C to +130C [Inclusive of Temp Rise]

No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
DRAWN		SIGN	DATE	Champs No. 80R2-5AC-3125002-1M2
CHKD		HE	3/5/12	Customer ISSUE
APPR				Part #: REV
			SIZE	SCALE 150%
				A 00

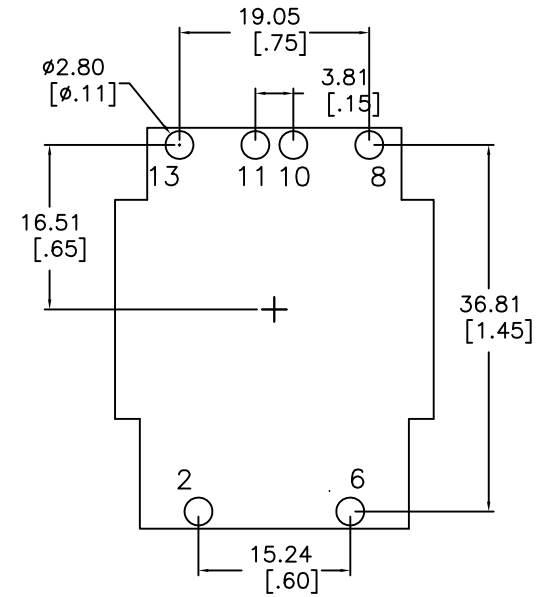
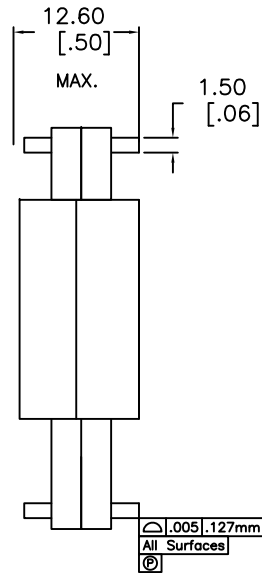
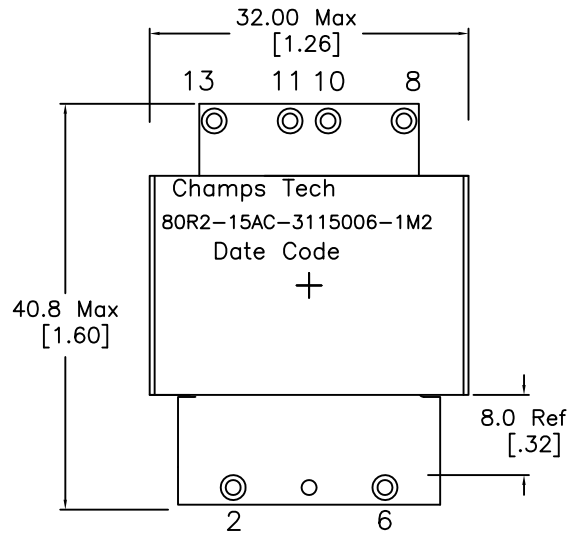


ELECTRICAL INFORMATION:

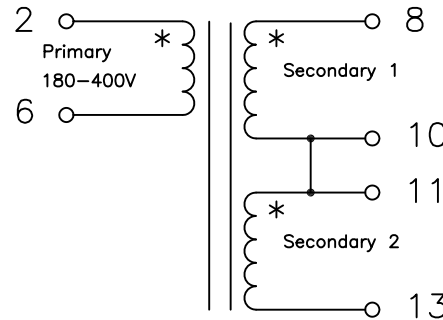
- 1. DCR [2-6]= 186 mohm Nom, [8-13] = 6.0 mohm Nom,
- 2. Inductance [2-6] = 1.2mH Nom, 1.08 Min, 1.32 Max @100KHz, 1.0 VRMS @ 25C
- 3. Leakage Inductance [2-6]= Short [8-13] = 4.0 uH Nom @100 KHz
- 4. Dielectric Strength 6 Sec Min: [2,6] to [8,13] :Core 3750 VAC II [8,13] :Core 500 Vdc
- 5. Weight 30 grams Max | RoHS Compliant | Pin Composition Tin/Silver Plating
- 6. Volt-usec Rating = 1020 @100C
- 7. Operating Ambient Temp Rating: -55C to +130C [Inclusive of Temp Rise]

No.		DESCRIPTION		REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION						
CHAMPS TECHNOLOGIES						
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs No. 80R2-12AC-3124005-1M2		
.XXX ± .25		DRAWN	HE	3/5/12	Customer	ISSUE
.XX ± .51		CHKD			Part #:	REV
.X ± 1.0		APPR			SIZE	A 00
ANGLE ±					SCALE 150%	

Suggested Pad Layout



SCHEMATIC



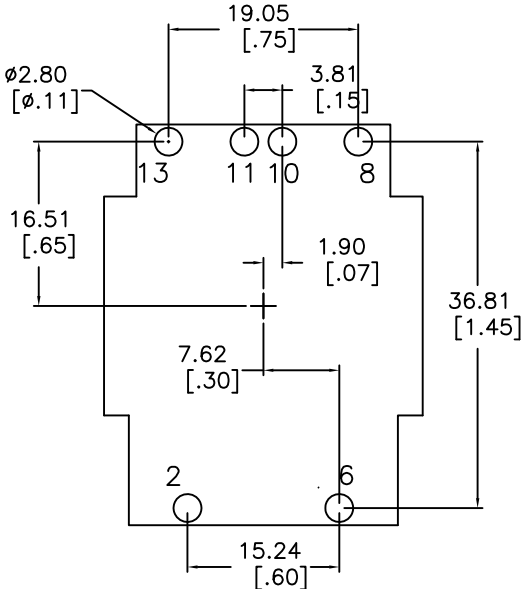
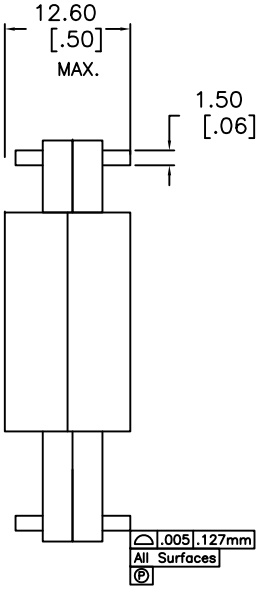
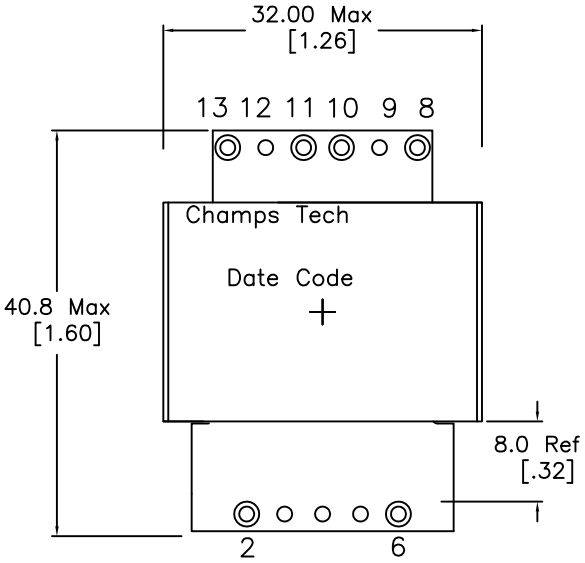
ELECTRICAL INFORMATION:

URNS RATIO [8-13]:[2-6]= 0.194 +/-2%

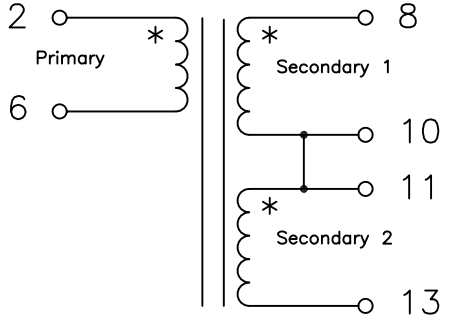
1. DCR [2-6]= 186 mohm Nom, [8-13] = 8.2 mohm Nom,
2. Inductance [2-6] = 1.2 mH Nom, 1.12 Min, 1.28 Max @100KHz, 1.0 VRMS @ 25C
3. Leakage Inductance [2-6]= Short [8-13] = 4.0 uH Nom @100 KHz
4. Dielectric Strength 3 Sec Min: [2,6] to [8,13] to Core 3750 VAC || [8,13] : Core 500 Vdc
5. RoHS Compliant | Pin Composition Tin/Silver Plating
6. Volt-usec Rating = 1010 @100C
7. Operating Ambient Temp Rating: -55C to +130C [Inclusive of Temp Rise]

No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
DRAWN		SIGN	DATE	Champs No. 80R2-15AC-3115006-1M2
CHKD		HE	03.11.15	Customer ISSUE A
APPR				Part #: REV 00
TOLERANCES UNLESS OTHERWISE INDICATED			SIZE	SCALE 150%
.XXX ±				
.XX ±				
.X ±				
ANGLE ±				

Suggested Pad Layout



SCHEMATIC

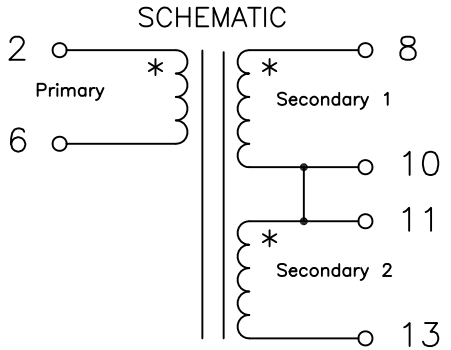
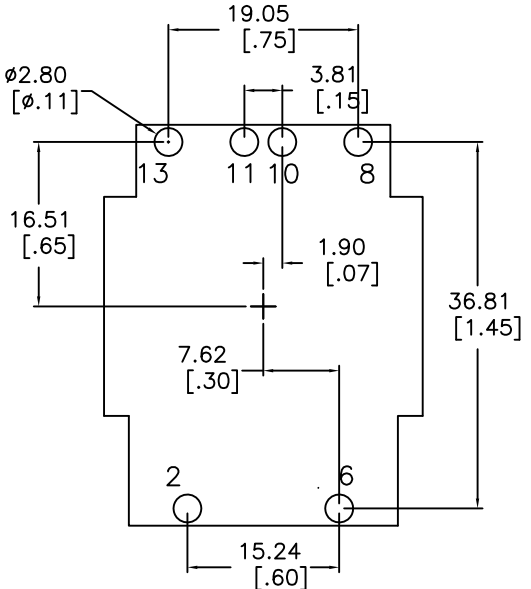
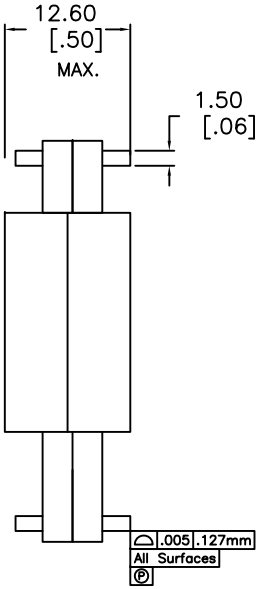
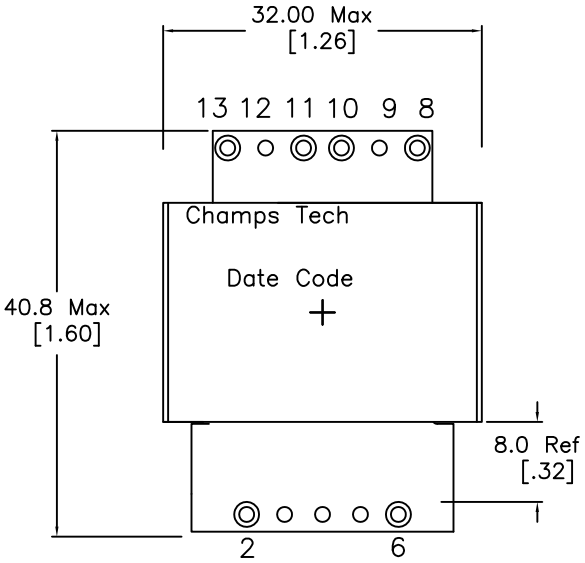


ELECTRICAL INFORMATION:

- 1. DCR [2-6]= 190 mohm Nom, [8-13] = 8 mohm Nom,
- 2. Inductance [2-6] = 1.2 mH Nom, +/-10% @100KHz, 1.0 VRMS @ 25C
- 3. Leakage Inductance [2-6]= Short [8-13] = 5.3 uH Nom @100 KHz
- 4. Dielectric Strength 3 Sec Min: [2,6] to [8,13] to Core 3750 VAC II [8,13] : Core 500 Vdc
- 5. RoHS Compliant I Pin Composition Tin/Silver Plating
- 6. Volt-usec Rating = 1030 @100C
- 7. Operating Ambient Temp Rating: -55C to +130C [Inclusive of Temp Rise]

No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
DRAWN		SIGN	DATE	Champs No. 80R2-24AC-3206CT-1M2
CHKD		HE	08.19.15	Customer
APPR				Part #: ISSUE A REV 00
SIZE			SCALE 150%	

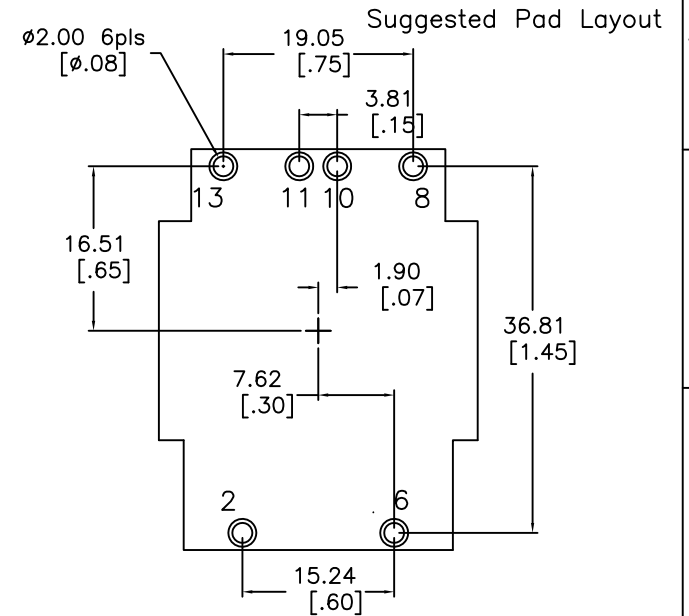
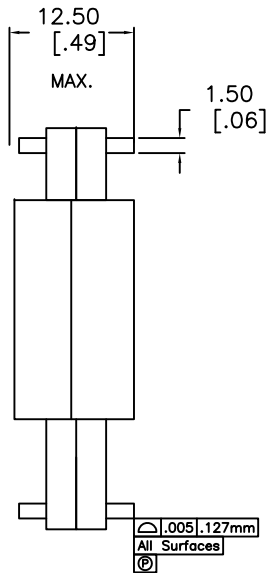
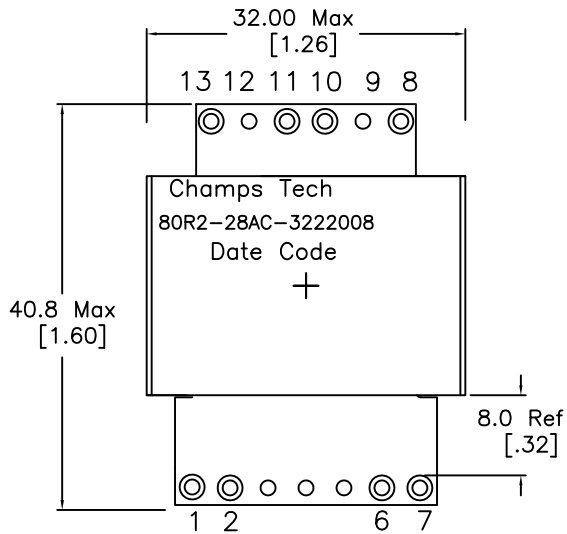
Suggested Pad Layout



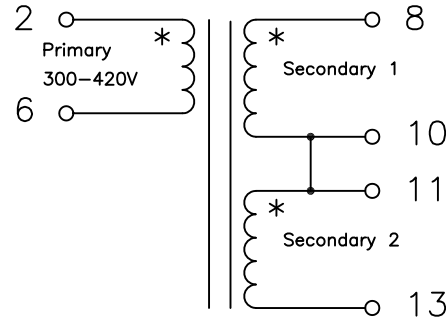
ELECTRICAL INFORMATION:

- 1. DCR [2-6]= 186 mohm Nom, [8-13] = 19.7 mohm Nom,
- 2. Inductance [2-6] = 1.2 mH Nom, +/--10% @100KHz, 1.0 VRMS @ 25C
- 3. Leakage Inductance [2-6]= Short [8-13] = 4.5 uH Nom @100 KHz
- 4. Dielectric Strength 3 Sec Min: [2,6] to [8,13] to Core 3750 VAC II [8,13] : Core 500 Vdc
- 5. RoHS Compliant I Pin Composition Tin/Silver Plating
- 6. Volt-usec Rating = 1030 @100C
- 7. Operating Ambient Temp Rating: -55C to +130C [Inclusive of Temp Rise]

No.		DESCRIPTION		REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION						
CHAMPS TECHNOLOGIES						
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs No. 80R2-24AC-3124010CT-1M2		
.XXX ± 0.180	HE	08.19.15	Customer		ISSUE	REV
.XX ± 0.38	CHKD		Part #:		A	00
.X ± 1.5	APPR		SIZE	SCALE	150%	
ANGLE ±						



SCHEMATIC



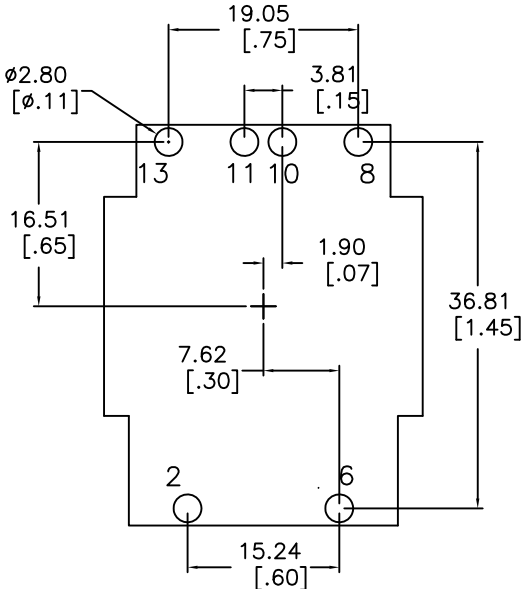
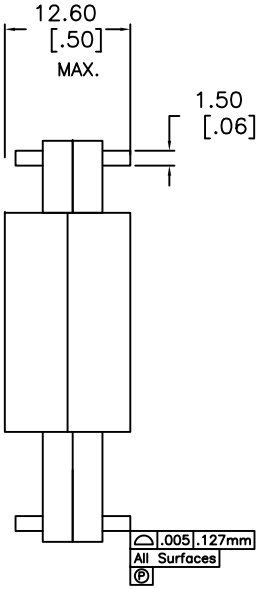
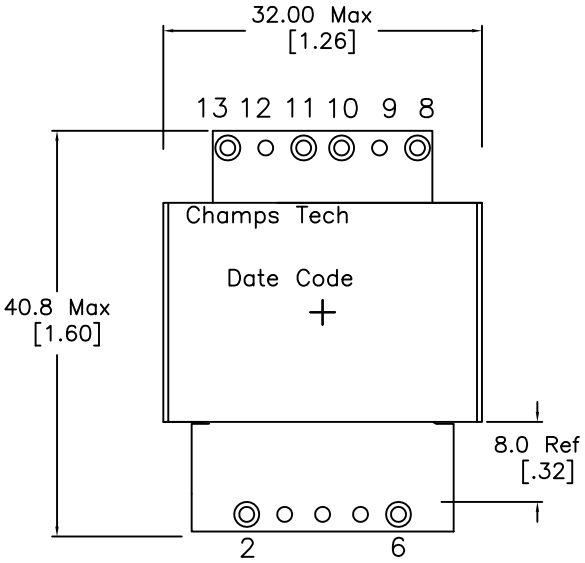
ELECTRICAL INFORMATION:

URNS RATIO [8-13] : [2-6] = 0.25 +/-2%

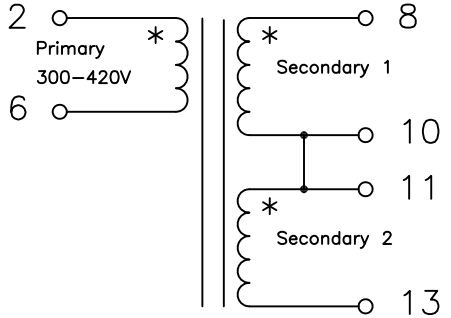
1. DCR [2-6]= 205 mohm Nom, [8-13] = 14 mohm Nom,
2. Inductance [2-6] = 4.95 mH Nom, 3.7 Min Max @100KHz, 1.0 VRMS @ 25C
3. Leakage Inductance [2-6]= Short [8-13] = 8.0 uH Max @100 KHz
4. Dielectric Strength 6 Sec Min: [2,6] to [8,13] to Core 3750 VAC II [8,13] : Core 500 Vdc
5. Weight 30 grams Max | RoHS Compliant | Pin Composition Tin/Silver Plating
6. Volt-usec Rating = 1040 @100C
7. Operating Ambient Temp Rating: -55C to +100C

No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
DRAWN		SIGN	DATE	Champs No. 80R2-28AC-3222008
CHKD		HE	3/5/12	Customer ISSUE
APPR				Part #: A REV
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIZE		SCALE 150%
.XXX ± .25				00
.XX ± .51				
.X ± 1.5				
ANGLE ±				

Suggested Pad Layout



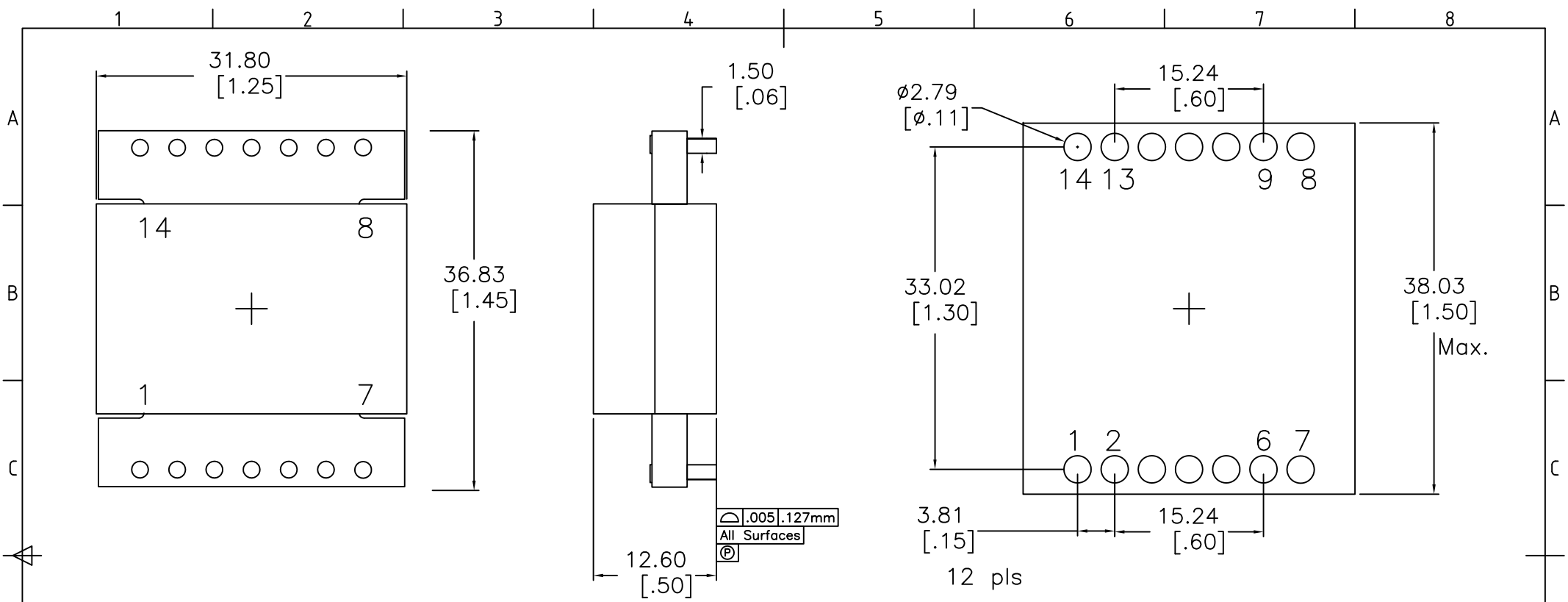
SCHEMATIC



ELECTRICAL INFORMATION:

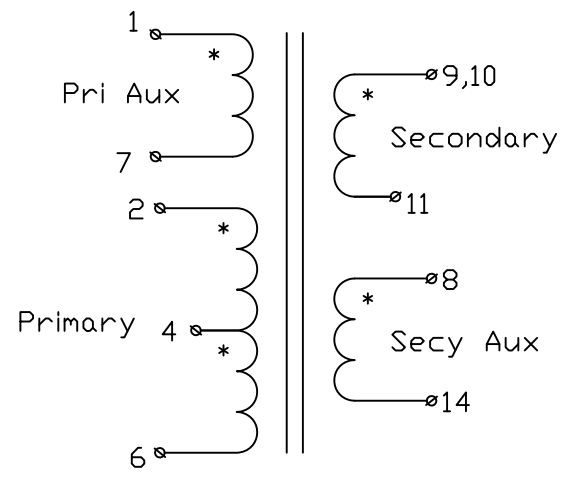
- 1. DCR [2-6]= 190 mohm Nom, [8-13] = 13 mohm Nom,
- 2. Inductance [2-6] = 1.2 mH Nom, +/-10% @100KHz, 1.0 VRMS @ 25C
- 3. Leakage Inductance [2-6]= Short [8-13] = 5.3 uH Nom @100 KHz
- 4. Dielectric Strength 3 Sec Min: [2,6] to [8,13] to Core 3750 VAC II [8,13] : Core 500 Vdc
- 5. RoHS Compliant I Pin Composition Tin/Silver Plating
- 6. Volt-usec Rating = 1038 @100C
- 7. Operating Ambient Temp Rating: -55C to +100C

No.		DESCRIPTION		REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION						
CHAMPS TECHNOLOGIES						
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs No. 80R2-30AC-3208-1M2		
.XXX ±	HE	03.09.15	Customer		ISSUE	REV
.XX ±	CHKD		Part #:		A	00
.X	APPR		SIZE	SCALE	150%	
ANGLE ±						



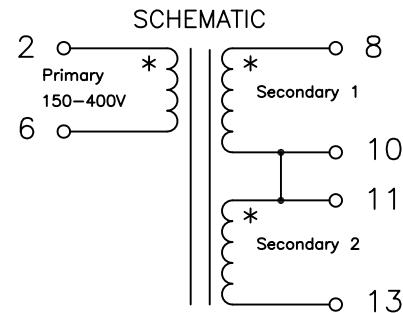
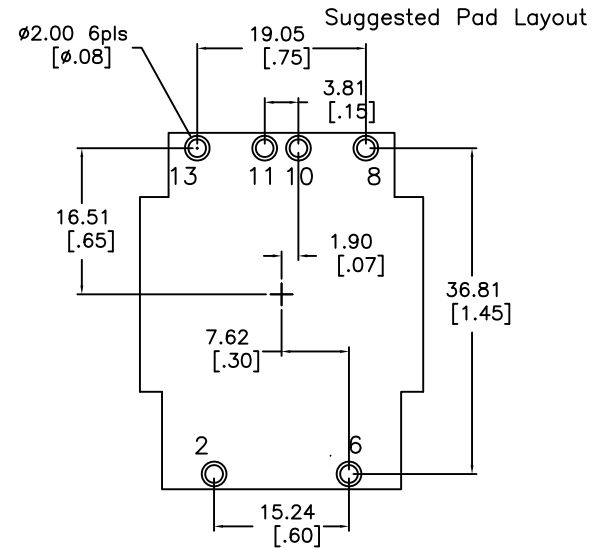
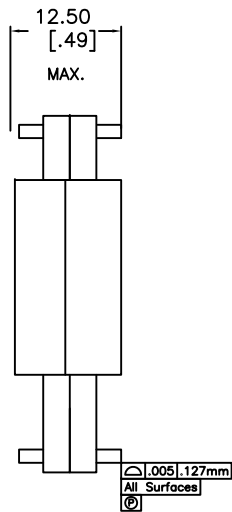
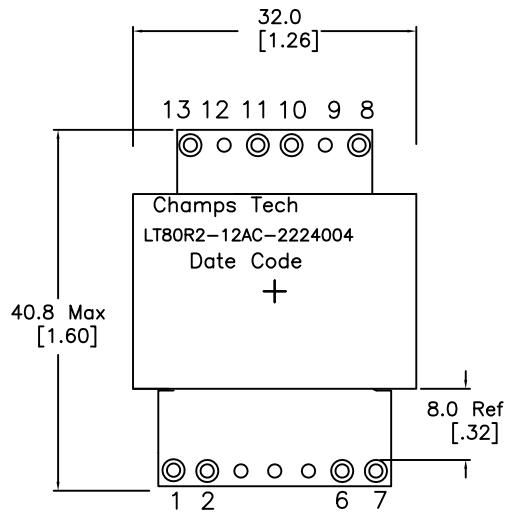
Electrical Information:

1. TURNS [2-6] = 19T || [9-11] = 1T || [1-7] = Aux
2. INDUCTANCE [2-6] = 1940 uH Nom @100kHz/1.0V
3. LEAKAGE INDUCTANCE [2-6] : SHORT 9,11 = 2.8uH Max @100kHz
4. DCR [2-6] = 68 mohms Nom, DCR [9-11] = 0.17 mohms Nom, DCR [1-7] = [8-14] = 300 mohm max
5. CAPACITANCE 2,6 to 9,11 = 180 pF Max @100kHz
6. DIELECTRIC ISOLATION: [2,6],[1,7] : [9,11] > 2500 Vrms
DIELECTRIC ISOLATION: [9,11] : CORE > 500 Vdc
7. RoHS Level 6/6 Compliant | Pins 96/4 Sn/Ag Plating



APPLICATION 200-420VIN TO 5VOUT @40A FORWARD, ACTIVE CLAMP

					CHAMPS TECHNOLOGIES	TOLERANCES UNLESS OTHERWISE INDICATED .XXX ± .XX ± ANGLE ±	DRAWN	JL	03.05.15	TITLE: 80R6-1901		ISSUE	REV
							CHKD	PH			SIZE	SCALE 2:1	A
No.	DESCRIPTION	REVISIONS	DATE	APPR			APPR	DT					



ELECTRICAL INFORMATION:

URNS [2-6] = 22T || [8-13] = 4T

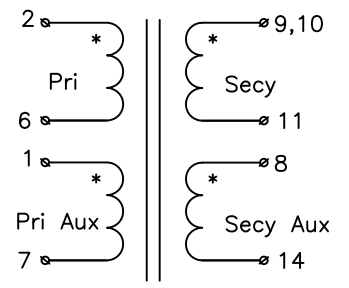
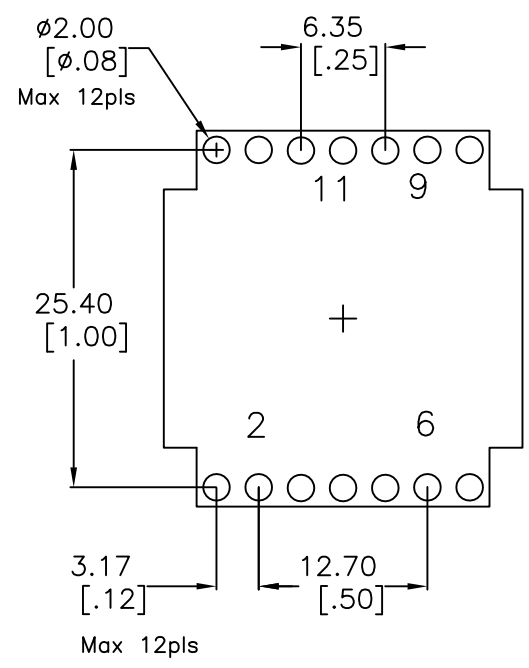
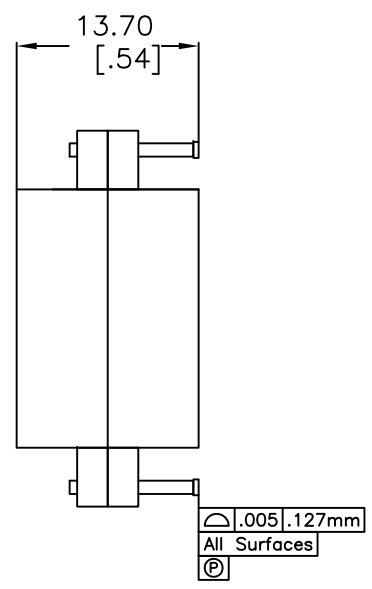
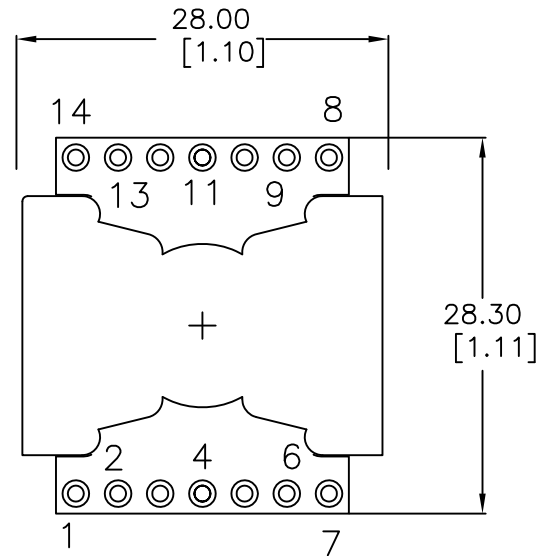
1. DCR [2-6] = 106 mohm Nom, [8-13] = 2.80 mohm Nom,
2. Inductance [2-6] = 1.2 mH Nom, 1.08 Min, 1.32 Max @100KHz, 1.0 VRMS @ 25C
3. Leakage Inductance [2-6] = Short [8-13] = 2.5 uH Max @100 KHz
4. Dielectric Strength 6 Sec Min: [2,6] to [8,13] to Core 3750 VAC || [8,13] : Core 500 Vdc
5. Weight 30 grams Max | RoHS Compliant | Pin Composition Tin/Silver Plating
6. Application: 150-600 Vin to 12V 20A 180 KHz [Connect 10,11]
7. Volt-usec Rating = 715 @100C
8. Operating Ambient Temp Rating: -55C to +100C

No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs No. LT80R2-12AC-2224004
DRAWN	HE	3/5/12	Customer	ISSUE A
CHKD			Part #:	REV 00
APPR			SIZE	SCALE 150%

1 2 3 4 5 6 7 8

A
B
C
D
E
F

SUGGESTED PAD LAYOUT



Electrical Information:

Turns Ratio: [2-6]:[9-11] = 19:1

- INDUCTANCE [2-6]= 1.9 mH Nom, 1.5 mH Min @100kHz/1.0V
- LEAKAGE INDUCTANCE [2-6] : SHORT 9-11 = 3.0 uH Max @100kHz
- DCR [2-6]= 137 mohms Nom, DCR [9-11]= 0.58 mohms Nom,
- CAPACITANCE 2,6 to 9,11 = 280 pF Max @100kHz
- DIELECTRIC ISOLATION: 1500 VAC [2,6] : [9-11] || 1500 VAC CORE : [2,6]
DIELECTRIC ISOLATION 500 VDC CORE : [9-11]
- RoHS Level 6/6 Compliant | Pins 96/4 Sn/Ag Plating

No.	DESCRIPTION	REVISIONS	DATE	APPR
CHAMPS TECHNOLOGIES				
THIRD ANGLE PROJECTION				
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs No. P26R6-1901-14mm
.XXX ±	DRAWN		03.09.15	Customer
.XX ±	CHKD			Part #:
.X	APPR			ISSUE A
ANGLE ±				REV 00
		SIZE A4	SCALE 2:1	