MODEL 262PN HIGH POWER AMPLIFIER

Specifications typical at 25 °C. HV = +330 V. Current mode load = 700μ H + 125 m Ω , equalized externally for eddy current losses. Load capacitance each side to ground 0.047 μ F.

	Current Mode							
		Output (± Apeak) Pulse Duration/ Off Time (ms)						
Model	Load Voltage	(DC)	500/500	100/100	10/20	170/1000	25/1000	4/100
262PN	±300V	85	106	120	142	142	177	177

PEAK CURRENT SHUTDOWN	190 A
VOLTAGE OUTPUT Slew Rate	± 300 VDC, across output terminals with 142 A pulses V/L A/s where V = 300 V and L = load inductance
INPUT LIMITER Current Mode	Adjustable ±15 to ±177 A
SATURATION RESISTANCE	0.1 Ω
GAIN Current Mode Adjustment Span	Adjustable with programmable span 10 to 25 A/V
OUTPUT OFFSET Amplifier Adjustment Span Factory Preset to	±0.3 A 0 A
INPUT CHARACTERISTICS Main Input 1 Impedance Max Input Voltage Common Mode Rejection Input 2 Gain	Differential 50 kΩ each input to ground, 25 kΩ differential ±18 V either input or differential 70 dB minimum, DC to 360 Hz Same as Input 1 Programmable
DC OUTPUT RESISTANCE Current Mode	4000 Ω
LOAD Current Mode Adaptable Range	700μH + 125 mΩ, load capacitance 0.047 μF each side to ground 60 μH to 8 H, 0.04 Ω to Open
CURRENT MODE RESPONSE Small Signal Bandwidth	–3 dB @ 3.5 kHz
RAMP SETTLING TIME Time Reference Input Ramp Slope Ramp 0 to ±142 A Ramp ±142 A to 0 A	End of input ramp $\pm 142A/760\mu s$ 200 μs to within 1.4 A, 1% 350 μs to within 280mA, 0.2% 200 μs to within 1.4 A, 1% 350 μs to within 280mA, 0.2%



TOTAL HARMONIC DISTORTION

Current Mode Load

DC DRIFT Current Mode Offset, vs. Ambient Self Heating Drift, 0 to ±85 A Scale Factor, vs. Ambient

SWITCHING FREQUENCY Synchronization

NOISE OUTPUT Current Mode: 4 Hz to 40 Hz 50 Hz or 60 Hz 10 Hz to 10 kHz

RIPPLE NOISE OUTPUT Current, Each Output Lead

DC POWER SUPPLY SENSITIVITY Current Mode

CURRENT MONITOR

Source Resistance

VOLTAGE MONITOR

Source Resistance

PROGRAMMING HEADER Accessibility

REMOTE SHUTDOWN

SWITCHES (on Display Panel)

LOAD PROTECTION

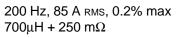
Voltage or Current

Shutdown

Diode Clamps

AMPLIFIER PROTECTION

Overload Current vs. Time Each Heat Sink Temp Overvoltage Shutdown Undervoltage Shutdown Fan Undervoltage Shutdown



After 1 hour 4 mA/°C

60 mA/10 minutes 30 ppm/°C

51 kHz internal Input or Output, 102 kHz

No input signal. 700µH, 47 nF load

<30 μA rms/√Hz <60 μA rms <5 mA rms

50 kHz <10 mA $_{\text{RMS}}$ 0.047 μF each lead to ground

1.0 mA/V max

Front BNC and Rear D Connector $\pm 1 \text{ V/20 A} \pm 1\%$ 0.1 Ω on rear D connector

Display panel BNC and rear panel D connector $\pm 1 \text{ V}/40 \text{ V} \pm 1\%$ 0.1 Ω on rear D connector

Sets gain and response for specific load Rear panel D connector

Switch closure enables output Selectable **Enable** or **Inhibit** Grounded or opto-isolated input Front panel **Inhibit** switch must be off

Inhibit, with LED, Front Panel Reset, Front and Rear Panels

Adjustable input limiter Soft start Current vs. time All four bridge arms open To +HV and ground

Input limiter Shutdown Shutdown 87 °C 378 V 95 V 22 V



MODEL 262PN HIGH POWER AMPLIFIER

FRONT PANEL LEDs Power	Fault is Low		
Normal/fault	Amplifier operates if enabled Green: Amplifier is enabled and operating, Red: Inverse of Normal		
Hot	Heat sink over-temperature		
Over-current Module 1	Too much current for too long Module 1 fault		
Module 2	Module 2 fault		
REAR CONNECTORS	Iso-BNC for clock sync and input signal		
POWER REQUIREMENTS Fan Supply	+28 VDC @ 2 A		
High Voltage Power Supply Range of Normal Amplifier Operation Current Quiescent Current Internal Capacitance	+100 V to +330 V See note 1 0.75 A 11,200 μF		
THERMAL REQUIREMENTS Power Dissipation at 85 A RMS Peak Dissipation at 170 A Panel Inlet Air Temperature Storage	1200 W 2600 W –20 °C to +35 °C –30 °C to +85 °C		
MECHANICAL Output & Power Connectors Size	Compression for AWG 6 or 4 5.25" H x 19" W x 24" D; can be rack mounted 13.3 cm H x 48.3 cm W x 61 cm D		
Weight	55 lbs.		

Notes:

1. Current required to supply load I²R losses plus amplifier losses.

