

# HPS3000-9 DVT2 Efficiency Test

## Internal Fan

Vac = 200V @ 60Hz

### At 48V Load Regulation:

%Load	48V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	6.219	0.3	200.02	2.190	0.828	47.974	1.567	6.2680	4.9925	0.2981	302.19	83.32
20	12.438	0.6	200.02	3.575	0.946	47.934	3.115	12.4600	4.9825	0.5981	600.24	88.73
30	18.657	0.9	200.01	5.026	0.986	47.890	4.659	18.6360	4.9725	0.8981	896.94	90.49
40	24.876	1.2	200.05	6.649	0.988	47.863	6.210	24.8400	4.9625	1.1981	1194.86	90.92
50	31.095	1.5	200.04	8.244	0.991	47.844	7.756	31.0240	4.9525	1.4981	1491.73	91.28
60	37.314	1.8	200.03	9.873	0.993	47.821	9.300	37.2000	4.9425	1.7981	1787.83	91.17
70	43.533	2.1	200.00	11.523	0.994	47.796	10.848	43.3920	4.9325	2.0962	2084.30	90.99
80	49.752	2.4	200.03	13.202	0.995	47.805	12.401	49.6040	4.9175	2.3962	2383.10	90.70
90	55.971	2.7	200.07	14.944	0.996	47.777	13.978	55.9120	4.9100	2.6962	2684.55	90.15
100	62.19	3	200.02	16.669	0.996	47.747	15.525	62.1000	4.9000	2.9962	2979.77	89.73

Peak Efficiency

### At 51V Load Regulation:

%Load	51V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	5.853	0.3	200.06	2.145	0.824	50.945	1.440	5.7600	4.9950	0.2981	294.93	83.41
20	11.706	0.6	200.06	3.556	0.945	50.906	2.908	11.6320	4.9850	0.5981	595.12	88.52
30	17.559	0.9	200.05	4.999	0.986	50.849	4.370	17.4800	4.9750	0.8981	893.31	90.59
40	23.412	1.2	200.03	6.616	0.988	50.819	5.841	23.3640	4.9650	1.1962	1193.27	91.26
50	29.265	1.5	199.91	8.231	0.992	50.800	7.308	29.2320	4.9575	1.4962	1492.40	91.43
60	35.118	1.8	200.11	9.807	0.993	50.774	8.735	34.9400	4.9450	1.7943	1782.92	91.49
70	40.971	2.1	200.06	11.447	0.995	50.755	10.204	40.8160	4.9325	2.0962	2081.96	91.37
80	46.824	2.4	200.06	13.130	0.995	50.765	11.669	46.6760	4.9225	2.3962	2381.30	91.11
90	52.677	2.7	200.04	14.824	0.996	50.762	13.132	52.5280	4.9125	2.6962	2679.67	90.73
100	58.53	3	200.15	16.538	0.997	50.742	14.593	58.3720	4.9025	2.9943	2976.59	90.20

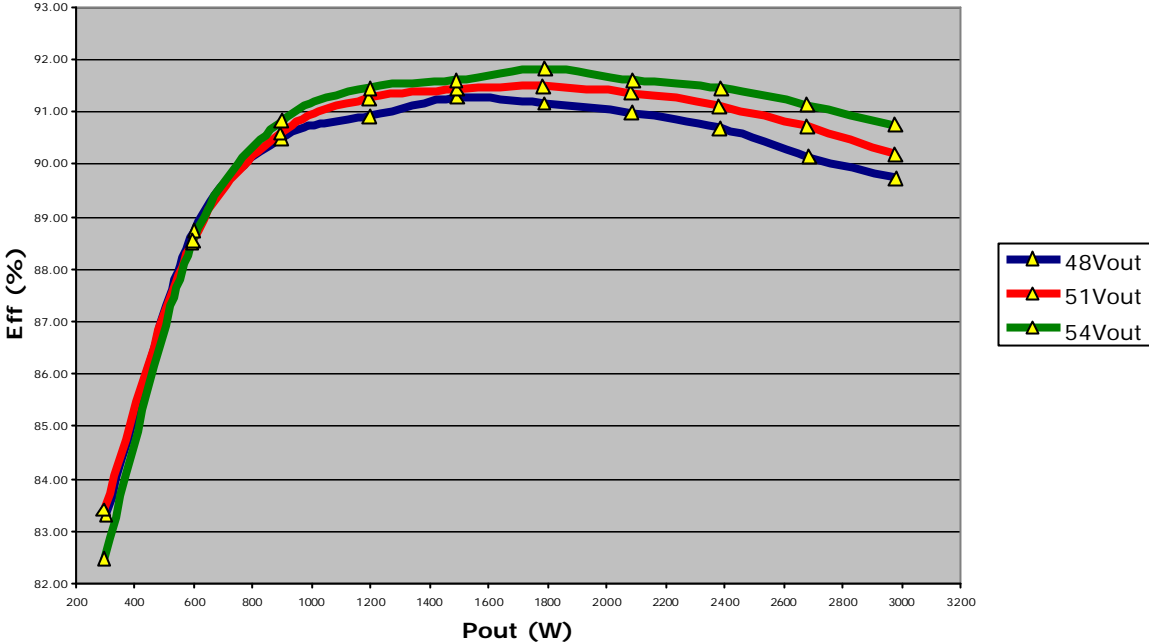
Peak Efficiency

### At 54V Load Regulation:

%Load	54V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	5.528	0.3	200.10	2.170	0.828	53.956	1.367	5.4680	4.9925	0.2981	296.52	82.47
20	11.056	0.6	200.01	3.566	0.946	53.922	2.756	11.0240	4.9825	0.5981	597.42	88.54
30	16.584	0.9	200.07	5.008	0.986	53.876	4.143	16.5720	4.9725	0.8981	897.30	90.83
40	22.112	1.2	199.97	6.627	0.988	53.839	5.533	22.1320	4.9625	1.1981	1197.51	91.46
50	27.64	1.5	200.15	8.188	0.992	53.831	6.882	27.5280	4.9550	1.4981	1489.28	91.61
60	33.168	1.8	200.13	9.806	0.993	53.813	8.272	33.0880	4.9400	1.7981	1789.45	91.83
70	38.696	2.1	200.12	11.447	0.995	53.795	9.656	38.6240	4.9325	2.0962	2088.12	91.61
80	44.224	2.4	200.11	13.111	0.995	53.785	11.043	44.1720	4.9200	2.3962	2387.58	91.46
90	49.752	2.7	200.05	14.750	0.996	53.783	12.388	49.5520	4.9075	2.6962	2678.29	91.13
100	55.28	3	200.10	16.441	0.997	53.772	13.772	55.0880	4.8975	2.9962	2976.87	90.76

Peak Efficiency

Efficiency Curve - 200Vin - Internal Fan



Vac = 230V @ 60Hz

**At 48V Load Regulation:**

%Load	48V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	6.219	0.3	230.01	2.201	0.713	47.951	1.561	6.2440	4.9925	0.2981	300.89	83.36
20	12.438	0.6	230.06	3.294	0.890	47.923	3.112	12.4480	4.9825	0.5981	599.53	88.89
30	18.657	0.9	230.00	4.456	0.966	47.883	4.659	18.6360	4.9725	0.8981	896.81	90.58
40	24.876	1.2	230.03	5.771	0.984	47.863	6.209	24.8360	4.9650	1.1981	1194.67	91.46
50	31.095	1.5	230.02	7.177	0.986	47.853	7.756	31.0240	4.9550	1.4981	1492.01	91.66
60	37.314	1.8	229.99	8.581	0.988	47.840	9.302	37.2080	4.9425	1.7962	1788.91	91.75
70	43.533	2.1	230.01	10.012	0.990	47.820	10.851	43.4040	4.9325	2.0962	2085.92	91.49
80	49.752	2.4	230.01	11.467	0.992	47.832	12.395	49.5800	4.9225	2.3981	2383.32	91.09
90	55.971	2.7	230.00	12.962	0.993	47.800	13.975	55.9000	4.9075	2.6962	2685.25	90.71
100	62.19	3	230.03	14.452	0.993	47.779	15.527	62.1080	4.9000	2.9962	2982.14	90.34

Peak Efficiency

**At 51V Load Regulation:**

%Load	51V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	5.853	0.3	230.32	2.177	0.712	50.983	1.451	5.8040	4.9925	0.3000	297.4031	83.31
20	11.706	0.6	230.12	3.272	0.887	50.888	2.899	11.5960	4.9850	0.5981	593.0788	88.80
30	17.559	0.9	230.06	4.435	0.966	50.903	4.383	17.5320	4.9725	0.9000	896.9066	91.00
40	23.412	1.2	230.06	5.760	0.985	50.863	5.852	23.4080	4.9625	1.2000	1196.5561	91.67
50	29.265	1.5	230.06	7.159	0.986	50.832	7.309	29.2360	4.9575	1.4981	1493.5512	91.97
60	35.118	1.8	230.08	8.527	0.989	50.801	8.735	34.9400	4.9475	1.7962	1783.8736	91.94
70	40.971	2.1	230.02	9.971	0.991	50.814	10.214	40.8560	4.9325	2.0981	2086.4057	91.80
80	46.824	2.4	230.10	11.397	0.992	50.809	11.679	46.7160	4.9225	2.3981	2385.3979	91.69
90	52.677	2.7	230.08	12.866	0.993	50.799	13.144	52.5760	4.9175	2.6981	2684.0761	91.31
100	58.53	3	229.96	14.349	0.994	50.758	14.597	58.3880	4.9025	2.9962	2978.3470	90.81

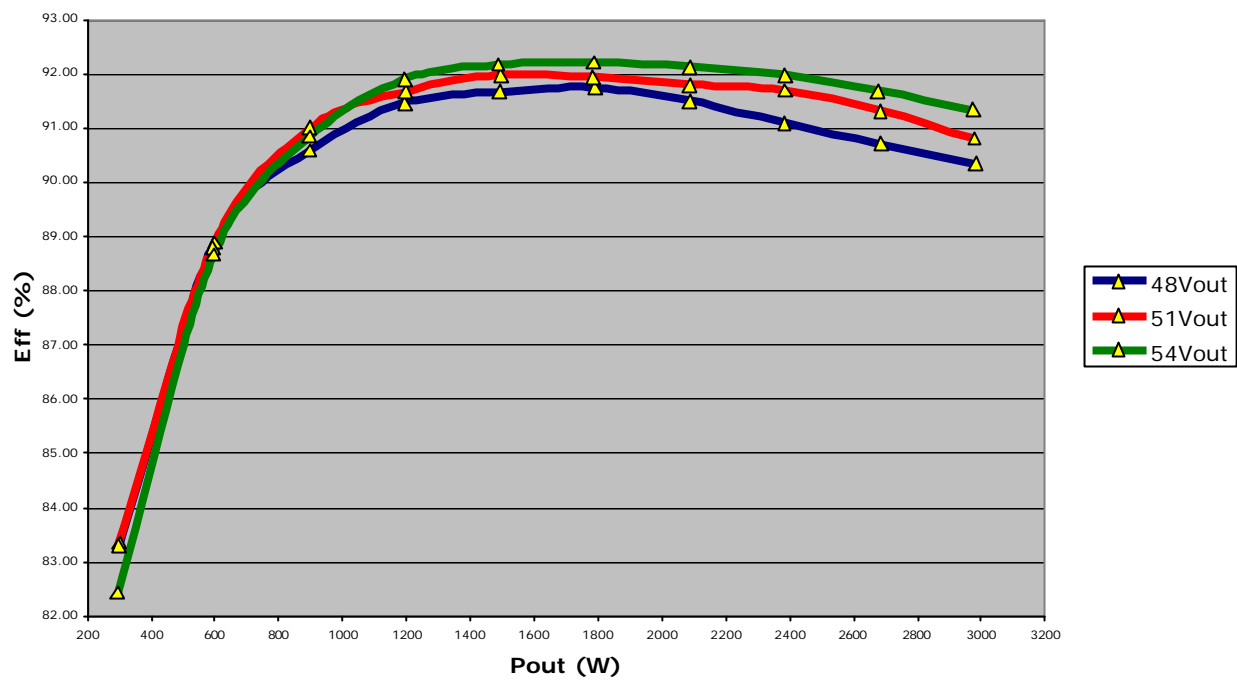
Peak Efficiency

**At 54V Load Regulation:**

%Load	54V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	5.528	0.3	230.08	2.180	0.715	53.948	1.363	5.4520	4.9950	0.2981	295.61	82.43
20	11.056	0.6	230.01	3.285	0.890	53.912	2.751	11.0040	4.9850	0.5981	596.23	88.66
30	16.584	0.9	230.04	4.437	0.966	53.867	4.136	16.5440	4.9725	0.8981	895.64	90.84
40	22.112	1.2	230.06	5.740	0.985	53.823	5.525	22.1000	4.9625	1.1962	1195.42	91.90
50	27.64	1.5	230.08	7.109	0.986	53.813	6.871	27.4840	4.9550	1.4962	1486.41	92.17
60	33.168	1.8	230.04	8.514	0.989	53.798	8.258	33.0320	4.9450	1.7962	1785.94	92.20
70	38.696	2.1	230.10	9.926	0.991	53.766	9.648	38.5920	4.9300	2.0962	2085.27	92.13
80	44.224	2.4	230.10	11.360	0.992	53.763	11.035	44.1400	4.9225	2.3962	2384.89	91.97
90	49.752	2.7	230.04	12.776	0.993	53.765	12.380	49.5200	4.9100	2.6943	2675.67	91.68
100	55.28	3	229.97	14.247	0.994	53.767	13.762	55.0480	4.9000	2.9943	2974.44	91.33

Peak Efficiency

Efficiency Curve - 230Vin - Internal Fan



## External Fan

Vac = 200V @ 60Hz

### At 48V Load Regulation:

%Load	48V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	6.219	0.3	200.00	2.189	0.828	48.091	1.567	6.2680	4.9950	0.2962	302.91	83.56
20	12.438	0.6	200.02	3.575	0.946	48.063	3.111	12.4440	4.9850	0.6000	601.09	88.86
30	18.657	0.9	200.01	5.034	0.986	48.044	4.658	18.6320	4.9750	0.8981	899.62	90.62
40	24.876	1.2	200.01	6.651	0.988	47.991	6.208	24.8320	4.9650	1.1962	1197.65	91.12
50	31.095	1.5	200.18	8.246	0.992	47.971	7.765	31.0600	4.9575	1.4981	1497.41	91.45
60	37.314	1.8	200.06	9.853	0.994	47.922	9.303	37.2120	4.9475	1.6931	1791.65	91.44
70	43.533	2.1	200.04	11.505	0.995	47.925	10.853	43.4120	4.9350	2.0981	2090.87	91.31
80	49.752	2.4	200.03	13.163	0.996	47.891	12.399	49.5960	4.9250	2.3962	2387.00	91.02
90	55.971	2.7	200.06	14.875	0.996	47.847	13.982	55.9280	4.9150	2.6969	2689.24	90.73
100	62.19	3	200.02	16.584	0.997	47.789	15.526	62.1040	4.9025	2.9962	2982.58	90.18

Peak Efficiency

### At 51V Load Regulation:

%Load	51V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	5.853	0.3	200.10	2.143	0.824	51.095	1.443	5.7720	4.9950	0.2981	296.4093	83.89
20	11.706	0.6	200.02	3.562	0.945	51.064	2.915	11.6600	4.9825	0.6000	598.3957	88.88
30	17.559	0.9	200.03	5.031	0.985	51.041	4.380	17.5200	4.9750	0.8981	898.7064	90.66
40	23.412	1.2	199.99	6.649	0.987	51.015	5.851	23.4040	4.9650	1.1981	1199.9036	91.42
50	29.265	1.5	200.07	8.255	0.991	50.987	7.320	29.2800	4.9600	1.4981	1500.3299	91.67
60	35.118	1.8	200.09	9.833	0.993	50.950	8.747	34.9880	4.9475	1.7962	1791.5253	91.70
70	40.971	2.1	200.04	11.465	0.994	50.893	10.216	40.8640	4.9375	2.0981	2090.0509	91.68
80	46.824	2.4	200.02	13.126	0.995	50.900	11.682	46.7280	4.9275	2.3962	2390.2625	91.50
90	52.677	2.7	200.08	14.799	0.996	50.871	13.149	52.5960	4.9125	2.6962	2688.8562	91.17
100	58.53	3	200.01	16.486	0.996	50.804	14.611	58.4440	4.9000	2.9962	2983.8704	90.86

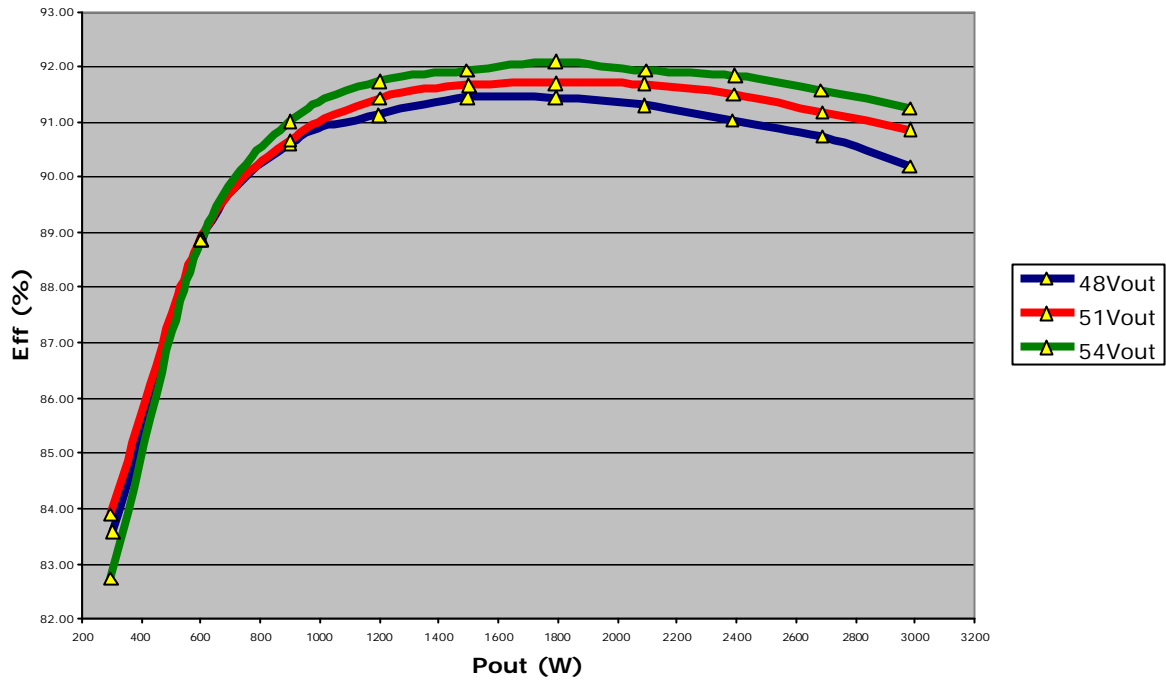
Peak Efficiency

### At 54V Load Regulation:

%Load	54V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	Isb	Pout	Efficiency
10	5.528	0.3	200.02	2.130	0.845	54.076	1.370	5.4800	4.9950	0.3000	297.83	82.73
20	11.056	0.6	200.04	3.562	0.947	54.075	2.758	11.0320	4.9825	0.6000	599.54	88.85
30	16.584	0.9	200.02	5.002	0.989	54.047	4.145	16.5800	4.9750	0.8981	900.57	91.01
40	22.112	1.2	200.01	6.596	0.993	54.023	5.534	22.1360	4.9675	1.1981	1201.80	91.74
50	27.64	1.5	200.10	8.164	0.994	53.964	6.881	27.5240	4.9550	1.4981	1492.73	91.93
60	33.168	1.8	200.08	9.783	0.995	53.960	8.268	33.0720	4.9450	1.7981	1793.46	92.09
70	38.696	2.1	200.06	11.431	0.996	53.925	9.659	38.6360	4.9350	2.0981	2093.80	91.92
80	44.224	2.4	199.96	13.089	0.996	53.923	11.045	44.1800	4.9275	2.3981	2394.13	91.84
90	49.752	2.7	200.09	14.699	0.997	53.900	12.392	49.5680	4.9125	2.6962	2684.96	91.57
100	55.28	3	200.05	16.386	0.997	53.841	13.778	55.1120	4.9050	2.9962	2981.98	91.24

Peak Efficiency

Efficiency Curve - 200Vin - External Fan



Vac = 230V @ 60Hz

**At 48V Load Regulation:**

%Load	48V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	I <sub>sb</sub>	Pout	Efficiency
10	6.219	0.3	230.12	2.211	0.710	48.089	1.562	6.2480	4.9975	0.3000	301.96	83.59
20	12.438	0.6	230.06	3.299	0.890	48.056	3.111	12.4440	4.9875	0.6000	601.00	88.97
30	18.657	0.9	230.10	4.455	0.966	48.028	4.655	18.6200	4.9800	0.9000	898.76	90.76
40	24.876	1.2	230.05	5.777	0.984	47.985	6.207	24.8280	4.9700	1.1981	1197.33	91.56
50	31.095	1.5	230.07	7.178	0.985	47.964	7.752	31.0080	4.9625	1.4981	1494.70	91.89
60	37.314	1.8	230.08	8.573	0.988	47.941	9.297	37.1880	4.9525	1.7962	1791.73	91.94
70	43.533	2.1	230.10	9.990	0.990	47.910	10.847	43.3880	4.9400	2.0981	2089.08	91.80
80	49.752	2.4	230.12	11.421	0.992	47.879	12.394	49.5760	4.9300	2.3962	2385.46	91.50
90	55.971	2.7	230.03	12.899	0.993	47.831	13.976	55.9040	4.9175	2.6962	2687.20	91.20
100	62.19	3	230.11	14.366	0.993	47.766	15.518	62.0720	4.9025	2.9962	2979.62	90.77

Peak Efficiency

**At 51V Load Regulation:**

%Load	51V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	I <sub>sb</sub>	Pout	Efficiency
10	5.853	0.3	230.03	2.187	0.707	51.066	1.446	5.7840	4.9975	0.3180	296.9549	83.49
20	11.706	0.6	230.08	3.292	0.887	51.053	2.913	11.6520	4.9875	0.6018	597.8710	88.99
30	17.559	0.9	230.12	4.435	0.965	51.030	4.376	17.5040	4.9775	0.9000	897.7089	91.15
40	23.412	1.2	230.05	5.766	0.984	50.983	5.849	23.3960	4.9700	1.2000	1198.7623	91.84
50	29.265	1.5	230.08	7.170	0.986	50.937	7.320	29.2800	4.9600	1.4981	1498.8659	92.15
60	35.118	1.8	230.12	8.528	0.988	50.930	8.747	34.9880	4.9500	1.7981	1790.8394	92.36
70	40.971	2.1	230.03	9.950	0.99	50.884	10.211	40.8440	4.9400	2.0981	2088.6707	92.18
80	46.824	2.4	230.01	11.372	0.992	50.885	11.678	46.7120	4.9300	2.3981	2388.7628	92.06
90	52.677	2.7	230.06	12.823	0.993	50.857	13.141	52.5640	4.9200	2.6981	2686.5220	91.71
100	58.53	3	230.04	14.273	0.994	50.803	14.611	58.4440	4.9075	2.9962	2983.8344	91.43

Peak Efficiency

**At 54V Load Regulation:**

%Load	54V Load	Stby Load	Vin	Iin	PF	Vout	Shunt Drop (mV)	Iout	Vsb	I <sub>sb</sub>	Pout	Efficiency
10	5.528	0.3	230.03	2.187	0.710	54.064	1.357	5.4280	4.9975	0.2981	294.95	82.58
20	11.056	0.6	230.08	3.289	0.889	54.048	2.750	11.0000	4.9875	0.5981	597.51	88.82
30	16.584	0.9	230.11	4.437	0.965	54.030	4.140	16.5600	4.9800	0.8981	899.21	91.27
40	22.112	1.2	230.06	5.765	0.984	54.009	5.529	22.1160	4.9700	1.1981	1200.42	91.98
50	27.64	1.5	230.00	7.131	0.986	53.981	6.876	27.5040	4.9625	1.4981	1492.13	92.27
60	33.168	1.8	230.02	8.524	0.988	53.959	8.263	33.0520	4.9500	1.7981	1792.35	92.52
70	38.696	2.1	230.05	9.930	0.991	53.896	9.654	38.6160	4.9400	2.0962	2091.60	92.39
80	44.224	2.4	230.05	11.360	0.992	53.877	11.042	44.1680	4.9275	2.3962	2391.45	92.25
90	49.752	2.7	230.06	12.748	0.993	53.864	12.388	49.5520	4.9150	2.6962	2682.32	92.10
100	55.28	3	230.03	14.200	0.994	53.816	13.774	55.0960	4.9025	2.9962	2979.74	91.77

Peak Efficiency

Efficiency Curve - 230Vin - External Fan

