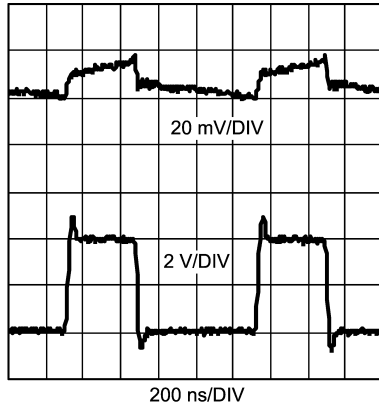


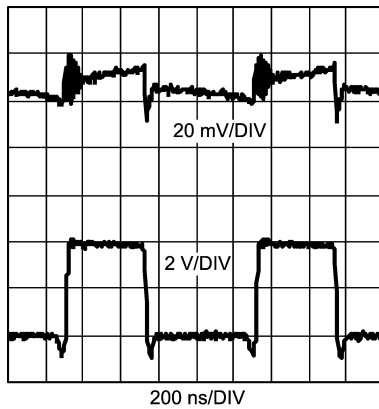
Performance Characteristics

Switch Node Voltage and Output Ripple Voltage



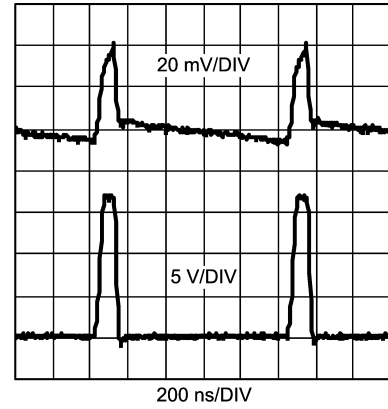
20134205

FIGURE 2. $V_{IN} = V_{CC} = 3.3V$,
 $V_{OUT} = 1.2V$,
 $I_{LOAD} = 0A$, $f_{SW} = 1MHz$.
 20 MHz Bandwidth Limit



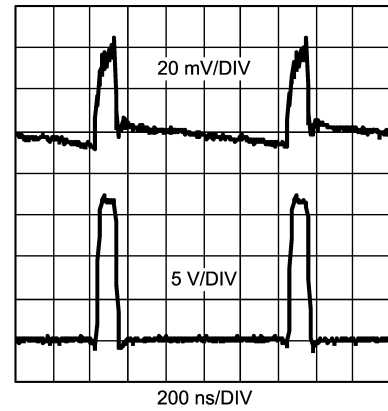
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FIGURE 3. $V_{IN} = V_{CC} = 3.3V$,
 $V_{OUT} = 1.2V$,
 $I_{LOAD} = 3.5A$, $f_{SW} = 1MHz$.
 20 MHz Bandwidth Limit



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FIGURE 4. $V_{IN} = 14V$, $V_{CC} = 5V$,
 $V_{OUT} = 1.2V$, $I_{LOAD} = 0A$, $f_{SW} = 1MHz$.
 20 MHz Bandwidth Limit

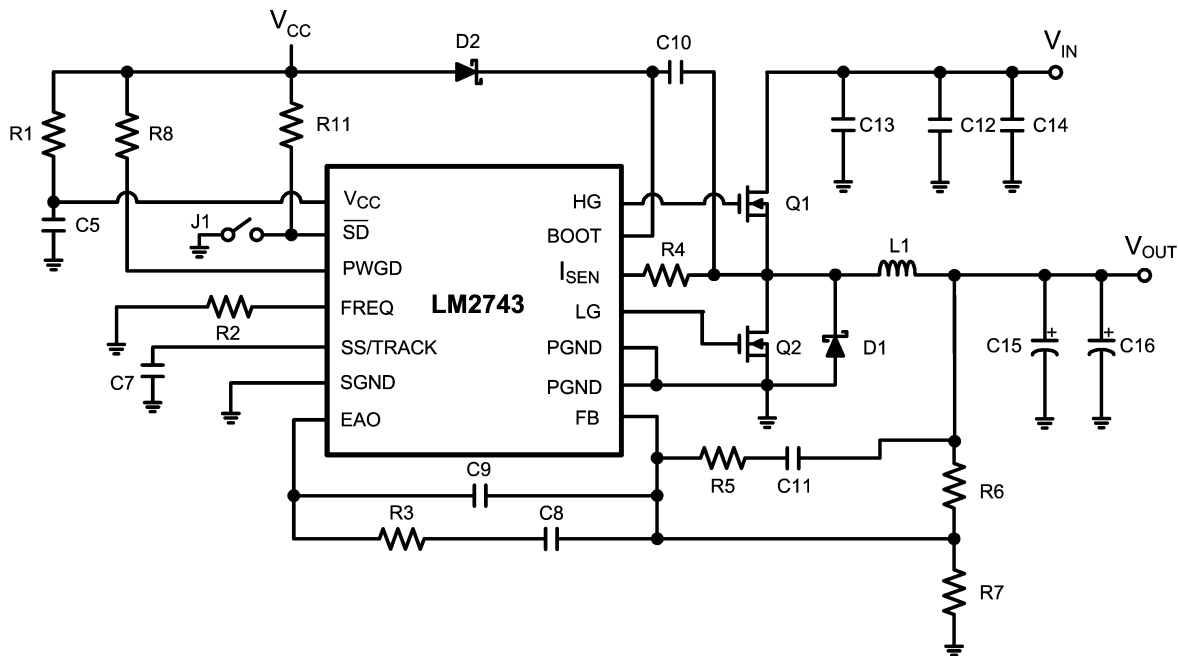


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FIGURE 5. $V_{IN} = 14V$, $V_{CC} = 5V$,
 $V_{OUT} = 1.2V$, $I_{LOAD} = 3.5A$, $f_{SW} = 1MHz$.
 20 MHz Bandwidth Limit

Bill of Materials

Designator	Function	Part Description	Part Number
U1	Controller	IC LM2743 TSSOP14	National Semiconductor
C5	VCC Decoupling	Cer Cap 1 μ F 25V 10% 0805	Murata GRM216R61E105KA12B
C7	Soft Start Cap	Cer Cap 12nF 25V 10% 0805	Vishay VJ0805Y123KXX
C8	Comp Cap	Cer Cap 1.5nF 25V 10% 0805	Vishay VJ0805Y152KXX
C9	Comp Cap	Cer Cap 18pF 25V 10% 0805	Vishay VJ0805A180KAA
C10	Cboot	Cer Cap 0.1 μ F 25V 10% 0805	Vishay VJ0805Y104KXX
C11	Comp Cap	Cer Cap 1.8nF 25V 10% 0805	Vishay VJ0805Y182KXX
C12	Input Filter Cap	Cer Cap 10 μ F 25V 10% 1210	AVX 12103D106MAT
C14	Input Filter Cap	Cer Cap 10 μ F 25V 10% 1210	AVX 12103D106MAT
C15	Output Filter Cap	470 μ F, 6.3V, 10m Ω ESR POScap	Sanyo 6TPD470
R1	Filter Resistor	Res 10 Ω .25W 0805	Vishay CRCW08051000F
R2	Frequency Adjust Res	Res 24.9K Ω .25W 0805	Vishay CRCW08052492F
R3	Comp Res	Res 17.4K Ω .25W 0805	Vishay CRCW08051742F
R4	Current Limit Res	Res 3.16K Ω .25W 0805	Vishay CRCW08053161F
R5	Comp Res	Res 2.94K Ω .25W 0805	Vishay CRCW08052941F
R6	Res Divider, upper	Res 10.0K Ω .25W 0805	Vishay CRCW08051002F
R7	Res Divider, lower	Res 10.0K Ω .25W 0805	Vishay CRCW08051002F
R8	PWGD Pull-Up	Res 100K Ω .25W 0805	Vishay CRCW08051003F
R11	Shut Down Pull-Up	Res 100K Ω .25W 0805	Vishay CRCW080561003F
D2	Bootstrap Diode	Schottky Diode, SOD-123	MBR0530LTI
L1	Output Filter Inductor	Inductor 1 μ H, 5.3Arms, 10.2m Ω	Cooper DR73-1R0
Q1-Q2	Top and Bottom FETs	Dual N-MOSFET, $V_{DS} = 20V$, 24m $\Omega @ 2.5V$	Vishay 9926BDY



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FIGURE 6. Complete Demo Board Schematic

Notes

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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