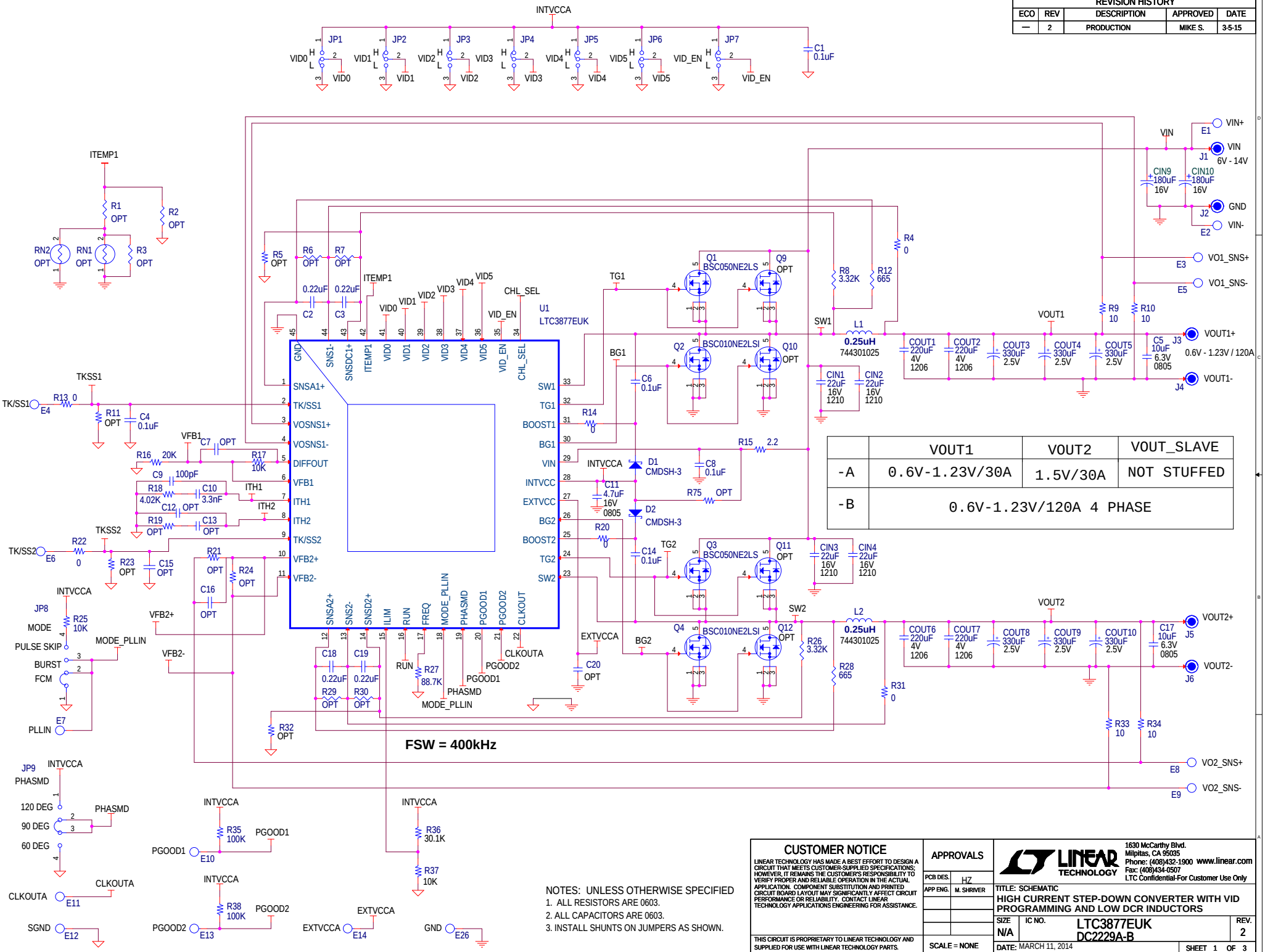
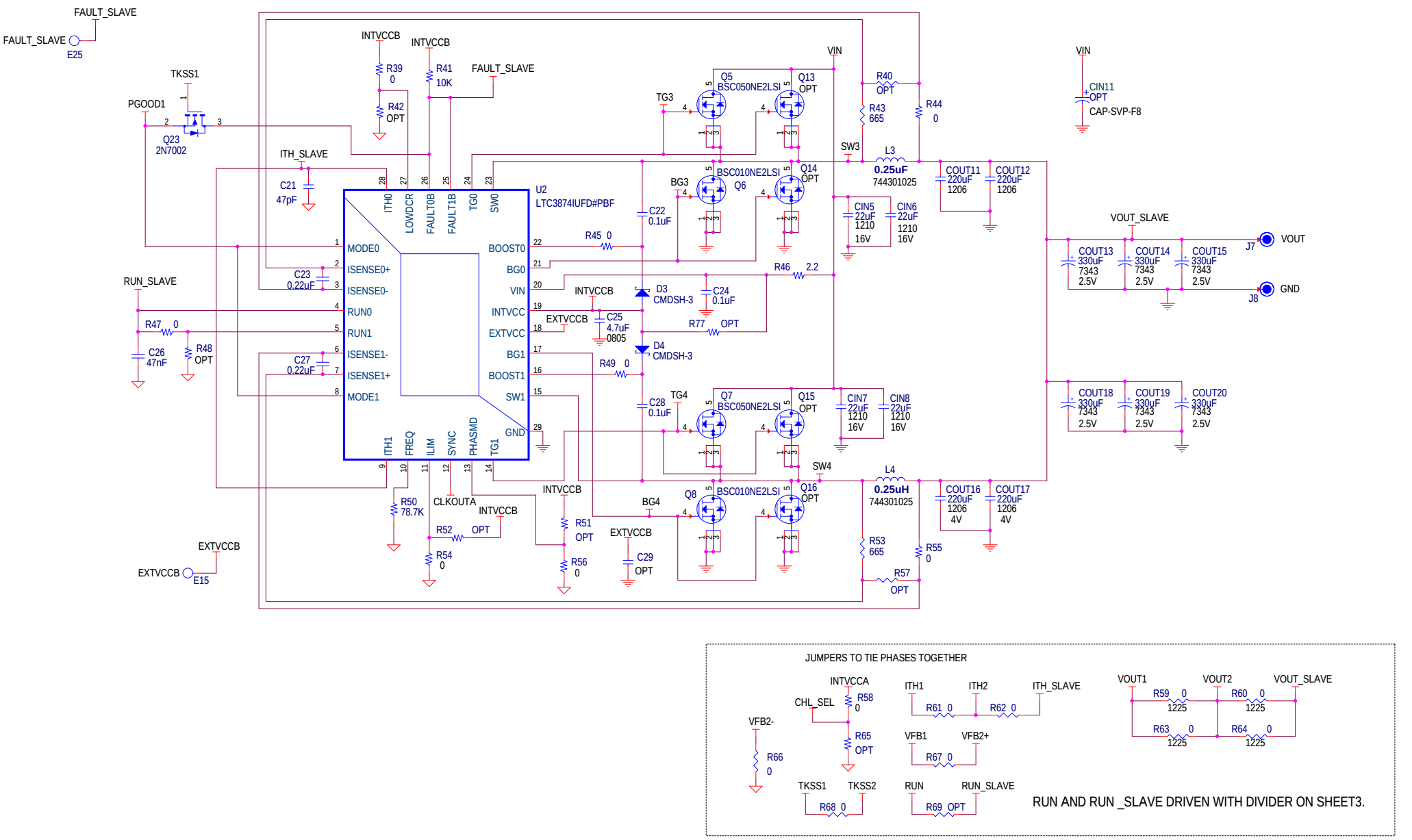

REVISION HISTORY
ECO | REV | DESCRIPTION | APPROVED | DATE
— | 2 | PRODUCTION | MIKE S. | 3-5-15
INTVCCA
JP1 JP2 JP3 JP4 JP5 JP6 JP7
VID0 VID1 VID2 VID3 VID4 VID5 VID_EN
C1 0.1uF
ITEMP1
R1 OPT R2 OPT R3 OPT RN1 OPT RN2 OPT
U1 LTC3877EUK
GND SNSA1+ TK/SS1 VOSNS1+ VOSNS1- DIFFOUT VFB1 ITH1 ITH2 TK/SS2 VFB2+ VFB2-
SNSA2+ SNS2- SNSD2+ ILIM RUN FREQ MODE_PLLIN PHASMD PGOOD1 PGOOD2 CLKOUT
SNS1- SNSDC1+ ITEMP1 VID0 VID1 VID2 VID3 VID4 VID5 VID_EN CHL_SEL
SW1 TG1 BOOST1 BG1 VIN INTVCC EXTVCC BG2 BOOST2 TG2 SW2
TKSS1 TK/SS1 E4 R13 0 R11 OPT C4 0.1uF
TKSS2 TK/SS2 E6 R22 0 R23 OPT C15 OPT
R16 20K C7 OPT R17 10K C9 100pF R18 4.02K C10 3.3nF C12 OPT R19 OPT C13 OPT
R21 OPT R24 OPT C16 OPT
JP8 MODE PULSE SKIP BURST FCM R25 10K E7 PLLIN
JP9 PHASMD 120 DEG 90 DEG 60 DEG
CLKOUTA E11
SGND E12
R5 OPT R6 OPT R7 OPT C2 0.22uF C3 0.22uF
C18 0.22uF C19 0.22uF R29 OPT R30 OPT
R27 88.7K R32 OPT
R35 100K PGOOD1 E10
R38 100K PGOOD2 E13
R36 30.1K R37 10K
EXTVCCA E14
GND E26
Q1 BSC050NE2LS Q9 OPT
Q2 BSC010NE2LSI Q10 OPT
Q3 BSC050NE2LS Q11 OPT
Q4 BSC010NE2LSI Q12 OPT
R8 3.32K R12 665 R4 0
R14 0 R15 2.2 R75 OPT R20 0
D1 CMDSH-3 D2 CMDSH-3
C6 0.1uF C8 0.1uF C11 4.7uF 16V 0805 C14 0.1uF C20 OPT
L1 0.25uH 744301025
L2 0.25uH 744301025
R26 3.32K R28 665 R31 0
CIN1 22uF 16V 1210 CIN2 22uF 16V 1210 CIN3 22uF 16V 1210 CIN4 22uF 16V 1210
CIN9 180uF 16V CIN10 180uF 16V
COUT1 220uF 4V 1206 COUT2 220uF 4V 1206 COUT3 330uF 2.5V COUT4 330uF 2.5V COUT5 330uF 2.5V
COUT6 220uF 4V 1206 COUT7 220uF 4V 1206 COUT8 330uF 2.5V COUT9 330uF 2.5V COUT10 330uF 2.5V
C5 10uF 6.3V 0805 C17 10uF 6.3V 0805
R9 10 R10 10 R33 10 R34 10
VIN VIN+ E1 VIN J1 6V - 14V GND J2 VIN- E2
VOUT1 VO1_SNS+ E3 VO1_SNS- E5 VOUT1+ J3 0.6V - 1.23V / 120A VOUT1- J4
VOUT2 VOUT2+ J5 VOUT2- J6
VO2_SNS+ E8 VO2_SNS-
E9
VOUT1 VOUT2 VOUT_SLAVE
-A 0.6V-1.23V/30A 1.5V/30A NOT STUFFED
-B 0.6V-1.23V/120A 4 PHASE
FSW = 400kHz
NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE 0603.
2. ALL CAPACITORS ARE 0603.
3. INSTALL SHUNTS ON JUMPERS AS SHOWN.
CUSTOMER NOTICE
LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRCUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.
THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.
APPROVALS
PCB DES. HZ
APP ENG. M. SHRIVER
SCALE = NONE
LINEAR TECHNOLOGY
1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900 www.linear.com
Fax: (408)434-0507
LTC Confidential-For Customer Use Only
TITLE: SCHEMATIC
HIGH CURRENT STEP-DOWN CONVERTER WITH VID PROGRAMMING AND LOW DCR INDUCTORS
SIZE N/A
IC NO. LTC3877EUK DC2229A-B
REV. 2
DATE: MARCH 11, 2014
SHEET 1 OF 3



JUMPERS TO TIE PHASES TOGETHER

RUN AND RUN _SLAVE DRIVEN WITH DIVIDER ON SHEET3.

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APPROVALS	
PCB DES.	HZ
APP ENG.	M. SHRIVER

SCALE = NONE

LINEAR TECHNOLOGY
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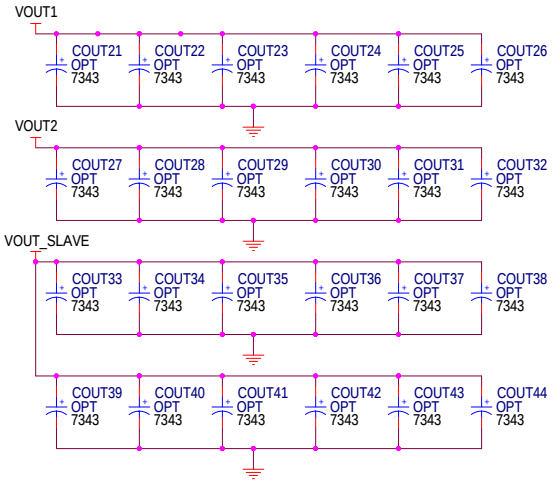
HIGH CURRENT STEP-DOWN CONVERTER WITH VID PROGRAMMING AND LOW DCR INDUCTORS

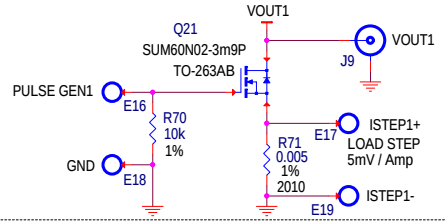
SIZE	IC NO.	REV.
N/A	LTC3877EUK DC2229A-B	2

DATE: MARCH 11, 2014

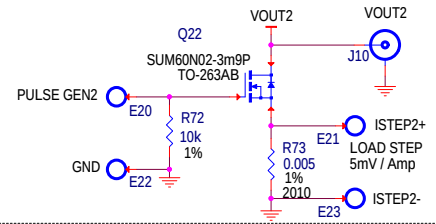
OPTIONAL COUT



DYNAMIC LOAD CIRCUIT FOR VOUT1



DYNAMIC LOAD CIRCUIT FOR VOUT2



Notes to PCB designer:

L1- 4: Wurth 744301025
(250nH, DCR=0.32mOhms +/- 7%, Isat = 65A typical, footprint = 11.3mm X 11mm, H = 8.9mm)

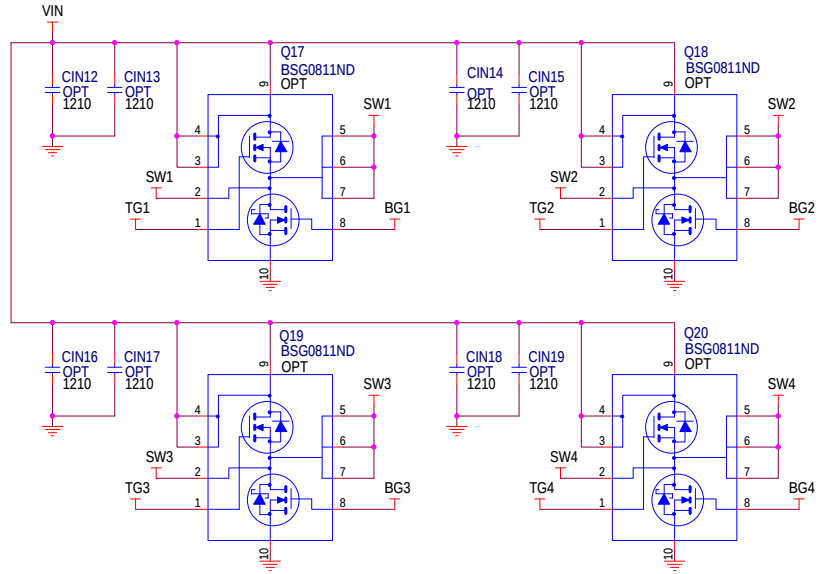
COUT1,2,6,7,11,12,16,17: Murata GRM31CR60G227M (220uF, 4V, X5R, 1206)

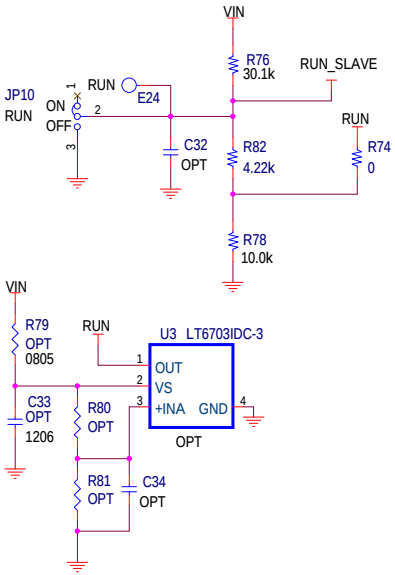
COUT3-5,8-10,13-15,18-20: Panasonic EEFSX0E331ER (330uF, 9mOhms, 2.5V, 7343)

CIN1-8: Murata GRM32ER61C226KE20L (22uF, 16V, X5R, 1210)
CIN9,10: Sanyo 16SVP180MX (180uF, 16V, 30mOhm, 3.0 A RMS)

Use Tepro RN5326 for 0 Ohm, 1225 resistor

OPTIONAL DUAL CHANNEL MOSFETS





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	APP ENG.	M. SHRIVER	TITLE: SCHEMATIC
			HIGH CURRENT STEP-DOWN CONVERTER WITH VID PROGRAMMING AND LOW DCR INDUCTORS
THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.	SCALE = NONE		SIZE N/A · IC NO. LTC3877EUK DC2229A-B · REV. 2 · DATE: MARCH 11, 2014 · SHEET 3 OF 3