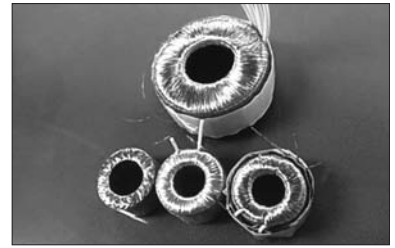




# High Quality Transformers

## TRP-01 小型トロイダル電源トランス

- 1) トロイダル小型コアにて設計してみました。
- 2) 同一コイルに入力電圧、周波数、出力電流等を変化して各種データをとりました。
- 3) トロイダルにつき、過渡現象・突入電流にご注意下さい。
- 4) 構造等をご相談の上決定させて頂いて下さい。
- 5) 下記を目安に最適条件から特注品を承りますのでご注文下さい。



重量 約 60gr

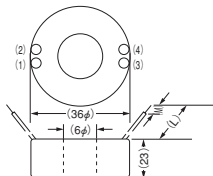
### (1) 励磁データ TRP-01 at 50/60Hz

f	Vp	V	10	20	30	40	50	60	70	80	90	100	110	120	125	130	135	140	150
50Hz	Ip	mA	0.083	0.129	0.154	0.174	0.197	0.222	0.249	0.281	0.319	0.382	0.584	2.764	9.73	25.38	41.13	57.42	85.10
	Vs	V	1.56	3.13	4.71	6.27	7.84	9.41	10.98	12.55	14.11	15.70	17.26	18.83	19.59	20.27	20.85	21.39	22.34
	W	mW	0.429	1.68	3.33	5.41	8.07	11.25	15.15	19.58	24.73	31.18	41.43	66.10	0.125W	0.433W	0.960W	1.941W	4.234W
	VA	mVA	0.836	2.59	4.58	6.95	9.86	13.32	17.48	22.45	28.78	38.28	64.32	332.6	1.219VA	3.305VA	5.557VA	8.121VA	12.96VA
	Var	mVar	0.717	1.99	3.15	4.34	5.67	7.09	8.71	10.99	14.68	22.19	49.29	326.1	1.213Var	3.277Var	5.434Var	7.846Var	12.16Var
	PF		0.5095	0.6478	0.7245	0.7784	0.8177	0.8471	0.867	0.8720	0.8600	0.8157	0.6437	0.1986	0.1029	0.1315	0.1811	0.2389	0.3363
60Hz	Ip	mA	0.059	0.090	0.119	0.146	0.172	0.196	0.222	0.249	0.278	0.309	0.347	0.403	0.452	0.542	0.748	1.369	10.07
	Vs	V	1.57	3.14	4.71	6.27	7.84	9.40	10.98	12.56	14.12	15.71	17.27	18.83	19.63	20.40	21.18	21.97	23.52
	W	mW	0.304	1.15	2.54	4.46	6.91	9.90	13.52	17.73	22.50	27.93	33.93	41.16	45.78	51.45	59.27	70.69	151.4
	VA	mVA	0.598	1.81	3.59	5.87	8.61	11.82	15.61	20.01	25.06	31.07	38.27	48.41	56.66	70.30	101.2	192.2	1516
	Var	mVar	0.518	1.41	2.55	3.82	5.15	6.44	7.78	9.26	11.02	13.56	17.72	25.57	33.42	47.87	81.96	178.9	1510
	PF		0.5055	0.6308	0.7046	0.7596	0.8019	0.8383	0.8664	0.8871	0.8979	0.8995	0.8866	0.8498	0.8083	0.7325	0.5863	0.3672	0.0999

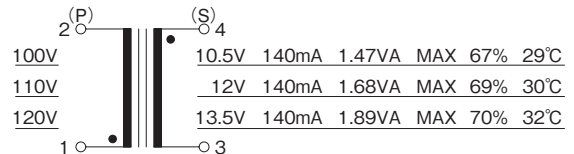
### (2) 負荷時データ TRP-01 at 50Hz

f	Vp	Is	mA	0	50	60	70	80	90	100	110	120	130	140	150	160		
50Hz	100V	Ip	mA	0.38	8.16	9.69	11.33	12.91	14.42	16.08	17.59	19.24	20.68	22.24	23.86	25.47		
		Vs	V	15.68	13.96	13.57	13.19	12.96	12.60	12.21	11.82	11.42	11.10	10.68	10.13	9.73		
		W		31.08m	0.818	0.904	1.133	1.309	1.444	1.618	1.751	1.928	2.073	2.220	2.387	2.546		
		VA		38.25m	0.820	0.975	1.139	1.311	1.452	1.622	1.759	1.938	2.079	2.239	2.388	2.548		
		Var		22.34m	0.042	0.053	0.067	0.081	0.096	0.043	0.048	0.054	0.060	0.067	0.072	0.080		
		PF		0.8117	0.9986	0.9985	0.9982	0.9981	0.9998	0.9996	0.9996	0.9996	0.9996	0.9996	0.9995	0.9995	0.9995	
		出力VA	VA		0.698	0.814	0.923	1.036	1.134	1.221	1.300	1.370	1.443	1.495	1.519	1.555		
		η	%		85.5	83.9	81.4	79.1	78.6	75.9	73.9	71.2	69.7	67.2	63.7	61.1		
		温度	°C	CA	CL		8	9	12	13	14	16	19	20	27	28	31	32
		50Hz	110V	Ip	mA	0.60	8.19	9.85	11.33	12.95	14.53	16.21	17.78	19.27	20.81	22.47	23.85	25.41
Vs	V			17.37	15.55	15.19	14.82	14.42	14.08	13.70	13.25	12.92	12.59	12.23	11.65	11.27		
W				41.51m	0.901	1.094	1.246	1.433	1.601	1.797	1.960	2.119	2.292	2.467	2.625	2.796		
VA				65.36m	0.907	1.095	1.253	1.437	1.609	1.801	1.967	2.122	2.298	2.480	2.626	2.797		
Var				50.89m	0.055	0.064	0.077	0.089	0.106	0.050	0.056	0.060	0.066	0.073	0.076	0.084		
PF				0.6300	0.9981	0.9982	0.9981	0.9981	0.9978	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996		
出力VA	VA				0.777	0.911	1.037	1.153	1.267	1.370	1.457	1.550	1.636	1.712	1.747	1.803		
η	%				86.2	84.0	83.2	80.7	79.2	76.8	74.5	73.1	71.4	69.2	66.6	64.5		
温度	°C			CA	CL		10	9	13	14	16	15	20	21	28	29	33	33
50Hz	120V			Ip	mA	2.84	8.32	9.93	11.52	13.08	14.07	16.28	17.90	19.41	20.94	22.71	23.88	25.53
		Vs	V	18.84	17.01	16.69	16.30	15.94	15.58	15.23	14.85	14.52	14.15	13.67	13.19	12.78		
		W		65.89m	0.989	1.192	1.381	1.515	1.769	1.966	2.162	2.329	2.522	2.737	2.867	3.065		
		VA		342m	0.998	1.200	1.386	1.598	1.781	1.970	2.166	2.334	2.529	2.744	2.868	3.067		
		Var		352m	0.131	0.128	0.127	0.130	0.142	0.081	0.082	0.084	0.085	0.089	0.089	0.095		
		PF		0.1891	0.9912	0.9953	0.9958	0.9965	0.9967	0.9991	0.9993	0.9994	0.9994	0.9995	0.9995	0.9995		
		出力VA	VA		0.850	1.001	1.141	1.275	1.402	1.523	1.633	1.742	1.839	1.913	1.978	2.044		
		η	%		85.1	84.0	82.5	81.2	83.0	77.9	76.0	74.7	73.1	70.2	69.0	66.7		
		温度	°C	CA	CL		11	10	14	15	18	16	21	22	30	31	34	35
		50Hz	130V	Ip	mA	23.32	14.28	13.71	13.81	14.48	15.48	16.76	18.14	19.60	21.11	22.62	24.09	26.68
Vs	V			20.24	18.55	18.20	17.86	17.50	17.15	16.76	16.40	16.05	15.66	15.26	14.91	14.52		
W				0.433	1.178	1.352	1.532	1.727	1.918	2.131	2.329	2.532	2.733	2.935	3.129	3.336		
VA				3.288	1.855	1.782	1.795	1.882	2.013	2.175	2.357	2.550	2.745	2.943	3.134	3.340		
Var				3.258	1.432	1.160	0.936	0.748	0.612	0.452	0.365	0.308	0.252	0.218	0.193	0.175		
PF				0.1321	0.6351	0.7589	0.8533	0.9175	0.9526	0.9787	0.9879	0.9927	0.9957	0.9973	0.9981	0.9986		
出力VA	VA				0.927	1.092	1.250	1.400	1.543	1.676	1.804	1.926	2.035	2.136	2.236	2.323		
η	%				49.9	61.2	69.6	74.3	76.6	76.9	76.5	75.5	74.1	72.6	71.4	66.9		
温度	°C			CA	CL				16	16	20	19	23	23	31	32	37	36

### 外形図



### 接続図





# High Quality Transformers

## (3) 負荷時データ TRP-01 at 60Hz

f	Vp	Is	mA	0	50	60	70	80	90	100	110	120	130	140	150	160		
60Hz	100V	Ip	mA	0.308	8.15	9.70	11.30	12.79	14.41	15.92	17.55	19.19	20.71	22.34	23.81	25.41		
		Vs	V	15.71	13.92	13.57	13.20	12.86	12.45	12.12	11.74	11.37	11.02	10.62	10.32	9.96		
		W		27.76m	0.816	0.968	1.130	1.278	1.437	1.583	1.757	1.924	2.070	2.234	2.385	2.536		
		VA		30.89m	0.818	0.970	1.132	1.281	1.442	1.584	1.758	1.925	2.073	2.244	2.386	2.537		
		Var		13.59m	0.041	0.054	0.070	0.087	0.107	0.041	0.048	0.055	0.062	0.072	0.080	0.091		
		PF		0.8963	0.9987	0.9984	0.9981	0.9977	0.9977	0.9997	0.9997	0.9996	0.9996	0.9995	0.9995	0.9994	0.9993	
		出力VA	VA		0.696	0.814	0.924	1.028	1.120	1.212	1.291	1.364	1.432	1.486	1.548	1.593		
		η	%		85.3	83.9	81.7	80.3	78.0	76.0	73.5	71.0	69.1	66.5	65.0	62.7		
		温度	°C	CA	CL						16	16	21	21	27	27	33	34
		60Hz	110V	Ip	mA	0.346	8.19	9.72	11.32	12.87	14.39	16.02	17.58	19.11	20.76	22.30	23.91	25.43
Vs	V			17.27	15.46	15.11	14.76	14.40	14.06	13.66	13.30	12.93	12.54	12.18	11.78	11.48		
W				33.77m	0.900	1.068	1.244	1.414	1.571	1.764	1.932	2.102	2.282	2.454	2.630	2.795		
VA				38.11m	0.901	1.070	1.245	1.417	1.574	1.765	1.933	2.103	2.283	2.455	2.631	2.797		
Var				17.73m	0.044	0.056	0.072	0.090	0.108	0.044	0.051	0.058	0.0668	0.075	0.084	0.093		
PF				0.8854	0.9988	0.9986	0.9983	0.9980	0.9976	0.9997	0.9997	0.9996	0.9996	0.9995	0.9995	0.9994	0.9994	
出力VA	VA				0.773	0.906	1.033	1.152	1.265	1.366	1.463	1.551	1.630	1.705	1.767	1.836		
η	%				85.7	84.7	82.9	81.3	79.9	77.5	75.6	73.8	71.3	69.5	67.2	65.6		
温度	°C			CA	CL		8	7			18	17		28	28			
60Hz	120V			Ip	mA	0.40	8.22	9.77	11.36	12.93	14.43	16.11	17.74	19.28	20.79	22.30	23.95	25.49
		Vs	V	18.85	17.05	16.69	16.32	15.97	15.62	15.22	14.83	14.48	14.11	13.75	13.34	12.99		
		W		40.97m	0.987	1.173	1.363	1.551	1.729	1.934	2.129	2.313	2.495	2.675	2.872	3.061		
		VA		48.40m	0.988	1.174	1.366	1.553	1.733	1.935	2.130	2.314	2.496	2.676	2.873	3.062		
		Var		25.69m	0.048	0.061	0.076	0.093	0.113	0.047	0.054	0.060	0.068	0.075	0.085	0.097		
		PF		0.8475	0.9988	0.9986	0.9984	0.9982	0.9979	0.9997	0.9997	0.9997	0.9996	0.9996	0.9996	0.9995	0.9995	
		出力VA	VA		0.852	1.001	1.142	1.277	1.405	1.522	1.631	1.737	1.834	1.925	2.001	2.078		
		η	%		86.4	85.3	83.7	82.2	81.1	78.7	76.6	75.0	73.5	71.9	69.6	67.9		
		温度	°C	CA	CL						18	18	23	22	29	29	34	35
		60Hz	130V	Ip	mA	0.54	8.26	9.79	11.37	12.97	14.51	16.11	17.63	19.25	20.79	22.54	23.82	25.45
Vs	V			20.42	18.60	18.24	17.90	17.52	17.17	16.79	16.43	16.06	15.69	15.27	14.96	14.54		
W				51.38m	1.073	1.270	1.476	1.684	1.883	2.091	2.294	2.502	2.705	2.930	3.086	3.307		
VA				70.77m	1.075	1.273	1.479	1.687	1.887	2.093	2.295	2.503	2.706	2.931	3.093	3.309		
Var				48.72m	0.060	0.071	0.085	0.101	0.121	0.055	0.061	0.067	0.074	0.083	0.090	0.101		
PF				0.7256	0.9984	0.9984	0.9984	0.9982	0.9979	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9995	0.9995	
出力VA	VA				0.930	1.094	1.253	1.401	1.545	1.679	1.807	1.927	2.039	2.137	2.244	2.326		
η	%				86.5	85.9	84.7	83.1	81.9	80.1	78.8	77.0	75.4	72.9	72.4	70.3		
温度	°C			CA	CL		10	9			19	19		30	29			
60Hz	140V			Ip	mA	1.393	8.38	9.92	11.48	13.06	14.56	16.18	17.75	19.22	20.85	22.42	24.02	25.52
		Vs	V	21.97	20.16	19.80	19.43	19.10	18.74	18.36	17.99	17.64	17.25	16.86	16.47	16.06		
		W		70.29m	1.168	1.385	1.604	1.826	2.036	2.267	2.487	2.692	2.920	3.137	3.362	3.571		
		VA		195.2m	1.173	1.390	1.608	1.831	2.041	2.268	2.488	2.693	2.921	3.139	3.364	3.573		
		Var		182.2m	0.111	0.113	0.119	0.131	0.145	0.079	0.081	0.084	0.089	0.094	0.101	0.112		
		PF		0.3600	0.9955	0.9967	0.9972	0.9974	0.9975	0.9994	0.9995	0.9995	0.9995	0.9995	0.9995	0.9995		
		出力VA	VA		1.008	1.188	1.360	1.528	1.686	1.836	1.978	2.116	2.242	2.360	2.470	2.569		
		η	%		85.9	85.4	84.6	83.5	82.7	81.0	79.6	78.6	76.8	75.2	73.4	71.9		
		温度	°C	CA	CL						20	20	25	26	31	30	35	36