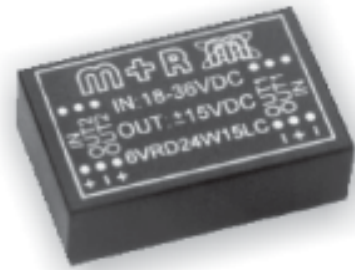


# 5 to 6 Watt

# 24 Pin DIL Package V 2:1 Input Range



- o Wide Input Range
- o Pi Input Filter
- o 100 kHz Switching Frequency
- o Regulated Output
- o Single & Dual Output
- o Short Circuit Protection
- o Option 3000 VDC I/O-Isolation
- o Option Conductive EMI/RFI Meet EN55022 Class B  
(Option 3000 VDC I/O-Isolation With Remote Control)



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		%EFF	CAP. LOAD
				NO LOAD	FULL LOAD		
5VRS12W3.3LC	9-18VDC	3.3VDC	1000mA	7.5mA	382 mA	72	4700 µF
5VRS12W5LC		5VDC	1000mA		541 mA	77	
6VRS12W12LC		12VDC	470mA		573 mA	82	
6VRS12W15LC		15VDC	400mA		625 mA	80	
5VRD12W5LC	9-18VDC	±5VDC	±500mA	12mA	541 mA	77	2200 µF
6VRD12W12LC		±12VDC	±230mA		554 mA	83	
6VRD12W15LC		±15VDC	±190mA		556 mA	81	
5VRS24W3.3LC	18-36VDC	3.3VDC	1000mA	5mA	186 mA	74	4700 µF
5VRS24W5LC		5VDC	1000mA		260 mA	80	
6VRS24W12LC		12VDC	470mA		280 mA	84	
6VRS24W15LC		15VDC	400mA		298 mA		
5VRD24W5LC	18-36VDC	±5VDC	±500mA	7.5mA	260 mA	80	2200 µF
6VRD24W12LC		±12VDC	±230mA		280 mA	82	
6VRD24W15LC		±15VDC	±190mA		293 mA	81	
5VRS48W3.3LC	36-72VDC	3.3VDC	1000mA	2mA	93 mA	74	4700 µF
5VRS48W5LC		5VDC	1000mA		132 mA	79	
6VRS48W12LC		12VDC	470mA		142 mA	83	
6VRS48W15LC		15VDC	400mA		154 mA	81	
5VRD48W5LC	36-72VDC	±5VDC	±500mA	3mA	130 mA	80	2200 µF
6VRD48W12LC		±12VDC	±230mA		142 mA	81	
6VRD48W15LC		±15VDC	±190mA		147 mA		

**SPECIFICATIONS**

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

**INPUT SPECIFICATIONS**

Input Voltage Range	2:1
Input Filter	Pi Network

**OUTPUT SPECIFICATIONS**

Voltage Accuracy	±2% max.	
Voltage Balance, Dual Output	±1% max.	
Temperature Coefficient	±0.05%/°C	
Ripple and Noise, 20MHz BW	3.3V, 5V 12V, 15V	100 mV p-p max. 1% p-p max.
Short Circuit Protection	Continuous	
Line Regulation (from High Line to Low Line)	±0.5%	
Load Regulation	Single (from Full Load to 10% Load) Dual (from Full Load to 25% Load)	±0.5% ±1.0%

**GENERAL SPECIFICATION**

Efficiency	see table	
Isolation Voltage	500 VDC min.	
Suffix "H" *	3000 VDC min.	
Suffix "B" **	Option EMI/RFI EN55022 Class B	
Suffix "HBR"	3KVDC + EN55022 + Remote Ctr.	
Isolation Resistance	1000 Mohms	
Isolation Capacitance	250 pF	
Switching Frequency	100 kHz min.	
Operating Temperature Range	-25°C to +71°C	
Case Temperature	Plastic Case Copper Case	95°C max. 100°C max.
Storage Temperature Range	-40°C to +100°C	
Humidity	95% RH max. non condensing	
Recommended Reflow Soldering Pb-free***	see diagram	
Derating	see Diagram	
Case Material	Non-Conductive Black Plastic	
Case Dimensions	Standard Suffix "B"+"HBR"	31.8x20.3x10.2 mm 31.8x20.3x12.7 mm
Weight	12.5 g	
Suffix "M" *)	Black Coated Copper with Non-Conductive Base	
MTBF (MIL-HDBK-217F)	2 Mhrs min.	

\*) Suffix "HM" 1.5 KVDC instead of 3 KVDC Isolation

\*\*) Subject to small Changes for Suffix "B". Please double check with M+R directly!

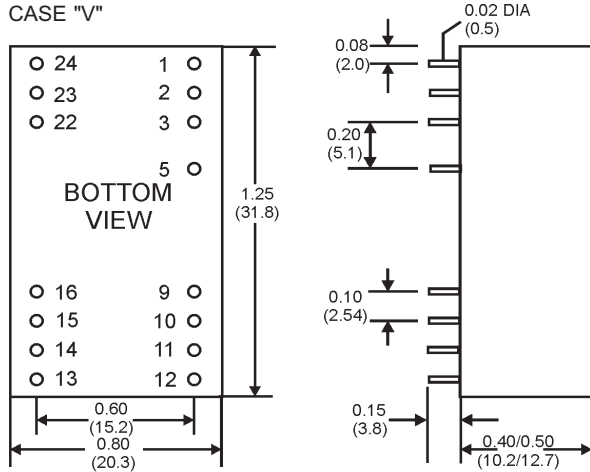
\*\*\*) We do not recommend vapor phase soldering!

**SPECIFICATIONS**

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

**MECHANICAL SPECIFICATIONS**

CASE "V"



All Dimensions in Inches(mm)  
Tolerance: x.xx = ±0.02, x.xxx = ±0.10

PIN CONNECTIONS 500 VDC		
PIN	SINGLE	DUAL
1 & 24	+INPUT	+INPUT
2 & 23	NC*	-OUTPUT
3 & 22	NC*	COMMON
9 & 16	NO PIN	NO PIN
10 & 15	-OUTPUT	COMMON
11 & 14	+OUTPUT	+OUTPUT
12 & 13	-INPUT	-INPUT

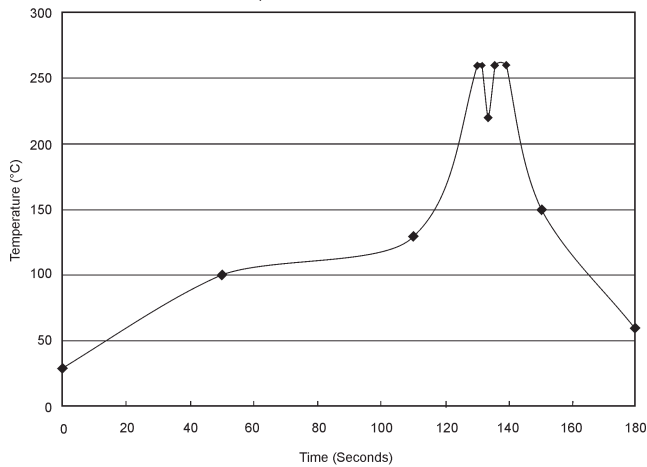
\* Option "NO Pin" at Single Output add Suffix "NP" to Part No.

PIN CONNECTIONS 3KVDC		
PIN	SINGLE	DUAL
1 & 24	NO PIN	NO PIN
2 & 3	-INPUT	-INPUT
5	NP*	NP*
9	NC	COMMON
10 & 15	NC	NC
11	NC	-OUTPUT
12 & 13	NO PIN	NO PIN
14	+OUTPUT	+OUTPUT
16	-OUTPUT	COMMON
22 & 23	+INPUT	+INPUT

\* Remote Control at Suffix "BR" + "HBR"

**DIAGRAMS**

Lead Free Wave Soldering Profile  
(Soldering Material: Sn/Cu/Ni)

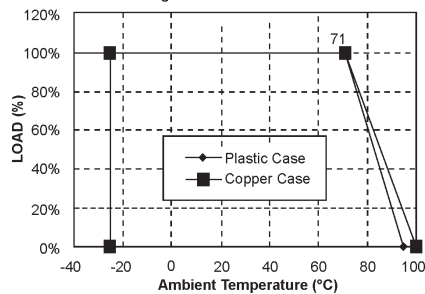


1. Ramp up rate during preheat: 1.5°C/Sec (From 50°C to 100°C)
2. Soaking temperature: 0.5°C/Sec (From 100°C to 130°C), 60±20 seconds
3. Peak temperature: 260°C, above 250°C 3-6 Seconds
4. Ramp up rate during cooling: -10.0°C/Sec (From 260°C to 150°C)

**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
Input Resistance	(Ein 0 to 9VDC)100 kOhm
Control Common	Referenced to Input Minus

Derating Curve for Natural Convection



**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.