

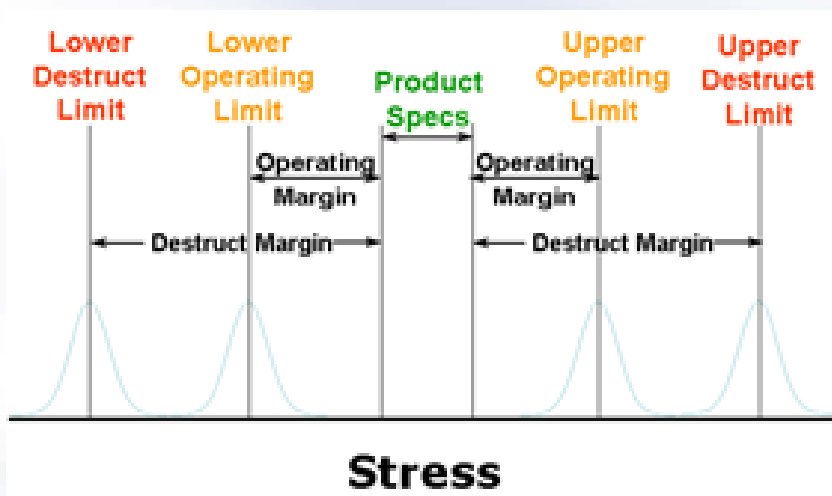
HALT test service

HALT testing is required for automotive and (aero)space applications and also performed for e.g. industrial/healthcare to verify the robustness and find the weak spots in the design phase of the (electronic) system. By doing this the system is being tested more extended to prevent failures later on during validation/qualification and during production. This to enhance successful time to market and a lower failure rate in the field.



HALT TESTING

- Highly Accelerated *Life* Test (HALT)
- HALT test is used to verify robustness of (electronic) system in design phase and find the weak spots
- Determination of operating and destruct limits
- Combined temperature and vibration test
- Stress product outside specification

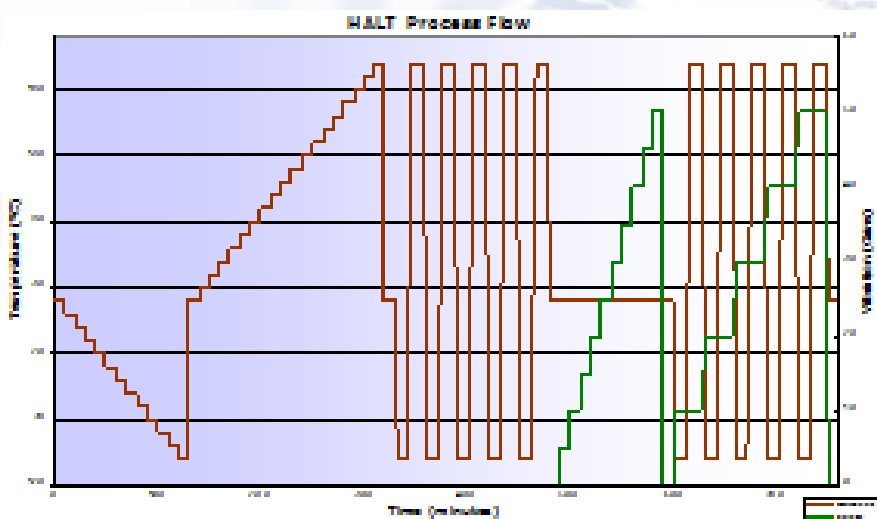


HASS TESTING

- Highly Accelerated Stress Screening
- To verify robustness of (electronic) system during production
- Monitor production process
- Only test at the limits found during HALT test
- Faster test compared to HALT test

HALT TEST PROCEDURE

- Temperature step stress low temp
- Temperature step stress high temp
- Very fast temperature cycles (5)
- Vibration step test
- Combined temperature and vibration test @ tested limits
- Continues monitoring with customer application monitoring system and customer engineer on the spot

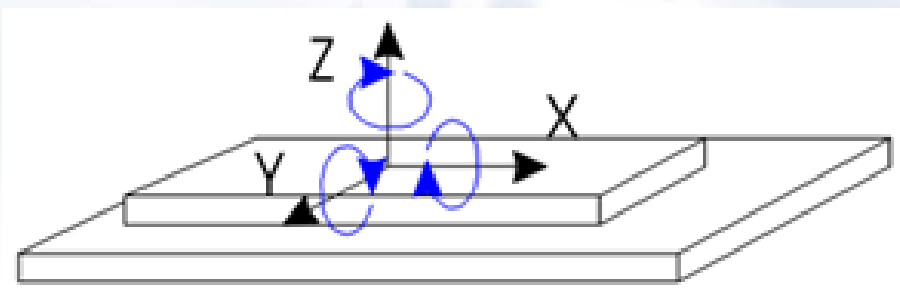


HALT test service



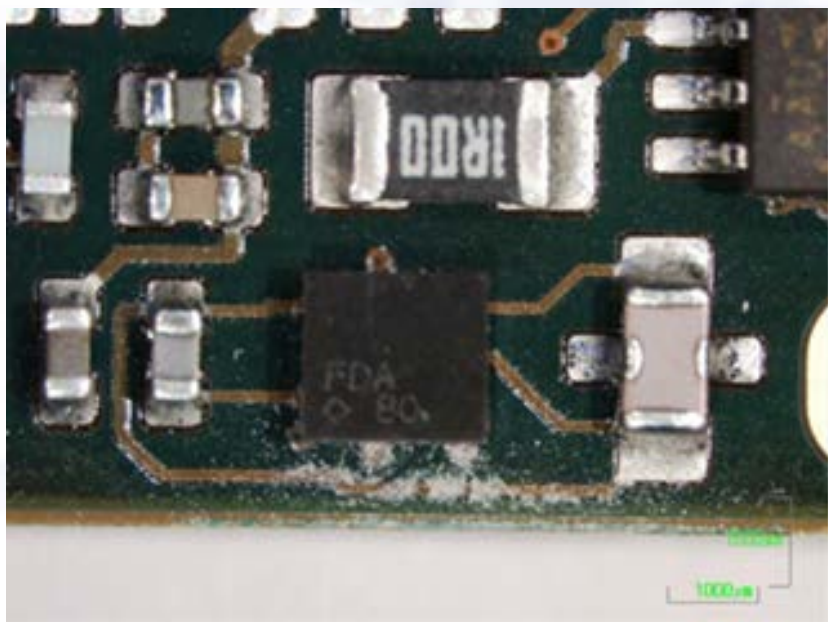
HALT SYSTEM

- Temperature range -100°C to +200°C, ramp rate up to 60 K/min
- Table size: 450 x 450 x 400 mm
- Liquid Nitrogen cooling
- Excites six axes, 3 linear and 3 rotational up to 45 Grms
- Broadband, 2 Hz to 10 kHz random vibration on rigid shaker table



ARTC ACCELERATED RELIABILITY TEST CENTER

- World Wide Network
- Founded by QualMark Corp.
- State of the art test lab
- Independent evaluation of your products
- Omniaxial Vibration System
- Multipoint Temperature Sensing
- Multipoint accelerometers
- Electrical Stimulating and Monitoring Test



HALT BENEFITS

- Uncovers flaws typically not found before product introduction
- Discovers and improves design margins
- Reduces T.T.M.
- No lifetime prediction
- Typical findings e.g.:
 - Connectors open/broken (mechanical)
 - Capacitor and inductor broken (mechanical)
 - Communication issues (electrical timing)
 - Wrong components used (electrical)
 - Display / touchscreen failures

For more info please visit www.maser.nl
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