

# HIGH TEMPERATURE ELECTRONICS HTMOS™

## Product Line Features and Benefits

### Technology and Product Features

- Complete oxide isolation of all transistors
- $V_{tn}/V_{tp}$  adjustments ensure operation to 300 °C
- TiW barrier layer on all metals and contacts
- Variable width oxide trench
- Twin well technology
- CrSi thin film resistors available
- N+ poly to N+ silicon linear capacitor
- .8 micron 5 volt digital capability
- Designed for 50,000 hours of 225 °C operation
- Final test at 225 °C
- Burn-in at minimum of 250 °C

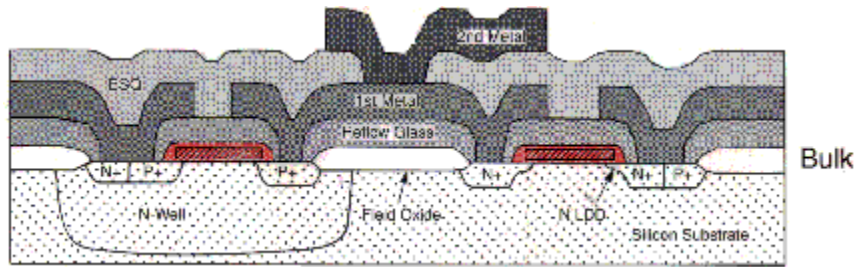
### High Temperature Benefits

- 100X reduction in leakage current
- Latchup immune
- Independent control of transistor body
- Lowered parasitic capacitance provides 20% faster switching speed
- Reduced cross talk on adjacent devices
- Low device leakage and operation to >300 °C
- Eliminates metal spiking in the junctions
- Increased tolerance to electromigration
- Reduces metal to substrate capacitance <2X
- Independent control of  $V_{tp}/V_{tn}$
- Thin Film Resistors
  - Low TCR (0-180 PPM/ °C)
  - Low VCR
  - Good ratio matching to 0.01%
  - Laser trimmable
- Low leakage at high temperature
- Linearity of +0.5% over 10 volt range
- Good ratio matching of 0.1%
- 10 volt linear products
- 5 volt high performance digital products
- Reliable and predictable yields, costs, performance, and low failure rates
- Products meet data sheet specs @ 225 °C
- Infant mortality eliminated

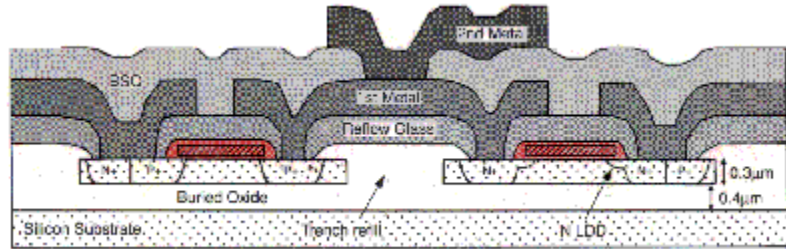
### Applications

The HTMOS(TM) Product Line has been developed for high temperature operation in instrumentation and distributed control applications such as:

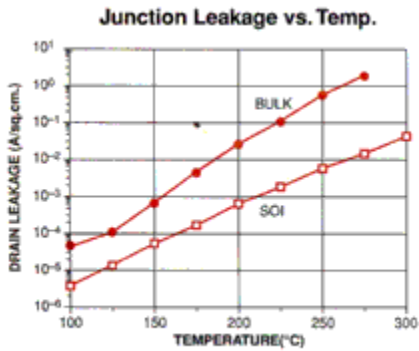
Gas Turbine Engines (Aircraft Propulsion and Power Generation) Down Hole Petroleum and Geothermal Exploration and Production Diesel Engine (Propulsion and Power Generation) Industrial Petrochemical Processing Automotive



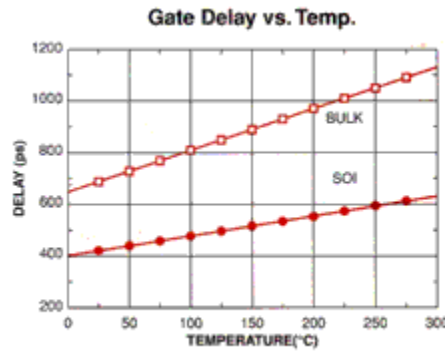
Bulk



SOI (SIMOX)



SOI has up to 100x less leakage than bulk



SOI is faster than bulk

For assistance, please contact our Customer Service Department at (800) 323-8295.

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