

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, 1.25V, 1.8V, 1.5, 1.25V (LDO)

STBY 1.25V
 STBY 1.8V
 STBY VREF5
 N/A
 STBY LDO 1.5V
 PGOUT
 STBY 3.3V
 GND

Title			
C6455 5Vin Power Supply			
Size	Number	Rev	
C		PMP3044	
Date	12/8/07	Drawn by	S Zargar
Filename	PMP3044_C6455_5Vin_RevA.SCH	Sheet	1 of 1

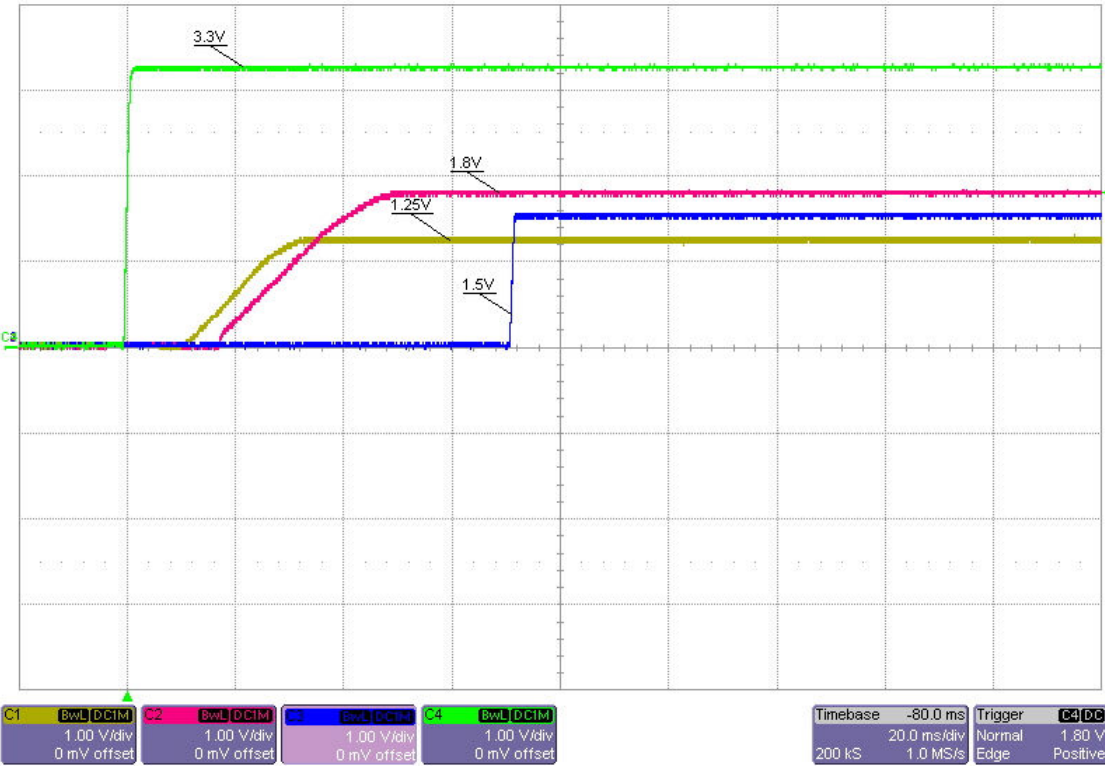
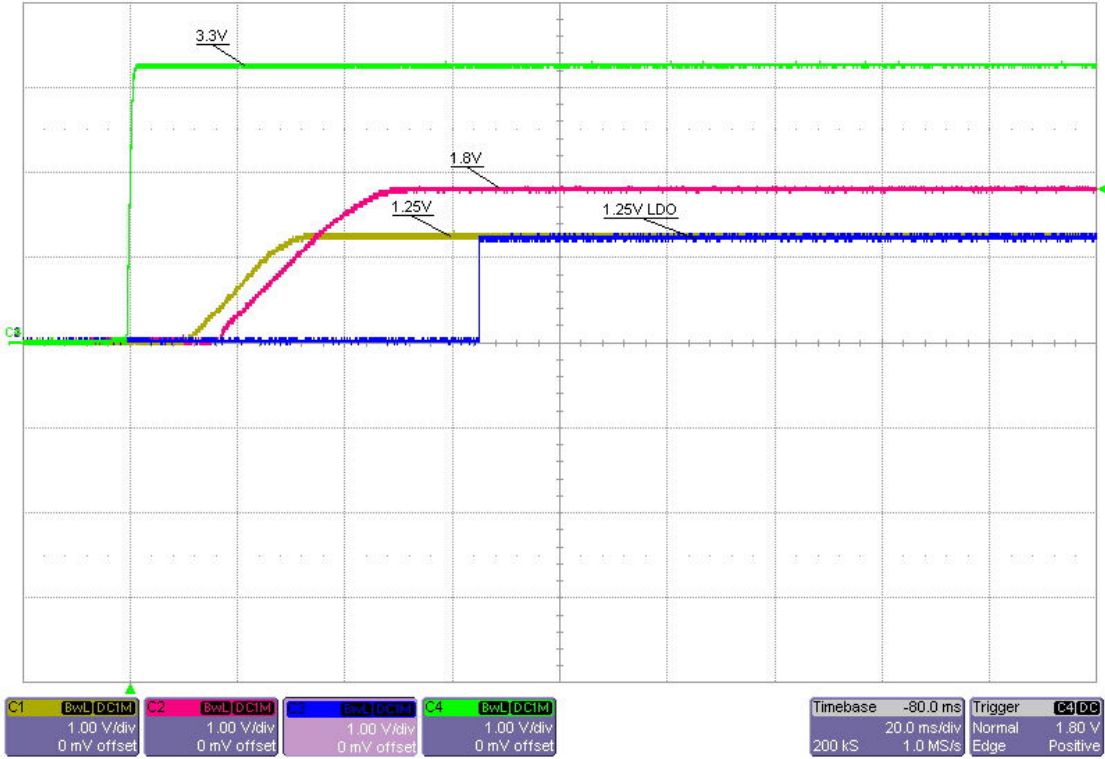
Texas Instruments

PMP3044_C6455_5VIN_REVA_FINAL BOM

COUNT	RefDes	Value	Description	Size	Part Number	MFR
8	C1, C8, C19, C20, C24, C29, C37, C40	0.1uF	Capacitor, Ceramic, 0.1uF, 16V, X7R	0603	Std	Std
3	C10, C11, C35	6800pF	Capacitor, Ceramic, 6800pF, 25V, X7R	0603	Std	Std
1	C12	68pF	Capacitor, Ceramic, 68pF, 50V, NPO	0603	Std	Std
1	C13	82pF	Capacitor, Ceramic, 82pF, 50V, NPO	0603	Std	Std
2	C15, C34	22uF	Capacitor, Ceramic, 22uF, 6.3V, X5R, 20%	1206	C3216X5R0J226MT	TDK
6	C16, C23, C25, C28, C36, C41	1uF	Capacitor, Ceramic, 1uF, 16V, X7R	0603	Std	Std
1	C17	47nF	Capacitor, Ceramic, 47nF, 16V, X7R	0603	Std	Std
1	C2	1500pF	Capacitor, Ceramic, 1500pF, 50V, NPO	0603	Std	Std
1	C21	39pF	Capacitor, Ceramic, 39pF, 50V, COG, 5%	0603	Std	Std
2	C26, C38	8200pF	Capacitor, Ceramic, 8200pF, 16V, X7R	0603	Std	Std
1	C27	2700pF	Capacitor, Ceramic, 2700pF, 16V, X7R	0603	Std	Std
1	C3	1000pF	Capacitor, Ceramic, 1000pF, 50V, NPO	0603	Std	Std
1	C32	1200pF	Capacitor, Ceramic, 1200pF, 25V, X7R	0603	Std	Std
1	C33	39pF	Capacitor, Ceramic, 39pF, 50V, NPO	0603	Std	Std
1	C39	620pF	Capacitor, Ceramic, 620pF, 50V, NPO	0603	Std	Std
4	C4, C5, C18, C30	10uF	Capacitor, Ceramic, 10uF, 16V, X7R, 15%	1206	C3216X7R1C106MT	TDK
1	C6	220uF	Capacitor, POSCAP, 220uF, 2.5V, 18 milliohm, 20%	7343(D)	2R5TPE220MI	Sanyo
1	C7	1uF	Capacitor, Ceramic, 1uF, 16V, X7R, 15%	1206	C3216X7R0J105MT	TDK
4	C9, C14, C22, C31	0.01uF	Capacitor, Ceramic, 0.01uF, 16V, X7R	0603	Std	Std
6	D1, D2, D3, D4, D5, D6	MA2J729	Diode, Schottky Barrier, 300mA, 30 V	SC-90A	MA2J729	Panasonic
6	J1, J2, J3, J5, J6, J7	ED1514	Terminal Block, 2-pin, 6-A, 3.5mm	0.27 x 0.25	ED1514	OST
1	J4		Header, 8-pin, 100mil spacing, (36-pin strip)	0.100 x 8"	PTC36SAAN	Sullins
1	L1	6.8uH	Inductor, SMT, 2.60A, 41.8milliohm	0.300 sq"	DR74-6R8-R	Coiltronics
1	L2	82uH	Inductor, SMT, 0.86A, 0.384ohm	0.300 sq"	DR74-820-R	Coiltronics
1	L3	47uH	Inductor, SMT, 1.08A, 0.241milliohm	0.300 sq"	DR74-470-R	Coiltronics
3	Q1, Q2, Q7	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
1	Q5	Si3442BDV	MOSFET, N-ch, 20V, 4.2A, 57 milliOhms	TSOP-6	Si3442BDV	Vishay
3	R1, R2, R33	49.9	Resistor, Chip, 49.9 Ohms, 1/16-W, 1%	0603	Std	Std
1	R10	88.7K	Resistor, Chip, 88.7K Ohms, 1/16-W, 1%	0603	std	Std
1	R12	210K	Resistor, Chip, 210K Ohms, 1/16-W, 1%	0603	std	Std
1	R13	20K	Resistor, Chip, 20K Ohms, 1/16-W, 1%	0603	Std	Std
1	R14	49.9K	Resistor, Chip, 49.9K Ohms, 1/16-W, 1%	0603	Std	Std
1	R14	48.7K	Resistor, Chip, 48.7K Ohms, 1/16-W, 1%	0603	Std	Std
2	R15, R21	10	Resistor, Chip, 10 Ohms, 1/16-W, 1%	0603	Std	Std
4	R19, R22, R23, R30	10K	Resistor, Chip, 10K Ohms, 1/16-W, 1%	0603	Std	Std
1	R20	0.1	Resistor, Chip, 0.1 Ohm, 1/10W	0805	Std	Std
1	R24	19.6K	Resistor, Chip, 19.6K Ohms, 1/16-W, 1%	0603	Std	Std
1	R25	0	Resistor, Chip, 0 Ohms, 1/16-W, 1%	0603	Std	Std
1	R26	24.9K	Resistor, Chip, 24.9K Ohms, 1/16-W, 1%	0603	Std	Std
3	R3, R4, R32	100K	Resistor, Chip, 100K Ohms, 1/16-W, 1%	0603	Std	Std
1	R31	26.1K	Resistor, Chip, 26.1K Ohms, 1/16-W, 1%	0603	Std	Std
1	R35	68.1	Resistor, Chip, 68.1 Ohms, 1/16-W, 1%	0603	Std	Std
1	R36	34.8K	Resistor, Chip, 34.8K Ohms, 1/16-W, 1%	0603	Std	Std
4	R5, R17, R18, R27	0	Resistor, Chip, 0 Ohms	0603	Std	Std
4	R6, R11, R29, R37	1K	Resistor, Chip, 1K Ohms, 1/16-W, 1%	0603	Std	Std
1	R7	100	Resistor, Chip, 100 Ohms, 1/16-W, 1%	0603	Std	Std
3	R8, R16, R28	3.3	Resistor, Chip, 3.3 Ohms, 1/16-W, 1%	0603	Std	Std
1	R9	6.04K	Resistor, Chip, 6.04K Ohms, 1/16-W, 1%	0603	Std	Std
19	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, 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
2	U2, U3	TPS3808G01DBVR	IC, Low Quiescent Current, Programmable w-V, Delay Time: 1.25ms to10s	SOT23-6	TPS3808G01DBVR	Texas Instruments
1	U4	TPS79501DCQ	IC, LDO Linear Regulator Ultralow-Noise High PSRR Fast RF, 500mA, xxV	SOT223-6	TPS79501DCQ	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.

DM6455 : 5V-Input Startup Waveforms



IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

TI products are not authorized for use in safety-critical applications (such as life support) where a failure of the TI product would reasonably be expected to cause severe personal injury or death, unless officers of the parties have executed an agreement specifically governing such use. Buyers represent that they have all necessary expertise in the safety and regulatory ramifications of their applications, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of TI products in such safety-critical applications, notwithstanding any applications-related information or support that may be provided by TI. Further, Buyers must fully indemnify TI and its representatives against any damages arising out of the use of TI products in such safety-critical applications.

TI products are neither designed nor intended for use in military/aerospace applications or environments unless the TI products are specifically designated by TI as military-grade or "enhanced plastic." Only products designated by TI as military-grade meet military specifications. Buyers acknowledge and agree that any such use of TI products which TI has not designated as military-grade is solely at the Buyer's risk, and that they are solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI products are neither designed nor intended for use in automotive applications or environments unless the specific TI products are designated by TI as compliant with ISO/TS 16949 requirements. Buyers acknowledge and agree that, if they use any non-designated products in automotive applications, TI will not be responsible for any failure to meet such requirements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products

Amplifiers	amplifier.ti.com
Data Converters	dataconverter.ti.com
DSP	dsp.ti.com
Clocks and Timers	www.ti.com/clocks
Interface	interface.ti.com
Logic	logic.ti.com
Power Mgmt	power.ti.com
Microcontrollers	microcontroller.ti.com
RFID	www.ti-rfid.com
RF/IF and ZigBee® Solutions	www.ti.com/lprf

Applications

Audio	www.ti.com/audio
Automotive	www.ti.com/automotive
Broadband	www.ti.com/broadband
Digital Control	www.ti.com/digitalcontrol
Medical	www.ti.com/medical
Military	www.ti.com/military
Optical Networking	www.ti.com/opticalnetwork
Security	www.ti.com/security
Telephony	www.ti.com/telephony
Video & Imaging	www.ti.com/video
Wireless	www.ti.com/wireless

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright 2008, Texas Instruments Incorporated