



40 Watt, 43 – 160VDC Wide Input DC/DC Converters Series DV404XL-Railway



Features

- 40 Watt Isolated Output
- Regulated Outputs
- 4:1 Wide Input Range
- 3000 VDC Isolation
- Remote On/Off
- No Tantalum Capacitor Inside
- 2,05"x1,2" Six-Sided Shield Metal Case
- Shock & Vibration: EN50155 (EN61373)
- Fire & Smoke Meets EN45545-2
- Efficiency to 91%
- Fixed Switching Frequency
- Over Current Protection
- Input Under Voltage Protection
- Continuous Short Circuit Protection
- 3000m Operating Altitude
- UL60950-1 (Basic Insulation) Approval
- Meets EN50155 (EN50121-3-2) with external filter
- Meets IEC62368-1 / EN62368-1

MODEL NUMBER	INPUT VOLTAGE [VDC]	Vout [VDC]	OUTPUT CURRENT MAX. [mA]	INPUT CURRENT NO LOAD [mA]	INPUT CURRENT FULL LOAD [mA]	EFF. [%]	CAP. LOAD MAX. [µF]	CASE
DV43-160-3,3S10000XL	43 – 160	3,3	10000	6	340	88	10000	XL
DV43-160-05S8000XL		5	8000	6	409	88	8000	
DV43-160-12S3333XL		12	3333	6	404	90	3300	
DV43-160-15S2666XL		15	2666	6	399	91	2700	
DV43-160-12D1667XL		±12	±1667	6	408	88	1650	
DV43-160-15D1333XL		±15	±1333	6	408	88	1350	
DV43-160-24D833XL		±24	±833	6	408	89	850	

NOTE:

1. Nominal Input Voltage 110 Vdc

INPUT SPECIFICATIONS:

Input Voltage Range..... 43-160V
 Input Surge Voltage (100ms max.).....200Vdc max.
 Under voltage lockout: power up.....40V
 power down.....38V
 Input Filter.....Pi Type
 Positive Logic Remote ON/OFFNote 4 & 5

OUTPUT SPECIFICATION:

Output Current Min.0mA
 Voltage Accuracy.....±1,5% max.
 Voltage Balance (Dual)±1,0% max.
 Transient Response: 25% Step Load Change
 Error Band ±5% Vout nominal
 Recover Time <250 μ sec.
 External Trim Adj. Range (Single Output Only)±10%
 Ripple and Noise, 20 MHz BW (Measured with 1 μ F MLCC):
 3,3V & 5V..... 100mV pk-pk max.
 12V, 15V, ±12V & ±15V 150mV pk-pk max.
 ±24V..... 200mV pk-pk max.
 Temperature Coefficient.....±0,02%/°C
 Short Circuit ProtectionContinuous
 Line Regulation (Note 1)±0,2% max.
 Load Regulation (Note 2) (Single) ±0,5% max.
 (Dual) ±1,0% max.
 Cross Regulation (Dual Vout) Load Variation 10%/100% ..±5% max.
 Over Voltage Protection Zener or TVS Clamp
 Current Limit110 - 165% Nominal Output
 Start up time 15ms typ.

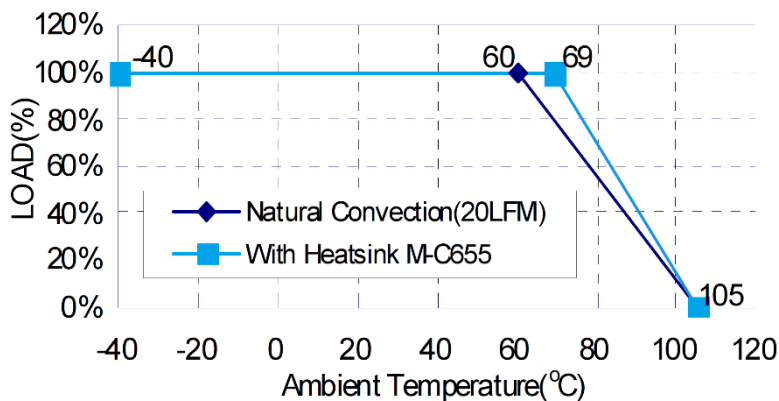
GENERAL SPECIFICATIONS:

Efficiency See Table
 Isolation Voltage..... Input/Output 3000 VDC min.
 Input/Case..... 1600 VDC min.
 Output/Case..... 1600 VDC min.
 Isolation Resistance..... 10⁹ Ohm min.
 Isolation Capacitance..... 1500 pF typ.
 Case Grounding Output/Case..... 1000 pF typ.
 Switching Frequency..... 250KHz typ.
 EMI/RFI.....Six-Sided Continuous Shield
 Operating Ambient Temperature Range -40°C to +85°C
 Derating, above 60°C.....Linearly to Zero Power at 105°C
 Case Temperature (Note 5)..... 105°C max.
 Cooling..... Natural Convection
 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)905Khrs typ.
 Safety..... UL60950-1 2nd (Basic insulation) Approved
 meet IEC62368-1 / EN 2368-1
 EMC (Note 6) meet EN50155 (EN50121-3-2) with external filter
 Shock/Vibrationmeet EN50155(EN61373)
 Dimensions 52 x 30,5 x 10,2 mm
 (2,05 x 1,20 x 0,40 inches)
 Case Material Aluminum with Non-Conductive Base
 Weight..... 36g typ.

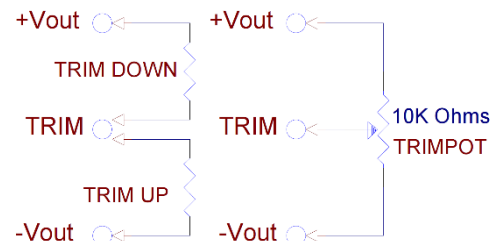
NOTE:

1. Measured from high to low line.
2. Measured from full load to no load.
3. Logic CompatibilityCMOS or Open Collector TTL,
ref. to -Input
- Module ON >3,5Vdc to 75Vdc or Open Circuit
- Module OFF 0 to < 1,2Vdc
4. Suffix "N" to the model number with negative logic remote On/Off
- Module ON 0 to <1,2 Vdc
- Module OFF > 3,5Vdc to 75Vdc or open circuit
4. Maximum case temperature under any operating condition
should not be exceeded 105°C.
5. Design meet EN50155 and RIA12 refer to Application Note.
6. All Specifications Typical at Nominal Line, Full Load and 25°C.

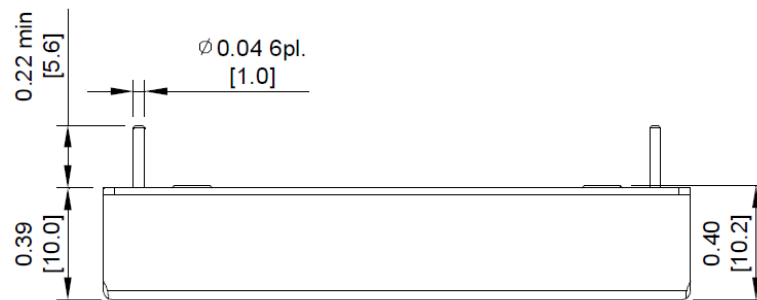
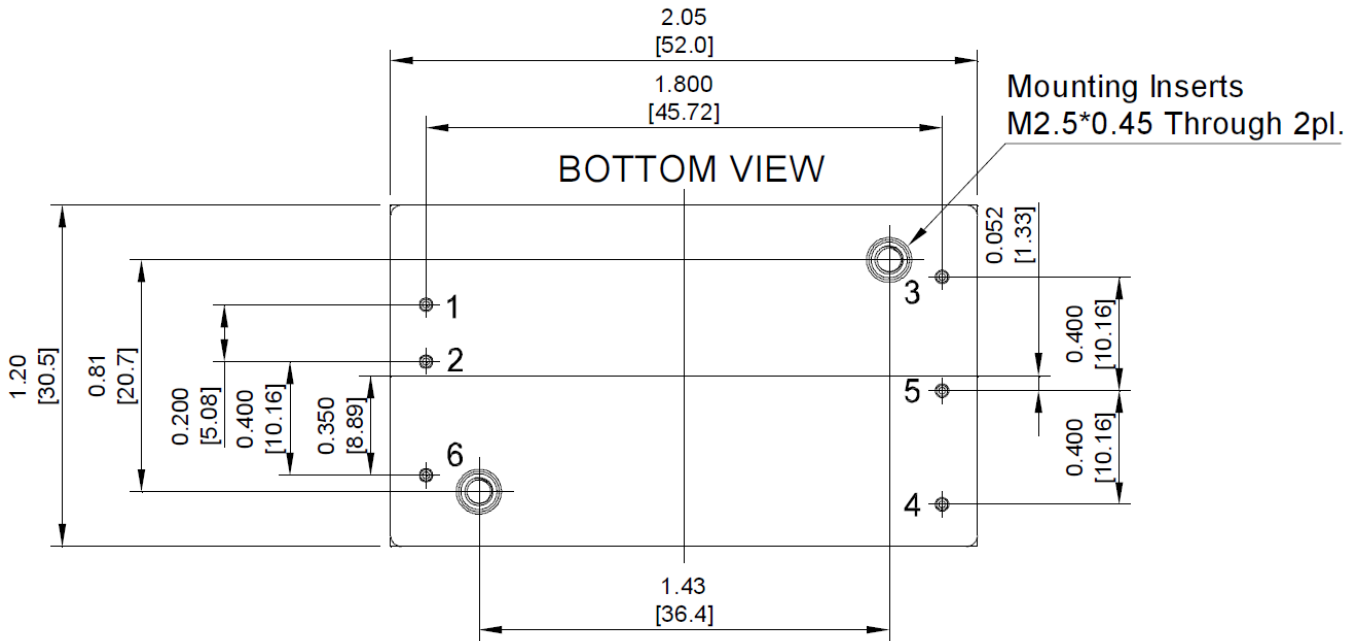
TYPICAL DERATING CURVE



External Output Trimming



All Dimensions in Inches (mm)
 Pin Size is 0.04±0.004 Inch (1.0±0.1 mm)DIA
 Tolerance x.xx= ±0.02 inches (x.x ±0.5mm)
 x.xxx in ±0.010 inches .(x.xx ±0.25mm)

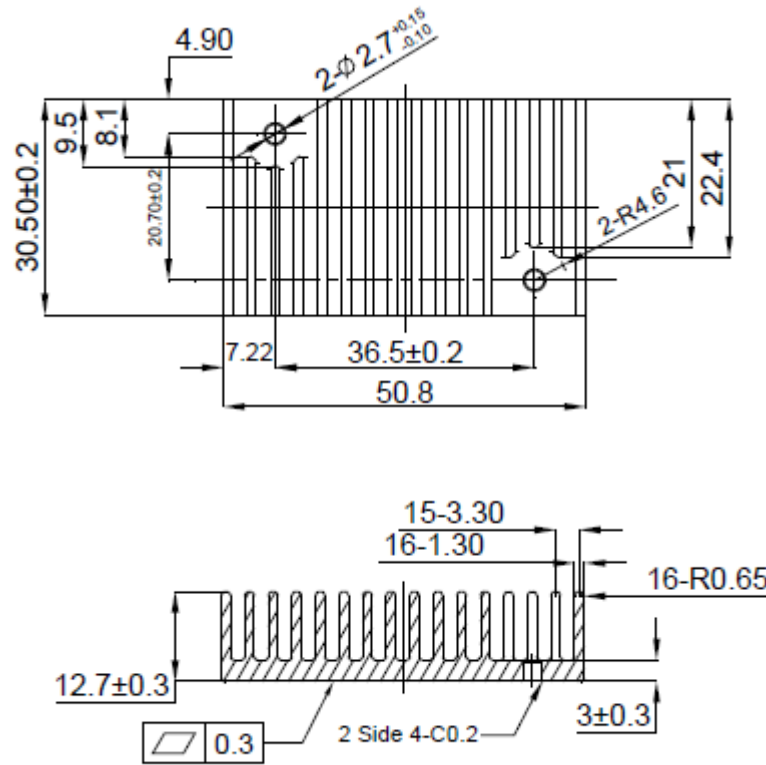


PIN CONNECTION		
Pin	Single Output	Dual Output
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	-Vout
5	-Vout	Common
6	Remote On/Off	Remote On/Off

CASE XL: HEAT SINK

Transverse
 Order No. 17.079.204
 Model No. M-C655 XL

All dimensions in mm



Rca: 8,99°C/W (typ.), At natural convection

Heat Sink Assembly example

