

PRODUCT SPECIFICATION

Switching reg.

switching freq. 25 kHz

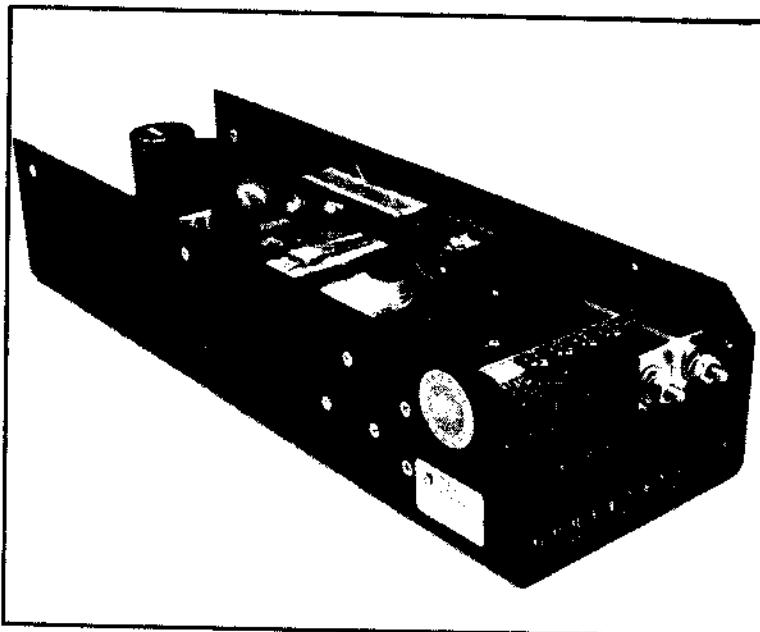
Temperature 50°C

QS3 Series

Multiple Output Switching
Power Supplies

Features

- UL Recognized to UL 1012 and 478 †
- CSA Certified to C 22.2 No. 220 - M1986 and EB1402 †
- TUV Licensed to IEC 380 and VDE 0806 Class 1 SELV †
- Fully compliant with FCC and VDE (Level A) standards for EMI
- 90-132/180-264 VAC, 47-63 Hz
- Accommodates high-peak disk drive requirements
- All outputs fully regulated
- 0° - 50° C operating ambient with convection cooling only
- AC input safety provisions:
 - jumper relocation for VAC range selection
 - input transient voltage limited
 - input surge current limited
 - brown out protected
- DC output safety provisions:
 - complete overload protection
 - overvoltage protected
 - reverse voltage protected
 - low noise outputs
- Remote/internal sensing for Output 1
- Output 1 provided via 1/4" studs or terminal block



300/400 Watts Up to 5 Outputs

Available Outputs

Standard Output Voltage Combination	Output 1*			Output 2			Output 3			Output 4			Output 5		
	Volts	Rated Amps	Peak Amps	Volts	Rated Amps	Peak Amps	Volts	Rated Amps	Peak Amps	Volts	Rated Amps	Peak Amps	Volts	Rated Amps	Peak Amps
B	5	80	90	+12	6	7	-12	6	7	-5	6	7	24	10	14
C	5	80	90	+15	6	7	-15	6	7	-	-	-	-	-	-
D	5	80	90	+12	6	7	-12	6	7	-5	6	7	12	12	18
E	5	80	90	+12	6	7	-12	6	7	-	-	-	24	10	14
G	5	80	90	+12	6	7	-12	6	7	-	-	-	12	12	18
I	5	80	90	+12	6	7	-12	6	7	-	-	-	-	-	-
J	5	80	90	+12	6	7	-12	6	7	-	-	-	12	12	18
L	5	80	90	+24	5	6	-12	6	7	-5	6	7	12	12	18
M	5	80	90	-	-	-	-12	6	7	-5	6	7	24	10	14

*Output studs required if current is >60 Amp

- Available options include:
 - remote on/off control
 - power fail (good) signal
 - thermal shutdown
 - EMI/safety cover

Total (sum) of rated DC output power, maximum:
 Convection cooling only 300 Watts
 Forced-air cooling (25 CFM) 400 Watts
 Peak power (10 sec) 475 Watts

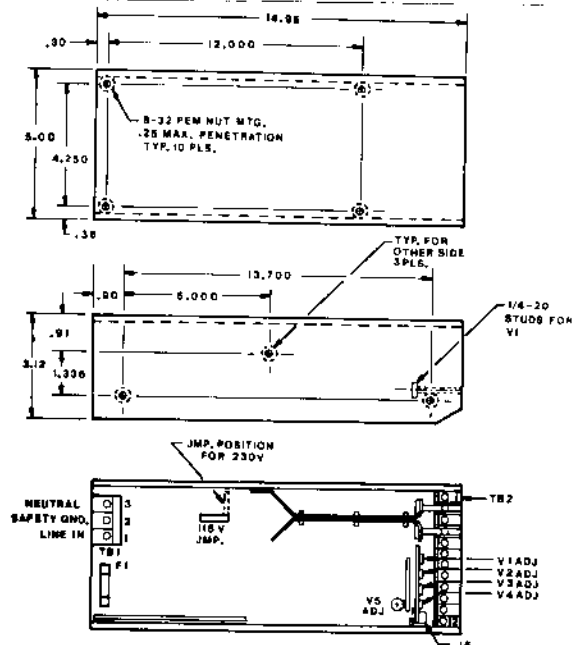
- Other output combinations are also available; consult factory
- Outputs 1 and 5 have separate returns; Outputs 2, 3 and 4 share a common return
- The sum of Outputs 2, 3 and 4 currents shall be limited to 10 Amp rated and 18 Amp peak

†Most models; consult factory



QS3 Series

Outline/Mounting/Interface



Terminal Block (TB1)

- 1 AC Input
- 2 Frme Gnd
- 3 AC Input

Terminal Block (TB2)

- 1-3 Output 1 (+)
- 4-6 Output 1 Return
- 7 Output 2 (+)
- 8 Outputs 2-4 Return
- 9 Output 3 (-)
- 10 Output 4 (-)
- 11 Output 5 (+)
- 12 Output 5 Return

Specifications

AC Input	Nominal: 115/230 VAC, 47-63Hz Range: 90-132/180-264 VAC; jumper plug selectable
DC Outputs	Nominal: See AVAILABLE OUTPUTS table Range: $\pm 5\%$ adjustment, all outputs
Regulation	Line: $\pm 0.25\%$, all outputs, full AC Input range Load: $\pm 0.25\%$, all outputs, Output 1 at 10-100% loading, all other outputs at 0-100% of rating
Ripple/Noise	Sum: 1% Pk-Pk, all outputs
Overshoot & Undershoot	Deviation: 2% for 25% load change at 5A/usec Response: 200 usec to 1% deviation, all outputs, turn-on or turn-off
Temperature Coefficient	$\pm 0.02\%$ / $^{\circ}\text{C}$, all outputs
Temperature Range	Operation: 0° to 50°C at rated output power derate linearly to 50% power at 70°C Storage: -55°C to 85°C
Efficiency	75% typical
Overload Protection	Output 1: current limited by primary current level Outputs 2 through 5: current limited by post regulator characteristics
Overvoltage Protection	Output 1: output level $> 6.25V \pm 5\%$ causes shutdown (AC input cycle for restart) Other Outputs: post regulators have preregulated inputs.

Ordering Information

Options* QS3 - A 1 A B C D E F L R S

Series	_____	Reverse Power Fail (Good)
Case/Configuration	_____	Reverse Remote On/Off
Output Combination (See AVAILABLE OUTPUTS)	_____	Eliminate Output 1 Studs
Version (1=Standard)	_____	Wire for 230 VAC
		Vert. Adj. Pots for V1-V4
		EMI/Safety Cover
		Thermal Shutdown
		Power Fail (Good)
		Remote On/Off

*List all options selected

All Power Supplies are warranted to be free of defects in materials and workmanship for a period of one year.

Connector (J6) - Remote Control

AMP MTA, .1 Centers

- 1 Output 1 Remote Sense (+)
- 2 Output 1 Remote Sense (-)
- 3 Thermal Shutdown
- 4 Power Fail
- 5 Remote On/Off

Hold-up Time	20 ms after loss of nominal AC Input, for specified load regulation
In-rush Surge	50A Pk, cold start
Fusing (F-1)	10A/5A, 3AG for 115/230 VAC
Remote Sense	For Output 1 only
Remote On/Off*	Turn on: open circuit or TTL "hi" Turn off: short to Output 1 return, or TTL "lo"
Power Fail (Good)*	Power applied: Output "lo" until all outputs are in regulation Power lost: After one cycle ride-through (16 msec minimum) output goes "lo" 4 msec minimum before loss of regulation
Thermal Shutdown*	Heat-sink-mounted thermal switch shorting to Output 1 Return initially causes "lo" "power fail"; then, after 4 msec delay, acts equivalently to overvoltage shutdown
Shock/Vibration	Per MIL-STD-810C Vibration: Method 514.2 Procedures X, X1 Shock: Method 516.2, Procedures I, III Shock (Transit): Method 516.2, Procedure II
Weight	7 lbs., 11 oz.

Specifications are subject to change without notice.

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