

# THERMAL SHOCK

VERSUS

# THERMAL CYCLING

COMPARING 2 TYPES OF THERMAL TESTS

## Thermal cycling



Reliability test in which temperature is cycled between high and low

Many different test standards available including both very fast and very slow cycles

Excellent test for products exposed to temperature changes due to external or internal sources

Causes failures often seen in the use environments

Good availability because testing can be conducted with basic chambers

## Thermal shock



Thermal cycling test with extremely rapid temperature change rate

Definition of shock varies between standards. Sometimes only liquid-to-liquid tests considered as shock.

Suitable for products exposed to extreme temperature changes such as automotive and space applications

Can easily cause failures which would never happen in real life

Quick test method due to short cycle time