

## ORDELA MODEL QS-06

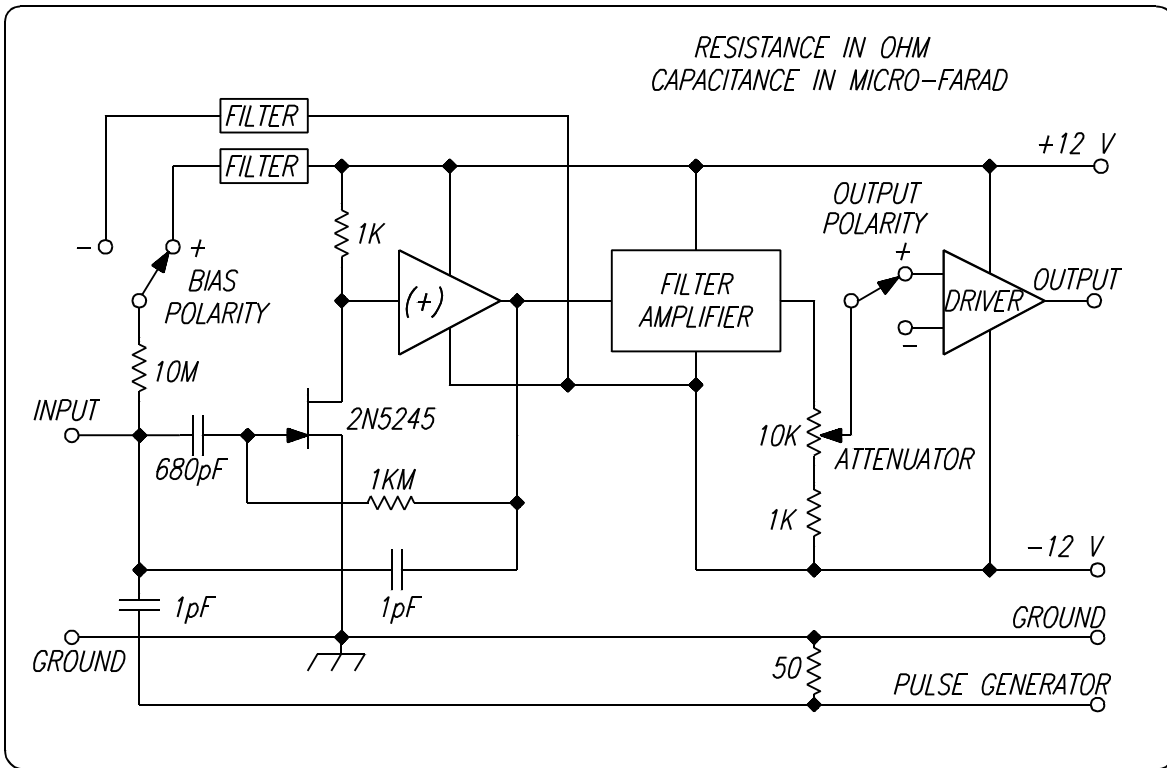
### CHARGE-SENSITIVE PREAMPLIFIER/AMPLIFIER

#### DESCRIPTION

The ORDELA Model QS-06 is a low-noise charge-sensitive pulse-amplification and -shaping system. It contains preamplifier, amplifier, and driver circuits designed for optimum signal transfer for pulses from high-capacitance semiconductor detectors. Two internal jumper switches can be set to (1) provide positive or negative filtered detector bias (12 V) to the input, and (2) select an inverting or non-inverting gain function. The Model QS-06 is contained in a 10.7 cm long, 3.8 cm wide, 2.7 cm high aluminum die-cast electronic box. SMA connectors are provided for input, output, and test input connections. A BNC triaxial connector is provided for  $\pm 12$  V supply connections.

#### SPECIFICATIONS

INPUT SIGNALS:	Current pulses, 0 to .5 pC integrated charge, either polarity, 50 ns duration.
NOISE RESISTANCE:	50 S (maximum)
NOISE LINE WIDTH:	0.5 keV (Si) rms for 0 detector capacitance, 60 keV for 2 nF detector capacitance (measured at the amplifier output connector).
DRIVE CAPABILITY:	$\pm 10$ V into a 93 S load through a 200-m-long, 93-S (type RG-62) coaxial cable.
TRANSFER FUNCTION:	$V/Q = Ks/(s+a)^3$ with $a = 10^6$ radians/second
OVERALL GAIN:	Continuously adjustable from .05 V/MeV to .5V/MeV
TEMPERATURE DRIFT:	$\pm 0.02\%/^{\circ}\text{C}$ of the output amplitude in the range from 0 to $50^{\circ}\text{C}$ (measured with a 2 nF silver-mica input capacitor)
POWER REQUIREMENT:	$\pm 12$ V @ 55 mA
SIGNAL INPUT:	SMA connector
TEST INPUT:	SMA connector, 50-S input impedance, 10 pC/V sensitivity
POWER INPUT:	BNC triaxial
SIGNAL OUTPUT:	SMA connector
DIMENSIONS:	10.7 cm long, 3.8 cm wide, 2.7 cm high
SHIPPING WEIGHT:	0.25 kg



**ORDELA MODEL QS-06 CIRCUIT AND INTERCONNECTIONS**

**WARRANTY**

ORDELA, Inc. warrants its products to be free from defects in materials and workmanship for 12 months after shipment. No other warranty is included. Specifically, no warranty of merchantability or fitness for a particular purpose is implied. ORDELA's liability under this warranty is limited to repairing or replacing the product at ORDELA's option. This warranty is void if the product is operated improperly, disassembled, or modified other than in the ORDELA laboratory.