

# 15 Watt

# 24 Pin DIL Package V 4:1 Input Range



- o Wide 4:1 Input Range
- o Pi Input Filter
- o Regulated Single & Dual Outputs
- o Continuous Short Circuit Protection
- o 1500 VDC I/O-Isolation
- o High Efficiency up to 90%
- o Conductive EMI Meet EN55022 Class A
- o No Tantalum Capacitor Inside
- o CE Mark Meets 2004/108/EC
- o Safety Meets UL60950-1, EN60950-1 and IEC60950-1
- o Remote ON/OFF



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT MAX.	INPUT CURRENT		%EFF	CAPACITIVE LOAD MAX.
				NO LOAD	FULL LOAD		
15VRS24X3.3LC	9-36 VDC	3.3 VDC	4000 mA	8 mA	625 mA	88	4000 $\mu$ F
15VRS24X5LC		5 VDC	3000 mA		694 mA	90	3000 $\mu$ F
15VRS24X12LC		12 VDC	1250 mA				1250 $\mu$ F
15VRS24X15LC		15 VDC	1000 mA			1000 $\mu$ F	
15VRD24X12LC		$\pm$ 12VDC	$\pm$ 625 mA			702 mA	89
15VRD24X15LC		$\pm$ 15 VDC	$\pm$ 500 mA		694 mA	90	500 $\mu$ F
15VRS48X3.3LC	18-75 VDC	3.3 VDC	4000 mA	6 mA	309 mA	89	4000 $\mu$ F
15VRS48X5LC		5 VDC	3000 mA		347 mA	90	3000 $\mu$ F
15VRS48X12LC		12 VDC	1250 mA				1250 $\mu$ F
15VRS48X15LC		15 VDC	1000 mA			1000 $\mu$ F	
15VRD48X12LC		$\pm$ 12VDC	$\pm$ 625 mA			351 mA	89.5
15VRD48X15LC		$\pm$ 15 VDC	$\pm$ 500 mA		347 mA	90	500 $\mu$ F

**SPECIFICATIONS**

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

<b>INPUT SPECIFICATIONS</b>		
Input Voltage Range		4:1
Input Surge Voltage (100 ms max.)	24 V	50 VDC max.
	48 V	100 VDC max.
Under Voltage Lockout	24 Vin power up	8.8 V
	24 Vin power down	8 V
	48 Vin power up	17 V
	48 Vin power down	16 V
Input Filter		Pi Type
Remote ON/OFF Control	Logic Compatibility Module ON Module OFF	CMOS or Open Collector TTL, Referenced to -Vin >3.5 VDC to Vin or Open Circuit <1.2 VDC

<b>OUTPUT SPECIFICATIONS</b>		
Output Current		0 mA min.
Voltage Accuracy		±1.5% max.
Voltage Balance (Dual)		±1.0% max.
Transient Response: 75% -100% Step Load Change	Error Band	±5% Vout Nominal
	Recovery Time	<250 µs
Temperature Coefficient		±0.03%/°C
Ripple & Noise 20 MHz BW <sup>1)</sup>		75 mV p-p max.
Line Regulation <sup>2)</sup>	Single	±0.2% max.
	Dual	±0.5% max.
Load Regulation <sup>3)</sup>	Single	±0.5% max.
	Dual	±1.0% max.
Cross Regulation (Dual Output) Load Cross Variation 10%/100%		±5% max.
Current Limit		110% to 160% Nominal Output
Output Short Circuit Protection		Continuous (Hiccup Mode)
Over Voltage Protection (Zener Diode Clamp)	3.3 V	3.9 VDC
	5 V	6.2 VDC
	12 V	15 VDC
	15 V	18 VDC
Start Up Time		15 ms

**NOTE:**

1. Measured with 0.1 µF MLCC.
2. Measured from high line to low line.
3. Measured from full load to min. load.

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<b>GENERAL SPECIFICATION</b>		
Efficiency		see table
Isolation Voltage	Input/Output	1500 VDC min.
Isolation Resistance		1000 Mohms min.
Isolation Capacitance		1000 pF
Switching Frequency		300 kHz
Operating Ambient Temperature		-40°C to +85°C
Derating (above +65°C)		Linearly to Zero power at +105°C
Storage Temperature Range		-40°C to +125°C
Case Temperature <sup>4)</sup>		+105°C max.
Cooling		Natural Convection
Humidity		95% RH max. Non condensing
MTBF (MIL-STD-217F, GB, 25°C, Full Load)		TBD Mhrs
Safety Standard		UL60950-1, EN60950-1, IEC60950-1
EMI/RFI		Conductive EMI Meet EN55022 Class A
Dimensions		1.25x0.8x0.4 Inches (31.8x20.3x10.2 mm)
Case Material		Black coated Copper with Non-Conductive Base
Weight		18.0 g

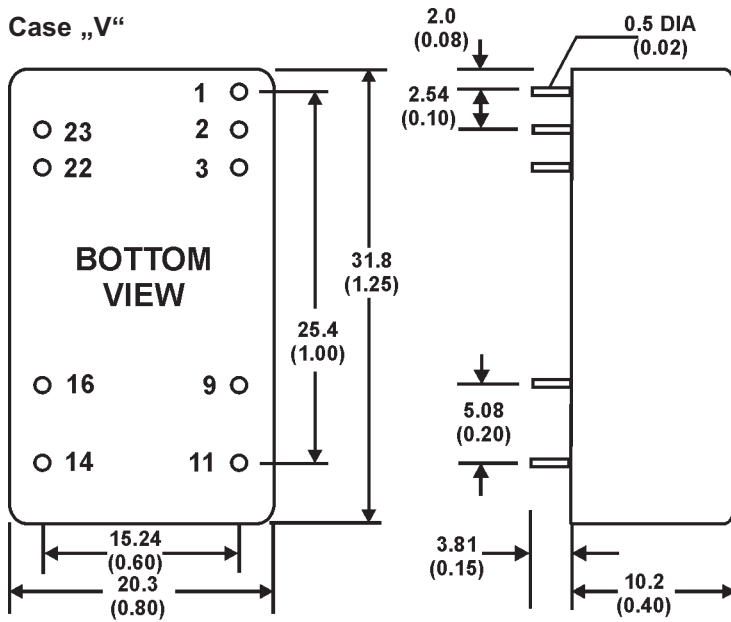
4. Maximum case temperature under any operating condition should not be exceeded +105°C.

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**MECHANICAL SPECIFICATIONS**

Case „V“



PIN CONNECTIONS		
PIN	SINGLE	Dual
1	REMOTE ON/OFF	REMOTE ON/OFF
2 & 3	-INPUT	-INPUT
4 & 5	NO PIN	NO PIN
9	NO PIN	COMMON
10	NO PIN	NO PIN
11	NOT CONNECTED	-OUTPUT
12	NO PIN	NO PIN
13	NO PIN	NO PIN
14	+OUTPUT	+OUTPUT
15	NO PIN	NO PIN
16	-OUTPUT	COMMON
20 & 21 & 24	NO PIN	NO PIN
22 & 23	+INPUT	+INPUT

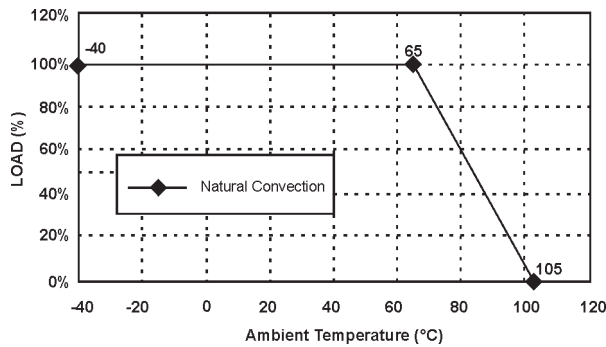
All Dimensions in mm (Inches)

Tolerances: mm: x.x=0.5, x.xx=0.25

Inches: x.xx=0.02, x.xxx=0.010

**APPLICATION NOTES & DIAGRAMS**

**Derating Curve**



**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.