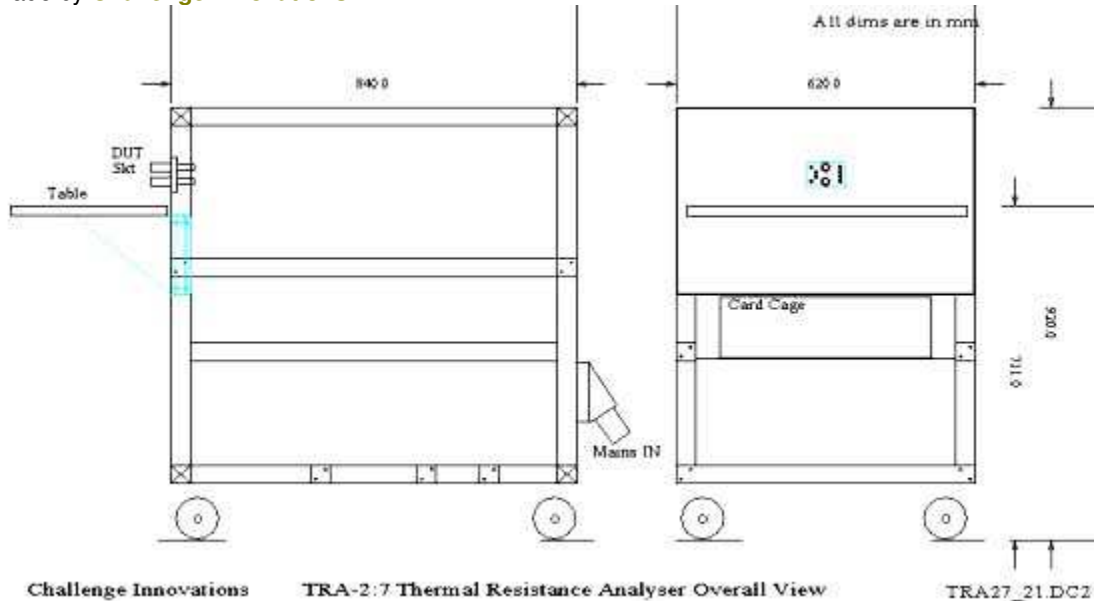


## Introduction to the Thermal Resistance Analyser TRA- 2:7

The TRA-2:7 is a Static Thermal Resistance Analyser for Diodes in a series of such equipments made by Challenge Innovations.



The Static Thermal Resistance parameter is a measure of the performance of a diode to a given dissipation waveform when it has reached steady state conditions.

The TRA-2:7 design provides;

- **Bipolar Constant Current source** capable of  $\pm 100$  Amps peak used as the power dissipation source. One side of this source is earthed.

- Waveform choice of;

- Positive pulse train with 0.5 to 500.0 msec. separately programmable ON and OFF times,
- Negative pulse train with similar times,
- Positive half sinusoid, choice of 50 Hz or 60 Hz free running and 60 Hz sync. to local mains,
- Negative half sinusoid, choices as above,
- Full sinusoid, choices as above.

Note that all these waveforms are generated using software running in the internal microcomputer.

- **Monopolar Constant Current source** capable of +1mA to +100mA, used for the junction temperature measurements. This source is completely isolated from ground to  $\pm 100$ V.

- Measurement Unit consisting of an 8 input multiplexer driving a 16 bit AD-converter. The first 4 inputs are via  $\pm 200$ V common mode input amplifiers (INA117/AD629). This unit is used to sample all the voltages necessary for the test and check sequences. Every 1 second for the duration of the power dissipation, the values of V1(once only at the start), V2, Vf and thermocouple temperature are measured and the values displayed.

There is a facility for calibrating this unit with an external voltage source entered into front panel test point #7.