

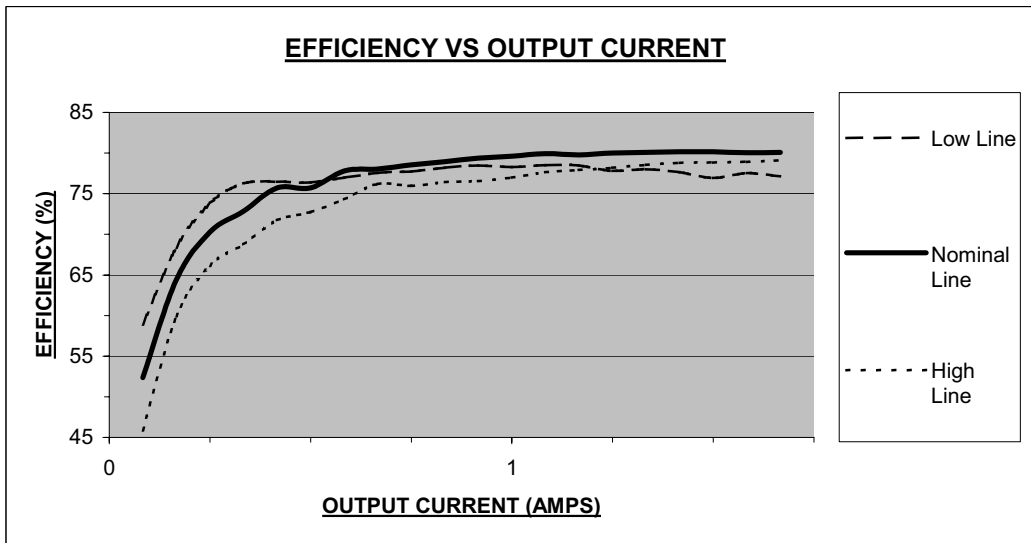
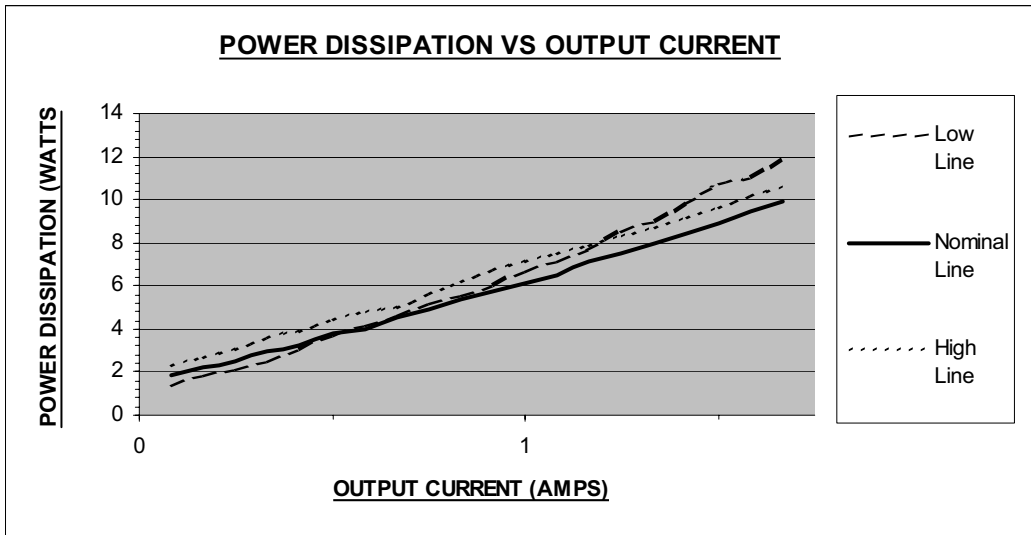
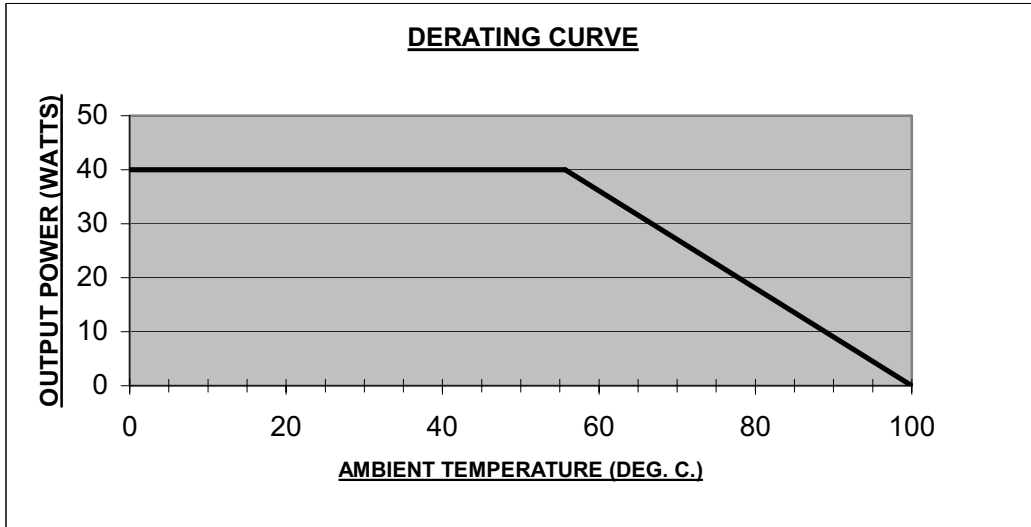


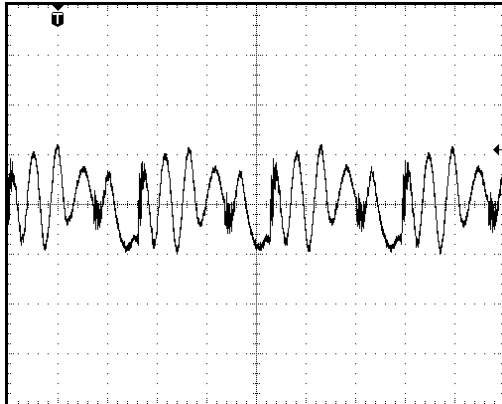
Wall Industries, Inc.

APPLICATION NOTES

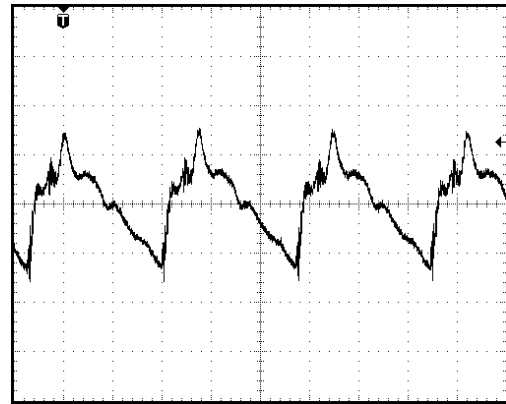
QAW SERIES

Technical Specifications		Model No.		QAW24D12-40			
All specifications are based on 25C, Nominal Line and Full Load unless otherwise noted. We reserve the right to change specifications based on technological advances.							
SPECIFICATION		Related condition		MIN	NOM	MAX	Unit Measured
INPUT							
Turn on at					8.8		Volt DC
Turn off at					8.8		Volt DC
Input Over voltage Shutdown							
Turn off at					39		Volt DC
Turn on at					38		Volt DC
Operating Voltage Range		Rated Input Voltage		9	24	36	Volt DC
Maximum Input Current		Low Line 100% load			5.75		A
No Load Input Current					60		mA
Input Current under "LOGIC OFF"					1		mA
Inrush Current Transient Rating					1		A ² Sec
Reflected Ripple Current		20 MHz w/low source impedance			900		mA
OUTPUT							
Output Voltage Set point				±11.76	±12	±12.24	Volt DC
Output Voltage Regulation							
Over Load		with balanced loads			± 1		%
Over Line					± 1		%
Over Temperature					0.02		% / °C
Output Voltage Ripple and Noise							
Basic Ripple					45	100	mV
Spikes P-P					50	100	mV
Output Current Ranges		Rated Output Current		±0.167		±1.667	A
Output Current Limit		Self Resetting		±2.167	±2.5	±2.833	A
Short Term Output Current Surge							A/sec
DYNAMIC CHARACTERISTICS							
Input Voltage Ripple Rejection		120 Hz			60		dB
Output Transient and Load Changes							
Load step / Δ V		X	50 to 75%		50 to 100%	60	mV
Load step / Δ V		X	75 to 50%		100 to 50 %	50	mV
Recovery Time		To within 1% Rated Vo			200		μsec
Turn on Delay		From Vin(nom) to 90% Vout (nom)			240		msec
Overshoot of Output Voltage		Full Load Resistive			0		%
EFFICIENCY							
@ 100% load					80		%
@ 75% load					80		%
@ 50% load					79		%
@ 25% load					76		%
TEMPERATURE CONSIDERATIONS							
Thermal Resistance							
Normal Convection		R0c-a			4.47		°C/Watt
100 lfm							°C/Watt
200 lfm							°C/Watt
300 lfm							°C/Watt
400 lfm							°C/Watt
Heatsink Considerations		Available, Contact Factory					
General Technical Data							
Switching Frequency		Fixed			360		KHz
Remote ON OFF Control		Active HIGH, Open Collector					TTL
Trimmability				±11.4		±12.6	Volt DC
Over Temperature Shutdown		Case Temperature				105	°C
MTBF							
		Bellcore TR-332			3.51E6		Hours

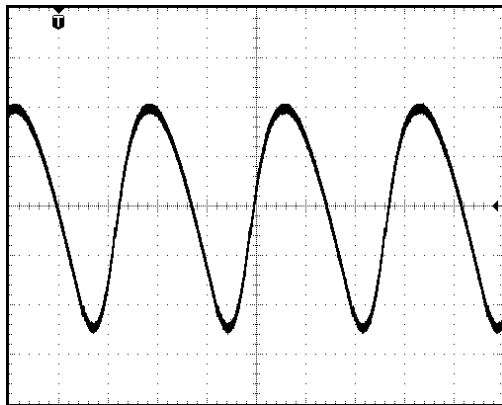




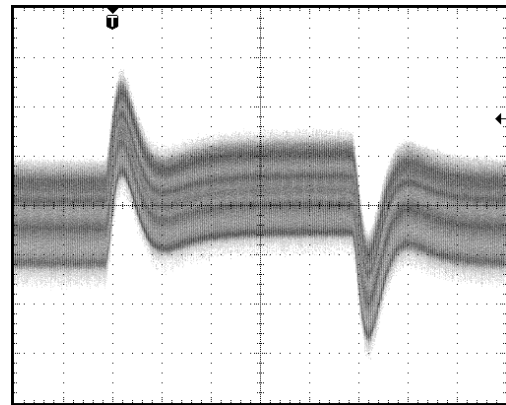
TYPICAL OUTPUT RIPPLE
20mV/div, 1uS/div, full load, 9Vin
0.1uF decoupling cap at room temp
measured at positive output (+Vout)



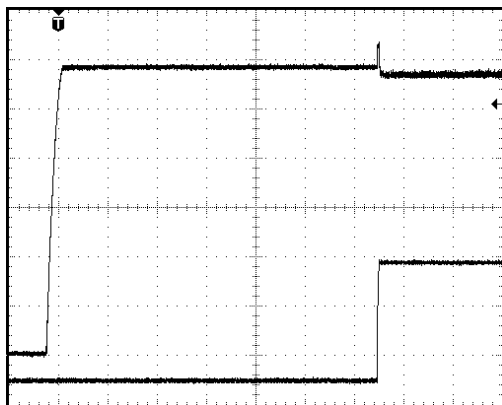
TYPICAL OUTPUT RIPPLE
20mV/div, 1uS/div, full load 36Vin
0.1uF decoupling cap at room temp
measured at positive output (+Vout)



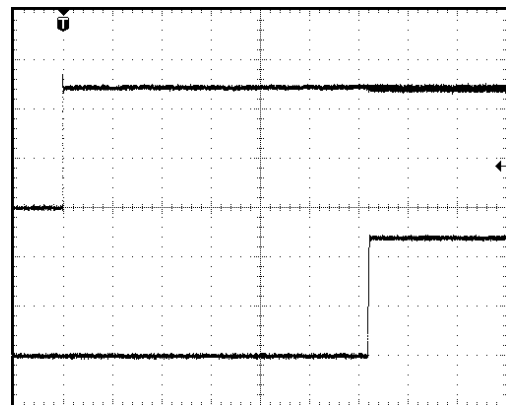
TYPICAL INPUT RIPPLE CURRENT
200mA/div, 1uS/div, full load 24Vin at
room temp with a low source impedance



TYPICAL TRANSIENT RESPONSE
20mV/div, 200uS/div, 50% full load
to 75% full load 24Vin room temp
measured across both outputs (+Vout to -Vout)



TYPICAL RISE TIME & TURN-ON DELAY
USING LOGIC ENABLE
5V/div, 40mS/div (Vout), 2V/div 40mS/div (logic
enable) 9Vin, full load at room temp



TYPICAL RISE TIME & TURN-ON DELAY
WITH Vin 0-24V
5V/div, 40mS/div (Vout), 10V/div, 40mS/div (Vin)
at room temp