

NOTES
 $dT = C_{ss} \times (0.85) / (2.3 \mu A)$
 where dT = soft start time
 C_{ss} = soft start capacitance
 Startup sequence: 3.3V, 1.2V, 1.8V
 INV_LDO, LDO_IN, and STBY_LDO must be grounded

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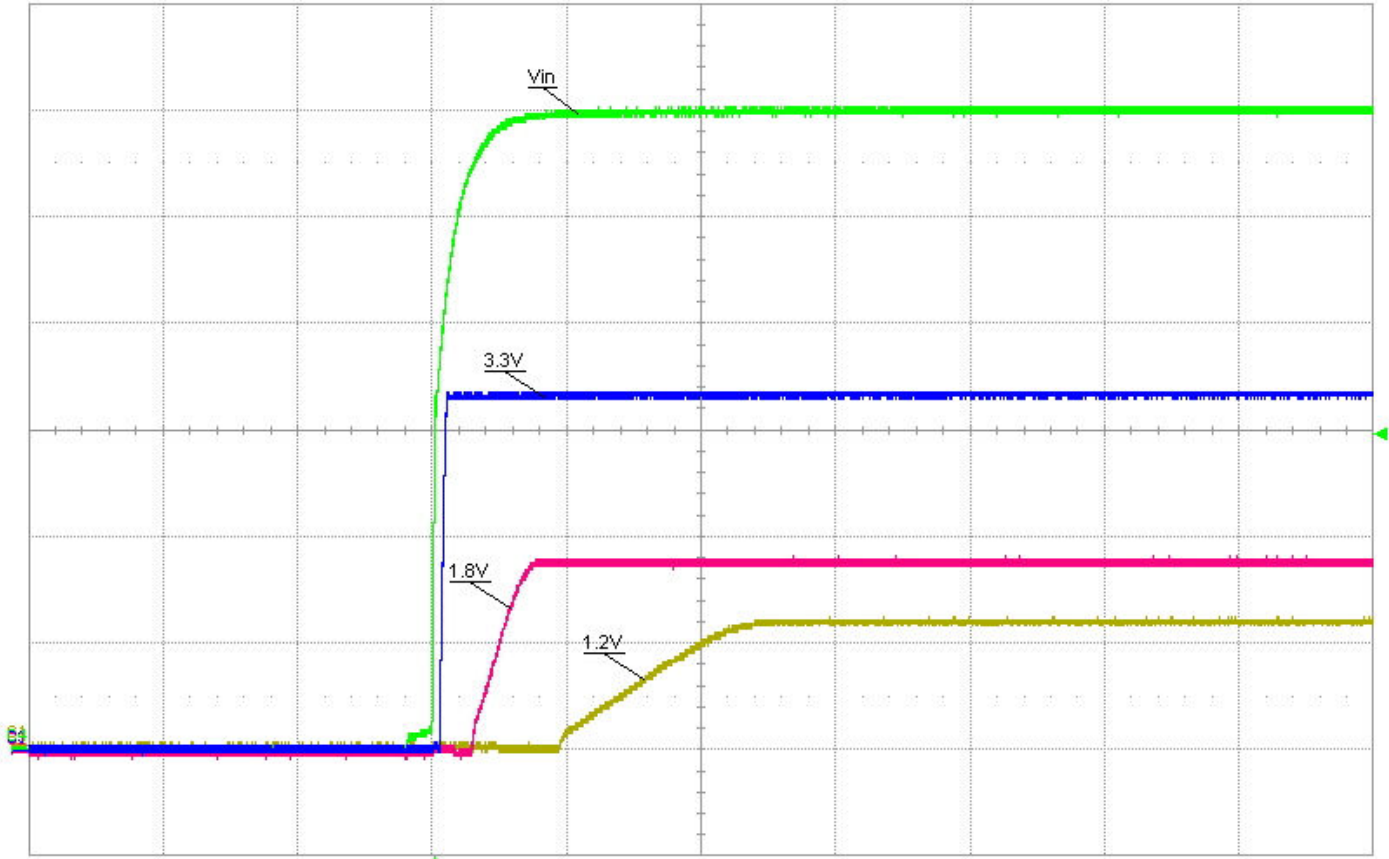
Title			DM648 12Vin power supply		
Size	Number	PMP3044		Rev	A
Date	12/8/07	Drawn by	S Zargar		
Filename	PMP3044_DM648_12Vin_RevA.SCH	Sheet	1 of 1		

PMP3044_DM648_12VIN_REVA_FINAL BOM

COUNT	RefDes	Value	Description	Size	Part Number	MFR
1	C1	1000pF	Capacitor, Ceramic, 1000pF, 50V, NPO	0603	Std	Std
2	C10, C38	6800pF	Capacitor, Ceramic, 6800pF, 25V, X7R	0603	Std	Std
2	C11, C35	22pF	Capacitor, Ceramic, 22pF, 50V, NPO	0603	Std	Std
1	C12	680pF	Capacitor, Ceramic, 680pF, 50V, NPO	0603	Std	Std
2	C14, C27	1uF	Capacitor, Ceramic, 1uF, 16V, X7R	0603	Std	Std
2	C15, C37	22uF	Capacitor, Ceramic, 22uF, 6.3V, X5R, 20%	1206	C3216X5R0J226MT	TDK
1	C18	0.068uF	Capacitor, Ceramic, 0.068uF, 16V, X7R	0603	Std	Std
1	C2	3300pF	Capacitor, Ceramic, 3300pF, 50V, NPO	0603	Std	Std
1	C21	0.047uF	Capacitor, Ceramic, 0.047uF, 16V, X7R	0603	Std	Std
1	C24	39pF	Capacitor, Ceramic, 39pF, 50V, COG, 5%	0603	Std	Std
4	C3, C7, C23, C31	0.1uF	Capacitor, Ceramic, 0.1uF, 16V, X7R	0603	Std	Std
1	C30	2700pF	Capacitor, Ceramic, 2700pF, 16V, X7R	0603	Std	Std
1	C33	2200pF	Capacitor, Ceramic, 2200pF, 25V, X7R	0603	Std	Std
4	C4, C20, C32, C40	10uF	Capacitor, Ceramic, 10uF, 16V, X7R, 15%	1206	C3216X7R1C106MT	TDK
1	C41	470pF	Capacitor, Ceramic, 470pF, 50V, NPO	0603	Std	Std
1	C5	1uF	Capacitor, Ceramic, 1uF, 16V, X7R, 15%	1206	C3216X7R0J105MT	TDK
1	C6	220uF	Capacitor, POSCAP, 220uF, 2.5V, 18 milliohm, 20%	7343(D)	2R5TPE220MI	Sanyo
4	C8, C13, C26, C34	0.01uF	Capacitor, Ceramic, 0.01uF, 16V, X7R	0603	Std	Std
1	C9	3300pF	Capacitor, Ceramic, 3300pF, 25V, X7R	0603	Std	Std
6	D1, D2, D3, D4, D5, D6	MA2J729	Diode, Schottky Barrier, 300mA, 30 V	SC-90A	MA2J729	Panasonic
4	J1, J2, J5, J6	ED1514	Terminal Block, 2-pin, 6-A, 3.5mm	0.27 x 0.25	ED1514	OST
1	J3		Header, 8-pin, 100mil spacing, (36-pin strip)	0.100 x 8"	PTC36SAAN	Sullins
1	L1	22.0 uH	Inductor, SMT, 4.00A, 0.0391 ohms	0.492 sq"	DR127-220-R	Coiltronics
2	L2, L3	150uH	Inductor, SMT, 0.58A, 0.851milliohm	0.300 sq"	DR73-151-R	Coiltronics
3	Q1, Q2, Q11	Si9926BDY	MOSFET, Dual Nch, 20V, 8.2A, 20 milliohm	SO8	Si9926BDY	Vishay
3	Q3, Q4, Q6	DTC144EK	Transistor, Digital NPN, 50 V, 100 mA	SOT-323	DTC144EK	ROHM
3	R1, R2, R34	49.9	Resistor, Chip, 49.9 Ohms, 1/16-W, 1%	603	Std	Std
1	R11	243K	Resistor, Chip, 243K Ohms, 1/16-W, 1%	603	Std	Std
1	R12	15K	Resistor, Chip, 15K Ohms, 1/16-W, 1%	603	Std	Std
1	R14	10	Resistor, Chip, 10 Ohms, 1/16-W, 1%	603	Std	Std
3	R27, R7, R35	1K	Resistor, Chip, 1K Ohms, 1/16-W, 1%	603	Std	Std
3	R3, R4, R33	100K	Resistor, Chip, 100K Ohms, 1/16-W, 1%	603	Std	Std
1	R31	40.2K	Resistor, Chip, 40.2K Ohms, 1/16-W, 1%	603	Std	Std
1	R36	34.8K	Resistor, Chip, 34.8K Ohms, 1/16-W, 1%	603	Std	Std
2	R38, R39	0	Resistor, Chip, 0 Ohms	603	Std	Std
3	R5, R15, R26	3.3	Resistor, Chip, 3.3 Ohms, 1/16-W, 1%	603	Std	Std
1	R6	100	Resistor, Chip, 100 Ohms, 1/16-W, 1%	603	Std	Std
5	R8, R10, R13, R19, R24	10K	Resistor, Chip, 10K Ohms, 1/16-W, 1%	603	Std	Std
1	R9	88.7K	Resistor, Chip, 88.7K Ohms, 1/16-W, 1%	603	Std	Std
15	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP15, TP16, TP17, TP18, TP19		Test Point, Black, 1mm	0.038	240-333	Farnell
1	U1	TPS5130PT	IC, Triple Sync Buck Controller w/LDO	PT-48	TPS5130PT	Texas Instruments

- 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.

DM647/8 : 12V-Input Startup Waveforms



C1	BwL DCIM	C2	BwL DCIM	C3	BwL DCIM	C4	BwL DCIM	Timebase	-39.6 ms	Trigger	C4 DC
	1.00 V/div		1.00 V/div		1.00 V/div		2.00 V/div		20.0 ms/div		Stop
	20.0 ms/div		-3.030 V ofst		-3.010 V ofst		20.0 ms/div		200 kS		Edge
									1.0 MS/s		Positive

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