EVALUATION FOR PUMP-OUT RISK

PTM7950

July 10, 2025

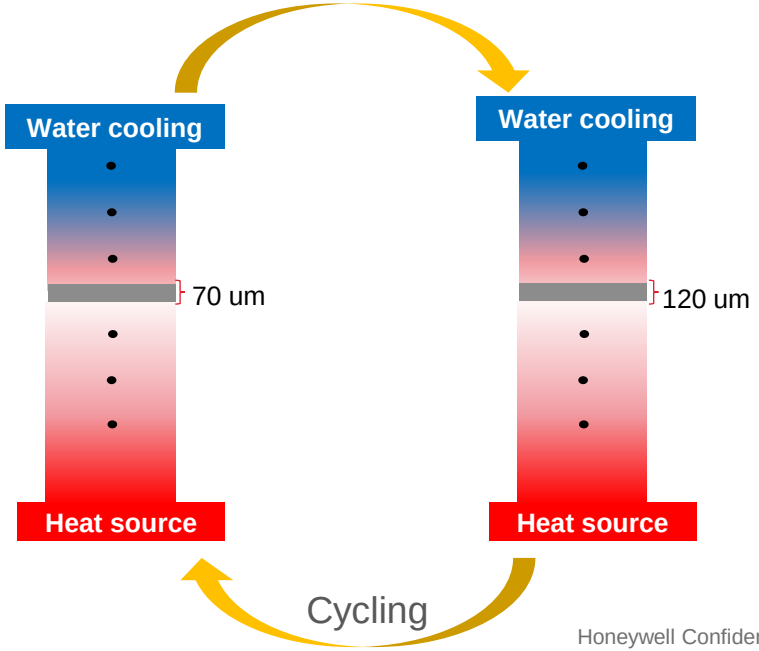
Honeywell

DISPLACEMENT-CONTROLLED CYCLING TEST

Test description

- Displacement controlled as 70 um and 120 um
- Speed of test head movement: 1um/s
- Test instrument: TIMA 5
- Test head: Cu head, 1 inch square
- Collect TI value at each controlled displacement

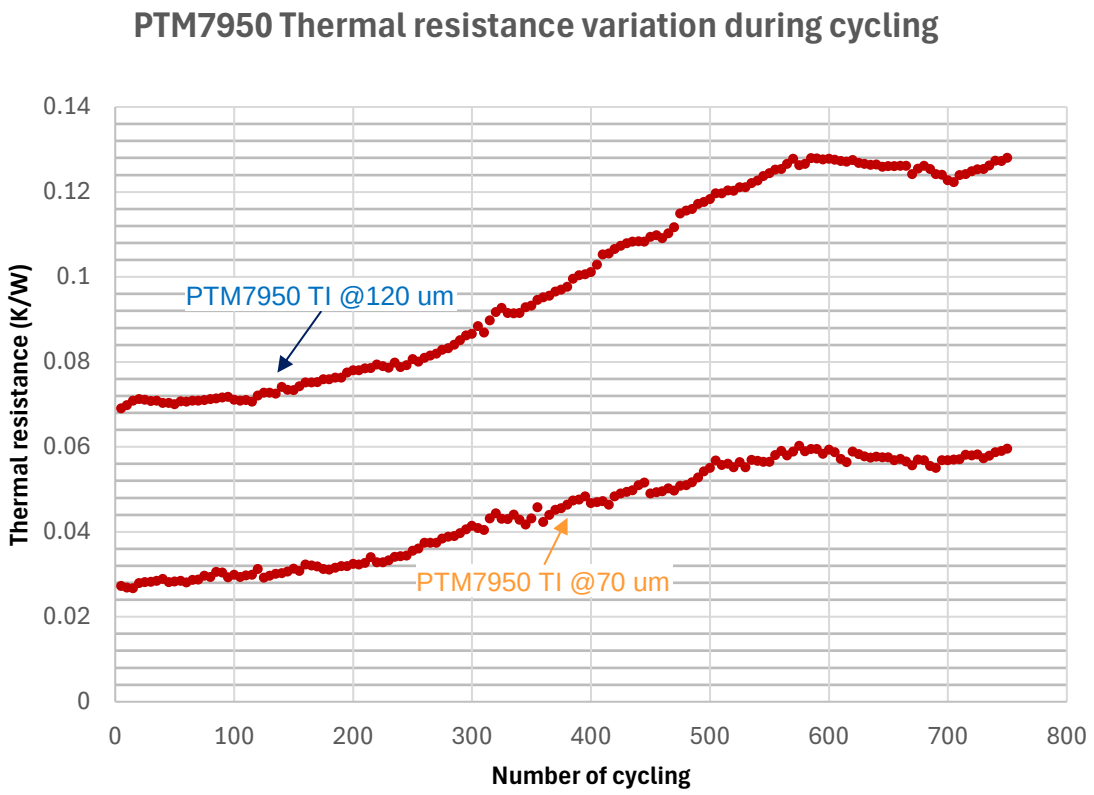
TIMA 5



Test condition

- ✓ Test standard: ASTM D5470
- ✓ Test temperature: 80ºC
- ✓ Test time: 20-30 min for each TI value

TIM RELIABILITY EVALUATION ON TIMA 5



Our point of view

i. Displacement-control method was used to evaluate the pump out risk of PTM7950 according to the specific displacement control range, which was set by customer.

ii. This result simulated the required displacement-controlled range from 70μm to 120μm.

iii. Preliminary result is based on a single test, without sufficient data / repeated verifications, cannot draw conclusion based on lab data only.

iv. Figure on the left shows two groups of typical data, representing the changes in material thermal resistance during the cycling.

v. An increase indicates a higher risk of pump-out, but it is not yet clear at what percentage increase will cause failure. Therefore, the data here is for research reference only