

15 Watt

2x2 Inch Package H
4:1 Input Range



- o Wide Input Range
- o Pi Input Filter
- o Efficiency up to 82%
- o Single, Dual & Triple Output
- o Remote On/Off Control



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		%EFF
				NO LOAD	FULL LOAD	
15HRS24X3.3LC	9-36 VDC	3.3 VDC	3000 mA	15 mA	545 mA	76
15HRS24X5LC		5 VDC	3000 mA		810 mA	77
15HRS24X12LC		12 VDC	1250 mA		780 mA	80
15HRS24X15LC		15 VDC	1000 mA			
15HRD24X5LC		±5 VDC	±1500 mA	20 mA	810 mA	77
15HRD24X12LC		±12 VDC	±625 mA		780 mA	80
15HRD24X15LC		±15 VDC	±500 mA			
15HRT24X5/12LC		5/±12 VDC	1500/±310 mA			
15HRT24X5/15LC		5/±15 VDC	1500/±250 mA			
15HRS48X3.3LC	18-72 VDC	3.3 VDC	3000 mA	10 mA	270 mA	76
15HRS48X5LC		5 VDC	3000 mA		410 mA	77
15HRS48X12LC		12 VDC	1250 mA		390 mA	80
15HRS48X15LC		15 VDC	1000 mA			
15HRD48X5LC		±5 VDC	±1500 mA	15 mA	400 mA	79
15HRD48X12LC		±12 VDC	±625 mA		380 mA	82
15HRD48X15LC		±15 VDC	±500 mA			
15HRT48X5/12LC		5/±12 VDC	1500/±310 mA			
15HRT48X5/15LC		5/±15 VDC	1500/±250 mA			

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

INPUT SPECIFICATIONS

Input Voltage Range	4:1
Input Filter	Pi Type

OUTPUT SPECIFICATIONS

Voltage Accuracy	Single & Dual +Output	±1% max.
	Dual -Output	±3% max.
	Triple 5V Output	±2% max.
	Triple 12V/15V Output	±3% max.
Voltage Balance, Dual Output at Full Load		±1% max.
Transient Response		<500 μsec.
Single, 25% Step Load Change		
Dual, Full Load to Half Load ±1% Error Band		
External Trim Adj. Range		±10%
Ripple and Noise, 20MHz BW		10 mV RMS max. 75 mV p-p max.
Temperature Coefficient		±0.02%/°C
Short Circuit Protection		Continuous
Line Regulation ¹⁾	Single & Dual Output	±0.2% max.
	Triple Output	±1.0% max.
Load Regulation ²⁾	Single & Dual Output	±1.0% max.
	Triple Output	±5.0% max.

1. Line Regulation measured from High Line to Low Line.

2. Load Regulation measured from Full Load to 1/4 Load.

GENERAL SPECIFICATION

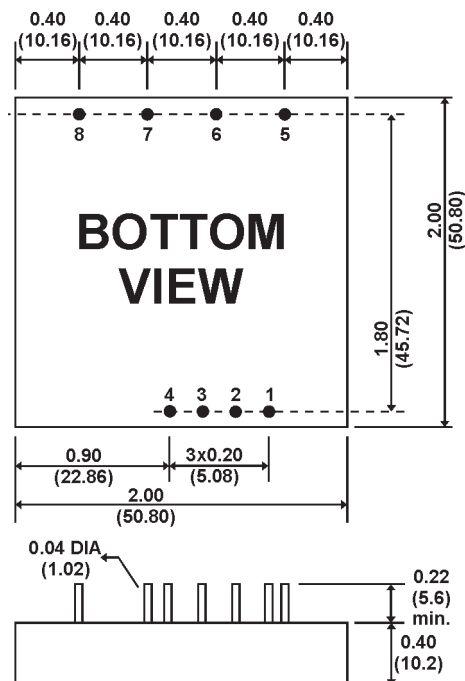
Efficiency	see table
Case Grounding	Connected to Output Common
Isolation Voltage	500 VDC min.
Isolation Resistance	1000 Mohms
Switching Frequency	300 kHz
Operating Temperature Range	-25°C to +71°C
Case Temperature	+100°C
Storage Temperature Range	-55°C to +105°C
Cooling	Free-Air Convection
Derating >+71°C	-3.5%/°C
EMI/RFI	Six-Sided Continuous Shield
Case Material	Black Coated Copper with Non-Conductive Base
MTBF (MIL-HDBK-217F)	min. 791.000 hrs
Dimensions	2.0 x 2.0 x 0.4 Inches (50.8 x 50.8 x 10.2 mm)

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MECHANICAL SPECIFICATIONS

CASE "H"



All Dimensions in Inches (mm)

Tolerances: x.xx = 0.04 Inches (x.xxx = 0.010 mm)

PIN CONNECTIONS

PIN	SINGLE	DUAL	TRIPLE
1	REMOTE ON/OFF CONTROL		
2	NO PIN	NO PIN	NO PIN
3	-INPUT	-INPUT	-INPUT
4	+INPUT	+INPUT	+INPUT
5	TRIM	TRIM	-AUX. OUT
6	-OUTPUT	-OUTPUT	COMMON
7	+OUTPUT	COMMON	+5V OUT
8	NO PIN	+OUTPUT	+AUX. OUT

APPLICATION NOTES & DIAGRAMS**TRIPLE OUTPUT LOADING ¹⁾**

OUTPUT (PIN NO.)	VOLTAGE	AMPERES	
		MIN. ²⁾	NOM.
7	+5 VDC	0.25 A	1.5 A
8 & 5	±12 VDC	0.10 A	0.31 A
8 & 5	±15 VDC	0.10 A	0.25 A

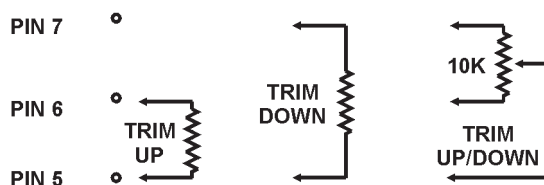
NOTE:

1) Maximum total power from all outputs is limited to 15 watts but no output should be allowed to exceed its maximum current.

2) Minimum current on each output is required to maintain specified regulation.

REMOTE ON/OFF CONTROL

Logic Compatibility	CMOS or Open Collector TTL
Ec-ON	>+5.5VDC or Open Circuit
Ec-OFF	<1.8VDC
Shutdown Idle Current	10mA
Control Common	Referenced to Input Minus

External Output TrimmingOutput may optionally be externally trimmed ($\pm 10\%$) with a fixed resistor or an external trimpot as shown.**NOTICE:**

The information in this document has been carefully checked. However, no responsibility is assumed for inaccuracies! Specifications can be changed without notice. The latest and most complete information can be found on our website.