Specifications typical at 25°C with forced air at 400 fpm, HV = +160 V. Current mode load = 250 µH + 33 mΩ. Capacitor each side to ground 0.47 µF.

Model	Current Mode							Voltage Mode (-V)		
	Output (±A Peak) Pulse Duration / Off time (ms)							Output (kVA) Sine Burst Duration/ Off time (ms)		Load
	(DC)	500/500	100/100	10/20	170/1000	25/1000	4/100	(DC)	500/500	(Ω)
234P02	225	280	318	375	400	500	500	23	32	0.45 0.32

PEAK CURRENT SHUTDOWN 520 A

INPUT LIMITER Adjustable
- Current Mode ±30 to ±500 A
- Voltage Mode ±15 to ±160 V

SATURATION RESISTANCE 0.012 Ω

GAIN Adjustable with programmable span
- Current Mode 1 to 40 A/V
- Voltage Mode 25.0 V/V, 28 dB

OUTPUT OFFSET ±100 mA, adjustable to zero
- Current Mode Span 1.4 A
- Voltage Mode Span 0.9 V

INPUT CHARACTERISTICS
- Main Input 1 Differential
- Impedance 50 kΩ each input to ground, 25 kΩ differential
- Max Input Voltage ±18 V either input or differential
- Common Mode Rejection 70 dB min, from DC to 360 Hz
- Input 2 Same as Input 1
- Gain Programmable

DC OUTPUT RESISTANCE
- Current Mode 500 Ω
- Voltage Mode 0.0012 Ω

LOAD
- Current Mode 250 µH + 33 mΩ, 0.47 µF each side to ground
- Voltage Mode 0.45 Ω
- Adaptable Range 2 µH to 2.5 H, 0.012 Ω to Open

CURRENT MODE RESPONSE
- Small Signal Bandwidth –3 dB @ 4 kHz

CURRENT SETTLING TIME
- Time Reference End of input ramp
- Input Ramp Slope ±300 A/600 µsec
- Ramp 0 to ±300 A 150 µsec to within 3.0 A, 1%
250 µsec to within 1.2 A, 0.4%
350µsec to within 0.6 A, 0.2%
- Ramp ±300 A to 0 A 150 µsec to within 3.0 A, 1%
250 µsec to within 1.2 A, 0.4%
350 µsec to within 0.6 A, 0.2%

VOLTAGE MODE RESPONSE	Flat to DC
Power Bandwidth	DC to 4 kHz, –1 dB
Load Resistance	0.45 Ω
Small Signal	–1 dB @ 10 kHz
	–3 dB @ 20 kHz
Open Load	+0.5, –3 dB from DC to 40 kHz
TOTAL HARMONIC DISTORTION	
Current Mode	200 Hz, 225 A RMS, 0.2% max
Voltage Mode	200 Hz, 18 kVA, 0.3% max
Load	250 µH + 33 mΩ
DC DRIFT	After 1 hour
Current Mode Offset	4 mA/°C
Self Heating Drift, 0 to ±180 A	65 mA/10 minutes maximum
Scale Factor	30 ppm/°C
Voltage Mode Offset	0.5 mV/°C
Scale Factor	50 ppm/°C
SWITCHING FREQUENCY	81 kHz
Synchronization	Input or output
NOISE OUTPUT	
Current Mode	
	10 Hz to 10 kHz 1.6 mA RMS
	10 Hz to 500 Hz 0.8 mA RMS
Voltage Mode	
	10 Hz to 20 kHz 2 mV RMS
	10 Hz to 500 Hz 0.5 mV RMS
RIPPLE NOISE OUTPUT	81 kHz
Each Side to Ground	2.5 V RMS max, same phase
80 V Output, Differential	2.5 V RMS max
Current, 0 V Output	0.4 mA /L RMS
Current, 80 V Output	4 mA/L RMS
	where L = load inductance in mH
DC POWER SUPPLY SENSITIVITY	
Current Mode	1.6 mA/V max
CURRENT MONITOR	Front panel BNC and rear panel D connector
	±1 V/60 A ±1%
Source Resistance	0.1 Ω
VOLTAGE MONITOR	Front panel BNC and rear panel D connector
	±1 V/20 V ±1%
Source Resistance	940 Ω
PROGRAMMING HEADER	Sets gain and response for specific load
Accessibility	Rear panel D connector
REMOTE SHUTDOWN	Switch closure enables output
	Selectable ENABLE or INHIBIT
	Grounded or optoisolated input
	Front panel **Inhibit** switch must be off
SWITCHES	**Inhibit** , with LED, front panel
	Reset, front and rear panels

LOAD PROTECTION	
Voltage or Current	Adjustable input limiter Soft Start
Shutdown	Current vs time All four bridge arms open
Diode Clamps	To +HV and ground
AMPLIFIER PROTECTION	
Overload	Input limiter
Current vs Time	Shutdown
Each Heat Sink Temp	Shutdown 90 °C
Overvoltage Shutdown	170 V
Undervoltage Shutdown	35 V
Fan Undervoltage Shutdown	22 V
5 V CMOS STATUS OUTPUTS	Fault Is Low
+5 V	+5 V Regulated, HV is on
CHANNEL ON	Master and slaves enabled and operating
NORMAL	Amplifier operates if enabled
FAULT	Inverted normal
DC	One or more DC voltages out of range
HOT	Coil or heat sink over-temperature
OVER-CURRENT	Too much current for too long
MODULE 1	Module 1 fault
MODULE 2	Module 2 fault
MODULE 3	Module 3 fault
Maximum Current Output	10 mA each output
FRONT PANEL LEDS	Same as CMOS outputs listed above.
REAR PANEL LED	NORMAL
POWER REQUIREMENTS	
Fan Supply Required	+28 V @ 2 A
High Voltage Supply	+50 V to +160 V
Current	See Note 1
Quiescent Current	1.3 A
Internal Capacitance	54400 µF
THERMAL REQUIREMENTS	
Power Dissipation at 225 A RMS	1600 W
Peak Dissipation at 318 A	3200 W
Panel Inlet Air Temperature	-20 °C to +35 °C
Storage	-30 °C to +85 °C
MECHANICAL	
Size	10.5" high x 19" wide x 23.4" deep; can be rack mounted 26.7 cm high x 48.3 cm wide x 59.4 cm deep
Weight	75 lb, 34.0 kg

NOTES

1. Current required to supply load I^2R losses plus amplifier losses.