

Performance Measurements

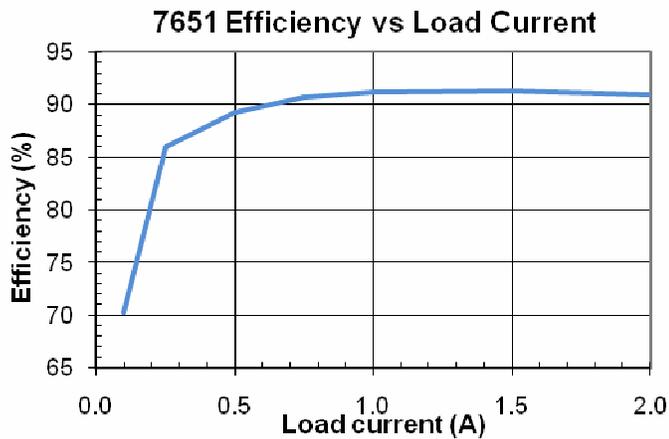


Figure 1 - Efficiency

V _{IN}	I _{IN}	V _{OUT}	I _{OUT}	V _o ripple	Eff
(V)	(A)	(V)	(A)	(mV)	(%)
12.0	0.059	4.977	0.100	8	70.3
12.0	0.121	4.974	0.251	8	86.0
12.0	0.232	4.971	0.500	8	89.3
12.0	0.343	4.969	0.751	8	90.7
12.0	0.454	4.967	1.000	8	91.2
12.0	0.680	4.966	1.500	8	91.3
12.0	0.910	4.965	2.000	8	90.9

Figure 2 – Output Efficiency Table

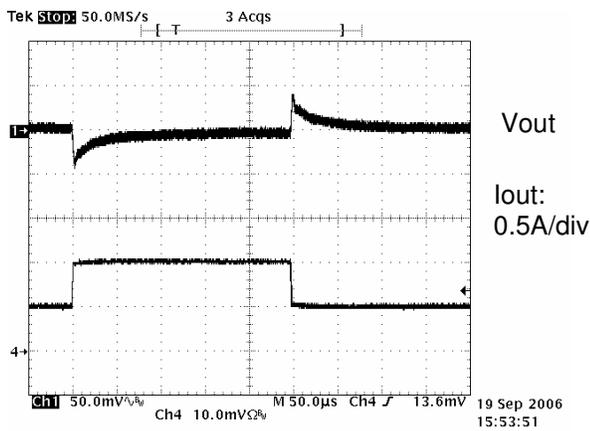


Figure 3 – Transient response
V_{IN} = 12V, I_{OUT} = 0.5 - 1A.
Maximum deviation 40mV or 0.8%

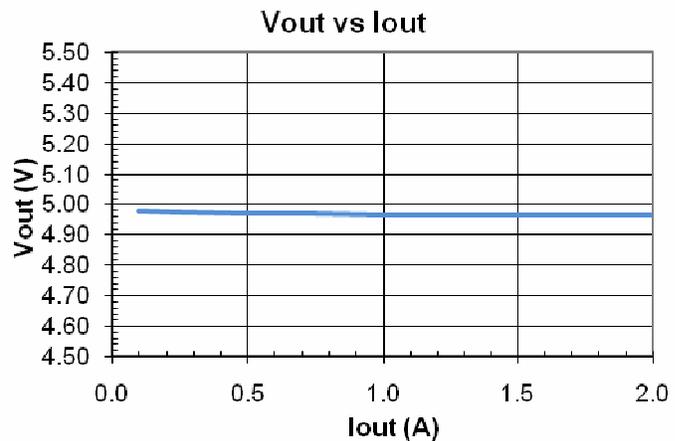


Figure 4 – Load Regulation

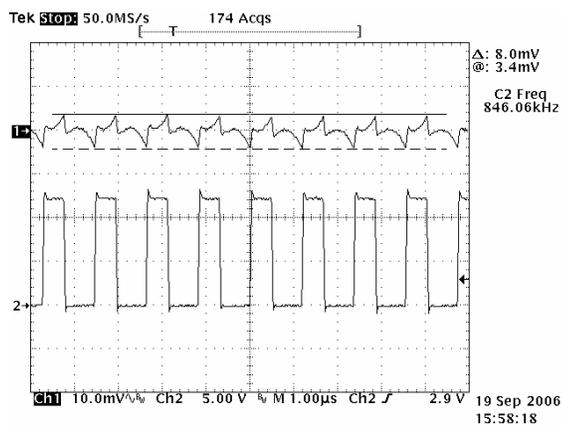


Figure 5 – CH1: V_{out} Ripple CH2:Switchnode
V_{IN} = 12Volts, I_{OUT} = 0 Amps. Ripple = 8mVpk-pk

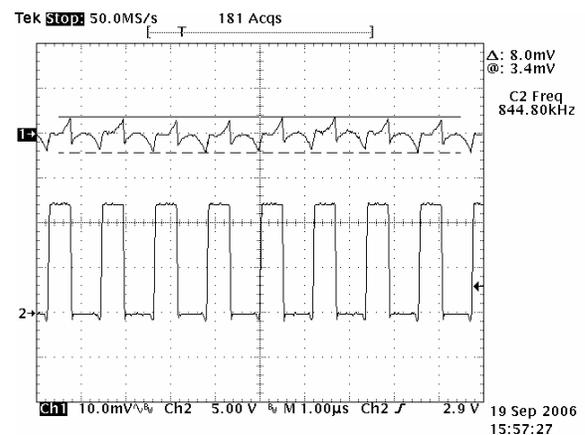
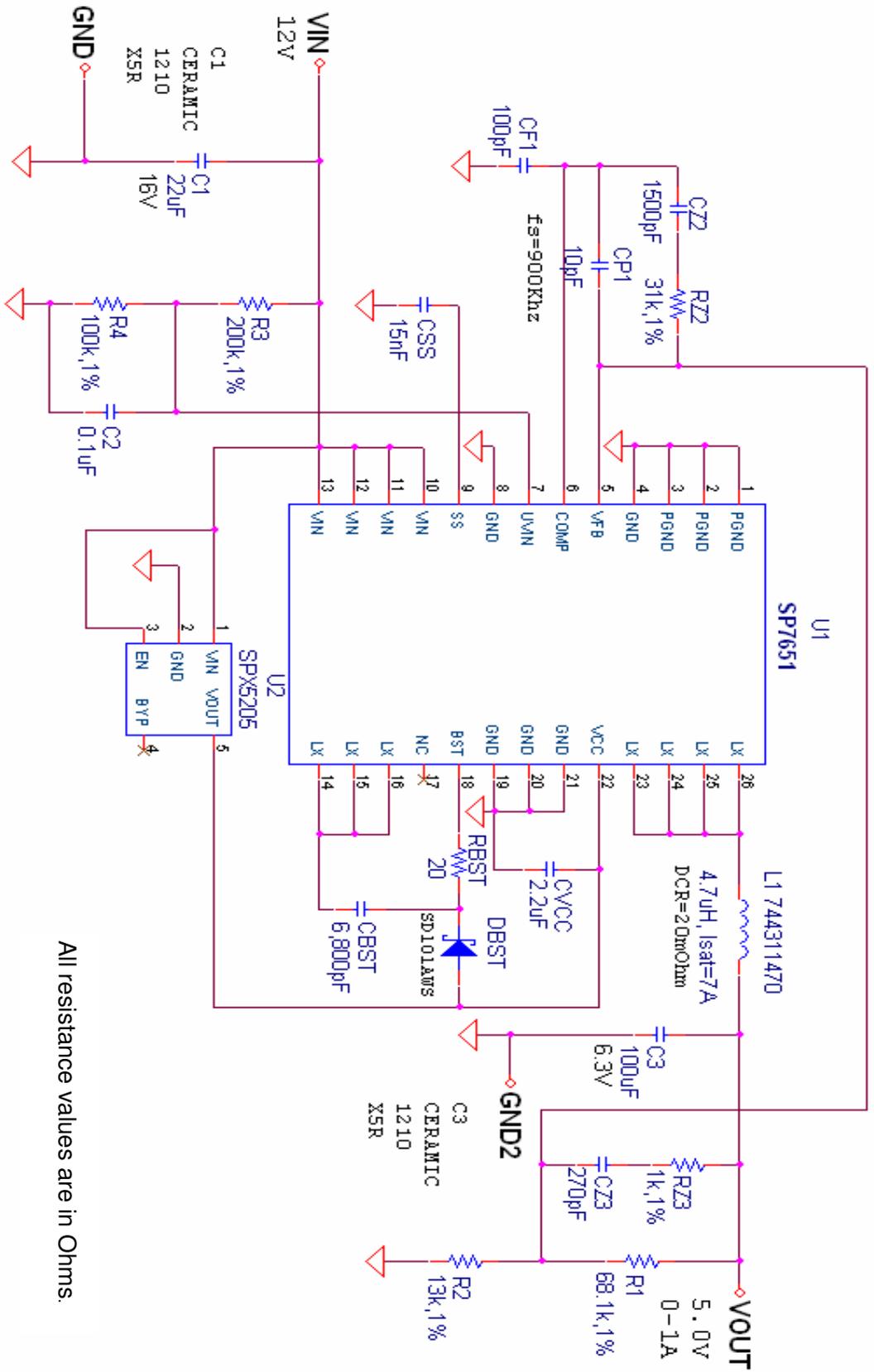


Figure 6 – CH1: V_{out} Ripple CH2:Switchnode
V_{IN} = 12Volts, I_{OUT} = 1 Amp. Ripple = 8mVpk-pk

Circuit Schematic



All resistance values are in Ohms.

Converter Bill of Materials:

REF. DES.	MANUFACTURER NAME	PART NUMBER	SIZE	DESCRIPTION
U1	SIPEX	SP7651ER	DFN-26	2-FETs Buck Ctrl
U2	Sipex	SPX5205M5-5.0	SOT-23-5	150mA LDO Voltage Regulator
DBST	Diodes Inc.	SD101AWS-7	SOD-323	Schottky Diode, 15mA
L1	Würth	744311470	6.86X6.47mm	Inductor, 4.7uH, 7A, 20mohm
C3	MURATA	GRM31CR60J107ME39	1206	Capacitor, Ceramic, 100uF, 6.3V, X5R
C4	MURATA	GRM31CR61C226KE15	1206	Capacitor, Ceramic, 22uF, 16V, X5R
CVCC	MURATA	GRM188R61A225KE34D	0603	Capacitor, Ceramic, 2.2uF, 10V, X5R
C2	MURATA	GRM188R71H104KA93D	0603	Capacitor, Ceramic, 0.1uF, 50V, X7R
CBST	MURATA	GRM188R71H682KA01D	0603	Capacitor, Ceramic, 6800pF, 50V, X7R
CSS	ROHM	GRM188R71H153KA01D	0603	Capacitor, Ceramic, 0.015uF, 50V, X7R
CP1	MURATA	GRM188R71H110KA01D	0603	Capacitor, Ceramic, 10pF, 50V, C0G
CZ2	MURATA	GRM188R71H152KA01D	0603	Capacitor, Ceramic, 1500pF, 50V, C0G
CZ3	MURATA	GRM188R71H271KA01D	0603	Capacitor, Ceramic, 270pF, 50V, C0G
CF1	ROHM	MCH185A101JK	0603	Capacitor, Ceramic, 100pF, 50V, C0G
RZ2	VISHAY DALE	CRCW0603-3102FRT1	0603	Resistor, 31K, 1/16W, 1%
R2	SEI ELECTRONICS	RMC-1/16W-13K-1%-TR	0603	Resistor, 13K, 1/16W, 1%
RZ3	VISHAY DALE	CRCW0603-1001FRT1	0603	Resistor, 1K, 1/16W, 1%
R1	VISHAY DALE	CRCW0603-6812FRT1	0603	Resistor, 68.1K, 1/16W, 1%
R3	VISHAY DALE	CRCW0603-2003FRT1	0603	Resistor, 200K, 1/16W, 1%
R4	VISHAY DALE	CRCW0603-1003FRT1	0603	Resistor, 100K, 1/16W, 1%
RBST	ROHM	MCR03EZPEFX20R0	0603	Resistor, 20, 1/16W, 1%
VIN, VOUT, GND, GND2	Vector Electronic	K24C/M	.042 Dia	Input/Output Terminal Posts

For further assistance:

Email: Sipexsupport@sipex.com
 WWW Support page: <http://www.sipex.com/content.aspx?p=support>
 Sipex Application Notes: <http://www.sipex.com/applicationNotes.aspx>



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