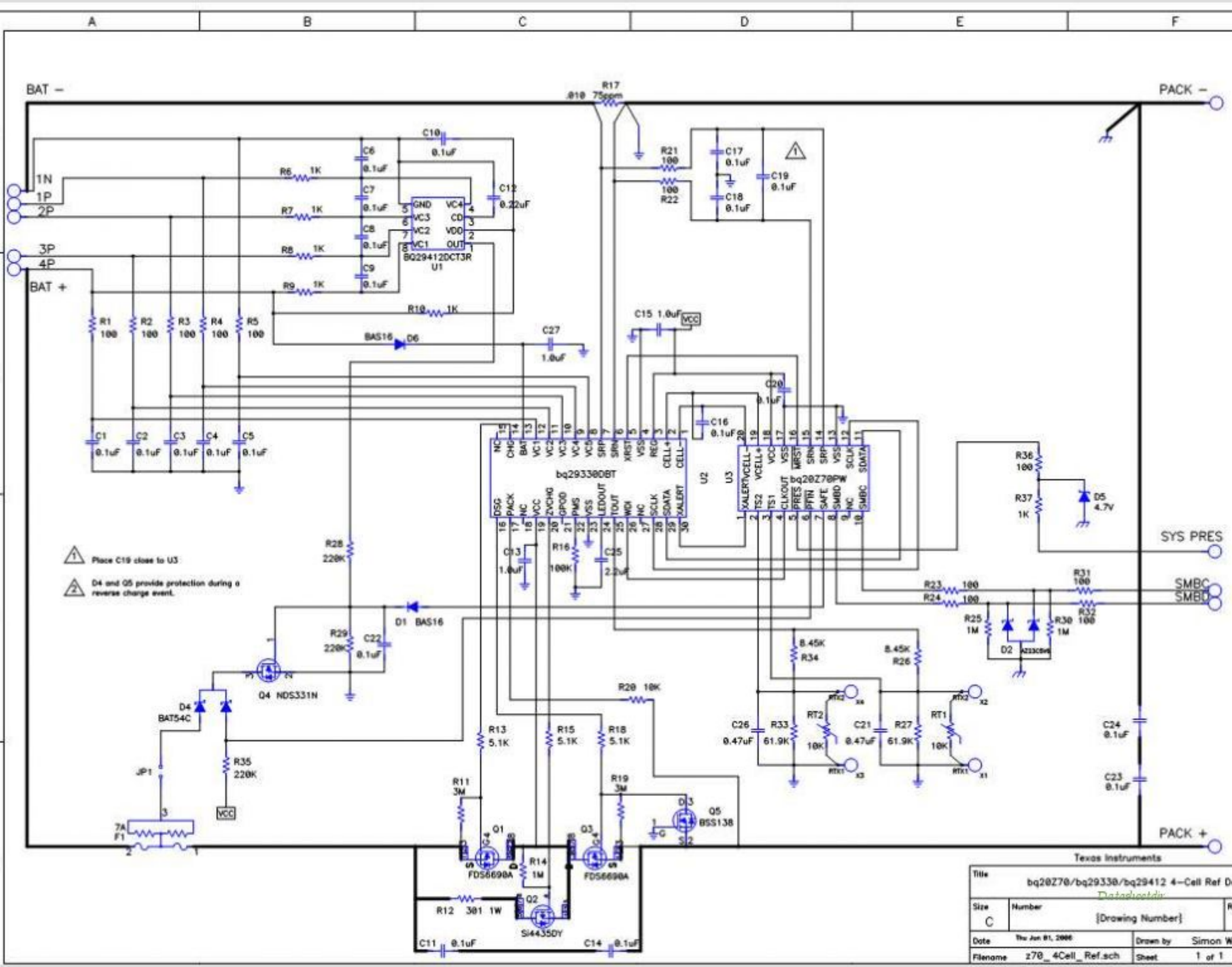
BAT –
PACK –
1N
1P
2P
3P
4P
BAT +
R17 .010 75ppm
C10 0.1uF
C6 0.1uF
C7 0.1uF
C8 0.1uF
C9 0.1uF
R6 1K
R7 1K
R8 1K
R9 1K
R10 1K
C12 0.22uF
GND VC4 VC3 CD VC2 VDD VC1 OUT
BQ29412DCT3R
U1
R21 100
R22 100
C17 0.1uF
C18 0.1uF
C19 0.1uF
C15 1.0uF
VCC
C27 1.0uF
BAS16 D6
C20 0.1uF
C16 0.1uF
R1 100
R2 100
R3 100
R4 100
R5 100
C1 0.1uF
C2 0.1uF
C3 0.1uF
C4 0.1uF
C5 0.1uF
bq29330DBT
U2
bq20Z70PW
U3
R36 100
R37 1K
D5 4.7V
SYS PRES
SMBC
SMBD
R23 100
R24 100
R31 100
R32 100
R25 1M
R30 1M
D2
R28 220K
C13 1.0uF
R16 100K
C25 2.2uF
D1 BAS16
R29 220K
C22 0.1uF
Q4 NDS331N
D4 BAT54C
JP1
R35 220K
VCC
7A F1
R20 10K
R13 5.1K
R15 5.1K
R18 5.1K
R11 3M
R19 3M
D3 Q5 BSS138
Q1 FDS6690A
Q3 FDS6690A
R14 1M
Q2 Si4435DY
R12 301 1W
C11 0.1uF
C14 0.1uF
8.45K R34
8.45K R26
C26 0.47uF
R33 61.9K
RT2 10K
C21 0.47uF
R27 61.9K
RT1 10K
C24 0.1uF
C23 0.1uF
PACK +
1 Place C19 close to U3
2 D4 and Q5 provide protection during a reverse charge event.
Texas Instruments
Title bq20Z70/bq29330/bq29412 4-Cell Ref Design
Size C
Number {Drawing Number}
Rev A
Date Thu Jun 01, 2006
Drawn by Simon Wen
Filename z70_4Cell_Ref.sch
Sheet 1 of 1