



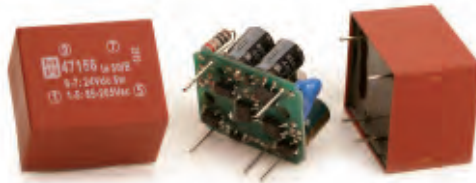
ELECTRONIC TRANSFORMERS SWITCHING POWER SUPPLIES



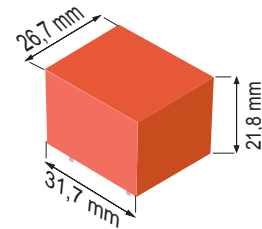
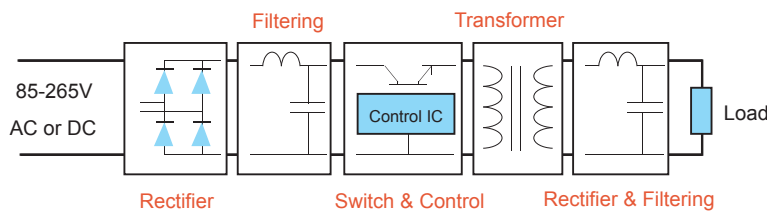
47000 SERIES

*A fully certified range of PCB mounting Power supplies
from **1 W** up to **10 W***

ELECTRONIC TRANSFORMERS



Serie 47000



MYRRA encapsulated electronic transformers are Switched Mode Power Supplies based on Flyback topology.

They constitute an interesting alternative to the traditional supply in the most common applications of power lower than 10W.

ENERGY SAVING due to high efficiency and low standby power

The applications for the Electronic serie are:

- o Alternative to the linear transformers in all AC/DC applications of power up to 10W
- o Alternative to DC/DC converters for application in D.C.current (Telecom supplies, electric substations etc.)
- o Industrial, domestic and consumer electronics applications
- o Standby devices and others DC or AC auxiliary supplies

With the same footprint as a EI30 transformer, they will replace:

- 50 Hz Transformer
- Fuse
- Bridge Rectifier
- Filtering Capacitor

Regulated types will also replace linear regulator and heatsink

MAIN FEATURES

- o Wide input voltage range
- o Increased power. 3 x compared to standard EI30 - EI38 - EI48 transformers
- o Better energetic efficiency: 70% typical compared to 40% for the conventional supply
- o Very low Standby Power consumption: meets requirements of Energy Star or EC Code of Conduct
- o Same footprint as EI30 - EI38 - EI48 transformer :
Upgrade your application without redesign of PCB

SAFETY STANDARDS

Meets all requirements of:

- o EN 60950
- o EN 60335
- o EN 61558-2-16
- o EN 61558-1
- o UL 60950-1
- o CSA 22.2 N°60950-1
- o UL 94-V0

EMC STANDARDS

Conducted and radiated emissions conform to

- o EN 55014-1
- o EN 55022 class B

Immunity conform to

- o EN 55014-2
- o EN 61000-4-x



SAFETY



ONE OUTPUT 3.2 & 5W - Non Regulated



ELECTRICAL SPECIFICATIONS

Input voltage range

85 to 265 Volts AC

120 to 370 Volts DC

Input Frequency 47 to 63 Hz

Output voltage accuracy (full load) $\pm 5\%$

Line output voltage variation $\pm 3\%$

Load output voltage variation $\pm 5\%$

No load input power $< 300\text{mW}$

Energy consumption and efficiency :

Meets requirements of Energy Star and

EC Code of Conduct

SAFETY

Prepared for Class II – reinforced insulation

Input / Output Isolation test voltage: 4000 Vac

Operating ambient temperature:

- 25°C / + Ta (See table)

Storage temperature: - 40°C / + 85°C

Input protection by integrated fusible resistor

Output short circuit protection: automatic restarts when fault condition is removed

Thermal shutdown with automatic recovery if internal temperature exceeds allowable value

Reference	Output voltage (DC Volts)	Output current (DC mA)	Output Power (W)	Efficiency (%)	Ta (°C)
47114	12	200	2.4	74	+70
47132	5	500	2.5		+70
47133	9	360	3.2	73	+70
47134	12	270	3.2	75	+70
47135	18	180	3.2	78	+70
47136	24	130	3.2	80	+70
47163	9	560	5 *	73	+50
47164	12	420	5 *	75	+50
47166	24	210	5 *	80	+50

* Note: Power up to 5.4W is possible with input voltage $\geq 97\text{ Vac}$

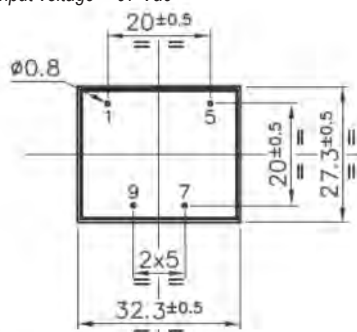
DIMENSIONS and PINOUT

4 pins

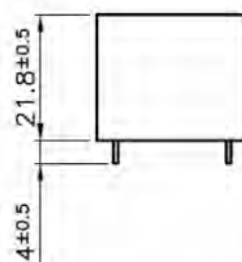
pins 1 & 5 : AC or DC Input

pin 7: DC output +V

pin 9: DC output 0V



(view from pins side):



TWO OUTPUTS - COMMON & ISOLATED 3 to 5W - Regulated



ELECTRICAL SPECIFICATIONS

Input voltage range
85 to 265Volts AC
120 to 370V DC
Input Frequency 47 to 63 Hz

Output voltage accuracy : see table for
10 to 100% rated load of each output
(includes line and load variations)

No load input power < 200mW
Energy consumption and efficiency :
Meets requirements of Energy Star
or EC Code of Conduct

SAFETY

Prepared for Class II – reinforced insulation
Input / Output Isolation test voltage: 4000 Vac
Operating ambient temperature: - 25°C / + Ta (See table)

Storage temperature: - 40°C / + 85°C

Input protection by integrated fusible resistor

Output short circuit protection: automatic restarts
when fault condition is removed

Thermal shutdown with automatic recovery if
internal temperature exceeds allowable value

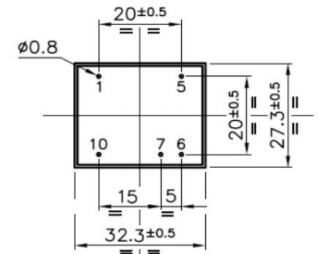
COMMON OUTPUT						
Reference	Output 1 Output 2 (DC Volts)	Output 1 Output 2 (DC mA)	Output Power (W)	Output 1 Output 2 accuracy	Efficiency (%)	Ta (°C)
47243	+10.5 +7	380 max 100 max	4 *	± 3% +15%	72	+60
47244	+15 +7	300 max 70 max	4 *	± 3% +15%	73	+60
47245	+12 +5.5	130 max 300 max	3.2	± 5% +10%	65	+70
47246	+5 +12	400 (600max) 170 max	4	± 3% +15%	65	+60
47247	+15 -15	130 max 130 max	4	± 8% +8%	73	+60

* Nota: Power up to 5W is possible with input voltage ≥ 97 Vac and Ta ≤ 50°C

DIMENSIONS and PINOUT

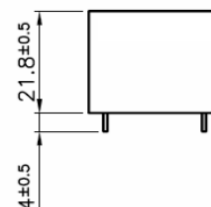
5 pins

pins 1 & 5 : AC or DC Input
pin 6: Common output 0V
pin 7: DC output 1
pin 10: DC output 2



(view from pins side):

The 2 outputs share a common 0v reference.
This enables closer coupling and a better cross-regulation of the outputs

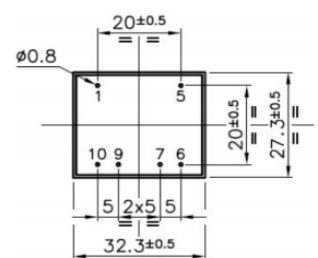


ISOLATED OUTPUT						
Reference	Output 1 Output 2 (DC Volts)	Output 1 Output 2 (DC mA)	Output Power (W)	Output 1 Output 2 accuracy	Efficiency (%)	Ta (°C)
47252	5 5	350 (600max) 350 max	3.5	± 3% +15%	66	+60
47254	12 12	165 (300max) 165 max	4	± 5% +15%	72	+60
47255	15 15	135 (200max) 135 max	4	± 5% +15%	73	+60
47257	5 12	400 (600max) 170 max	4	± 3% +15%	68	+60
47258	18 8	150 (200max) 150 max	4	± 5% +15%	72	+60

DIMENSIONS and PINOUT

6 pins

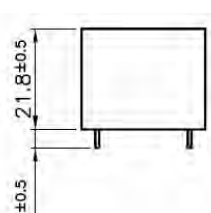
pins 1 & 5 : AC or DC Input
pin 6: DC output1 0V
pin 7: DC output1 +V
pin 9: DC output2 0V
pin 10: DC output2 +V



(view from pins side):

2 isolated outputs - Output 1 only is regulated and
should provide the higher power

Output1 / Output 2 isolation : 4000Vac



ONE OUTPUT 7,5W - Regulated



ELECTRICAL SPECIFICATIONS

Input voltage range
85 to 265 Volts AC
120 to 370 Volts DC
Input Frequency 47 to 63 Hz

Output voltage accuracy full load (see table)
Line output voltage regulation $\pm 0,5\%$
Load output voltage regulation (see table)

No load input power < 150mW
Energy consumption and efficiency :
Meets requirements of Energy Star and
EC Code of Conduct

SAFETY

Prepared for Class II – reinforced insulation
Input / Output Isolation test voltage: 4000 Vac

Operating ambient temperature:
- 25°C to (see table)

Storage temperature: - 40°C / + 85°C

Input protection by integrated fuse

Output short circuit protection : automatic restarts
when fault condition is removed

Thermal shutdown with automatic recovery if internal
temperature exceeds allowable value

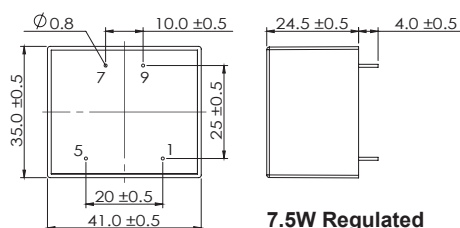
Reference	Output (DC Volts)	Output (DC mA)	Output voltage accuracy	Output Power (max W)	Load output voltage regulation	Efficiency (%) @230VAC	Ta (°C)
47206	3.3	2270	$\pm 3\%$	7.5	$\pm 3\%$	>74	+70
47200	5	1500	$\pm 2\%$	7.5	$\pm 1\%$	>76	+70
47201	9	830	$\pm 2\%$	7.5	$\pm 1\%$	>80	+70
47202	12	625	$\pm 2\%$	7.5	$\pm 1\%$	>82	+70
47203	15	500	$\pm 2\%$	7.5	$\pm 1\%$	>82	+70
47204	18	420	$\pm 2\%$	7.5	$\pm 1\%$	>82	+70
47205	24	310	$\pm 2\%$	7.5	$\pm 1\%$	>82	+70

Note: other output voltages are available upon request

DIMENSIONS and PINOUT

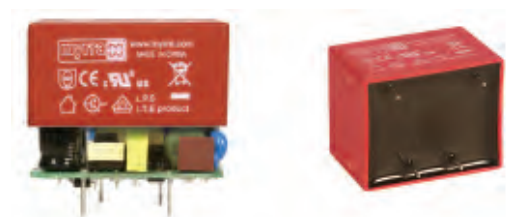
4pins

Pins 1 & 5 :
AC or DC Input
Pin 7 : DC output + V
Pin 9 : DC output OV



7.5W Regulated

(view from pins side)



ONE OUTPUT 10W - Regulated



ELECTRICAL SPECIFICATIONS

Input voltage range
85 to 265 Volts AC
120 to 370 Volts DC
Input Frequency 47 to 63 Hz

Output voltage accuracy full load (see table)
Line output voltage regulation $\pm 0,5\%$
Load output voltage regulation (see table)

No load input power < 100mW
Energy consumption and efficiency :
Meets requirements of Energy Star and
EC Code of Conduct

SAFETY

Prepared for Class II – reinforced insulation
Input / Output Isolation test voltage: 4000 Vac

Operating ambient temperature:
- 25°C to (see table)

Storage temperature: - 40°C / + 85°C

Input protection by integrated fuse

Output short circuit protection : automatic restarts
when fault condition is removed

Thermal shutdown with automatic recovery if internal
temperature exceeds allowable value

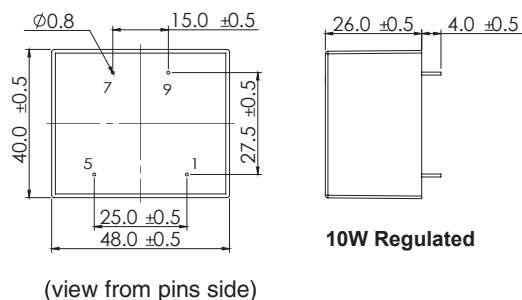
Reference	Output (DC Volts)	Output (DC mA)	Output voltage accuracy	Output Power (max W)	Load output voltage regulation	Efficiency (%) @230VAC	Ta (°C)
47216	3.3	3000	$\pm 4\%$	10	$\pm 4\%$	>76	+50
47210	5	2100	$\pm 3\%$	10	$\pm 3\%$	>76	+60
47211	9	1100	$\pm 2\%$	10	$\pm 1\%$	>79	+60
47212	12	830	$\pm 2\%$	10	$\pm 1\%$	>80	+60
47213	15	670	$\pm 2\%$	10	$\pm 1\%$	>80	+60
47214	18	560	$\pm 2\%$	10	$\pm 1\%$	>80	+60
47215	24	420	$\pm 2\%$	10	$\pm 1\%$	>80	+60

Note: other output voltages are available upon request

DIMENSIONS and PINOUT

4pins

Pins 1 & 5 :
AC or DC Input
Pin 7 : DC output + V
Pin 9 : DC output OV



10W Regulated



47000 SERIES



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