

**FEATURES**

- 100% Burn-in
- High Efficiency
- Adjustable Outputs
- Remote On/Off Control
- Ultra Wide Input Range
- 100°C Case Temperature
- Thermal Overload Protection
- Higher Operating Temperature
- UL1950, EN60950 (see Note 8)
- Single, Dual, and Triple Outputs
- Continuous Short Circuit Protection
- Up to 1500VDC I/O Isolation Voltage
- Input Under and Over Voltage Lockout
- New 2" x 3" Package (fits 3" x 3" pin out)



**DESCRIPTION**

The QAW series of DC/DC converters offers 40 watts of output power and has an ultra wide input range of 9 – 36VDC and 18 – 75VDC. This series also has single, dual, and triple output models. Some features include remote on/off control, adjustable outputs, thermal overload protection, over voltage protection, and short circuit protection. The QAW series allows higher power density with higher efficiency, while maintaining an industry-standard pinout configuration. With this series, the designer can retrofit the converter on existing designs as well as making use of the smaller package size on new designs. All models are 100% burn-in tested.

**SPECIFICATIONS: QAW Series**

*All specifications apply @ ±25°C ambient unless otherwise noted*

**INPUT SPECIFICATIONS**

Input Voltage Range .....	24V nominal input .....	9 - 36 VDC
	48V nominal input .....	18 - 75VDC
Input Filter .....	Pi-Input Filter	
Remote On/Off (active high) .....	Open Collector TTL	
UVLO .....	24V nominal input .....	8.5VDC
	48V nominal input .....	17VDC
OVLO .....	24V nominal input .....	40VDC
	48V nominal input .....	80VDC

**OUTPUT SPECIFICATIONS**

Output Current .....	see table
Output Voltage .....	see table
Voltage Tolerance .....	±1% primary, ±5% auxiliary
Line Regulation .....	±0.5% primary, ±1% auxiliary
Load Regulation .....	±1% singles (see Note 6)
Maximum Power .....	60W
Ripple/Noise .....	100mVp-p (see Note 2)
Minimum Load (see Note 7) .....	10%
Transient Response .....	300µs to ±1.5% max.
External Trim .....	±5% min.
Temperature Coefficient .....	±0.02%/°C typical

**PROTECTION**

Short Circuit Protection .....	Hiccup mode
Over Voltage Protection .....	Zener clamp
Current Limiting .....	Power foldback
Thermal Overload .....	+110°C baseplate, self-resetting

**GENERAL SPECIFICATIONS**

Switching Frequency .....	350kHz typical
Efficiency .....	85% typical
Isolation Voltage (input to output) .....	1500VDC min.
Isolation Resistance .....	1k MOhm

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature .....	-40°C to +100°C (case)
Storage Temperature .....	-55°C to +105°C
Humidity .....	5% to 100%
MTBF .....	3,510,000 hrs (Bellcore TR-332)

**PHYSICAL SPECIFICATIONS**

Weight .....	6 oz
Dimensions .....	3.04(L) x 2.04(W) x 0.55(H) inches
Case Material .....	Black coated aluminum
Shielding .....	six-sided shielding with four mounting inserts
Pins .....	gold plated

*Due to advances in technology, specifications subject to change without notice*

**OUTPUT VOLTAGE / CURRENT RATING CHART**

Model	Input Voltage	Output Voltage	Output Current	Output Power
QAW24S5-40	24 VDC (9 – 36 VDC)	5 VDC	8.0A	40W
QAW24S8-40		8 VDC	5.0A	40W
QAW24S12-40		12 VDC	3.3A	40W
QAW24S15-40		15 VDC	2.66A	40W
QAW24S18-40		18 VDC	2.22A	40W
QAW24D5-40		±5 VDC	±4.0A	40W
QAW24D12-40		±12 VDC	±1.66A	40W
QAW24D15-40		±15 VDC	±1.33A	40W
QAW24T12-40		5/±12 VDC	4.0/±0.833A	40W
QAW24T15-40		5/±15 VDC	4.0/±0.667A	40W
QAW48S5-40		48 VDC (18 – 75 VDC)	5 VDC	8.0A
QAW48S8-40	8 VDC		5.0A	40W
QAW48S12-40	12 VDC		3.3A	40W
QAW48S15-40	15 VDC		2.66A	40W
QAW48S18-40	18 VDC		2.22A	40W
QAW48D5-40	±5 VDC		±4.0A	40W
QAW48D12-40	±12 VDC		±1.66A	40W
QAW48D15-40	±15 VDC		±1.33A	40W
QAW48T12-40	5/±12 VDC		4.0/±0.833A	40W
QAW48T15-40	5/±15 VDC		4.0/±0.667A	40W

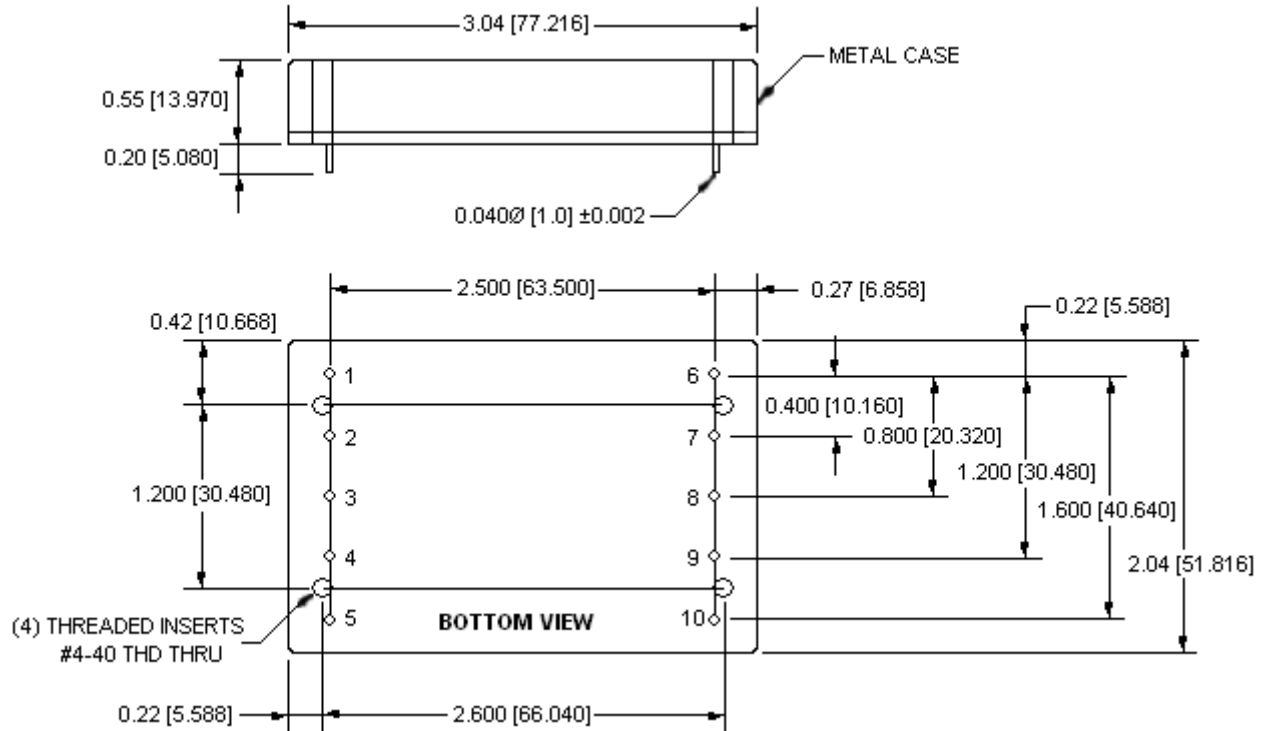
**Add the suffix "A" to the part number to reverse input pin functions (see page 3)**

**NOTES**

1. Auto off power train protection.
2. Ripple & Noise is measured with a 0.1µF capacitor across output.
3. Heat sinks available. Please consult factory for ordering details.
4. Application notes on thermal management and external trim available, consult factory.
5. Case and pin-to-case measurements for reference only unless otherwise noted.
6. Single Outputs: ±1% min. to full load  
Dual Outputs: ±1% min. to full load (balanced)  
Triple Outputs: ±1% min. to full load (main output)  
±5% min. from 20% to full load aux. (unbalanced)
7. 10% minimum load required on all outputs.
8. Triple output units are approved to UL1950. All other models including "A" option units are designed to meet UL1950, EN60950.
9. The pins on all the units of this series are gold plated.
10. Add "A" suffix to the part number to reverse input pin functions (see page 3).

**MECHANICAL DRAWING**

Unit: inches [mm]



*Case and pin-to-case measurements for reference only unless otherwise noted.*

PIN CONNECTION			
PIN #	SINGLE	DUAL	TRIPLE
1	No Pin	No Pin	No Pin
2	-Input	-Input	-Input
3	+Input	+Input	+Input
4	Case	Case	Case
5	On/Off Control	On/Off Control	On/Off Control
6	No Pin	-Vout	-12V / -15Vout
7	No Pin	No Pin	+12V / +15Vout
8	Common	Common	Common
9	+Vout	+Vout	+Vout
10	Trim	Trim	Trim

For "A" option/suffix, Pin 2 is +Input (+Vin), Pin 3 is -Input (-Vin)