



AVEL's polyester tape finish with dish mounting has proven to be the most popular method of constructing toroidal transformers for modern-day electronics.

This is the most inexpensive way to meet J.I.T. schedules by purchasing "off the shelf" from the wide range of toroids shown on the following pages.

Y23 Range transformers are constructed to high standards, and are certified to or in compliance with most worldwide safety agency standards (see below). Our unique double-insulated primary leads eliminate an assembly step required by many safety standards.

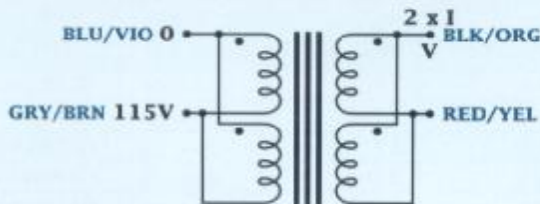
If your requirement falls outside our Standard Range, we would be pleased to quote on a custom design (see page 9 for custom transformer specification guidelines and request form).

Some transformers above are shown with optional resin-filled center with threaded bushing (recommended for loads in excess of 600VA). See page 10 for details on adding this option.

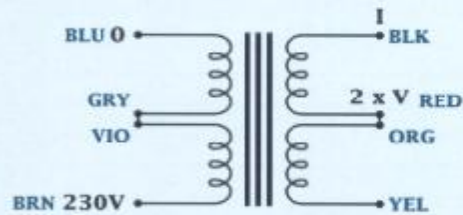
Transformer Connections

Windings may be connected in parallel or in series. If they are isolated from each other, the applied potential between them must not exceed 250V DC.

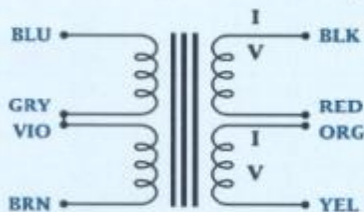
Primaries and Secondaries Parallel Connected



Primaries and Secondaries Series Connected



Primaries Series Connected, Secondaries Independent



General Specifications

Primaries: 115V + 115V. **Frequency:** 50/60 Hz.

Highpot tested at: 4K VRMS.

Secondary voltage tolerance:

Within 3% at normal input and full load.

Mounting hardware:

Metal dish, 2 foam pads, bolt, washer, and nut.

Leads: 150 mm / 6" (±5 mm / .2") stranded, PVC insulated.

Double-insulated primary leads: UL1672 (105° C, 300 V).

Secondary leads: UL3266 (125° C, 300 V)

Clearance: allow 4 mm / .2" over mounting hardware.

Certifications: UL506/CSA 22.2, No. 66; UL1411/CSA 22.2 No. 1-94; UL1950/CSA 22.2 No. 950-95; UL2601 (UL544)/CSA 22.2 No.601.1; CE marked and tested in accordance with EN61558 (replacing EN60742), EN60065, EN60950, BS415, VDE0550.

Performance Details

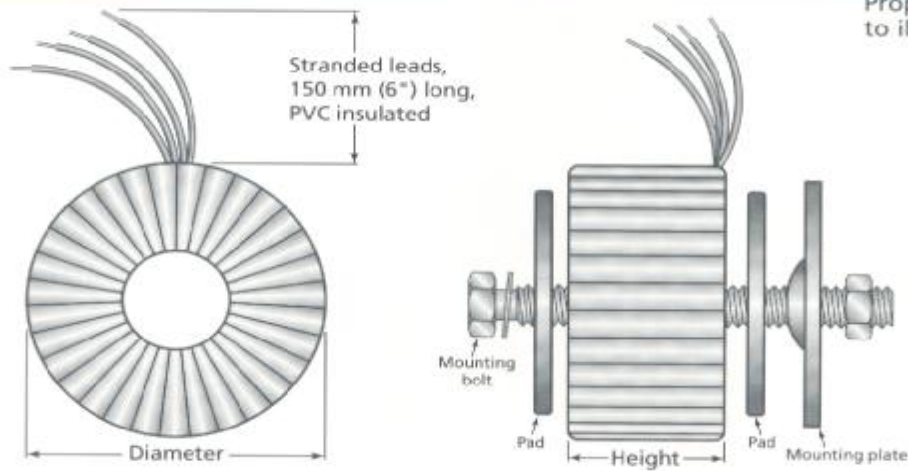
Efficiency at maximum continuous VA rating			
Load (VA)	Efficiency (%)	Copper Loss (W)	Iron loss (W)
15	84.8	2.5	0.2
30	84.8	5.1	0.3
50	86.9	7.1	0.4
63	87.7	8.3	0.5
80	88.9	9.3	0.7
100	90.4	9.8	0.8
120	90.8	11.3	0.9
160	91.7	13.3	1.1
230	93.0	15.7	1.5
250	93.2	16.6	1.6
330	94.0	19.2	1.9
500	95.1	23.0	2.8
625	95.4	26.8	3.3
800	95.6	33.0	4.1
1000	96.0	36.2	5.4

Transformers may be operated at a lower temperature with improved regulation. This table indicates temperature rise which may be expected under continuous conditions at lower VA ratings.

Derated VA		Regulation (%)	Temperature Rise (°C)
From	To		
30	20	11	25
60	50	10	35
100	75	8	35
160	120	6	35
230	175	5	35
330	250	5	35
500	400	4	40



Y23 configuration



Mounting Hardware Specifications

Load (VA)	Mounting Plate	Bolt
15, 30, 50	50 mm dia. x 1 mm thick (2.0" dia. x .04" thick)	M5 x 40 mm
63, 80, 100, 120	70 mm dia. x 1 mm thick (2.8" dia. x .04" thick)	M6 x 50 mm
160, 230, 330	90 mm dia. x 1 mm thick (3.6" dia. x .04" thick)	M6 x 60 mm
500, 625, 800, 1000	110 mm dia. x 1 mm thick (4.3" dia. x .04" thick)	M6 x 80 mm

All types also include 2 insulating pads, 2mm (.08") thick (uncompressed)

Y23 Transformer Specifications

Load (VA)	Secondary Voltage (V)	Secondary Current (A)	Regulation (Typical)	Diameter (mm / inches)	Height (mm / inches)	Weight (Kg / Pounds)	Temperature Rise (°C)	AVEL P/N
15	6 + 6	1.25	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236000
15	9 + 9	0.83	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236001
15	12 + 12	0.63	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236002
15	15 + 15	0.50	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236003
15	18 + 18	0.42	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236004
15	22 + 22	0.34	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236005
15	25 + 25	0.30	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236006
15	30 + 30	0.25	13.7	60 / 2.4	28 / 1.1	0.3 / .7	26	Y236007
30	6 + 6	2.50	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236100
30	9 + 9	1.67	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236101
30	12 + 12	1.25	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236102
30	15 + 15	1.00	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236103
30	18 + 18	0.83	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236104
30	22 + 22	0.68	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236105
30	25 + 25	0.60	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236106
30	30 + 30	0.50	13.7	67 / 2.6	28 / 1.1	0.4 / .88	43	Y236107
50	6 + 6	4.17	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236200
50	9 + 9	2.78	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236201
50	12 + 12	2.08	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236202
50	15 + 15	1.67	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236203
50	18 + 18	1.39	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236204
50	22 + 22	1.14	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236205
50	25 + 25	1.00	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236206
50	30 + 30	0.83	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236207
50	55 + 55	0.45	11.8	76 / 3.0	30 / 1.2	0.6 / 1.3	48	Y236208

All Dimensions ± 2mm / .08"

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Y23 Transformer Specifications (continued)

Load (VA)	Secondary Voltage (V)	Secondary Current (A)	Regulation (Typical)	Diameter (mm / inches)	Height (mm / inches)	Weight (Kg / Pounds)	Temperature Rise (°C)	AVEL P/N
63	9 + 9	3.50	11.1	85 / 3.4	30 / 1.2	0.7 / 1.6	48	Y236300
63	12 + 12	2.63	11.1	85 / 3.4	30 / 1.2	0.7 / 1.6	48	Y236301
63	15 + 15	2.10	11.1	85 / 3.4	30 / 1.2	0.7 / 1.6	48	Y236302
63	18 + 18	1.75	11.1	85 / 3.4	30 / 1.2	0.7 / 1.6	48	Y236303
63	22 + 22	1.43	11.1	85 / 3.4	30 / 1.2	0.7 / 1.6	48	Y236304
63	25 + 25	1.26	11.1	85 / 3.4	30 / 1.2	0.7 / 1.6	48	Y236305
63	30 + 30	1.05	11.1	85 / 3.4	30 / 1.2	0.7 / 1.6	48	Y236306
80	9 + 9	4.44	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236350
80	12 + 12	3.33	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236351
80	15 + 15	2.67	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236352
80	18 + 18	2.22	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236353
80	22 + 22	1.82	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236354
80	25 + 25	1.60	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236355
80	30 + 30	1.33	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236356
80	55 + 55	0.73	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236357
80	115 + 115	0.35	9.8	85 / 3.4	36 / 1.4	0.9 / 2.0	49	Y236358
100	9 + 9	5.56	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236408
100	12 + 12	4.17	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236400
100	15 + 15	3.33	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236401
100	18 + 18	2.78	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236402
100	22 + 22	2.27	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236403
100	25 + 25	2.00	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236404
100	30 + 30	1.67	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236405
100	115 + 115	0.43	8.0	85 / 3.4	41 / 1.6	1.1 / 2.4	49	Y236407
120	9 + 9	6.67	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236451
120	12 + 12	5.00	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236450
120	15 + 15	4.00	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236452
120	18 + 18	3.33	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236453
120	22 + 22	2.73	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236454
120	25 + 25	2.40	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236455
120	30 + 30	2.00	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236456
120	55 + 55	1.09	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236457
120	115+115	0.52	8.5	89 / 3.5	42 / 1.7	1.2 / 2.7	52	Y236458
160	12 + 12	6.67	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236500
160	15 + 15	5.33	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236501
160	18 + 18	4.44	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236502
160	22 + 22	3.64	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236503
160	25 + 25	3.20	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236504
160	30 + 30	2.67	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236505
160	35 + 35	2.29	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236507
160	55 + 55	1.45	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236506
160	115 + 115	0.70	6.7	100 / 4.0	42 / 1.7	1.5 / 3.3	52	Y236508
230	12 + 12	9.58	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236606
230	15 + 15	7.67	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236607
230	18 + 18	6.39	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236608
230	25 + 25	4.60	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236600
230	30 + 30	3.83	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236601
230	35 + 35	3.29	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236602
230	40 + 40	2.88	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236603
230	55 + 55	2.09	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236604
230	115 + 115	1.00	6.4	108 / 4.3	48 / 1.9	2.1 / 4.6	51	Y236605

All Dimensions ± 2mm / .08"

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Y23 Transformer Specifications (continued)

Load (VA)	Secondary Voltage (V)	Secondary Current (A)	Regulation (Typical)	Diameter (mm / inches)	Height (mm / inches)	Weight (Kg / Pounds)	Temperature Rise (°C)	AVEL P/N
250	12 + 12	10.42	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236650
250	18 + 18	6.94	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236651
250	25 + 25	5.00	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236652
250	30 + 30	4.17	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236653
250	35 + 35	3.57	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236654
250	40 + 40	3.13	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236655
250	45 + 45	2.78	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236656
250	50 + 50	2.50	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236657
250	115 + 115	1.09	6.4	113 / 4.5	50 / 2.0	2.2 / 4.9	52	Y236658
330	25 + 25	6.60	6.0	122 / 4.8	53 / 2.1	2.8 / 6.2	52	Y236750
330	30 + 30	5.50	6.0	122 / 4.8	53 / 2.1	2.8 / 6.2	52	Y236751
330	35 + 35	4.71	6.0	122 / 4.8	53 / 2.1	2.8 / 6.2	52	Y236752
330	40 + 40	4.13	6.0	122 / 4.8	53 / 2.1	2.8 / 6.2	52	Y236753
330	45 + 45	3.67	6.0	122 / 4.8	53 / 2.1	2.8 / 6.2	52	Y236754
330	55 + 55	3.00	6.0	122 / 4.8	53 / 2.1	2.8 / 6.2	52	Y236755
330	115 + 115	1.43	6.0	122 / 4.8	53 / 2.1	2.8 / 6.2	52	Y236756
500	25 + 25	10.00	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236801
500	30 + 30	8.33	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236802
500	35 + 35	7.14	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236803
500	40 + 40	6.25	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236804
500	45 + 45	5.56	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236807
500	50 + 50	5.00	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236808
500	55 + 55	4.55	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236800
500	60 + 60	4.17	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236805
500	115 + 115	2.17	4.3	135 / 5.3	56 / 2.2	4.0 / 8.8	51	Y236806
625	25 + 25	12.50	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236850
625	30 + 30	10.42	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236851
625	35 + 35	8.93	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236852
625	40 + 40	7.81	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236853
625	45 + 45	6.94	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236857
625	50 + 50	6.25	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236858
625	55 + 55	5.68	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236854
625	60 + 60	5.21	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236855
625	115 + 115	2.72	4.3	137 / 5.4	67 / 2.6	4.9 / 10.8	53	Y236856
800	25 + 25	16.00	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236900
800	30 + 30	13.33	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236901
800	35 + 35	11.43	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236902
800	40 + 40	10.00	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236903
800	45 + 45	8.89	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236907
800	50 + 50	8.00	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236908
800	55 + 55	7.27	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236904
800	60 + 60	6.67	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236905
800	115 + 115	3.48	4.4	161 / 6.3	57 / 2.2	6.0 / 13.2	55	Y236906
1000	25 + 25	20.00	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236950
1000	30 + 30	16.67	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236951
1000	35 + 35	14.29	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236952
1000	40 + 40	12.50	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236953
1000	45 + 45	11.11	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236957
1000	50 + 50	10.00	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236958
1000	55 + 55	9.09	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236954
1000	60 + 60	8.33	3.8	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236959
1000	115 + 115	4.35	3.80	163 / 6.4	65 / 2.6	7.0 / 15.4	56	Y236956

