

Test Report of PMP10588

Flybuck with LM5160

9th Jan. 2015



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1) Design Specifications

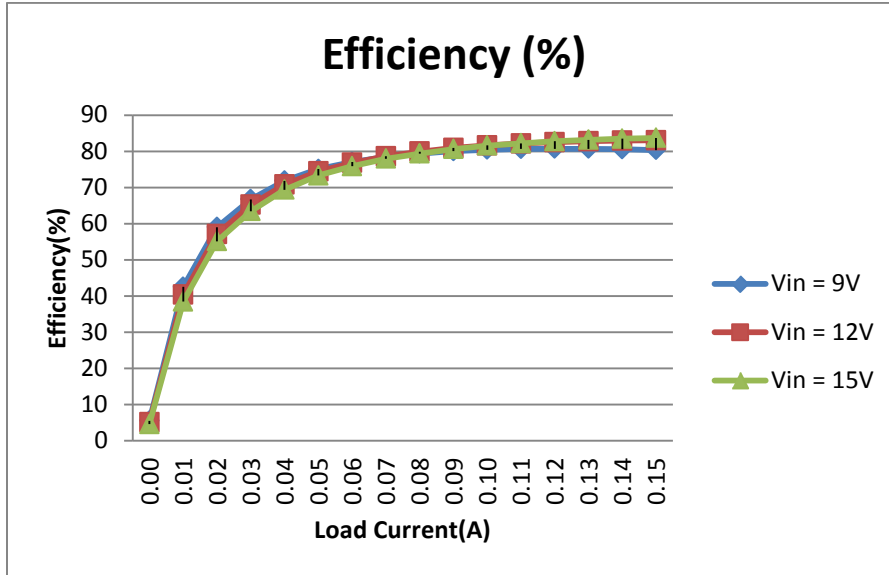
Vin Min.	9Vdc
Vin Max.	15Vdc
Vout	15Vdc_ISO
Iout	0.15A
Switching frequency	150k

2) Circuit Board



3) Typical Performances

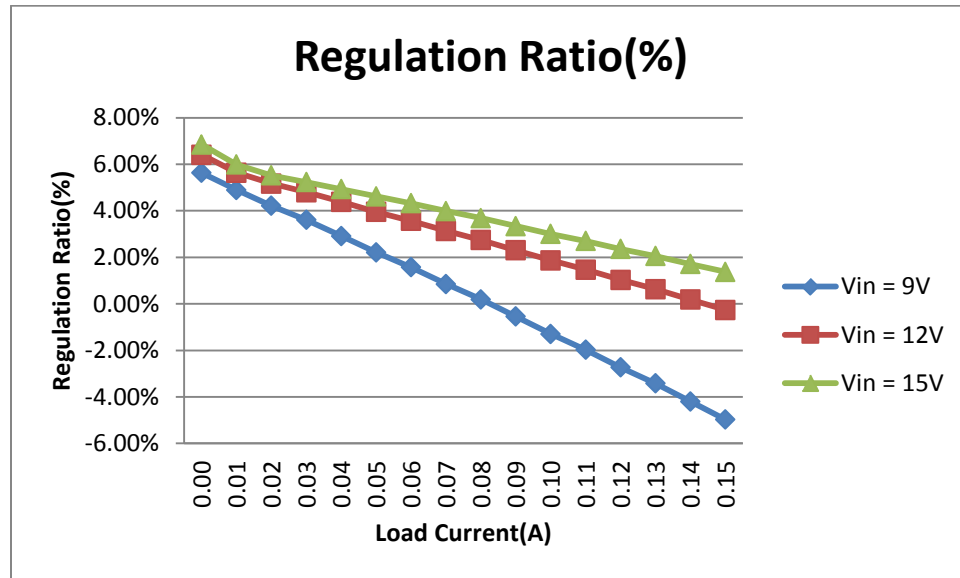
3.1) Efficiency



Vin(V)	Iin(A)	Vo(V)	Io(A)	Efficiency
8.99946	0.024951	15.8444	0.0007885	5.5640
8.99946	0.041849	15.7343	0.0101797	42.5283
8.99946	0.0606426	15.6329	0.020604	59.0200
8.99978	0.0775284	15.5418	0.029964	66.7433
9	0.096281	15.4377	0.0403405	71.868
9	0.115132	15.3324	0.0507523	75.098
9	0.132097	15.2358	0.0601057	77.0258
9	0.151005	15.1277	0.0705097	78.4853
9.00011	0.168066	15.0291	0.0798914	79.3787
9.00044	0.186995	14.9181	0.0902975	80.0381
9.00066	0.205920	14.8063	0.100711	80.4538
9.00044	0.222948	14.7043	0.110053	80.6451
9.00077	0.241882	14.5907	0.120441	80.7170
9.00099	0.258942	14.4874	0.129809	80.6865
9.00055	0.277804	14.371	0.140189	80.5741
9.00088	0.296788	14.254	0.150614	80.3658
11.9985	0.020575	15.962	0.0007899	5.1069
11.9983	0.033251	15.846	0.0101813	40.4389
11.9983	0.0474452	15.7756	0.0206094	57.1137
11.9985	0.0601954	15.7205	0.0299619	65.2145
11.9987	0.0743448	15.6578	0.0403402	70.8082

11.9986	0.0885447	15.5934	0.0507459	74.4814
11.9984	0.101329	15.54	0.0601010	76.80
11.9987	0.115583	15.47	0.0705077	78.65
11.9987	0.1284	15.411	0.079883	79.8919
11.9992	0.1427	15.346	0.090277	80.9091
11.9992	0.157045	15.2803	0.100695	81.6518
11.9989	0.169903	15.2211	0.110028	82.1495
11.9992	0.184278	15.1550	0.120429	82.5398
11.9989	0.197252	15.0953	0.129789	82.7781
11.9993	0.211687	15.0281	0.140195	82.9444
11.9988	0.226163	14.9613	0.150599	83.0292
14.9998	0.0179318	16.0271	0.0007743	4.6139
14.9995	0.0280449	15.8987	0.0101829	38.4861
15.0001	0.0394089	15.8289	0.0205906	55.1357
14.9998	0.0496684	15.7848	0.0299605	63.4775
15.0000	0.0610299	15.7400	0.0403447	69.3678
14.9998	0.0724128	15.6929	0.0507487	73.3205
15.0001	0.0826489	15.6488	0.0601097	75.8744
15.0001	0.0940368	15.5986	0.0705162	77.9803
15.0002	0.104303	15.5527	0.0798706	79.3962
15.0002	0.115723	15.5018	0.0902876	80.6299
15.0001	0.12716	15.4507	0.100698	81.5686
15.0004	0.13744	15.4054	0.110022	82.2123
15.0000	0.148916	15.3541	0.120417	82.7713
15.0002	0.159258	15.3081	0.129777	83.1612
15.0002	0.17078	15.257	0.140179	83.487
15.0003	0.18234	15.206	0.150601	83.726

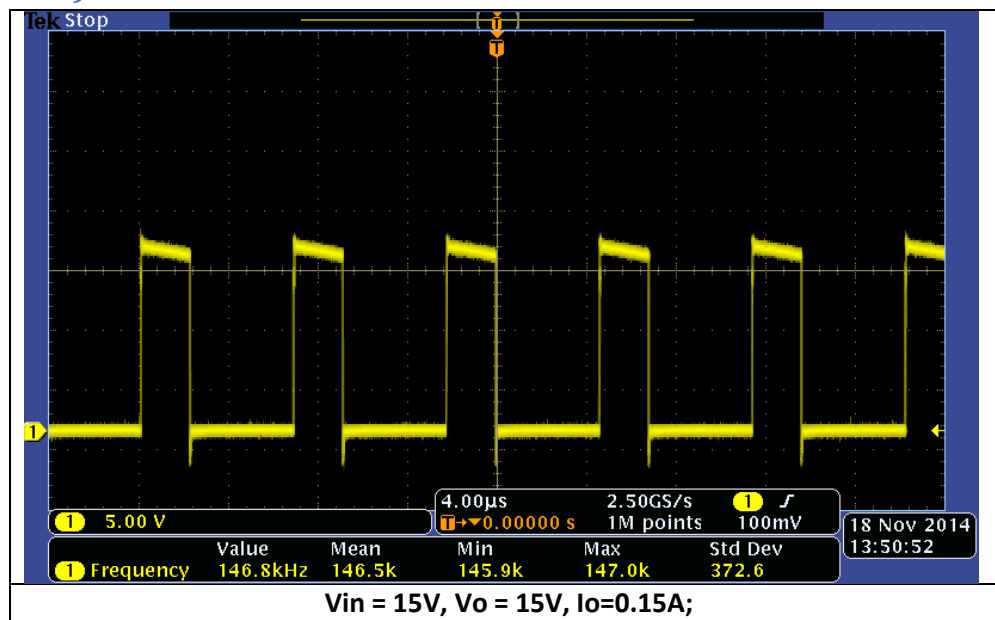
3.2) Regulation Ratio



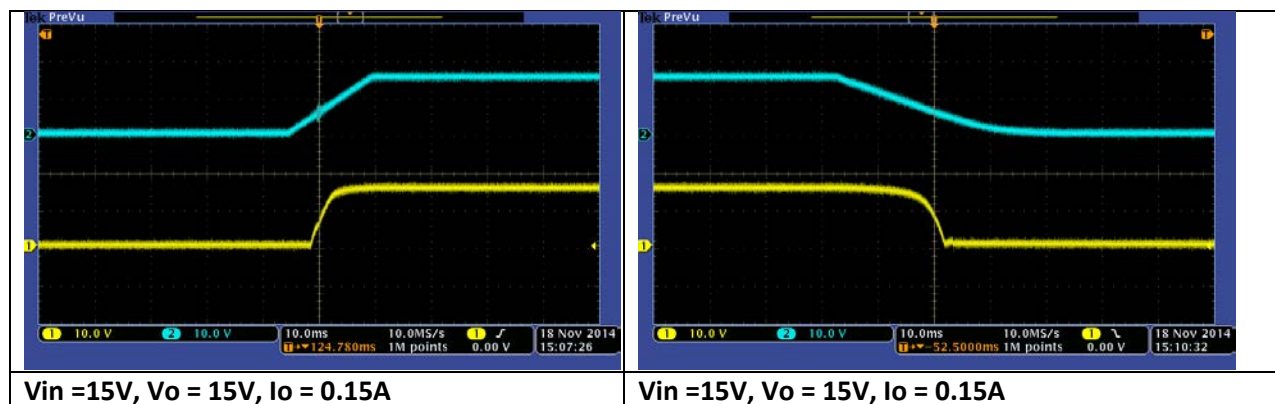
Vin(V)	Iin(A)	Vo(V)	Io(A)	Regulation Ratio
8.99946	0.024951	15.8444	0.0007885	5.63%
8.99946	0.041849	15.7343	0.0101797	4.90%
8.99946	0.0606426	15.6329	0.020604	4.22%
8.99978	0.0775284	15.5418	0.029964	3.61%
9	0.096281	15.4377	0.0403405	2.92%
9	0.115132	15.3324	0.0507523	2.22%
9	0.132097	15.2358	0.0601057	1.57%
9	0.151005	15.1277	0.0705097	0.85%
9.00011	0.168066	15.0291	0.0798914	0.19%
9.00044	0.186995	14.9181	0.0902975	-0.55%
9.00066	0.205920	14.8063	0.100711	-1.29%
9.00044	0.222948	14.7043	0.110053	-1.97%
9.00077	0.241882	14.5907	0.120441	-2.73%
9.00099	0.258942	14.4874	0.129809	-3.42%
9.00055	0.277804	14.371	0.140189	-4.19%
9.00088	0.296788	14.254	0.150614	-4.97%
11.9985	0.020575	15.962	0.0007899	6.41%
11.9983	0.033251	15.846	0.0101813	5.64%
11.9983	0.0474452	15.7756	0.0206094	5.17%
11.9985	0.0601954	15.7205	0.0299619	4.80%
11.9987	0.0743448	15.6578	0.0403402	4.39%
11.9986	0.0885447	15.5934	0.0507459	3.96%
11.9984	0.101329	15.54	0.0601010	3.57%
11.9987	0.115583	15.47	0.0705077	3.13%

11.9987	0.1284	15.411	0.079883	2.74%
11.9992	0.1427	15.346	0.090277	2.31%
11.9992	0.157045	15.2803	0.100695	1.87%
11.9989	0.169903	15.2211	0.110028	1.47%
11.9992	0.184278	15.1550	0.120429	1.03%
11.9989	0.197252	15.0953	0.129789	0.64%
11.9993	0.211687	15.0281	0.140195	0.19%
11.9988	0.226163	14.9613	0.150599	-0.26%
14.9998	0.0179318	16.0271	0.0007743	6.85%
14.9995	0.0280449	15.8987	0.0101829	5.99%
15.0001	0.0394089	15.8289	0.0205906	5.53%
14.9998	0.0496684	15.7848	0.0299605	5.23%
15.0000	0.0610299	15.7400	0.0403447	4.93%
14.9998	0.0724128	15.6929	0.0507487	4.62%
15.0001	0.0826489	15.6488	0.0601097	4.33%
15.0001	0.0940368	15.5986	0.0705162	3.99%
15.0002	0.104303	15.5527	0.0798706	3.68%
15.0002	0.115723	15.5018	0.0902876	3.35%
15.0001	0.12716	15.4507	0.100698	3.00%
15.0004	0.13744	15.4054	0.110022	2.70%
15.0000	0.148916	15.3541	0.120417	2.36%
15.0002	0.159258	15.3081	0.129777	2.05%
15.0002	0.17078	15.257	0.140179	1.72%
15.0003	0.18234	15.206	0.150601	1.37%

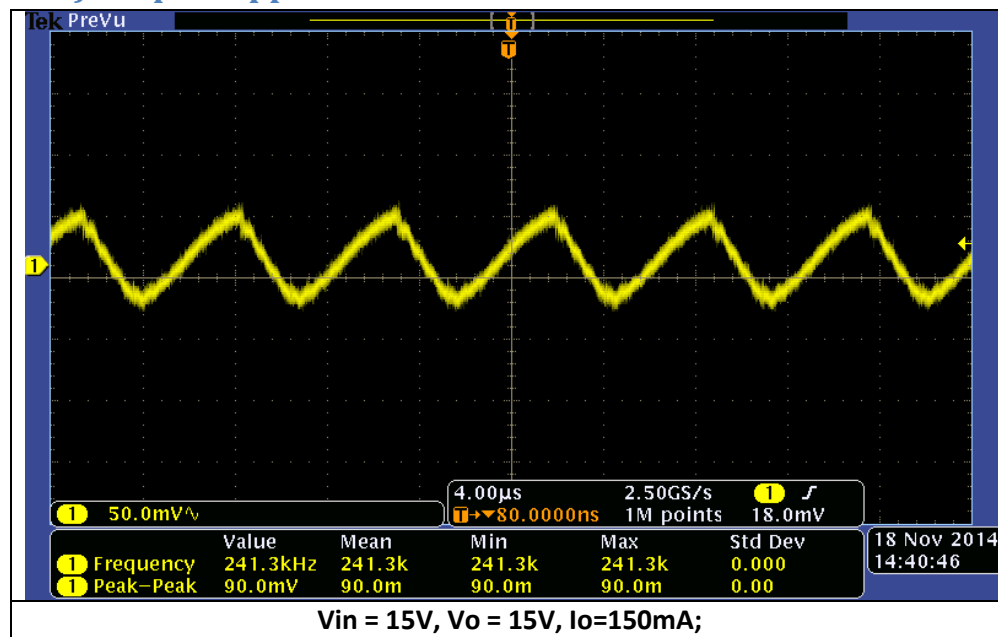
3.3) SW Waveforms



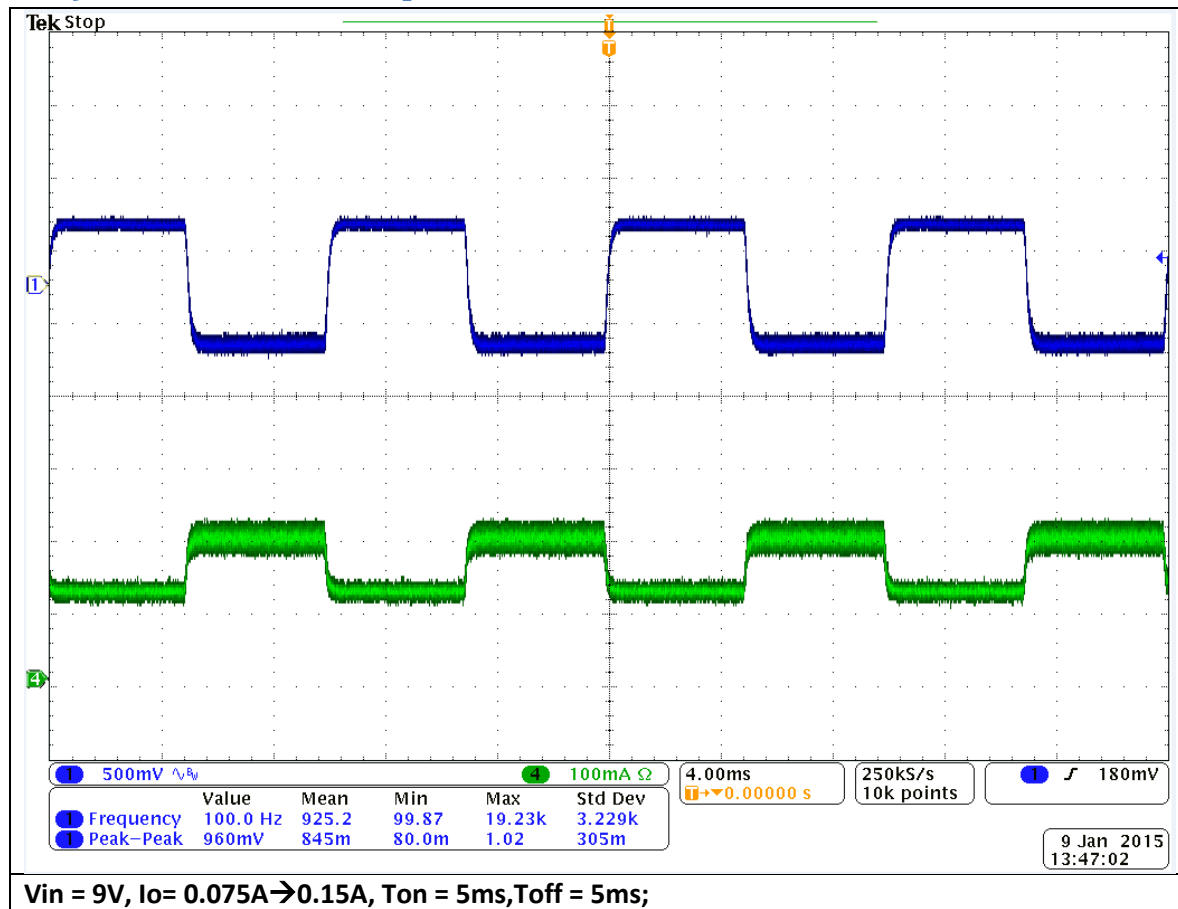
3.4) Start up and Shutdown

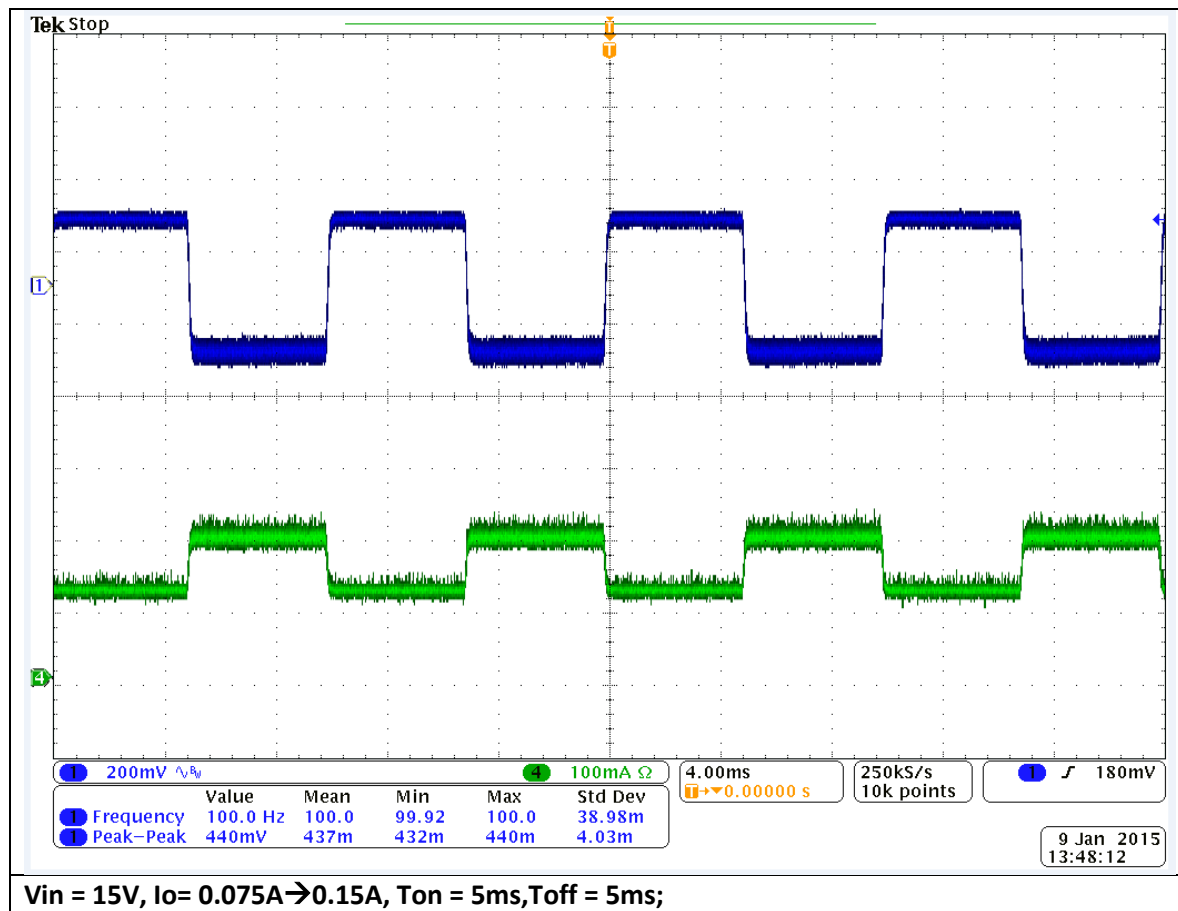


3.5) Output Ripple

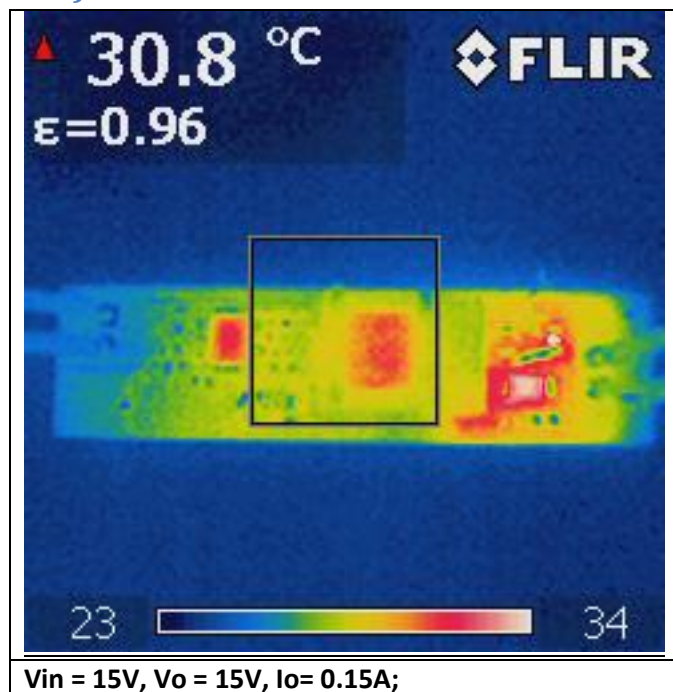


3.6) Load Transient Response





3.7) Thermal Performance



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