

# Toroidal Transformers

## General Purpose



**RoHS  
Compliant**



### Primary

Dual primary winding for connection in series or parallel only  
 Input Voltage : 115 or 230V  $\pm 10\%$  50/60Hz.  
 DC Resistance : 2x 2.13 $\Omega$  to 79.1 $\Omega$   $\pm 15\%$  @ 20°C  
 Magnetising Current : 2.5mA to 47mA approx. @ 230V 50Hz  
 (5mA to 94mA approx. @ 115V 50Hz)

### Termination

All leads Tri-Rated UL1015 style cable rated 600V /105°C VW-1  
 Primary leads double insulated with PVC sleeving for a minimum of 20mm.  
 Lead lengths  $\pm 5$ mm approx. All leads ends tinned to 6mm.  
 Pri/Sec leads 0°

### Temperature Class

Winding Wire : Class H (180°C)  
 Insulation System : Class B (130°C)  
 Leadout Insulation : Class A (105°C)  
 Overall : Class A (105°C)

### Standards

Designed and manufactured in accordance with : EN61558-1 / EN61558-1/A1 / EN61558-2-4 or EN61558-2-6  
 UL recognised under family approval E115159 to UL1411, UL60601-1, UL60065-1

### Losses

Part Number	Iron Loss	Copper Loss	Efficiency	Temperature Rise	Ambient Rated
<b>15VA General Purpose Toroidal Transformers</b>					
MCTA015/06	0.25 Watts Approx.	2.5 Watts Approx.	84% typical	27°C Approx.	40°C
MCTA015/09					
MCTA015/12					
MCTA015/15					
MCTA015/18					
<b>30VA General Purpose Toroidal Transformers</b>					
MCTA030/06	0.37 Watts Approx.	4.9 Watts Approx.	85% typical	42°C Approx.	40°C
MCTA030/09					
MCTA030/12					
MCTA030/15					
MCTA030/18					
MCTA030/25					
<b>50VA General Purpose Toroidal Transformers</b>					
MCTA050/06	0.46 Watts Approx.	7.3 Watts Approx.	87% typical	50°C Approx.	40°C
MCTA050/09					
MCTA050/12					
MCTA050/15					
MCTA050/18					

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# Toroidal Transformers

## General Purpose



Part Number	Iron Loss	Copper Loss	Efficiency	Temperature Rise	Ambient Rated
MCTA050/25	0.46 Watts Approx.	7.3 Watts Approx.	87% typical	50°C Approx.	40°C
MCTA050/55					
<b>60VA General Purpose Toroidal Transformers</b>					
MCTA060/09	0.57 Watts Approx.	7.9 Watts Approx.	88% typical	47°C Approx.	40°C
MCTA060/12					
MCTA060/15					
MCTA060/18					
MCTA060/25					
<b>80VA General Purpose Toroidal Transformers</b>					
MCTA080/09	0.58 Watts Approx.	9.5 Watts Approx.	89% typical	52°C Approx.	40°C
MCTA080/12					
MCTA080/15					
MCTA080/18					
MCTA080/25					
MCTA080/55					
<b>100VA General Purpose Toroidal Transformers</b>					
MCTA100/12	0.85 Watts Approx.	10.3 Watts Approx.	90% typical	52°C Approx.	40°C
MCTA100/15					
MCTA100/18					
MCTA100/25					
<b>120VA General Purpose Toroidal Transformers</b>					
MCTA120/12	0.98 Watts Approx.	11.4 Watts Approx.	91% typical	54°C Approx.	40°C
MCTA120/15					
MCTA120/18					
MCTA120/25					
MCTA120/55					
<b>160VA General Purpose Toroidal Transformers</b>					
MCTA160/12	1.12 Watts Approx.	13.9 Watts Approx.	91% typical	54°C Approx.	40°C
MCTA160/15					
MCTA160/18					
MCTA160/25					
MCTA160/30					
MCTA160/55					
<b>225VA General Purpose Toroidal Transformers</b>					
MCTA225/12	1.49 Watts Approx.	16.9 Watts Approx.	92% typical	56°C Approx.	40°C
MCTA225/15					
MCTA225/18					

# Toroidal Transformers

## General Purpose



Part Number	Iron Loss	Copper Loss	Efficiency	Temperature Rise	Ambient Rated
MCTA225/25	1.49 Watts Approx.	16.9 Watts Approx.	92% typical	56°C Approx.	40°C
MCTA225/30					
MCTA225/55					
<b>250VA General Purpose Toroidal Transformers</b>					
MCTA250/12	1.62 Watts Approx.	17.4 Watts Approx.	93% typical	55°C Approx.	40°C
MCTA250/18					
MCTA250/25					
MCTA250/30					
MCTA250/35					
MCTA250/40					
MCTA250/45					
MCTA250/50					
<b>300VA General Purpose Toroidal Transformers</b>					
MCTA300/25	1.8 Watts Approx.	19.8 Watts Approx.	93% typical	56°C Approx.	40°C
MCTA300/30					
MCTA300/35					
MCTA300/55					
<b>1,000VA General Purpose Toroidal Transformers</b>					
MCTA1000/40	4.49 Watts Approx.	39.1 Watts Approx.	96% typical	60°C Approx.	40°C
MCTA1000/50					
MCTA1000/55					

### Supplied with

<b>15VA General Purpose Toroidal Transformers</b>	
1x 50mm dished mounting plate 2x 50mm neoprene mounting pads 1x M5 x 40mm screw, nut & washer	MCTA015/06
	MCTA015/09
	MCTA015/12
	MCTA015/15
	MCTA015/18
<b>30VA General Purpose Toroidal Transformers</b>	
1x 50mm dished mounting plate 2x 50mm neoprene mounting pads 1x M5 x 40mm screw, nut & washer	MCTA030/06
	MCTA030/09
	MCTA030/12
	MCTA030/15
	MCTA030/18
MCTA030/25	

<b>50VA General Purpose Toroidal Transformers</b>	
1x 50mm dished mounting plate 2x 50mm neoprene mounting pads 1x M5 x 40mm screw, nut & washer	MCTA050/06
	MCTA050/09
	MCTA050/12
	MCTA050/15
	MCTA050/18
	MCTA050/25
MCTA050/55	
<b>60VA General Purpose Toroidal Transformers</b>	
1x 70mm dished mounting plate 2x 70mm neoprene mounting pads 1x M6 x 50mm screw, nut & washer	MCTA060/09
	MCTA060/12
	MCTA060/15
	MCTA060/18
	MCTA060/25

# Toroidal Transformers

## General Purpose



80VA General Purpose Toroidal Transformers	
1x 70mm dished mounting plate 2x 70mm neoprene mounting pads 1x M6 x 50mm screw, nut & washer	MCTA080/09
	MCTA080/12
	MCTA080/15
	MCTA080/18
	MCTA080/25
MCTA080/55	
100VA General Purpose Toroidal Transformers	
1x 70mm dished mounting plate 2x 70mm neoprene mounting pads 1x M6 x 50mm screw, nut & washer	MCTA100/12
	MCTA100/15
	MCTA100/18
	MCTA100/25
120VA General Purpose Toroidal Transformers	
1x 70mm dished mounting plate 2x 70mm neoprene mounting pads 1x M6 x 50mm screw, nut & washer	MCTA120/12
	MCTA120/15
	MCTA120/18
	MCTA120/25
	MCTA120/55
160VA General Purpose Toroidal Transformers	
1x 90mm dished mounting plate 2x 90mm neoprene mounting pads 1x M6 x 60mm screw, nut & washer	MCTA160/12
	MCTA160/15
	MCTA160/18
	MCTA160/25
	MCTA160/30
	MCTA160/55

225VA General Purpose Toroidal Transformers	
1x 90mm dished mounting plate 2x 90mm neoprene mounting pads 1x M6 x 60mm screw, nut & washer	MCTA225/12
	MCTA225/15
	MCTA225/18
	MCTA225/25
	MCTA225/30
MCTA225/55	
250VA General Purpose Toroidal Transformers	
1x 90mm dished mounting plate 2x 90mm neoprene mounting pads 1x M6 x 60mm screw, nut & washer	MCTA250/12
	MCTA250/18
	MCTA250/25
	MCTA250/30
	MCTA250/35
	MCTA250/40
MCTA250/45	
MCTA250/50	
300VA General Purpose Toroidal Transformers	
1x 90mm dished mounting plate 2x 90mm neoprene mounting pads 1x M6 x 60mm screw, nut & washer	MCTA300/25
	MCTA300/30
	MCTA300/35
	MCTA300/55
1,000VA General Purpose Toroidal Transformers	
1x 145mm dished mounting plate 2x 148mm neoprene mounting pads 1x M8 x 80mm screw, nut & washer	MCTA1000/40
	MCTA1000/50
	MCTA1000/55

### Specification Table

Part Number	On Load Sec V	Rated Amps per Sec	Off load Sec V	Sec Flex Gauge	Sec $\Omega$ @ 20°C	Diameter Allow Extra 5mm	Height Over Leadout Area	Weight
15VA General Purpose Toroidal Transformers								
MCTA015/06	6	1.25	6.9	22 AWG	0.46	64.5mm	30.5mm	0.33kg
MCTA015/09	9	0.83	10.4		1.08			
MCTA015/12	12	0.63	13.9		1.76			
MCTA015/15	15	0.5	17.3		2.78			
MCTA015/18	18	0.42	20.9		4.21			
30VA General Purpose Toroidal Transformers								
MCTA030/06	6	2.5	6.9	22 AWG	0.21	73mm	31mm	0.48kg
MCTA030/09	9	1.67	10.3		0.44			
MCTA030/12	12	1.25	13.9		0.9			

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# Toroidal Transformers

## General Purpose



Part Number	On Load Sec V	Rated Amps per Sec	Off load Sec V	Sec Flex Gauge	Sec $\Omega$ @ 20°C	Diameter Allow Extra 5mm	Height Over Leadout Area	Weight
MCTA030/15	15	1	17.4	22 AWG	1.44	73mm	31mm	0.48kg
MCTA030/18	18	0.83	20.9		2.13			
MCTA030/25	25	0.6	28.8		3.74			
<b>50VA General Purpose Toroidal Transformers</b>								
MCTA050/06	6	4.17	6.8	22 AWG	0.11	81mm	34.5mm	0.65kg
MCTA050/09	9	2.78	10.2		0.23			
MCTA050/12	12	2.08	13.6		0.44			
MCTA050/15	15	1.67	17		0.69			
MCTA050/18	18	1.39	20.5		5.4			
MCTA050/25	25	1	28.4		1.83			
MCTA050/55	55	0.45	62.3		8.93			
<b>60VA General Purpose Toroidal Transformers</b>								
MCTA060/09	9	3.33	10.1	20 AWG	0.19	91.5mm	39mm	0.78kg
MCTA060/12	12	2.5	13.5	22 AWG	0.36			
MCTA060/15	15	2	16.9		0.51			
MCTA060/18	18	1.67	20.2		0.77			
MCTA060/25	25	1.2	28		1.36			
<b>80VA General Purpose Toroidal Transformers</b>								
MCTA080/09	9	4.44	10.1	20 AWG	0.12	87.5mm	39mm	0.96kg
MCTA080/12	12	3.33	13.3	22 AWG	0.23			
MCTA080/15	15	2.67	16.7		0.35			
MCTA080/18	18	2.22	20.1		0.53			
MCTA080/25	25	1.6	27.7		0.93			
MCTA080/55	55	0.73	60.7		4.15			
<b>100VA General Purpose Toroidal Transformers</b>								
MCTA100/12	12	4.17	13.1	20 AWG	0.15	91mm	46mm	1.13kg
MCTA100/15	15	3.33	16.3		0.23			
MCTA100/18	18	2.78	19.7		0.35			
MCTA100/25	25	2	27.4		0.68			
<b>120VA General Purpose Toroidal Transformers</b>								
MCTA120/12	12	5	13.2	18 AWG	0.12	95mm	47mm	1.32kg
MCTA120/15	15	4	16.4	20 AWG	0.19			
MCTA120/18	18	3.33	19.6		0.29			
MCTA120/25	25	2.4	27.3		0.55			
MCTA120/55	55	1.09	59.5		2.18			

# Toroidal Transformers

## General Purpose



Part Number	On Load Sec V	Rated Amps per Sec	Off load Sec V	Sec Flex Gauge	Sec $\Omega$ @ 20°C	Diameter Allow Extra 5mm	Height Over Leadout Area	Weight
<b>160VA General Purpose Toroidal Transformers</b>								
MCTA160/12	12	6.67	13	18 AWG	0.08	105mm	47mm	1.64kg
MCTA160/15	15	5.33	16.4		0.13			
MCTA160/18	18	4.44	19.6	20 AWG	0.17			
MCTA160/25	25	3.2	27		0.33			
MCTA160/30	30	2.67	32.5		0.50			
MCTA160/55	55	1.45	59.5		1.59			
<b>225VA General Purpose Toroidal Transformers</b>								
MCTA225/12	12	9.38	12.7	16 AWG	0.05	110.5mm	51mm	2.20kg
MCTA225/15	15	7.5	16.1		0.08			
MCTA225/18	18	6.25	19.2	18 AWG	0.12			
MCTA225/25	25	4.5	26.7		0.21			
MCTA225/30	30	3.75	32.2	20 AWG	0.32			
MCTA225/55	55	2.05	58.7		1			
<b>250VA General Purpose Toroidal Transformers</b>								
MCTA250/12	12	10.42	12.8	16 AWG	0.04	119.5mm	53.5mm	2.38kg
MCTA250/18	18	6.94	19.2		0.09			
MCTA250/25	25	5	26.7	18 AWG	0.16			
MCTA250/30	30	4.17	31.9	20 AWG	0.24			
MCTA250/35	35	3.57	37.2		0.32			
MCTA250/40	40	3.13	42.5		0.4			
MCTA250/45	45	2.78	48.1		0.51			
MCTA250/50	50	2.5	53.3	0.63				
<b>300VA General Purpose Toroidal Transformers</b>								
MCTA300/25	25	6	26.6	18 AWG	0.14	125.5mm	54mm	2.83kg
MCTA300/30	30	5	31.9		0.19			
MCTA300/35	35	4.29	37.1		0.28			
MCTA300/55	55	2.73	58.5	20 AWG	0.7			
<b>1,000VA General Purpose Toroidal Transformers</b>								
MCTA1000/40	40	12.5	41.5	14 AWG	0.06	167mm	70.5mm	7.48kg
MCTA1000/50	50	10	52	16 AWG	0.1			
MCTA1000/55	55	9.09	56.9		0.14			

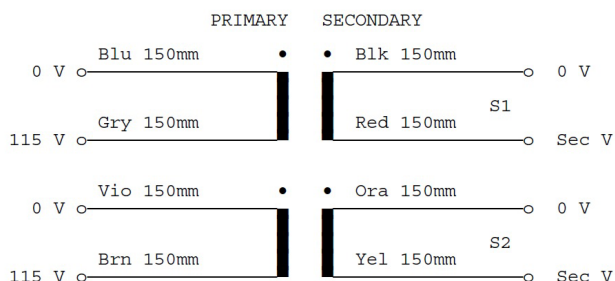
# Toroidal Transformers

## General Purpose



### Wire Diagram

#### Schematic



### Part Number Table

Description	Part Number
Transformer, Toroidal, 2 × 6V, 15VA	MCTA015/06
Transformer, Toroidal, 2 × 9V, 15VA	MCTA015/09
Transformer, Toroidal, 2 × 12V, 15VA	MCTA015/12
Transformer, Toroidal, 2 × 15V, 15VA	MCTA015/15
Transformer, Toroidal, 2 × 18V, 15VA	MCTA015/18
Transformer, Toroidal, 2 × 6V, 30VA	MCTA030/06
Transformer, Toroidal, 2 × 9V, 30VA	MCTA030/09
Transformer, Toroidal, 2 × 12V, 30VA	MCTA030/12
Transformer, Toroidal, 2 × 15V, 30VA	MCTA030/15
Transformer, Toroidal, 2 × 18V, 30VA	MCTA030/18
Transformer, Toroidal, 2 × 25V, 30VA	MCTA030/25
Transformer, Toroidal, 2 × 6V, 50VA	MCTA050/06
Transformer, Toroidal, 2 × 9V, 50VA	MCTA050/09
Transformer, Toroidal, 2 × 12V, 50VA	MCTA050/12
Transformer, Toroidal, 2 × 15V, 50VA	MCTA050/15
Transformer, Toroidal, 2 × 18V, 50VA	MCTA050/18
Transformer, Toroidal, 2 × 25V, 50VA	MCTA050/25
Transformer, Toroidal, 2 × 55V, 50VA	MCTA050/55
Transformer, Toroidal, 2 × 9V, 60VA	MCTA060/09
Transformer, Toroidal, 2 × 12V, 60VA	MCTA060/12
Transformer, Toroidal, 2 × 15V, 60VA	MCTA060/15
Transformer, Toroidal, 2 × 18V, 60VA	MCTA060/18
Transformer, Toroidal, 2 × 25V, 60VA	MCTA060/25
Transformer, Toroidal, 2 × 9V, 80VA	MCTA080/09
Transformer, Toroidal, 2 × 12V, 80VA	MCTA080/12

Description	Part Number
Transformer, Toroidal, 2 × 15V, 80VA	MCTA080/15
Transformer, Toroidal, 2 × 18V, 80VA	MCTA080/18
Transformer, Toroidal, 2 × 25V, 80VA	MCTA080/25
Transformer, Toroidal, 2 × 55V, 80VA	MCTA080/55
Transformer, Toroidal, 2 × 12V, 100VA	MCTA100/12
Transformer, Toroidal, 2 × 15V, 100VA	MCTA100/15
Transformer, Toroidal, 2 × 18V, 100VA	MCTA100/18
Transformer, Toroidal, 2 × 25V, 100VA	MCTA100/25
Transformer, Toroidal, 2 × 12V, 120VA	MCTA120/12
Transformer, Toroidal, 2 × 15V, 120VA	MCTA120/15
Transformer, Toroidal, 2 × 18V, 120VA	MCTA120/18
Transformer, Toroidal, 2 × 25V, 120VA	MCTA120/25
Transformer, Toroidal, 2 × 55V, 120VA	MCTA120/55
Transformer, Toroidal, 2 × 12V, 160VA	MCTA160/12
Transformer, Toroidal, 2 × 15V, 160VA	MCTA160/15
Transformer, Toroidal, 2 × 18V, 160VA	MCTA160/18
Transformer, Toroidal, 2 × 25V, 160VA	MCTA160/25
Transformer, Toroidal, 2 × 30V, 160VA	MCTA160/30
Transformer, Toroidal, 2 × 55V, 160VA	MCTA160/55
Transformer, Toroidal, 2 × 12V, 225VA	MCTA225/12
Transformer, Toroidal, 2 × 15V, 225VA	MCTA225/15
Transformer, Toroidal, 2 × 18V, 225VA	MCTA225/18
Transformer, Toroidal, 2 × 25V, 225VA	MCTA225/25
Transformer, Toroidal, 2 × 30V, 225VA	MCTA225/30
Transformer, Toroidal, 2 × 55V, 225VA	MCTA225/55



# Toroidal Transformers

## General Purpose



Description	Part Number
Transformer, Toroidal, 2 × 12V, 250VA	MCTA250/12
Transformer, Toroidal, 2 × 18V, 250VA	MCTA250/18
Transformer, Toroidal, 2 × 25V, 250VA	MCTA250/25
Transformer, Toroidal, 2 × 30V, 250VA	MCTA250/30
Transformer, Toroidal, 2 × 35V, 250VA	MCTA250/35
Transformer, Toroidal, 2 × 40V, 250VA	MCTA250/40
Transformer, Toroidal, 2 × 45V, 250VA	MCTA250/45

Description	Part Number
Transformer, Toroidal, 2 × 50V, 250VA	MCTA250/50
Transformer, Toroidal, 2 × 25V, 300VA	MCTA300/25
Transformer, Toroidal, 2 × 30V, 300VA	MCTA300/30
Transformer, Toroidal, 2 × 35V, 300VA	MCTA300/35
Transformer, Toroidal, 2 × 55V, 300VA	MCTA300/55
Transformer, Toroidal, 2 × 40V, 1000VA	MCTA1000/40
Transformer, Toroidal, 2 × 50V, 1000VA	MCTA1000/50
Transformer, Toroidal, 2 × 55V, 1000VA	MCTA1000/55

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