



50 Watt 4:1 Wide Input Range DC/DC Converters Series DV504Q



Features

- 50 Watt Isolated Output
- Regulated Outputs
- 4 : 1 Wide Input Range
- Continuous Short Circuit Protection
- No Tantalum Capacitor Inside
- Safety UL60950-1, EN60950-1, IEC60950-1
- High Efficiency to 92%
- 300 KHz Switching Frequency
- Quarter-Brick Size, Six-Sided Shield Metal Case
- Continuous Short Circuit Protection
- CE Mark Meets 2004/108/EC

MODEL NUMBER	INPUT VOLTAGE [VDC]	OUTPUT VOLTAGE [VDC]	OUTPUT CURRENT MAX. [A]	INPUT CURRENT MIN. [A]	INPUT CURRENT NO LOAD [mA]	INPUT CURRENT MAX. LOAD [mA]	EFF. [%] (2)	EFF. [%] (3)	CAP. LOAD MAX. [μ F]	CASE
DV9-36-3,3SA10Q	9 – 36	3,3	10	0	100	1528	90,5	90	10000	Q
DV9-36-05SA10Q		5	10	0	100	2277	91,5	91	10000	
DV9-36-12SA4,16Q		12	4,16	0	100	2261	91,5	91	4160	
DV9-36-15SA3,33Q		15	3,33	0	100	2287	91,5	91,5	3330	
DV9-36-24SA2,08Q		24	2,08	0	60	2311	90	90	2080	
DV9-36-48SA1,04Q		48	1,04	0	60	2311	88,5	88,5	1040	
DV18-75-3,3SA10Q	18 – 75	3,3	10	0	60	764	90	90	10000	Q
DV18-75-05SA10Q		5	10	0	60	1132	92	91,5	10000	
DV18-75-12SA4,16Q		12	4,16	0	60	1130	92	92	4160	
DV18-75-15SA3,33Q		15	3,33	0	60	1144	91	91	3330	
DV18-75-24SA2,08Q		24	2,08	0	60	1156	90,5	91	2080	
DV18-75-48SA1,04Q		48	1,04	0	60	1156	89	89	1040	

NOTE:

1. Nominal Input Voltage 24 or 48 Vdc
2. Measured at Nominal Input voltage
3. Measured at 12VDC for 24V Vin Models , at 24VDC for 48V Vin Models
4. Require a 10 μ F Aluminum Capacitor Connected Between +Vout and –Vout for 40Vout Models

INPUT SPECIFICATIONS:

Input Voltage Range.....	24V.....	9-36V
	48V.....	18-75V
Input Surge Voltage (100ms max.).....	24V.....	50Vdc max.
	48V.....	100Vdc max.
Under voltage lockout:.....	24Vin power up.....	8,8V
	24Vin power down.....	8,0V
	48Vin power up.....	17V
	48Vin power down.....	16V
Input Filter.....		Pi Type
Positive Logic Remote ON/OFF Control.....		Note 4 & 5

OUTPUT SPECIFICATION:

Voltage Accuracy:.....		±1,5% max.
Transient Response: 75% - 100% Step Load Change		
Error Band.....		±5% Vout
Recover Time.....		<500 µ sec.
External Trim Adj. Range.....		±10%
Ripple and Noise, 20 MHz BW:.....	3,3V & 5V.....	40mV RMS / 100mV pk-pk max.
	12V & 15V.....	60mV RMS / 150mV pk-pk max.
	24V.....	100mV RMS / 240mV pk-pk max.
	48V.....	200mV RMS / 480mV pk-pk max.
Temperature Coefficient.....		±0,03%/°C
Short Circuit Protection.....		Continuous
Line Regulation (From High Line to Low Line).....		±0,2% max.
Load Regulation (From Full Load to Zero Load).....		±0,2% max.
Over Voltage Protection trip Range, % Vo nom.....		115 – 140%
Current Limit.....		110 - 165% Nominal Output
Start up time.....		20ms typ.

GENERAL SPECIFICATIONS:

Efficiency.....		See Table
Isolation Voltage.....	Input/Output.....	1500 VDC min.
	Input/Case.....	1500 VDC min.
	Output/Case.....	1500 VDC min.
Isolation Resistance.....		10 ⁷ Ohm min.
Isolation Capacitance.....		1000pF typ.
Switching Frequency.....		300KHz typ.
Operating Case Temperature.....		-40°C to +105°C
Storage Temperature Range.....		-55°C to +125°C
Thermal Shutdown Case Temp.....		110°C typ.
Humidity.....		95% RH max. Non condensing
MTBF (MIL-STD-217F, GB, 25°C, Full Load).....	Models with 24Vout & 48Vout.....	800Khrs typ.
	Others.....	600Khrs typ.
Dimensions.....		1,45 x 2,28 x 0,50 inches
		(36,8 x 57,9 x 12,7 mm)
Weight.....		63 g
Material:.....		Aluminum with Non-Conducted Base

NOTE:

3. Output ripple and noise measured with 10µF aluminium and 1µF ceramic capacitor across output for 48Vout and with 10µF tantalum and 1µF ceramic capacitor for others.

4. Logic Compatibility..... Open Collector Ref. To -Vinput
 Module ON..... >3,5Vdc to 75Vdc or Open Circuit

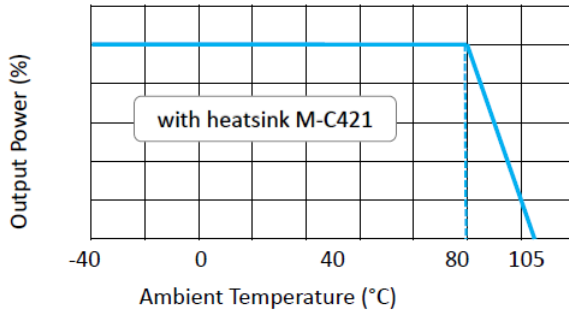
Module OFF..... < 1,2Vdc

5. Suffix "N" to Model Number with Negative Logic Remote On/Off

Module ON..... < 1,2Vdc

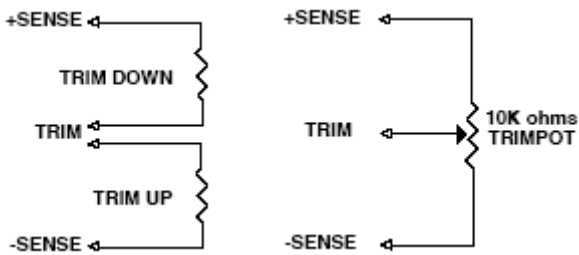
Module OFF..... >3,5Vdc to 75Vdc or Open Circuit

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



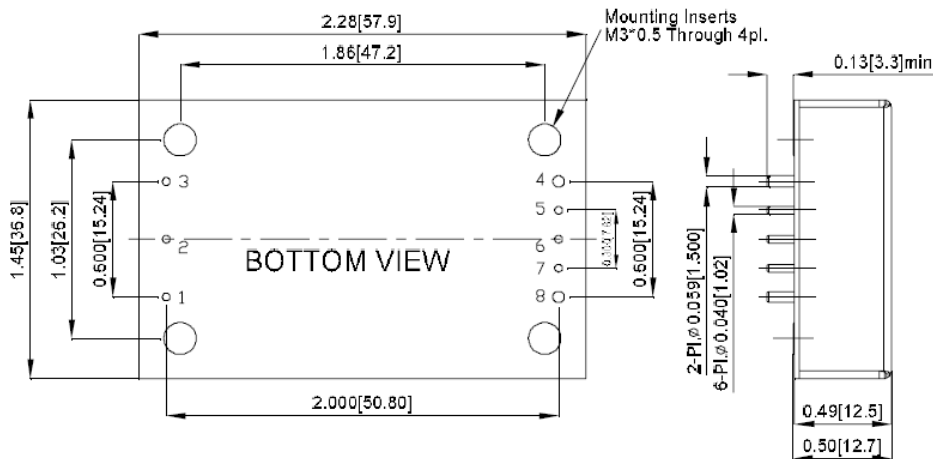
External Output Trim

Remote ON/OFF



Case Q

All Dimensions in Inches (mm)
 Tolerance x.xx= ±0.02 in.(x.x mm ±0.5mm)
 x.xxx in ±0.010 in.(x.xx mm ±0.25mm)



PIN CONNECTION	
Pin	Function
1	+Vin
2	ON/OFF
3	- Vin
4	-Vout
5	-Sense
6	Trim
7	+Sense
8	+Vout

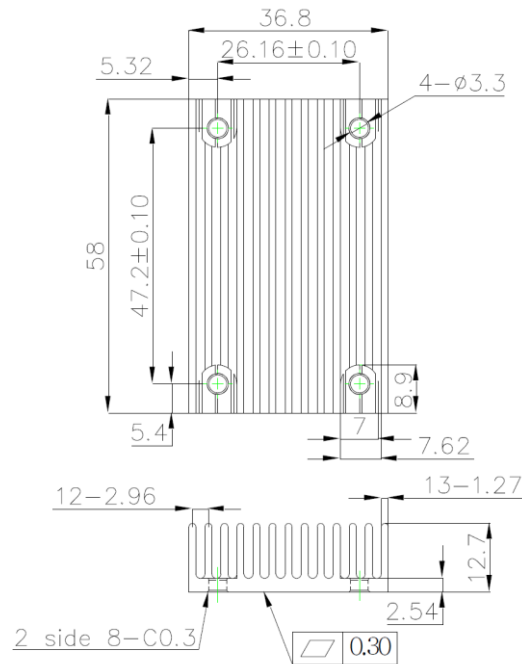
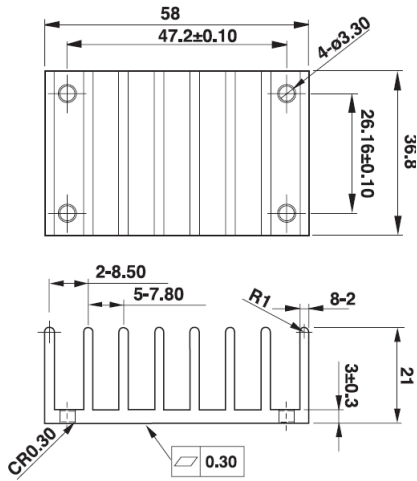
Technische Änderungen vorbehalten / Specifications are subject to change without notice

CASE Q: HEAT SINK

Vertical Fins
Order No. 17.079.206
Model No. M-C421

Horizontal Fins
Order No. 17.079.209
Model No. M-C448

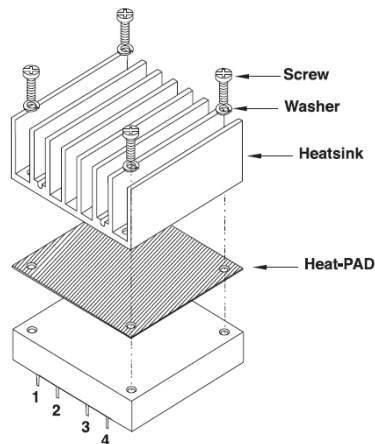
all dimensions in mm



Rca: 4,78°C/W (typ.), At natural convection
2,44°C/W (typ.), At 100LFM
2,06°C/W (typ.), At 200LFM
1,76°C/W (typ.), At 300LFM
1,58°C/W (typ.), At 400LFM

Rca: 5,61°C/W (typ.), At natural convection
4,01°C/W (typ.), At 100LFM
3,39°C/W (typ.), At 200LFM
2,86°C/W (typ.), At 300LFM
2,49°C/W (typ.), At 400LFM

Heat Sink Assembly
example



Screw SMP+SW M3x8L

Thermal pad SZ 35,8x56,9x0,25