

TESTMESH TMA-100

Preliminary
Available from Q4/2022

Millions of Cycles in a Flash

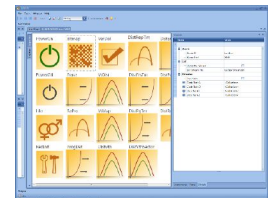
All-in One Instrument for NVM Technology Evaluation

For Every NVM Technology and Architecture

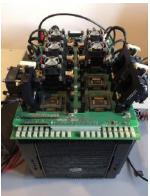
- Package and wafer level operation
- For single-cell devices and test arrays with analog interface
 - On transistor and resistor based cells
- Emulates charge pumps, sense amplifier, digital logic

Speed-Optimized Architecture

- Hardware support for fast algorithmic cycling
- Waveform and range switch in microseconds
- 1-bit ADC for fast decision
- Sequencer for array address generation



Accurate Signals and Measurements



- 200 Msample/sec Arbitrary and Functional Waveforms
 - 10 nsec sampling time multi-channel PMU
 - Low-leakage, fast sensing circuits
 - External SMU integration option

Fast Track to Your NVM

ready-to-go technology evaluation at the best cost of ownership

| Feature | Performance |
|----------------|--|
| Waveforms | <ul style="list-style-type: none"> ▪ up to 12 channels ▪ Arbitrary and algorithmic waveforms ▪ Multiple waveform storage with fast switching ▪ -12V..+12V, 5 nsec step time, 100mA, 0 or 50 Ohm impedance |
| PMU | <ul style="list-style-type: none"> ▪ Operation modes <ul style="list-style-type: none"> - Voltage force current measurement - Current force voltage measurement - High impedance voltage measurement - Pass-through voltage measurement - Pass-through current measurement ▪ Measurement ranges <ul style="list-style-type: none"> - $\pm 1\mu\text{A}$, $\pm 10\mu\text{A}$, $\pm 100\mu\text{A}$, $\pm 1\text{mA}$, $\pm 10\text{mA}$, $\pm 100\text{mA}$, 2A - $\pm 1.2\text{V}$, $\pm 12\text{V}$ - Range switch time < 10us ▪ Sampling <ul style="list-style-type: none"> - 10 nsec sampling time - On-the-fly averaging, peak detection, 1-bit decision - 2k sample buffer |
| Digital IO | <ul style="list-style-type: none"> ▪ 64 channels with per-pin direction control ▪ Vih 1.2V .. 5.5V programmable in groups of 8 ▪ 100 MHz engine (full speed in the low voltage range) |
| Power Supplies | <ul style="list-style-type: none"> ▪ 4 channels ▪ 0.5V..7V, 2A each ▪ Programmable current limit ▪ Built-in ramp generator |
| References | <ul style="list-style-type: none"> ▪ Dual-channel voltage reference <ul style="list-style-type: none"> - $\pm 12\text{V}$ 20mA ▪ Single-channel current reference <ul style="list-style-type: none"> - $\pm 1\text{mA}$ 5V |
| Architecture | <ul style="list-style-type: none"> ▪ Dedicated PMU for each group of 4 waveform generators ▪ Additional PMU for the digital IOs, supplies and references ▪ Switch matrix for output configuration ▪ Integration of external SMU |

