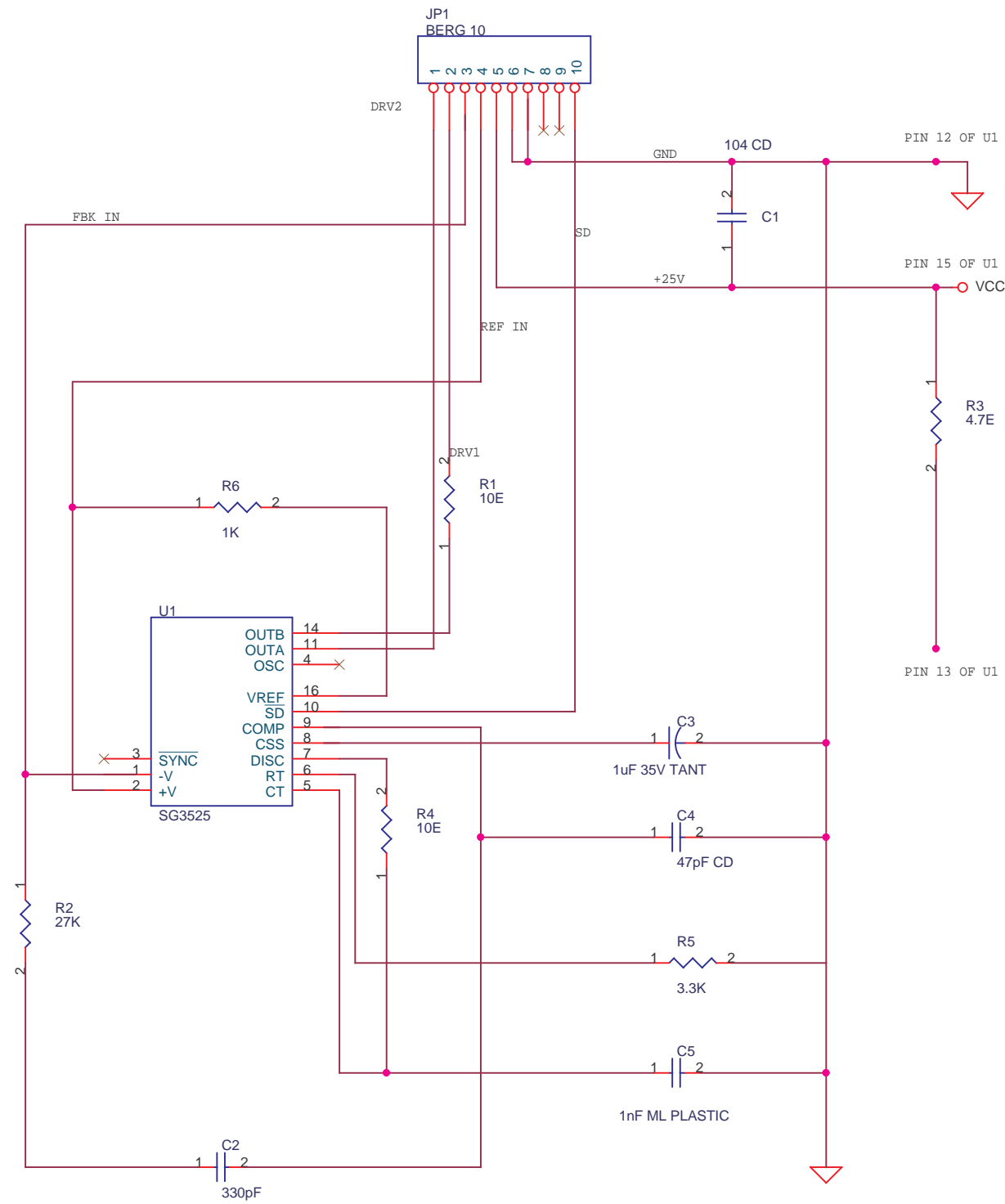


INTERNAL CIRCUIT OF DEL400



POT THIS MODULE IN EPOXY AFTER TESTING.  
TO PROTECT CIRCUIT AND FOR RELIABILITY

R6 USE FOR 5V OUTPUT ONLY  
IF R6 NOT USED 'REF IN' PIN 4 OF JP1  
SHOULD BE GIVEN EXTERNAL REF.  
'FBK IN' PIN 3 OF JP1  
CONNECT TO OUTPUT OF SMPS  
ATTENUATE IF OUTPUT > 10 VOLTS

MAIN CIRCUIT NOTES ST\_AF\_01 500W, 100kHz, half bridge convertor off line.

# IN MAIN CIRCUIT DO NOT LINK DIFFRENT GROUNDS.

THIS IS SYMBOL OF EARTH GROUND



THIS IS SYMBOL OF SIGNAL GROUND

# MAIN CIRCUIT CAN BE USED BOTH FOR 110AC AND 230AC

# FERRITES ARE PARTIAL CONDUCTORS USE PROPER INSULATION BEFORE WINDING.

# FOR MAIN TRANSFORMER TRX2 USE SPLIT BOBBIN FOR GOOD/SAFE ISOLATION.

# EPOXY COATED TORROIDS HAVE TO BE FURTHER INSULATED BEFORE WINDING.

# LINE OF ISOLATION BETWEEN PRIMARY AND SECONDARY CIRCUITS SHOULD BE EXPLICIT.

# PRIMARY COMPONENTS LIKE Q1,Q2 TABS R5,R6 ETC CAN GIVE SHOCK TAKE CAUTION.

# EACH MAIN MODULE IS 500W AND CAN BE USED IN PARALLEL FOR MORE CURRENT.

# Q1 AND Q2 SHOULD HAVE APPROPRIATE ISOLATED HEATSINKS TO220 TYPE 50SQ CM

# SCHOTKY DIODES D5, D6 SHOULD HAVE HEATSINKS TO220 TYPE 100SQ CM.

# DIODES D5, D6 EG D83004 ARE TOP3 PACKAGES ARE USED 2 IN PARALLEL.

# FOR 200W AND ABOVE R2=0.1E 5W IN THE MAIN CIRCUIT FUSIBLE CERAMIC.

# C10,C11... ADD 4.7uF 100V MORE IN PARALLEL TO REDUCE RIPPLE.

# C13,C14 CAN BE 250V FOR BETTER SAFETY MARGIN.

# TRX1 SEC1 AND SEC2 DOT POLARITY IS ANTIPHASE IF SAME PHASE DANGER!!

MAGNETICS DESIGN

USE YELLOW MYLAR TAPE INSULATION OR BETTER FOR ALL

ALL TRANSFORMERS ISOLATION 1KV PRI TO SEC / SEC TO SEC / PRI,SEC TO CORE

TRX4 THIS IS  
A 10mH  
COMMON  
MODE  
FILTER

VACUUM  
IMPREGNATE  
ALL  
MAGNETICS  
IN EPOXY  
OR VARNISH

ALL POWER  
TRACKS ON  
PCB  
REINFORCE  
WITH BRAID

TRX1 MOSFET DRIVE TRANSFORMER  
T25.0 MGQ-5L HITACHI/JINANICA  
TYPE TORROID  
100kHz SIGNAL  
PRI1 20 TURNS #22 AWG  
SEC1 9 TURNS #22 AWG  
SEC2 9 TURNS #22 AWG  
486T250-3C8 FERROXCUBE  
SEC1 AND SEC2 ANTIPHASE

TRX3 CURRENT FEEDBACK TRX  
T25.0 MGQ-5L HITACHI/JINANICA  
TYPE TORROID  
100kHz SIGNAL  
PRI1 1 TURN 4 AMPS MAX  
SEC1 20 TURNS #22 AWG CT.  
CETER TAP 10T-CT-10T  
486T250-3C8 FERROXCUBE

TRX5 50Hz TRANSFORMER SMALL  
PRI1 & PRI2 115V  
SEC1 24V 0.2A JP2 2&3 SHORT 230V  
PRI1 & PRI2 IN PARALLEL FOR 110V

TRX2 STEPDOWN INVERTOR TRANSFORMER  
EC52 SIEMENS/HITACHI JINANICA  
CAN BE ETD/EER COSMO FERRITES/TEXONIC  
PRI1 22 TURNS 2 LAYERS (44 TURNS)  
2\* #16 AWG(18 SWG) IN PARALLEL.  
SEC1 4 TURNS CT COPPER STRAP  
0.01" \* 0.8" COPPER STARP  
COPER STRAP/RIBBON USED CAUSE HI-FREQ SKIN  
EFFECTS, PRI 2 WIRES PARALLELED FOR SAME.

L1 SERIES 60A-80A INDUCTOR  
TYPE EC/ETD/EER EC42 HITACHI/JINANICA  
AIR GAP IN INDUCTOR CORE BOTH SIDES  
100kHz POWER IF30-3C8 FERROXCUBE  
6 TURNS 4\*#12AWG IN PARALLEL  
4 WIRES OF 12AWG TWISTED & WOUND  
FOR 6 TURNS (USE LESS AWG FOR LESS I)

JP1 1-2 SHORT 230V 2-3 SHORT 110V

DACT Elektrotech

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