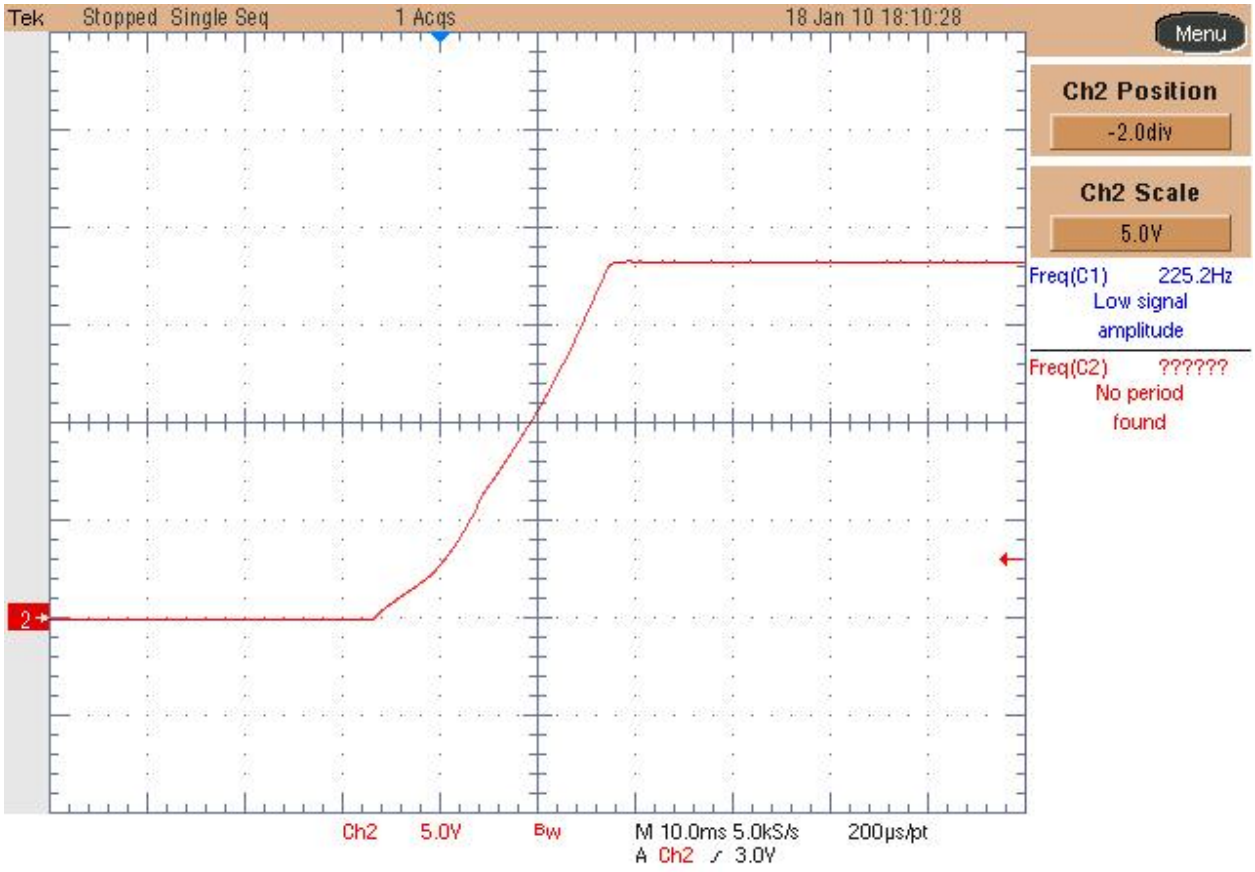
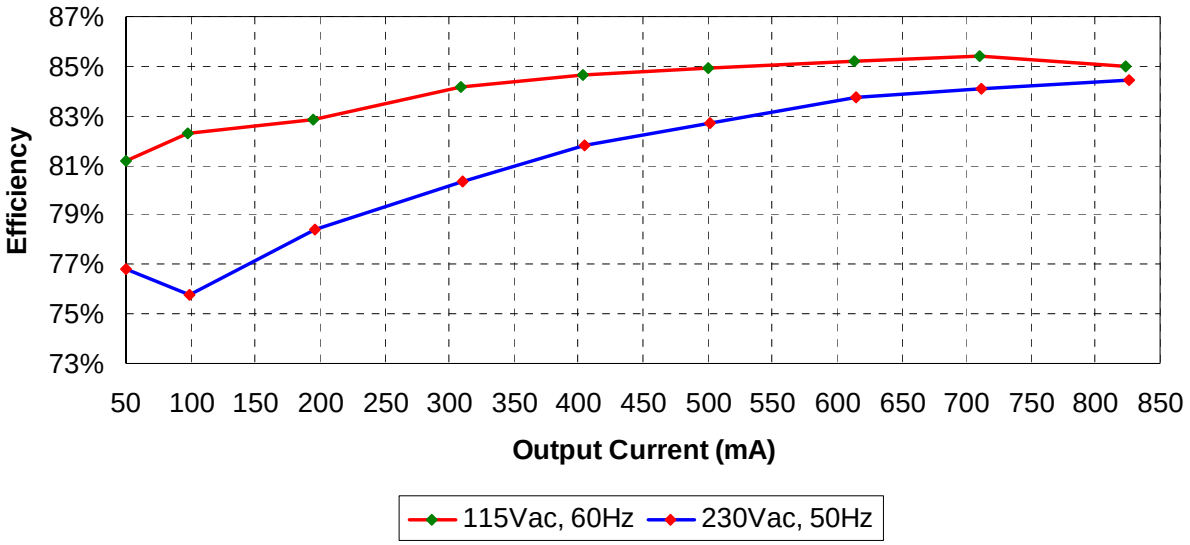
1 Startup

The output voltage at startup is shown in the image below. Input voltage was set to 320Vdc. The output was unloaded.
Channel 2 shows the output voltage (5 V/div, 10ms/div).



2 Efficiency

The efficiency data is shown in the tables and graph below. An AC source was set to 115Vrms, 60Hz and 230Vrms 50Hz. The input power was measured with a digital power meter Yokogawa WT210.

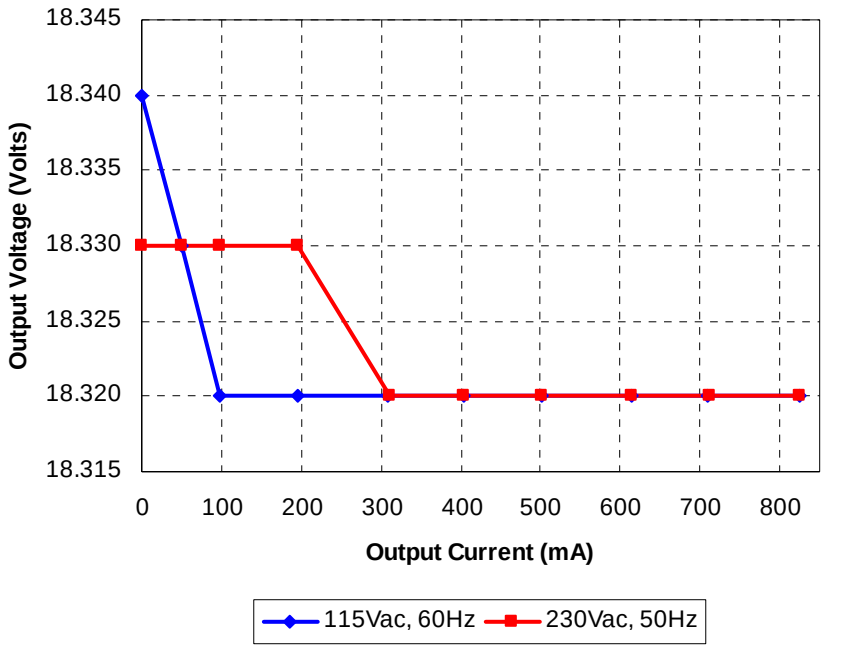


Iout (mA)	Vout (V)	Pout (W)	Vin (V)	Pin (W)	Ploss (W)	Eff
0.0	18.34	0.00	115	0.054	0.054	0.0%
50.3	18.33	0.92	115	1.14	0.214	81.2%
98.2	18.32	1.80	115	2.19	0.388	82.3%
194.7	18.32	3.57	115	4.31	0.739	82.8%
308.7	18.32	5.66	115	6.72	1.064	84.2%
403.2	18.32	7.39	115	8.73	1.340	84.6%
500.9	18.32	9.18	115	10.81	1.630	84.9%
613.7	18.32	11.24	115	13.20	1.952	85.2%
710.2	18.32	13.01	115	15.23	2.222	85.4%
823.7	18.32	15.09	115	17.75	2.662	85.0%

Iout (mA)	Vout (V)	Pout (W)	Vin (V)	Pin (W)	Ploss (W)	Eff
0.0	18.33	0.00	230	0.101	0.101	0.0%
50.2	18.33	0.92	230	1.20	0.278	76.8%
99.0	18.33	1.81	230	2.40	0.580	75.8%
196.2	18.33	3.60	230	4.59	0.989	78.4%
309.9	18.32	5.68	230	7.07	1.390	80.3%
404.4	18.32	7.41	230	9.06	1.651	81.8%
502.3	18.32	9.20	230	11.13	1.928	82.7%
615.1	18.32	11.27	230	13.46	2.191	83.7%
711.6	18.32	13.04	230	15.50	2.463	84.1%
825.6	18.32	15.12	230	17.92	2.795	84.4%

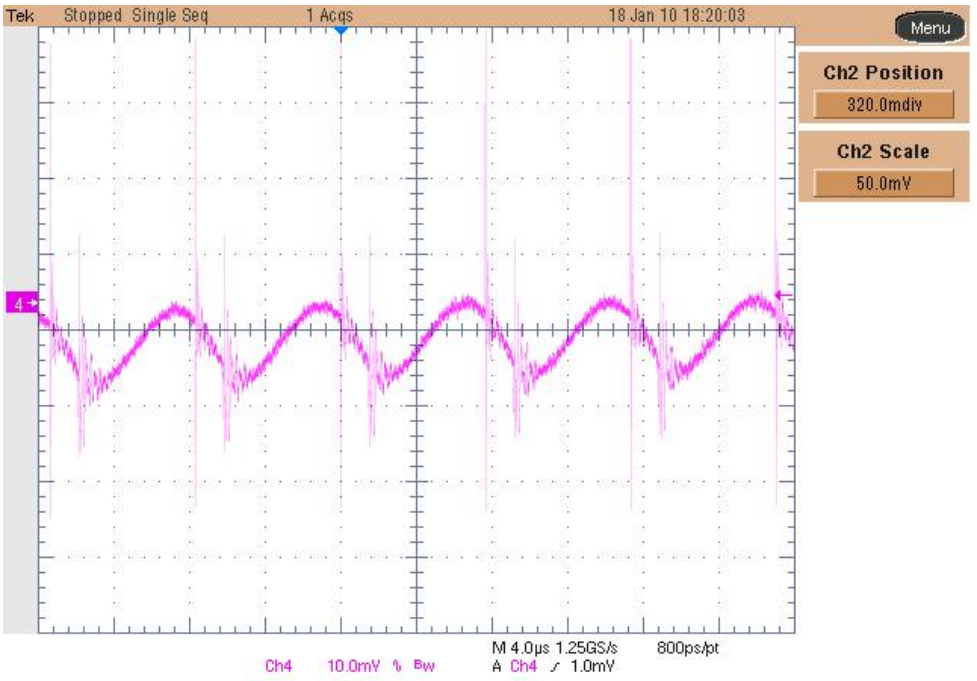
3 Output Voltage Regulation

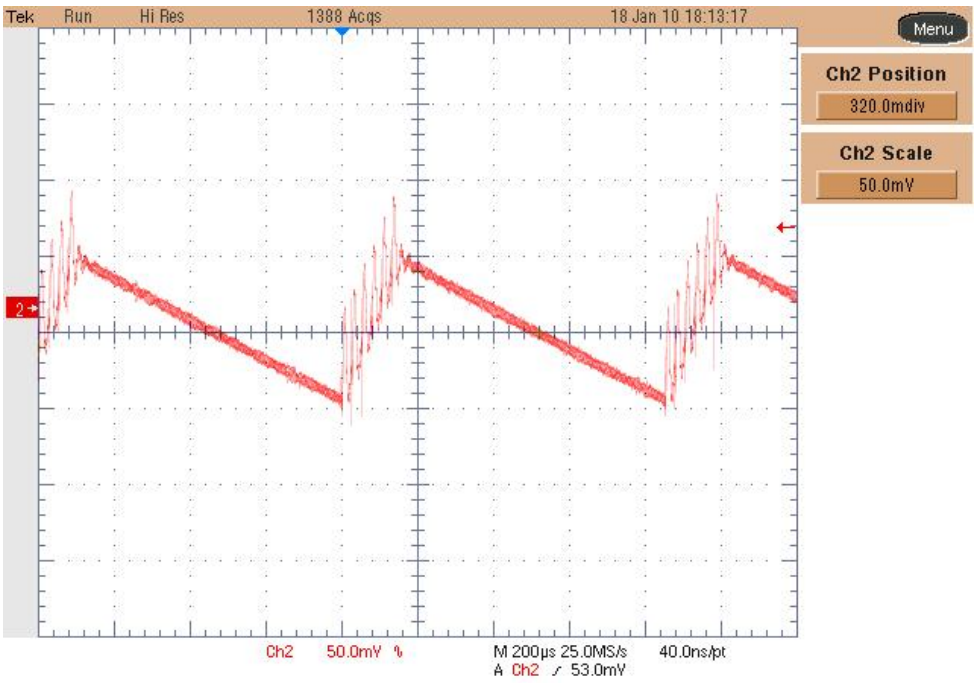
The output voltage versus load current is plotted below.



4 Output Ripple Voltage

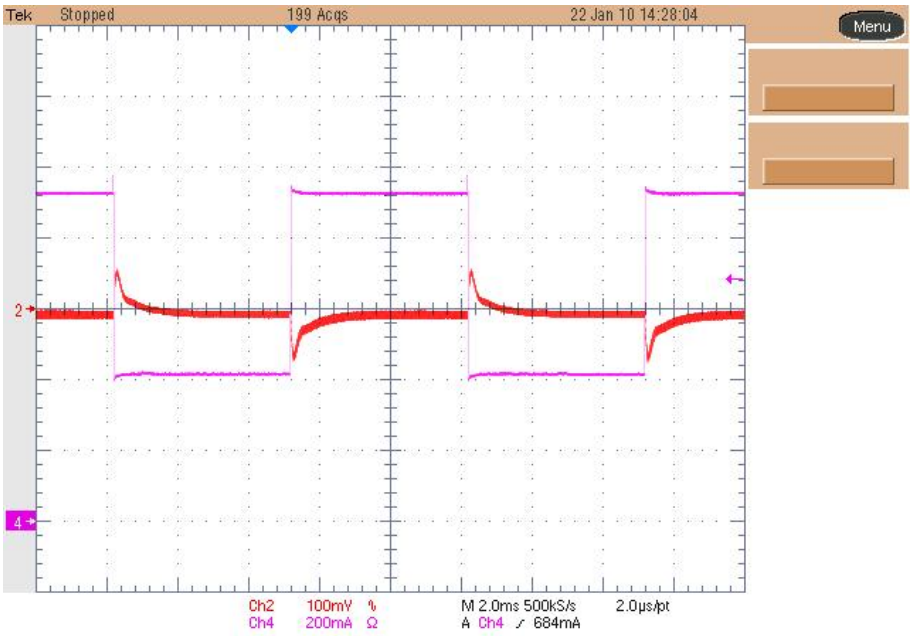
The output ripple voltage is shown in the plots below. The input was set to 320Vdc and the load was set to 0.83A (upper picture) and 60mA (lower picture).





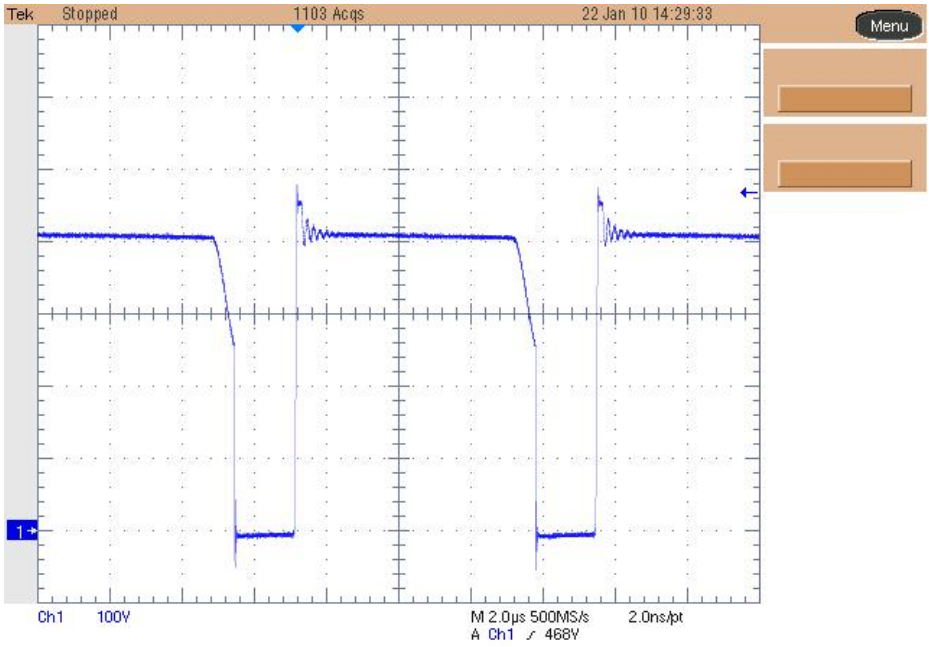
5 Load Transient

The image below shows the response to 0.4A to 0.9A load transient on the output voltage. The input voltage was set to 320Vac.
Channel 2: Vout (ac coupled) 100mV/div, Channel 4: Iout 200mA/div, 2ms/div.



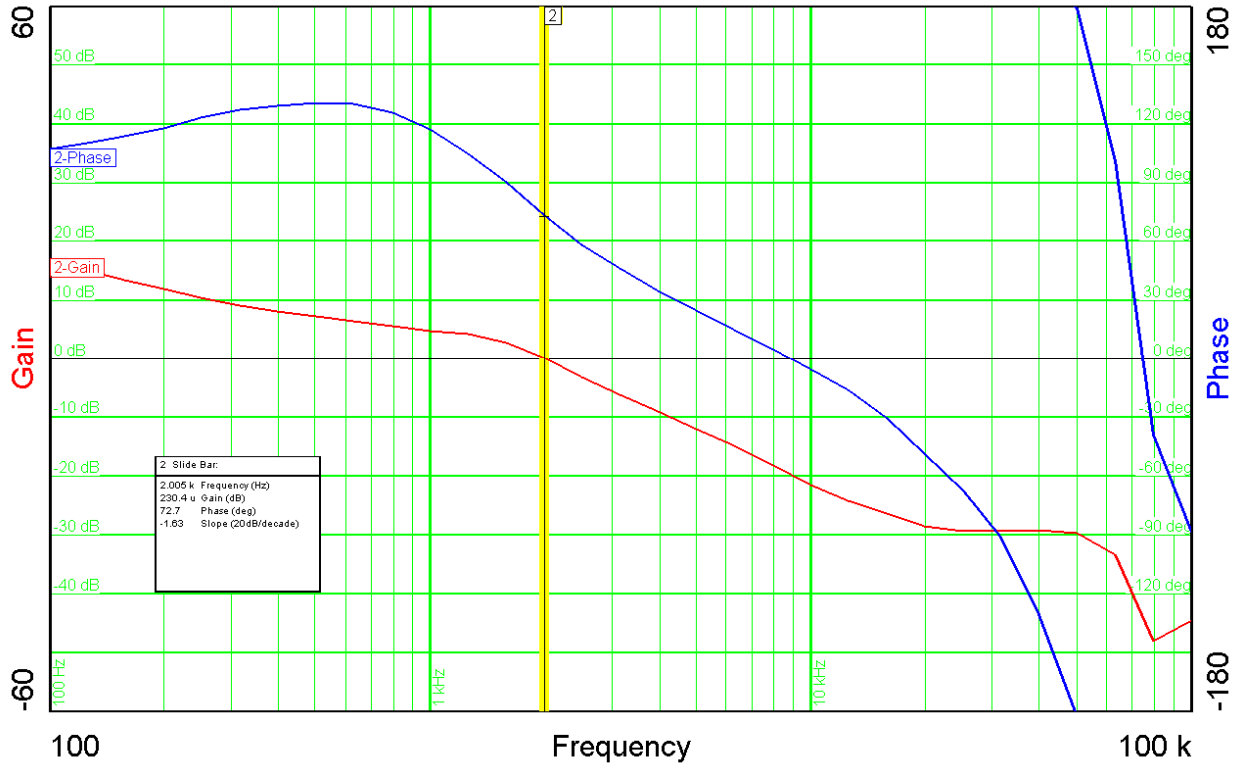
6 Switch-node

The image below shows the switch-node waveform. The input voltage was set to 320Vac during a full load condition. Channel 1: Vds, 100V/div, 2us/div.



7 Loop Response

The image below shows the loop response of the converter measured with a 320Vdc input, and full load. Phase margin is 72.7 deg. and crossover frequency is 2 KHz.



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