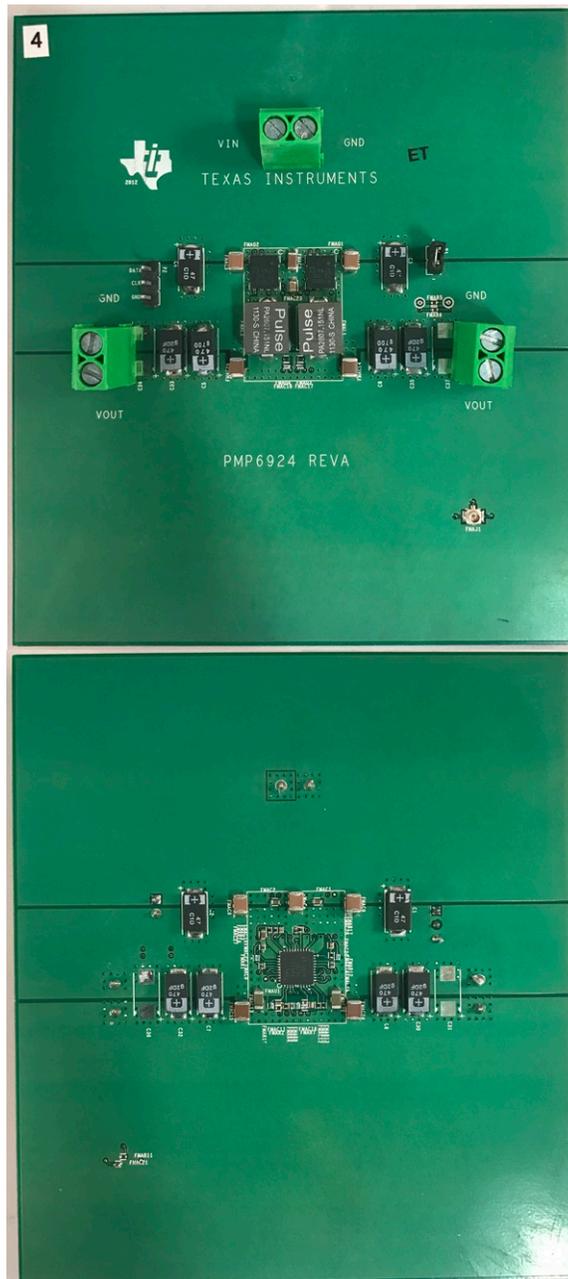
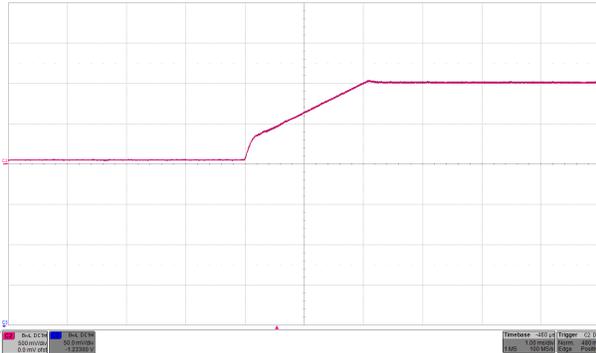


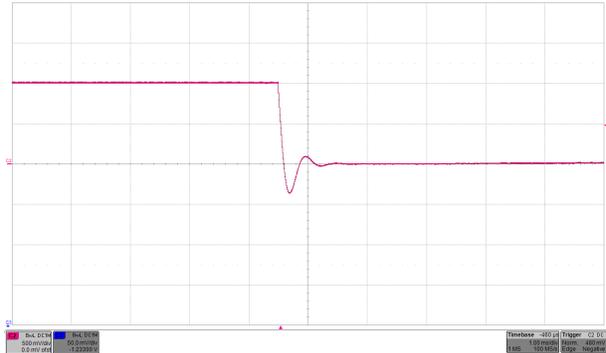
Photo of the prototype



1 Startup and shutdown



Turn-on, 12Vin, 1.0Vout/45A

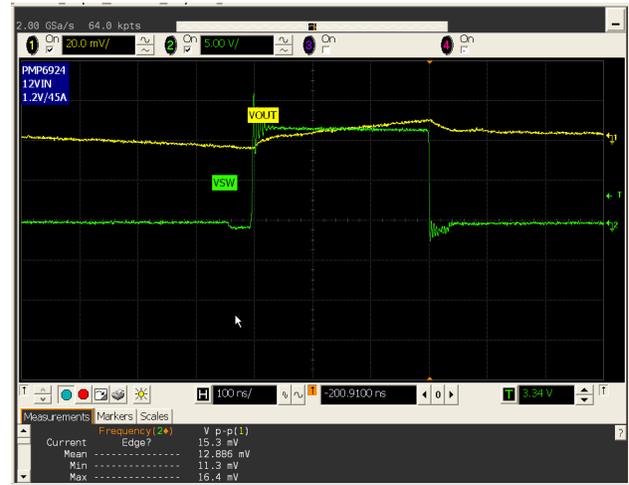


Turn-off, 12Vin, 1.0Vout/45A

2 Ripple and Switching Node

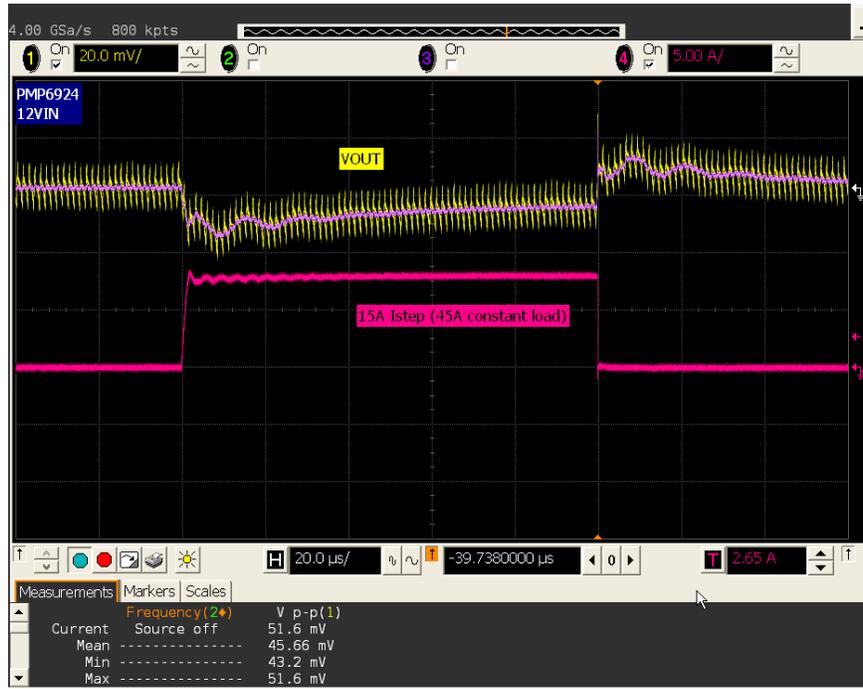


12Vin, 1.0Vout, 55A Load, 13mV (+/-0.65%)
(8x470uF, 4V, 10mohm+ 2x 47uF,6.3V,1206+2x4x 100uF,6.3V,1210)



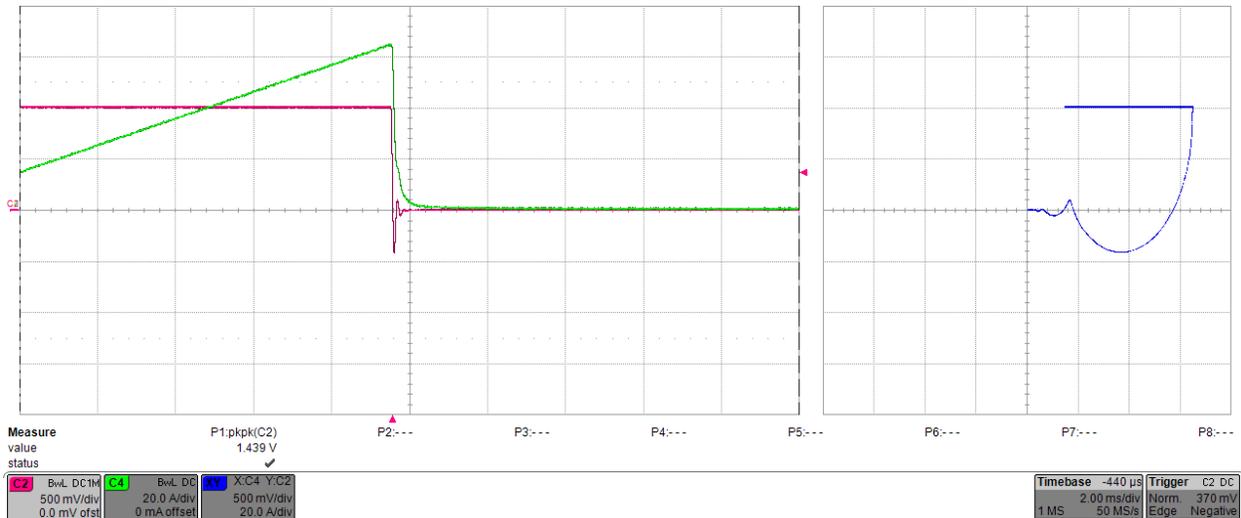
12Vin, 1.0Vout, 45A Load, Vmax=16.25V

3 Transient



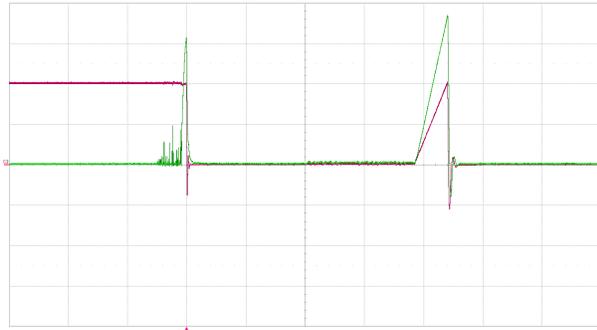
12Vin, 1.0Vout, 45A to 60A Load Step, -15mV (-1.5%), +15mV (+1.5%)

4 Over-current protection

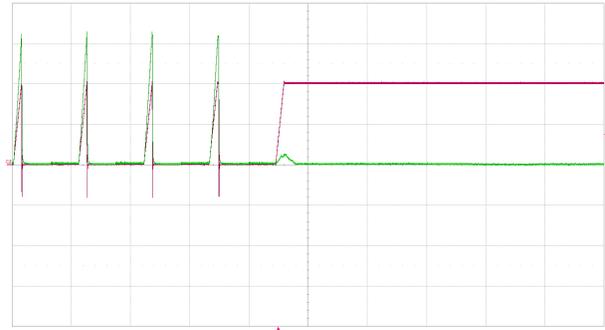


12Vin, 1.0Vout, Over-load applied, OCP=65A. (OCP setting is 35A+35A)

5 Short-circuit protection

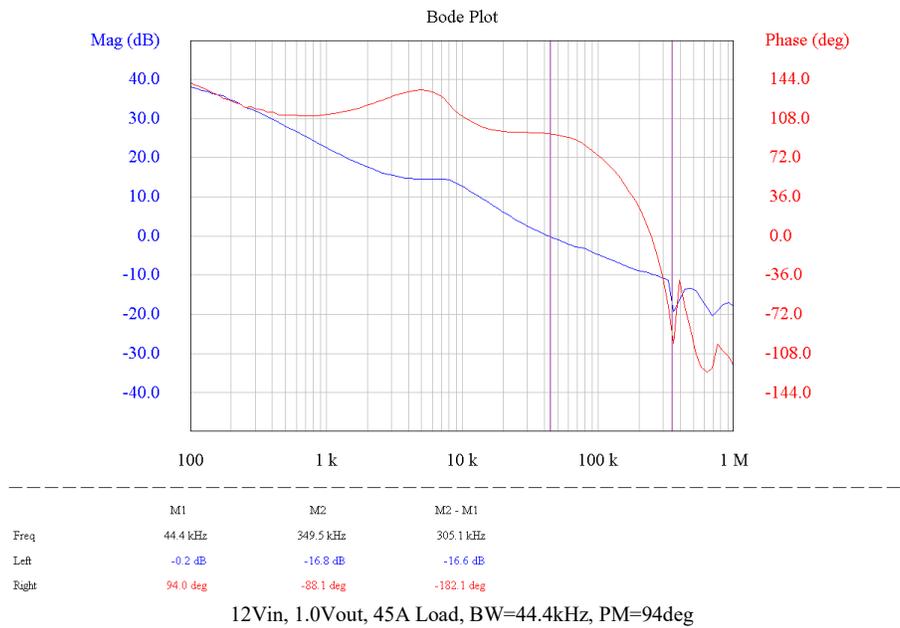


12Vin, 1.0Vout, Short circuit applied, SCP=65A.

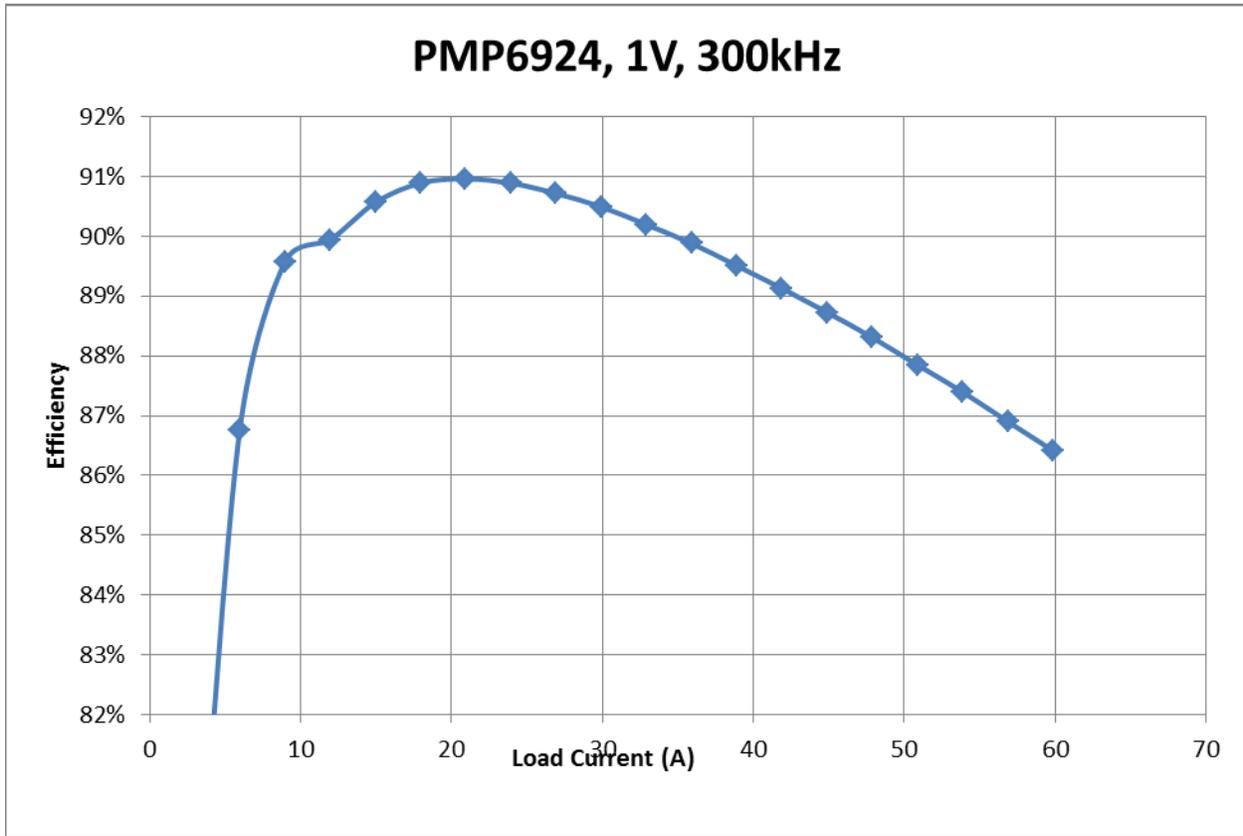


12Vin, 1.0Vout, Short circuit released

6 Bode Plot



7 Efficiency

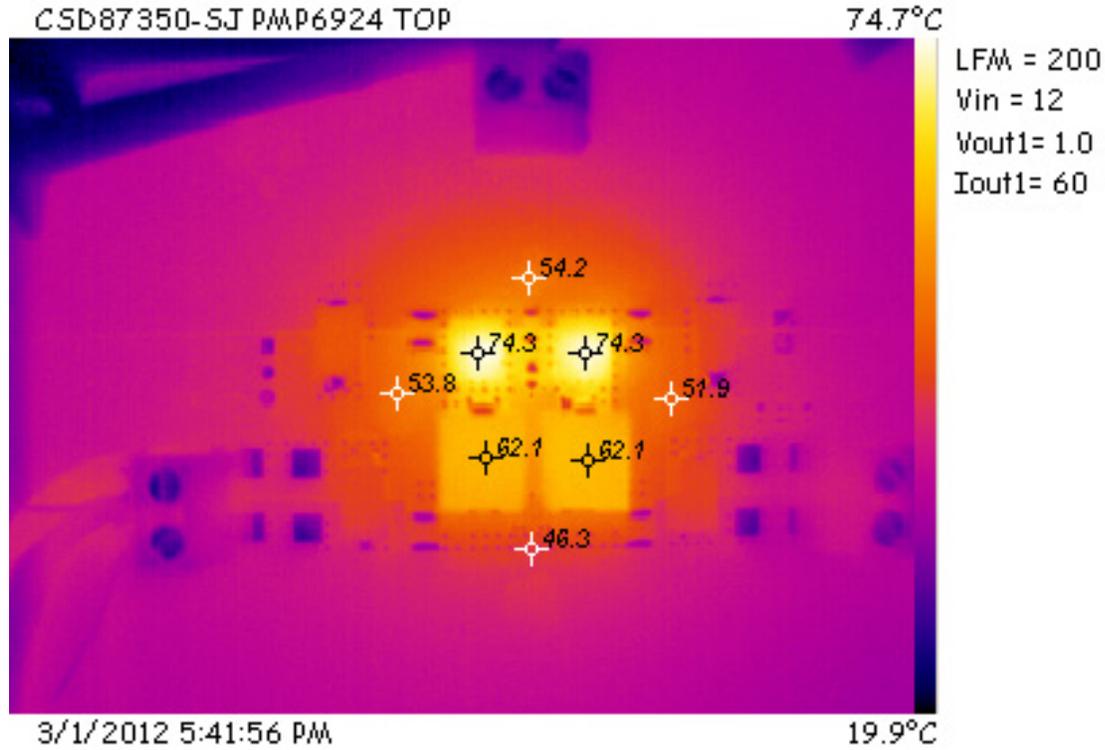


Test conditions: 12Vin, 1.0Vout, 300kHz, PA2607NL-151.

VIN	VOUT	V5V	IIN(A)	IOUT(A)	I5V(A)	Efficiency
11.997	1.001	4.995	0.306	2.978	0.033	77.8%
11.989	1.001	4.995	0.561	5.970	0.034	86.8%
11.980	1.001	4.995	0.822	8.964	0.034	89.6%
11.971	1.001	4.995	1.098	11.957	0.034	89.9%
11.961	1.002	4.995	1.368	14.952	0.034	90.6%
11.952	1.002	4.995	1.641	17.949	0.034	90.9%
11.943	1.002	4.995	1.918	20.944	0.034	91.0%
11.934	1.002	4.995	2.198	23.935	0.034	90.9%
11.924	1.003	4.995	2.482	26.928	0.034	90.7%
11.914	1.003	4.995	2.769	29.922	0.034	90.5%
11.904	1.003	4.995	3.061	32.916	0.034	90.2%
11.895	1.003	4.995	3.357	35.914	0.034	89.9%
11.884	1.004	4.995	3.657	38.908	0.034	89.5%
11.874	1.004	4.995	3.961	41.900	0.034	89.1%
11.863	1.004	4.995	4.269	44.893	0.034	88.7%
11.853	1.005	4.995	4.582	47.888	0.034	88.3%
11.842	1.005	4.994	4.901	50.882	0.034	87.8%
11.832	1.005	4.995	5.224	53.882	0.034	87.4%

11.821	1.006	4.995	5.553	56.874	0.034	86.9%
11.809	1.006	4.995	5.887	59.871	0.034	86.4%

8 Thermal



Test conditions: 12Vin, 1.0V/60Aout, 300 kHz, PA2607NL-151, Room Temperature, 200LFM. $T_{FET}=74.3C$, $T_{IND}=62.1C$

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