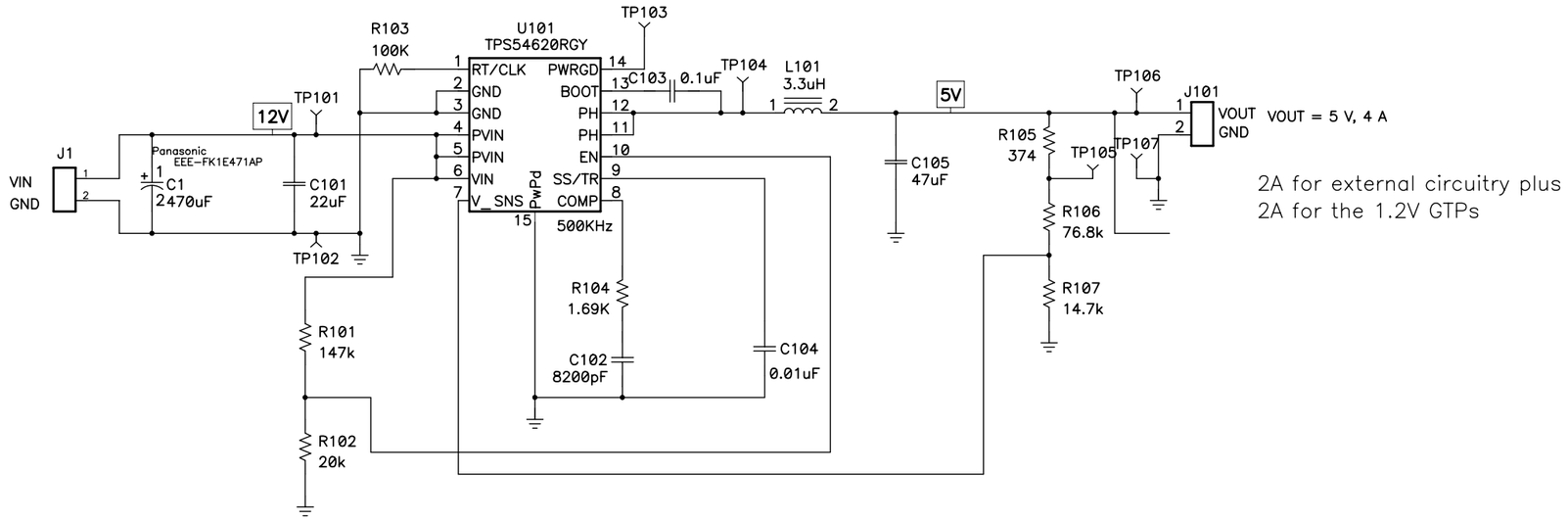
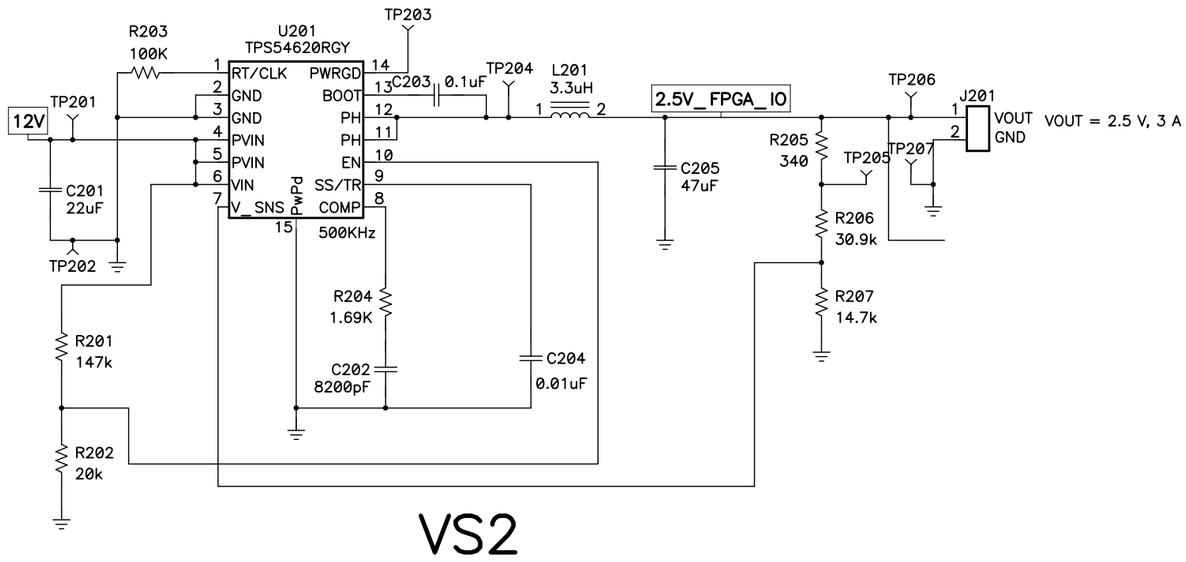


VS1



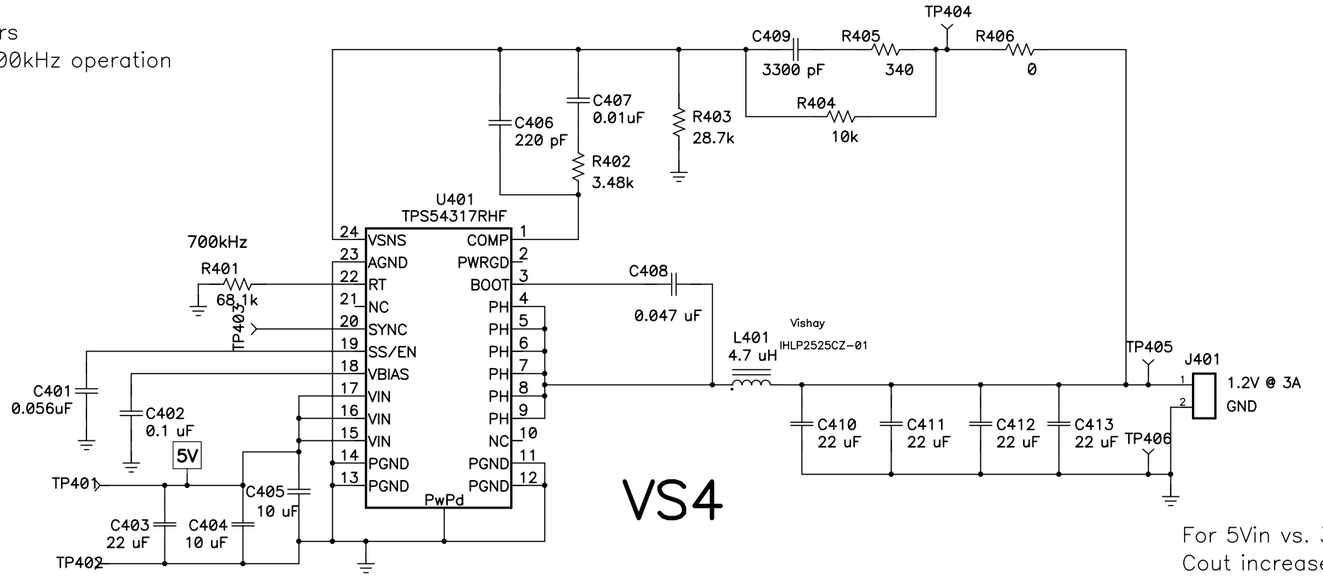
VS2

5V & 2.5V_I/O

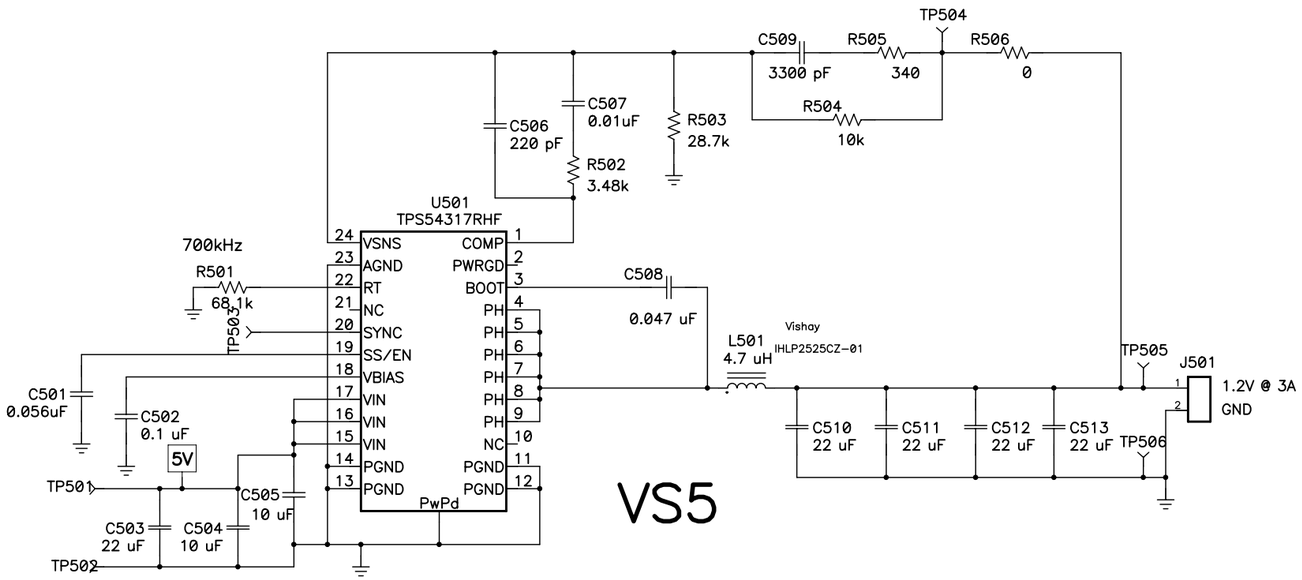
Texas Instruments

Title: 12Vin: 8 switchers			
Size: C	Number: PMP4964		Rev: A
Date: June 24, 2009		Drawn by: Josh Mandelcorn	
Filename: PMP4964 REVB.SCH		Sheet: 1 of 4	

For channels on this page
all external component values
follow those in SLVA284
except for timing resistors
which are here set for 700kHz operation



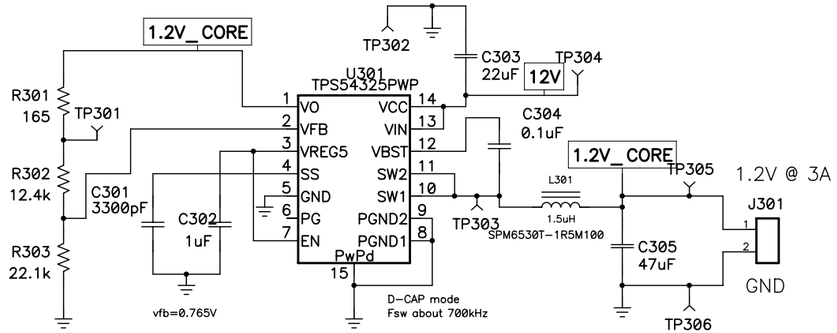
For 5Vin vs. 3.3Vin
Cout increased from 76 to 88uF
to keep same output ripple
Loop gain adjusted to keep
same crossover as in 3.3V
Cx06, Cx07, Rx02 adjusted



GTP Core (x2)

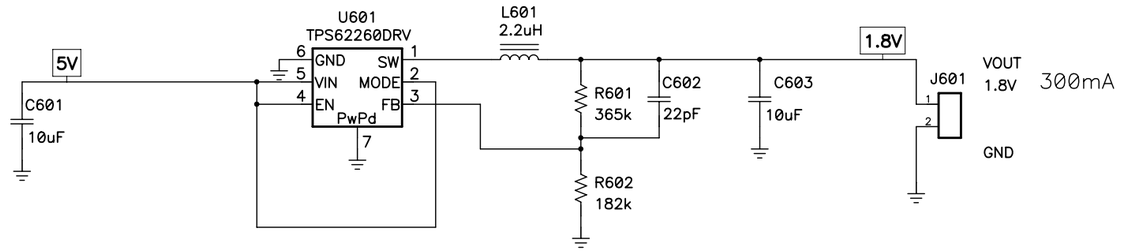
Texas Instruments

Title: 12Vin: 8 switchers		
Size: C	Number: PMP4964	Rev: A
Date: June 24, 2009	Drawn by: Josh Mandelcorn	
Filename: PMP4964 REVB.SCH	Sheet: 2 of 4	



VS3

Taken from TPS54325EVM or HPA473

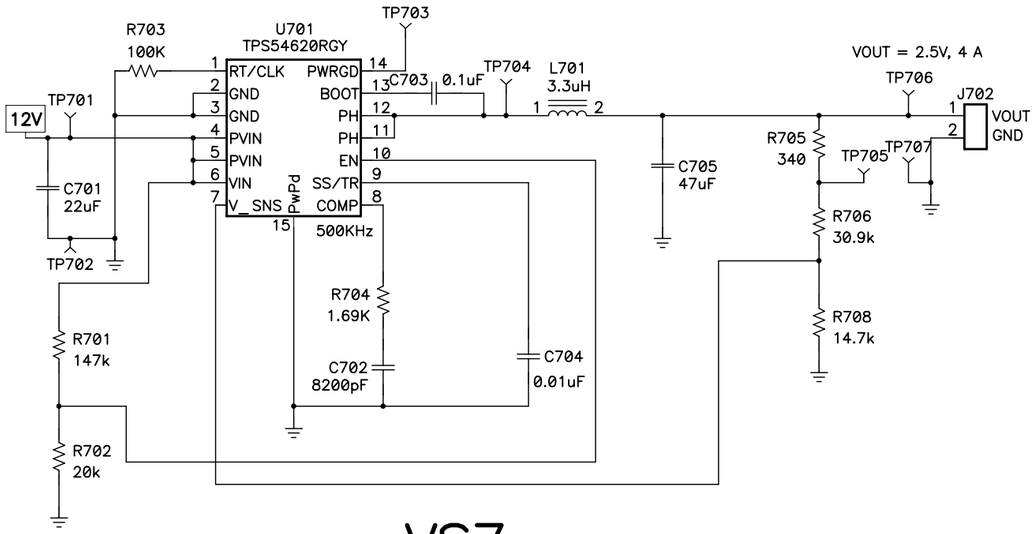


VS6

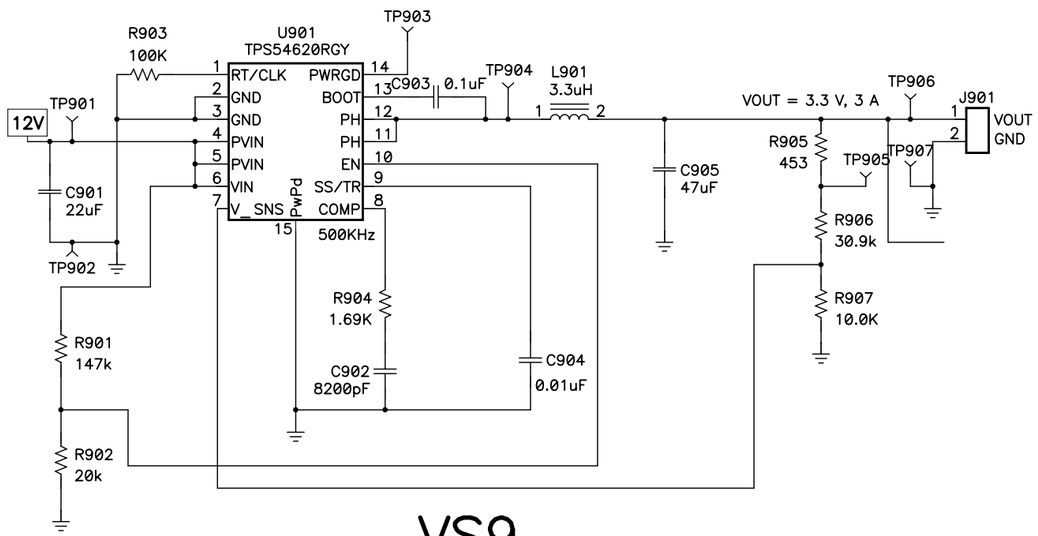
Core & 1.8V

Texas Instruments

Title: 12Vin: 8 switchers			
Size: C	Number: PMP4964		Rev: A
Date: June 24, 2009		Drawn by: Josh Mandelcorn	
Filename: PMP4964 REVB.SCH		Sheet: 3 of 4	



VS7



VS9

Circuits on this page modified from HPA374 E3

FMC channels

Texas Instruments

Title: 12Vin: 8 switchers			
Size: C	Number: PMP4964		Rev: A
Date: June 24, 2009		Drawn by: Josh Mandelcorn	
Filename: PMP4964 REVB.SCH		Sheet: 4 of 4	

PMP4964_REVB BOM

COUNT	RefDes	Value	Description	Size	Part Number	Mfr
1	C1	470uF	Capacitor, Aluminum, 25V, ±20% , 850mA	0.406 x 0.457 inch	EEE-FK1E471AP	Panasonic
5	C101, C201, C303, C701, C901	22uF	Capacitor, Ceramic, 16V, X7R, 20%	1210	Std	Std
4	C102, C202, C702, C902	8200pF	Capacitor, Ceramic, 50V, X7R, 10%	0603	Std	Std
4	C103, C203, C703, C903	0.1uF	Capacitor, Ceramic, 50V, X7R, 10%	0603	Std	Std
4	C104, C204, C704, C904	0.01uF	Capacitor, Ceramic, 25V, X7R, 10%	0603	Std	Std
4	C105, C205, C705, C905	47uF	Capacitor, Ceramic, 6.3V, X5R, 10%	1210	Std	Std
1	C301	3300pF	Capacitor, Ceramic, Low Inductance, 50V, X7R, 10%	0603	std	std
1	C302	1uF	Capacitor, Ceramic, Low Inductance, 16V, X7R, 20%	0603	std	std
1	C304	0.1uF	Capacitor, Ceramic, Low Inductance, 16V, X7R, 20%	0603	std	std
1	C305	47uF	Capacitor, Ceramic, 6.3V, X5R, 20%	1210	Std	std
2	C401, C501	0.056uF	Capacitor, SMD, 0603, X7R, 16V, 10%	0603	std	std
2	C402, C502	0.1 uF	Capacitor, Ceramic, 25V, X7R, 10%	0603	GRM39X7R104K25	muRata
10	C403, C410, C411, C412, C413, C503, C510, C511, C512, C513	22 uF	Capacitor, Ceramic, 6.3V, X5R, 20 %	1210	std	TDK
2	C404, C504	10 uF	Capacitor, Ceramic, 6.3V, X5R, 20 %	1210	std	TDK
2	C405, C505	10 uF	Capacitor, Ceramic, 16-V, X7R, 20%	1210	C3225X7R1E106K	TDK
2	C406, C506	220 pF	Capacitor, Ceramic, 50V, C0G, 10%	0603	std	TDK
2	C407, C507	0.01uF	Capacitor, Ceramic, 50-V, X7R, 10%	0603	std	std
2	C408, C508	0.047 uF	Capacitor, Ceramic, 50-V, X5R, 10%	0603	C1608X5R1H473KB	TDK
2	C409, C509	3300 pF	Capacitor, Ceramic, 50V, X7R, 10%	0603	std	TDK
2	C601, C603	10uF	Capacitor, Ceramic, 6.3V, X5R, 20%	0603	GRM188R60J106ME47D	muRata
1	C602	22pF	Capacitor, Ceramic, 50V, C0G, 10%	0603	C1608C0G1H220J	TDK
2	J1, J301		Terminal Block, 2-pin, 15-A, 5.1mm	0.40 x 0.35""	ED1609	OST
4	J101, J201, J702, J901	ED555/2DS	Terminal Block, 2-pin, 6-A, 3.5mm	0.27 x 0.25 inch	ED555/2DS	OST
3	J401, J501, J601		Terminal Block, 2 pin, 6A, 3.5mm	0.27 x 0.25	ED1514	OST
4	L101, L201, L701, L901	3.3uH	Inductor, SMT, 7.8A, 10.4milliohm	0.402 sq inch	CDRH105RNP-3R3NC	Sumida
1	L301	1.5uH	Inductor, SMT, 11A, 10.67 milliohm	0.256 x 0.280 inch	SPM6530T-1R5M100	TDK
2	L401, L501	4.7 uH	Inductor, SMT, 5.5A, 40milliohm	0.255 x 0.270 inch	IHLP2525CZ-01	Vishay
1	L601	2.2uH	Inductor, SMT Multi-layer, 1.2A, 110milliohm	2520 mm	MIPS2520D2R2	FDK Corp.
4	R101, R201, R701, R901	147k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
4	R102, R202, R702, R902	20k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
4	R103, R203, R703, R903	100K	Resistor, Chip, 1/16W, 1%	0603	Std	Std
4	R104, R204, R704, R904	1.69K	Resistor, Chip, 1/16W, 1%	0603	Std	Std
1	R105	374	Resistor, Chip, 1/16W, 1%	0603	Std	Std
1	R106	76.8k	Resistor, Chip, 1/16W, 1%	0603	Std	Std

3	R107, R207, R708	14.7k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
4	R205, R405, R505, R705	340	Resistor, Chip, 1/16W, 1%	0603	Std	Std
3	R206, R706, R906	30.9k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
1	R301	165	Resistor, Chip, 1/16W, 1%	0603	std	std
1	R302	12.4k	Resistor, Chip, 1/16W, 1%	0603	std	std
1	R303	22.1k	Resistor, Chip, 1/16W, 1%	0603	std	std
2	R401, R501	68.1k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
2	R402, R502	3.48k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
2	R403, R503	28.7k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
2	R404, R504	10k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
2	R406, R506	0	Resistor, Chip, 1/16W, 1%	0603	Std	Std
1	R601	365k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
1	R602	182k	Resistor, Chip, 1/16W, 1%	0603	Std	Std
1	R905	453	Resistor, Chip, 1/16W, 1%	0603	Std	Std
1	R907	10.0K	Resistor, Chip, 1/16W, 1%	0603	Std	Std
27	TP101, TP104, TP105, TP106, TP201, TP204, TP205, TP206, TP301, TP304, TP305, TP401, TP403, TP404, TP405, TP501, TP503, TP504, TP505, TP701, TP704, TP705, TP706, TP901, TP904, TP905, TP906	5000	Test Point, Red, Thru Hole Color Keyed	0.100 x 0.100 inch	5000	Keystone
18	TP102, TP103, TP107, TP202, TP203, TP207, TP302, TP306, TP402, TP406, TP502, TP506, TP702, TP703, TP707, TP902, TP903, TP907	5001	Test Point, Black, Thru Hole Color Keyed	0.100 x 0.100 inch	5001	Keystone
1	TP303	5015	Test Point, SMT	0.105 x 0.040 inch	5015	Keystone
2	U101, U201	TPS54620RGY	IC, 1.6V-17V	3.5mm x 3.3mm QFN14	TPS54620RGY	TI
1	U301	TPS54325PWP	IC, 3-A	HTSSOP-14	TPS54325PWP	TI
2	U401, U501	TPS54317RHF	IC, IFET Power Controller, AdjV, 3A	QFN-24	TPS54317RHF	TI
1	U601	TPS62260DRV	IC, 2.25MHz 600mA Step-Down Converter	SON-6[DRV]	TPS62260DRV	TI
2	U701, U901	TPS54620RGY	IC, 1.6V-17V Synchronous Buck PWM Converter with Integrated MOSFET	3.5mm x 3.3mm QFN14	TPS54620RGY	TI

Notes:
1. These assemblies are ESD sensitive, ESD precautions shall be observed.
2. These assemblies must be clean and free from flux and all contaminants.
   Use of no clean flux is not acceptable.
3. These assemblies must comply with workmanship standards IPC-A-610 Class 2.
4. Ref designators marked with an asterisk ('**') cannot be substituted.
   All other components can be substituted with equivalent MFG's components.

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