150 Watt, 180 – 425 Wide Input DC/DC Converters
Series DV150Q2-300

E357872

Features

- 150 Watt Isolated Output
- Regulated Outputs
- Fully Isolated 3000VAC
- Low No load Power Consumption
- Fixed Switching Frequency
- Quarter Brick Size meet Industrial Standard
- Shock & Vibration Meets EN50155 (EN61373)
- Efficiency to 89%
- Continuous Short Circuit Protection
- Over Voltage/Current Protection
- Over Temperature Protection
- Remote ON/OFF
- UL60950-1 2nd Approved (Reinforced Insulation)
- Meets UL62368-1 / IEC62368-1

MODEL NUMBER	INPUT VOLTAGE [VDC]	OUTPUT VOLTAGE [VDC]	OUTPUT CURRENT [A] MAX.	INPUT CURRENT NO LOAD [mA]	INPUT CURRENT LOAD [A] MAX.	EFF. [%] TYP.	CAP. LOAD [µF] MAX.	CASE
	180 – 425							Q
DV150Q2-300S05		5	30	10	0,58	86	10000	
DV150Q2-300S12		12	12,5	10	0,56	89	8800	
DV150Q2-300S15		15	10	10	0,56	89	8800	
DV150Q2-300S24		24	6,3	10	0,57	88	3300	
DV150Q2-300S28		28	5,4	10	0,57	88	3300	
DV150Q2-300S48		48	3,2	10	0,57	89	1000	

Note:
1. Nominal Input Voltage 300 VDC.
2. Require a Ceramic Capacitor 1500pF Connected Between –Vin to Case for All Models.
3. An External Input Capacitor 68uF for All Models are Recommended to Reduce Input Ripple Voltage.
4. Measure at Nominal Input Voltage.

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INPUT SPECIFICATIONS:

Operating Input Voltage Range	300V	180-425V
Input over voltage protection	Module on	440V typ.
	Module off	450V typ.
Under Voltage lockout	300Vin power up	170V
	300Vin power down	160V
Input Filter (Note 7)		PI Type
Positive Logic Remote ON/OFF		see note 4 & 5

OUTPUT SPECIFICATION:

Voltage Accuracy		±1,0%max.
Transient Response: 75%-100% Step Load Change		
	Error Band	±5% Vout
	Recovery Time	<250 µs
External Trim Adj. Range		+10%, -20%
Ripple and Noise, 20 MHz BW (Note 3)	5V	60mV RMS / 100mV pk-pk max
	12V & 15V	60mV RMS / 150mV pk-pk max
	24V & 28V	100mV RMS / 280mV pk-pk max
	48V	200mV RMS / 480mV pk-pk max
Temperature Coefficient		±0,02%/°C
Short Circuit Protection		Continuous
Line Regulation (Note 1)		±0,2% max.
Load Regulation (Note 2)		±0,2% max.
Over Voltage Protection trip Range, % Vo nom		115-140%
Current Limit		110%-160% Nominal Output
Start-up Time		280ms typ.

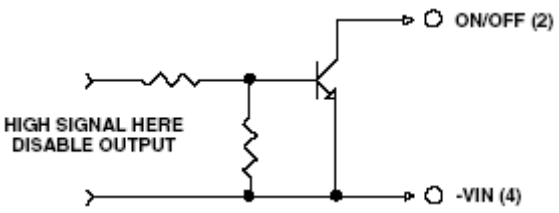
GENERAL SPECIFICATIONS:

Efficiency		See Table
Isolation Voltage	Input/Output	3000 VAC min.
	Input/Case	2500 VAC min.
	Output/Case	500 VAC min.
Isolation Resistance		10^8 Ohm min.
Switching Frequency		360KHz typ.
Operating Case Temperature		-40°C to105°C
Storage Temperature Range		-55°C to +105°C
Thermal Shutdown, Case Temp.		110°C typ.
MTBF (MIL-HDBK-217F, GB, 25°C, Full Load	48V	1000Khrs typ.
	Others	800Khrs typ.
Humidity		95% RH max. Non condensing
Dimensions		57,9 x 36,8 x 12,7 mm (2,28 x 1,45 x 0,50 inches)
Weight		65g typ.
Case Material		Aluminum Baseplate with Plastic Case

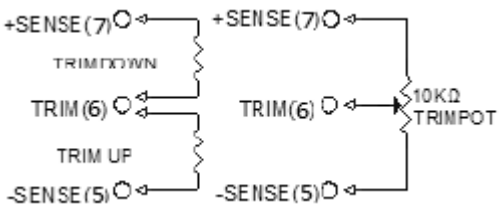
All Specifications Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

NOTE:
1. Measured from High Lint to Low Line
2. Measured from Full Load to Zero Load
3. Output ripple and noise measured with 10uF aluminum and 1uF ceramic capacitor across output for 48Vout and with 10uF tantalum and 1µ ceramic capacitor for others.
4. Logic Compatibility ..... Open Collector Ref. to -Input
   Module ON ..... >3.5Vdc to 75Vdc or Open Circuit
   Module OFF..... 0 to < 1.2Vdc
5. Suffix "N" to Model Number with Negative Logic Remote ON/OFF.
   Module ON ..... 0 to < 1.2Vdc
   Module OFF..... > 3.5Vdc to 75Vdc or Open Circuit
6. Suffix "-C" to the model number with clear mounting insert (3,2mm DIA.)
7. An external input capacitor 68 µF for all models are recommended to reduce input ripple voltage.
8. Require a disc ceramic capacitor 1500pF (type KX Class X1 Y1 series Murata) connected between –vin to case for all models.
9. All Specifications Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

Remote On/Off Control



External Output Trim



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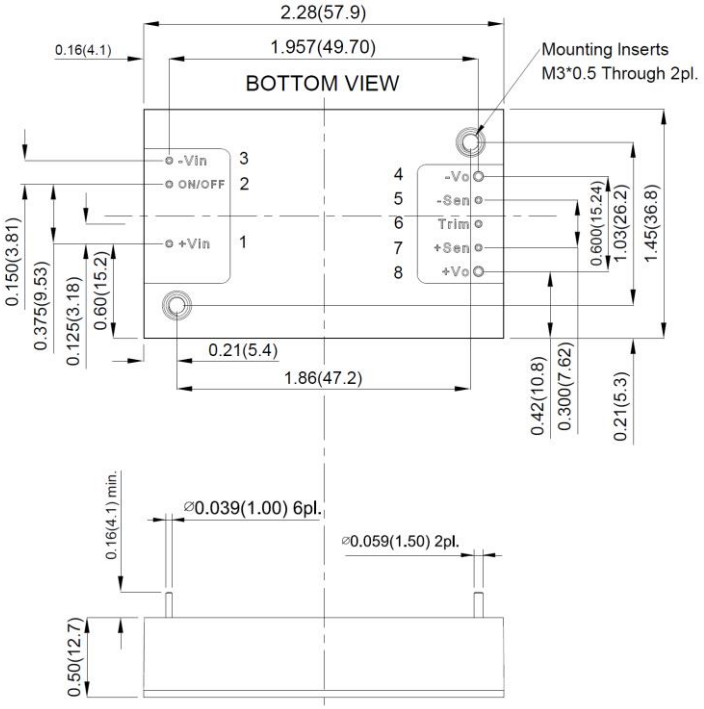
All Dimensions in Inches (mm)
Tolerance Inches x.xx = ±0.02 x.xxx = ±0.010
Millimeters x.x = ±0.5 x.xx = ±0.25



PIN CONNECTION	
Pin	**Function**
1	**+V Input**
2	**ON/OFF**
3	**-V Input**
4	**-V Output**
5	**-Sense**
6	**Trim**
7	**+Sense**
8	**+V Output**

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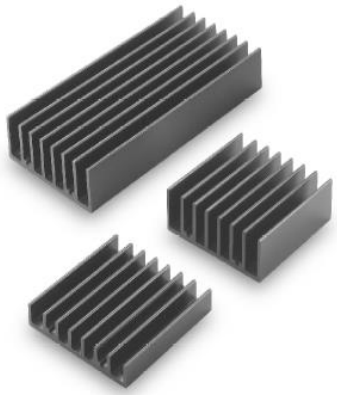
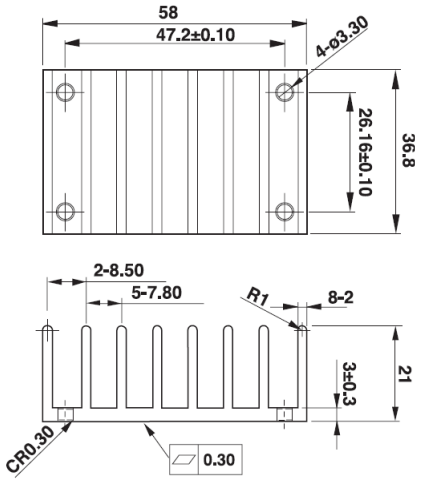
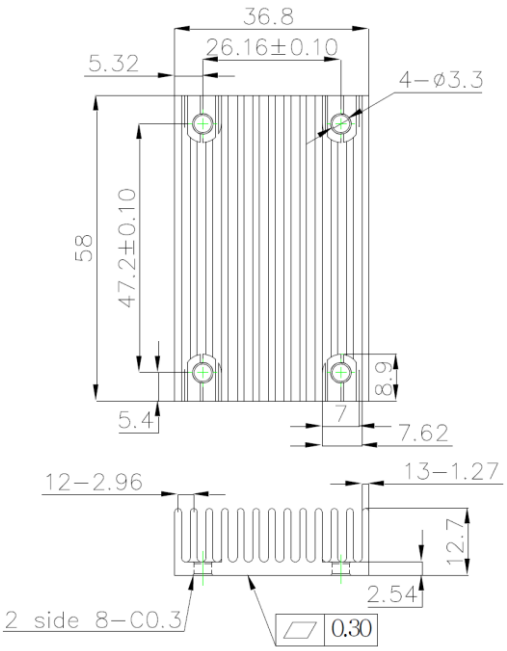


CASE Q: HEAT SINK

Transverse Heat Sink	**Longitudinal Heat Sink**
Order No. 17.079.206	**Order No. 17.079.209**
Model No. M-C421	**Model No. M-C488**

all dimensions in mm

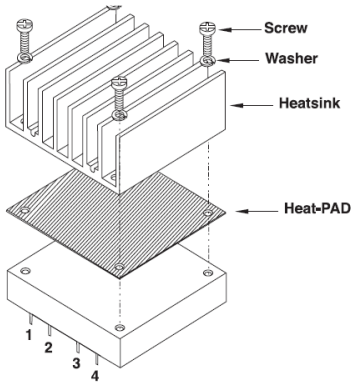




Rca: 4,78°C/W (typ.), At natural convection
2,44°C/W (typ.), At 100LFM
2,06°C/W (typ.), At 200LFM
1,76°C/W (typ.), At 300LFM
1,58°C/W (typ.), At 400LFM

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

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