Note From Mark Kozlovsky
7FEB07
Calculation of power on AlN Board

Here is my calculation.

1) RTD 1
   a. The maximum RTD resistance does not exceed 1.5 kOhm
   b. The current through the RTD is 1 mA
   c. Thus, the maximum power dissipation on the RTD is P = 1 x 10e-6 x 1.5 x 10e3 = 1.5 mW

2) CCD load resistors R1 and R4
   a. The maximum output voltage from the CCD is 0.5 V
   b. Thus, the maximum power dissipation for one load resistor is P = 0.5 x 0.5 / 20 x 10e3 = 0.0125 mW
   c. For two load resistors the total power is 0.025 mW

3) JFET transistors Q1 and Q2
   a. The maximum output voltage is 0.5 V
   b. The minimum load resistor for a JFET is 10 kOhms
   c. Thus, the maximum current through a JFET is Iout = 0.5 / 10 x 10e3 = 0.05 x 10e-3 A
   d. The VDD is 28V
   e. The voltage across JFET is Vjfet = 28 – 0.5 = 27.5 V
   f. Thus, the JFET dissipates P = Vjfet x Iout = 27.5 x 0.05 x 10e-3 = 1.375 mW
   g. For two JFET transistors the maximum dissipated power is 2.75 mW

4) Thus total maximum dissipated power for the circuitry is **Pmax = 1.5 + 0.025 + 2.75 = 4.275 mW**