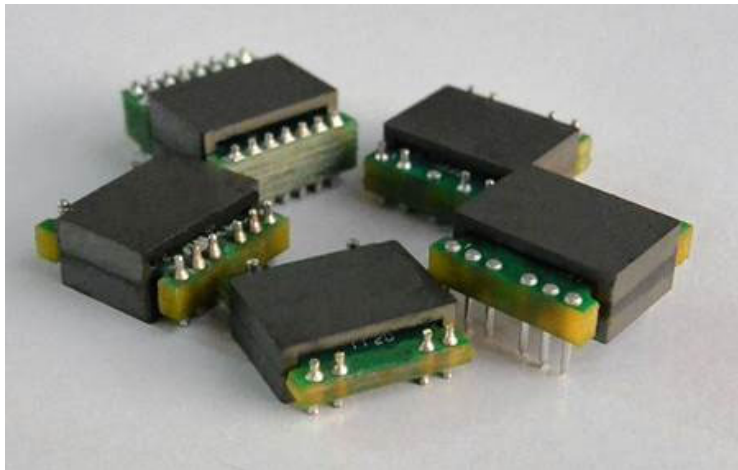


Champs-Tech Planar for DC2199A Ref Designs & Demo Boards



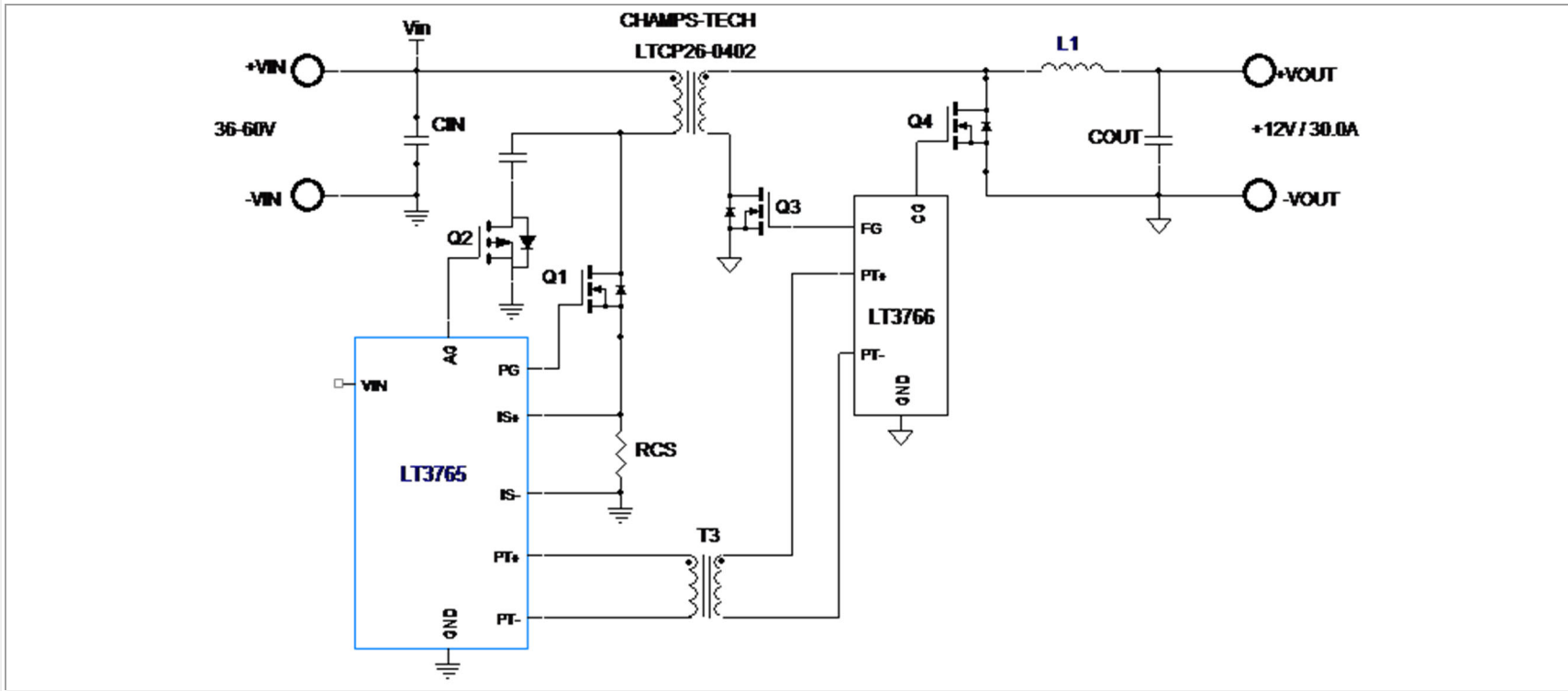
- Forward Active Clamp Topology -- Highest Efficiency. Planar Design.
- Aggressive Interleave planar construction -- lowest achievable Leakage Inductance.
- Multilayer PCB optimization for lowest AC resistance and Proximity Effect.
- Wide variety of Turns Ratios in stock.
- Contact Us for DC-DC Module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

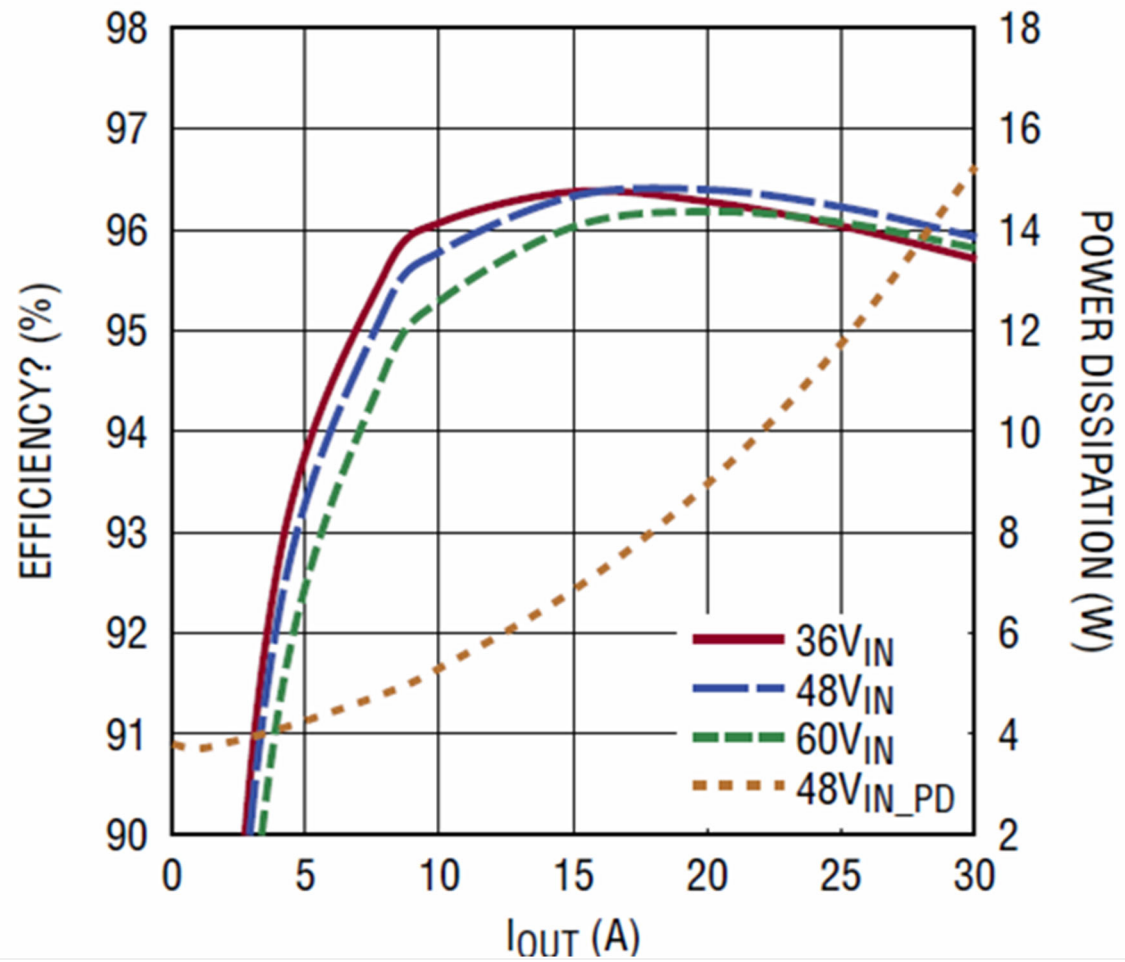
1. Ref Design DC2199A-A. Input Voltage Range 36-60.

See Also: [Champs P26 and 80R6 Series PNs and Data Sheets](#) [Coming Soon]

Champs PN	Vin (Min)	Vin (Max)	Vout	Io
LTCP26-0402	36	60	12	30.0

Linear Technology DC2199A URL





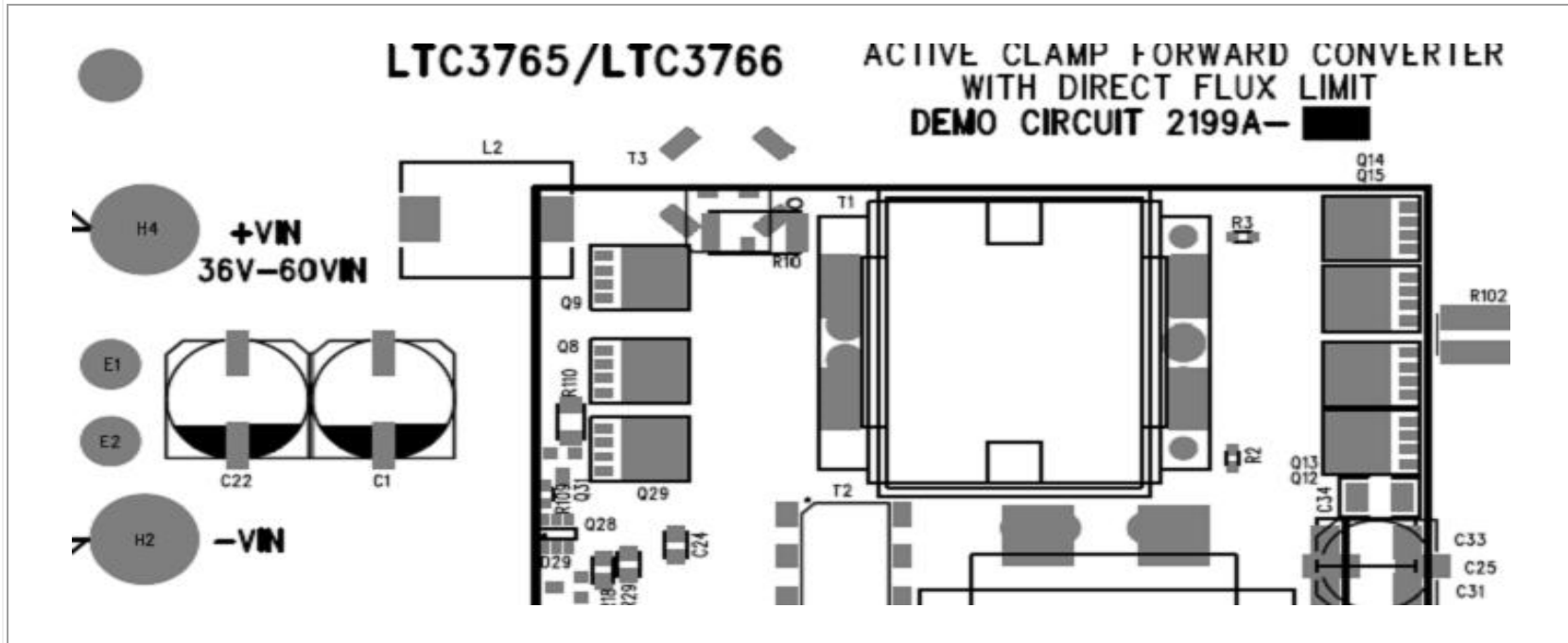
©Linear Technology Inc

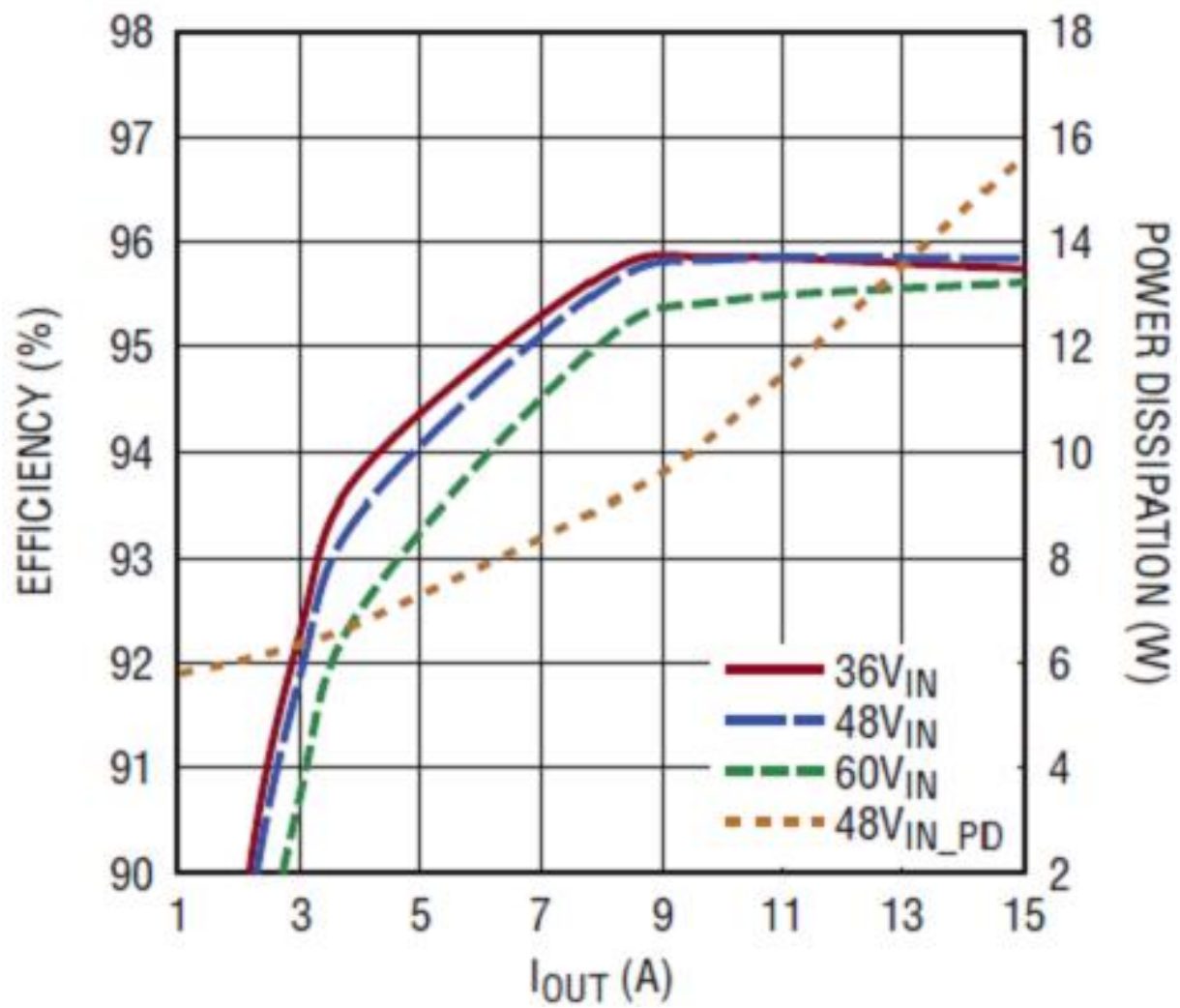
2. Ref Design DC2199A-B. Input Voltage Range 36-60.

See Also: [Champs P26 and 80R6 Series PNs and Data Sheets](#) [Coming Soon]

Champs PN	Vin (Min)	Vin (Max)	Vout	Io
LTCP26-0404-S02	36	60	24	15.0

[Linear Technology DC2199A-B URL](#)

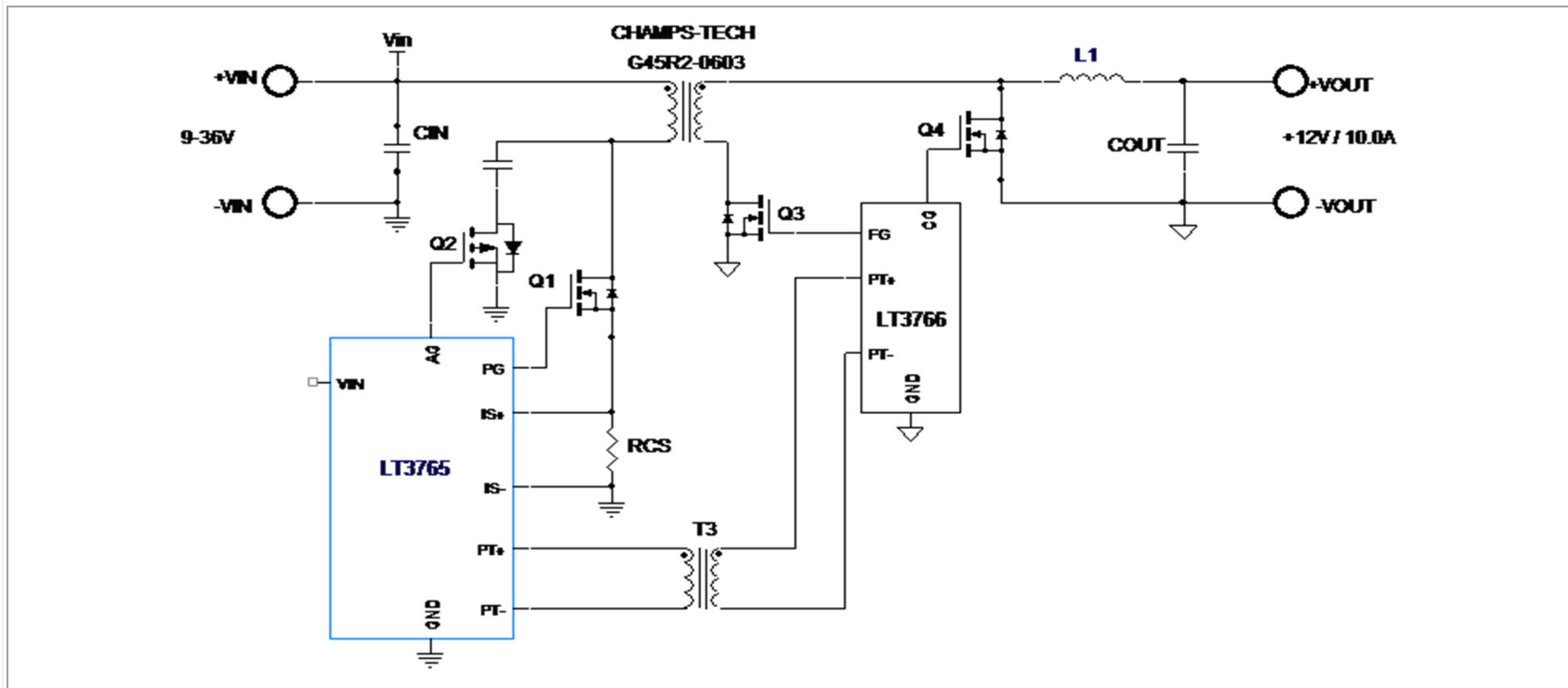


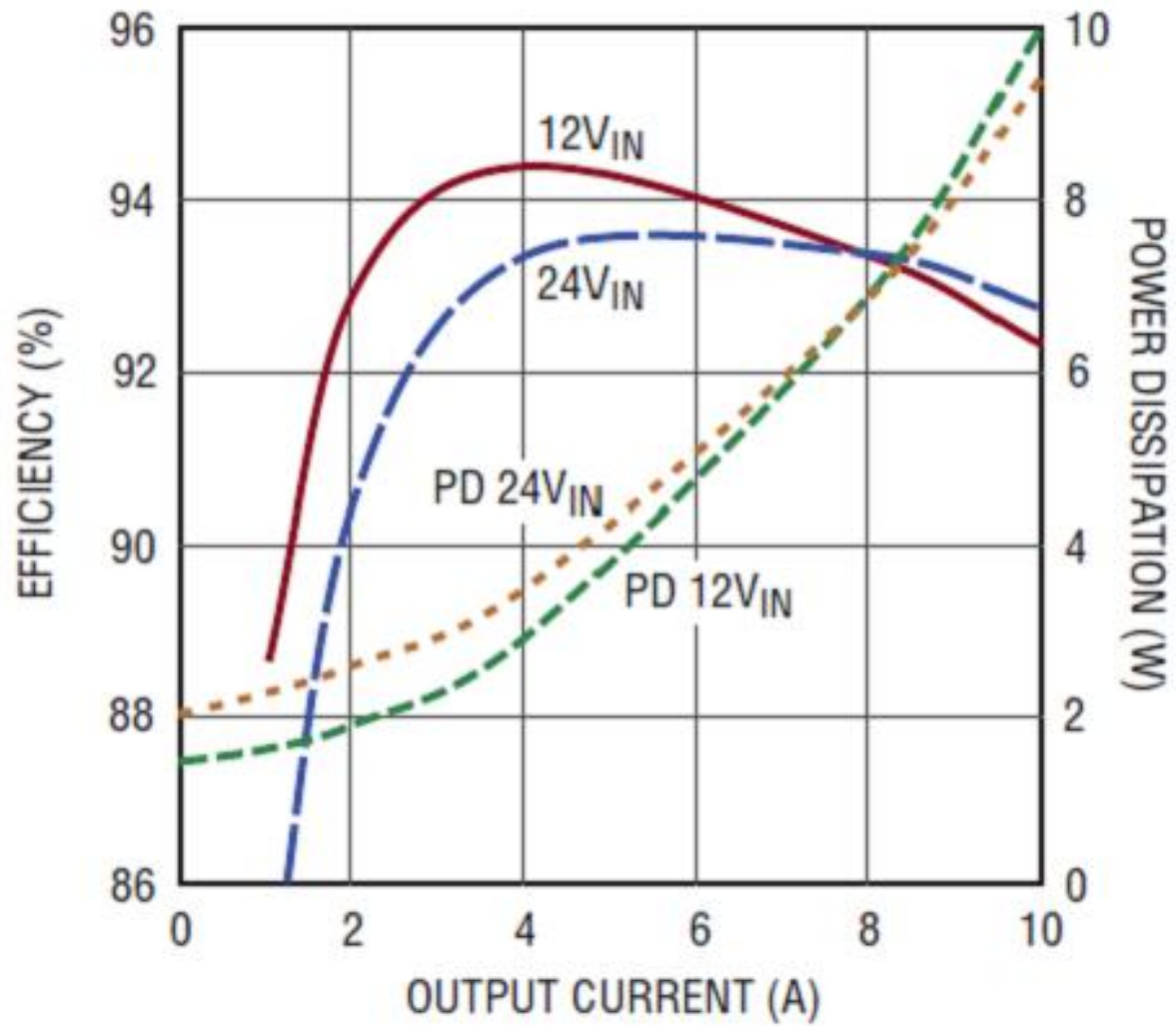


3. Ref Design DC1739B-C. Input Voltage Range 9-36V. [See Also: Champs G45 Series PNs and Data Sheets](#)

Champs PN	Vin (Min)	Vin (Max)	Vout	Io
G45R2-0306	9	36	12	10.0

Linear Technology DC1739B-C URL



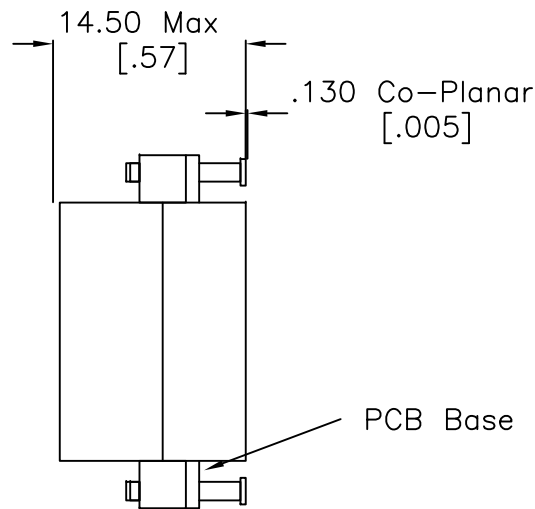
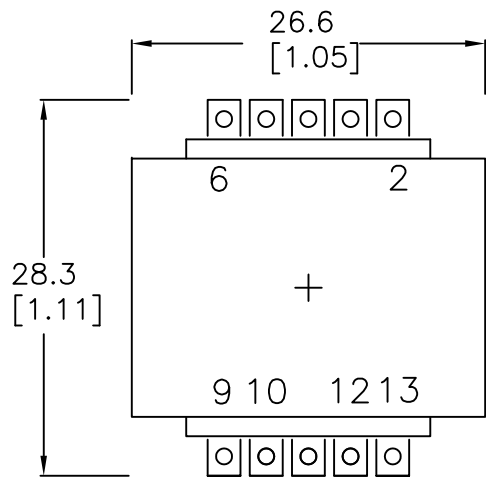


Options include discrete component or integrated complete DC-DC Converter Module:

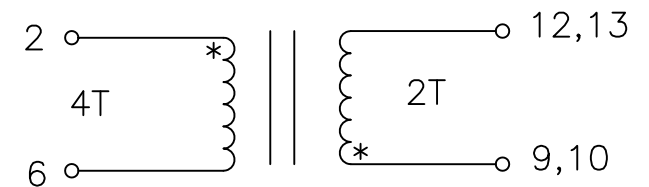
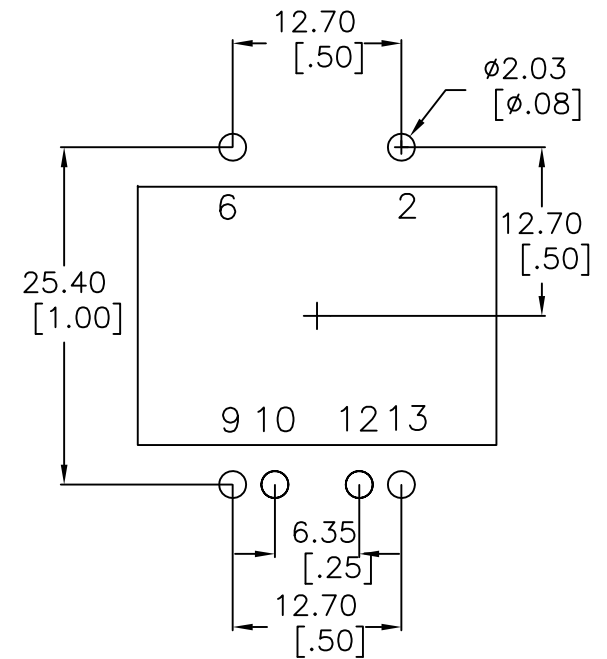
- **Surface Mount Discrete Component Design.**
- **Discrete Component Implemented in Pad-to-Pad Mounting.**
- **Component implemented as Half-Embedded Design + SM Assembly of all components required of DC-DC Converter.**
- **Implemented as a Fully Embedded Design + SM Assembly of all components required 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.



SUGGESTED PAD LAYOUT



Electrical Information:

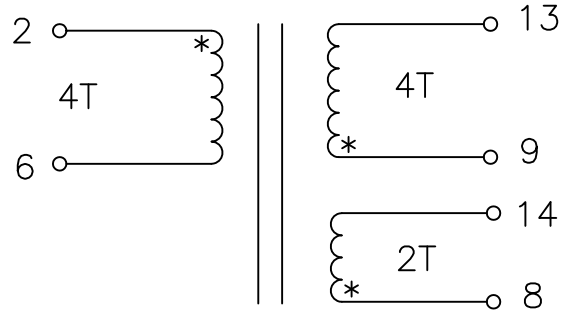
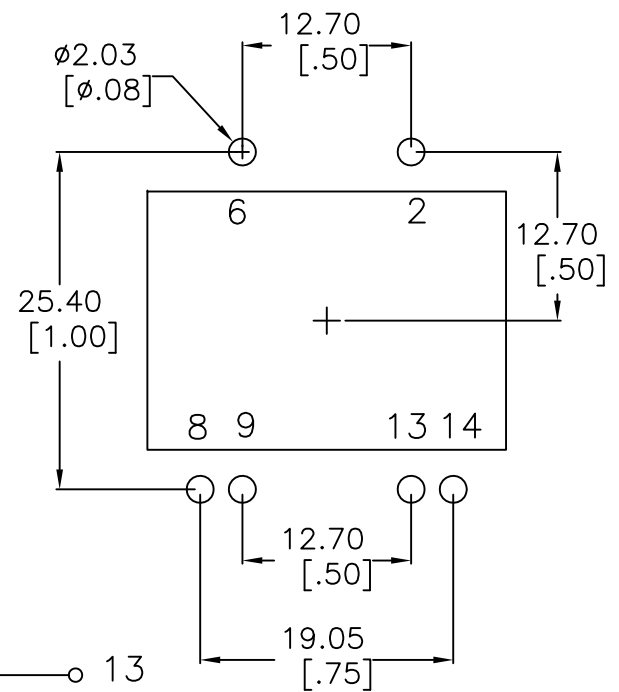
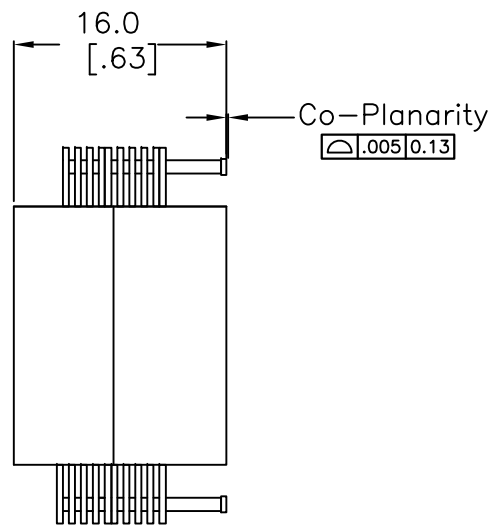
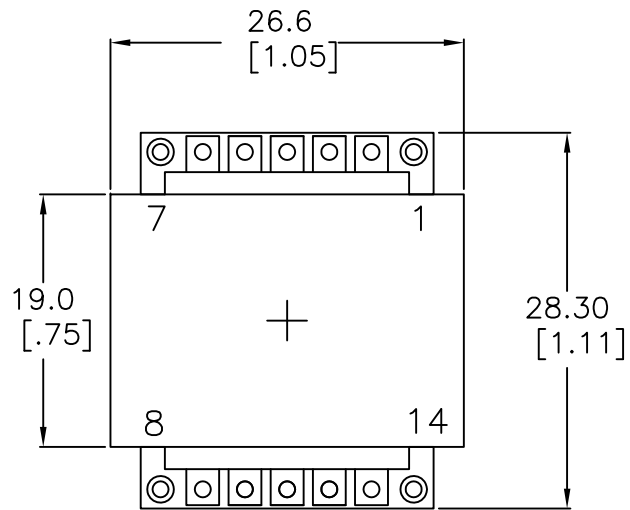
1. INDUCTANCE [2-6] = 100uH Nom, 75uH Min. @100kHz/1.0V
2. LEAKAGE INDUCTANCE [2-6] : SHORT 9,13 = 30nH Nom @100kHz
3. DCR[2-6]= 3.5 mohms Nom, 4.1 Max DCR[9,10-12,13]= 1.2 mohms Nom, 1.4 Max
4. CAPACITANCE 2,6 to 9,13 = 1000 pF Max @100kHz
5. DIELECTRIC ISOLATION :1500 VDC [2-6] : [9-13] || 500 VDC CORE :[2,6] : [9,13]
6. RoHS Level 6/6 Compliant | Halogen Free || REACH Compliant
7. Weight 31 grams Nom, 34 Max
8. Temp Rating -55C to +130C [Inclusive of temp Rise] || Materials to +170C
9. Typical Application DC2199A-A 36-72Vin To 12V 25A Forward, Active Clamp

No.	DESCRIPTION	REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION				
CHAMPS TECHNOLOGIES				
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs No. LTCP26-0402
.XXX ± 0.180	DRAWN	JL	09.18.15	Customer
.XX ± 0.38	CHKD	PH		Part #:
.X ± 1.5	APPR	DT		ISSUE A
ANGLE ±				REV 05
SIZE			SCALE 2:1	

1 2 3 4 5 6 7 8

A
B
C
D
E
F

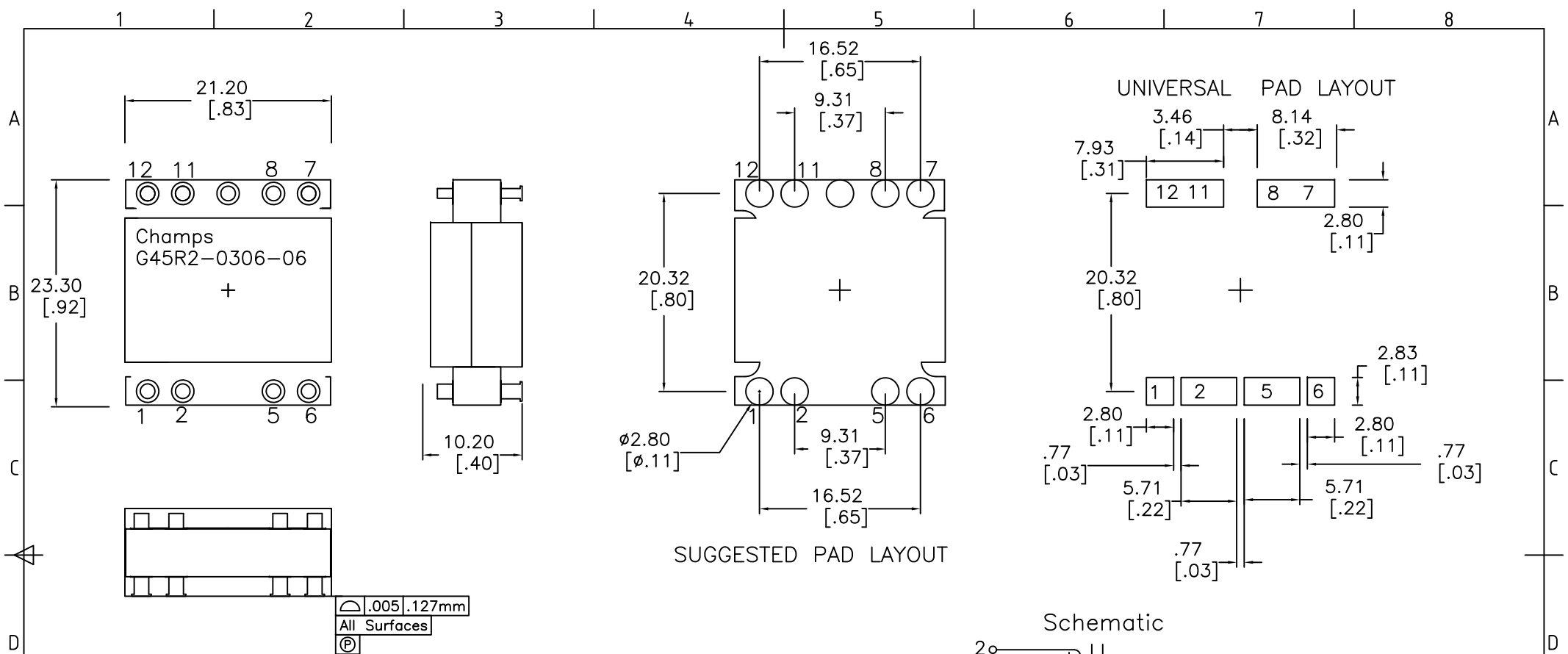
SUGGESTED PAD LAYOUT



Electrical Information:

1. INDUCTANCE [2-6] = 90 uH Nom, 70 Min. @100kHz/1.0V
2. LEAKAGE INDUCTANCE [2-6] : SHORT 8,14 = 30nH Nom @100kHz
3. DCR [2-6] = 4.0 mohms Nom, 4.51 Max DCR [9-13] = 4.0 mohms Nom, 4.51 Max DCR [8-14] = 300 mohms Max.
4. CAPACITANCE 2,6 to 9,13 = 1000 pF Max @100kHz
5. DIELECTRIC ISOLATION :1500 VDC [2-6] : [8-14] || 500 VDC CORE :[2,6] : [8,9]
6. RoHS Level 6/6 Compliant || Halogen Free || REACH Compliant
7. Weight 32.5 grams Nom, 35 Max
8. Temp Rating -55C to +130C [Inclusive of Temp Rise] Materials to +170C
9. Typical Application DC2199A-B 36-72Vin to 24V 300W Active Clamps Forward

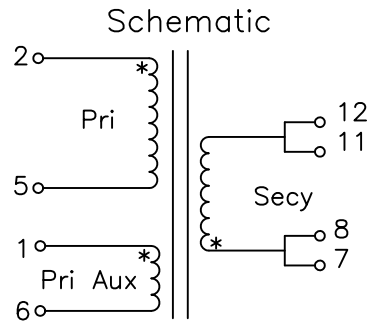
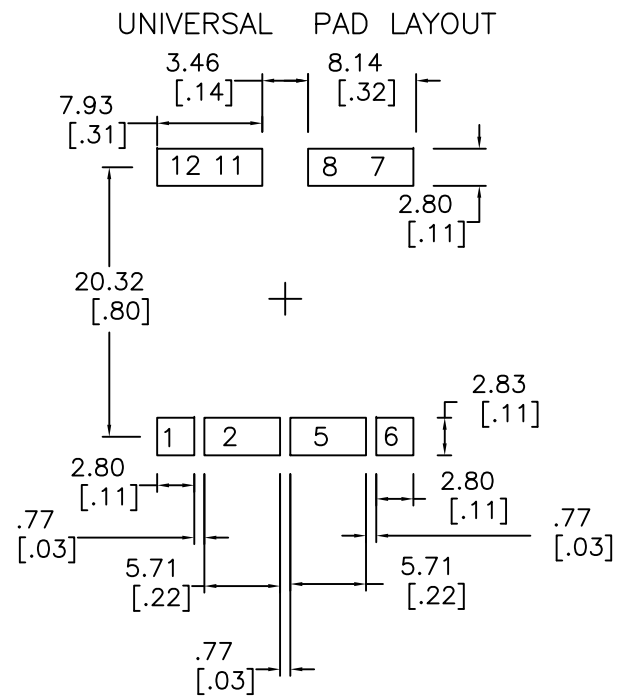
No.		DESCRIPTION		REVISIONS	DATE	APPR
THIRD ANGLE PROJECTION						
CHAMPS TECHNOLOGIES						
TOLERANCES +/- 1.0 UNLESS OTHERWISE INDICATED		SIGN	DATE	Champs No. LTCP26-0404-S02		
.XXX ±	CHKD	JL	1/28/15	Customer	ISSUE	REV
.XX ±	APPR	PH		Part #:	A	01
.X ANGLE ±		DT		SIZE	SCALE 2:1	



- NOTES:
1. TURNS RATIO [2-5] : [7,8 - 11,12] = 0.50 +/--2% || [2-5] : [1-6] =0.50 +/--2%
 2. DCR [2-5]= 2.1 mohm Nom., [7,8 - 11,12]= 8.6 mohm Nom., [1-6]= 300 mohm Max
 3. Inductance [2-5]= 27 uH +/--25% 10KHz, 0.1 VRMS @ 25C
 4. Leakage Inductance [2-5] Short [7,8-11,12] = 0.07uH Nom, 0.10 uH Max @100 KHz
 5. Dielectric Strength [2-5] to [7-12] 1750 VDC | [1-6] to [2-5] 500Vrms 60 Hz
[1-6],[2-5] to CORE 1750 VDC, [7-12] to CORE 500 VDC
 6. Weight 16.8 grams Nom | RoHS Level 6/6 Compliant | Pin Composition Sn/Ag 96/4
 7. Operating Temperature -55C to +130C [Inclusive of Temp Rise]

ORDERING INFORMATION:

1. Order Per Part # G45R2-0306-06. Parts ship in trays unless otherwise specified.
2. For Tape & Reel packaging append "R" to PN, e.g. G45R2-0306-06-R.
Tape & Reel packaging is in accordance with Champs Dwg T40-4600014.
3. Std 180 parts per reel | 40 parts per tray.



No.	DESCRIPTION	REVISIONS	DATE	APPR
CHAMPS TECHNOLOGIES				
DRAWN		SIGN	DATE	Champs No. G45R2 0306-06
CHKD				Customer ISSUE A REV 00
APPR		HE	4/29/08	Part #: SIZE SCALE 2:1