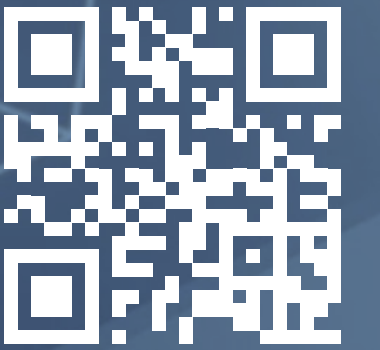


ECP[®]

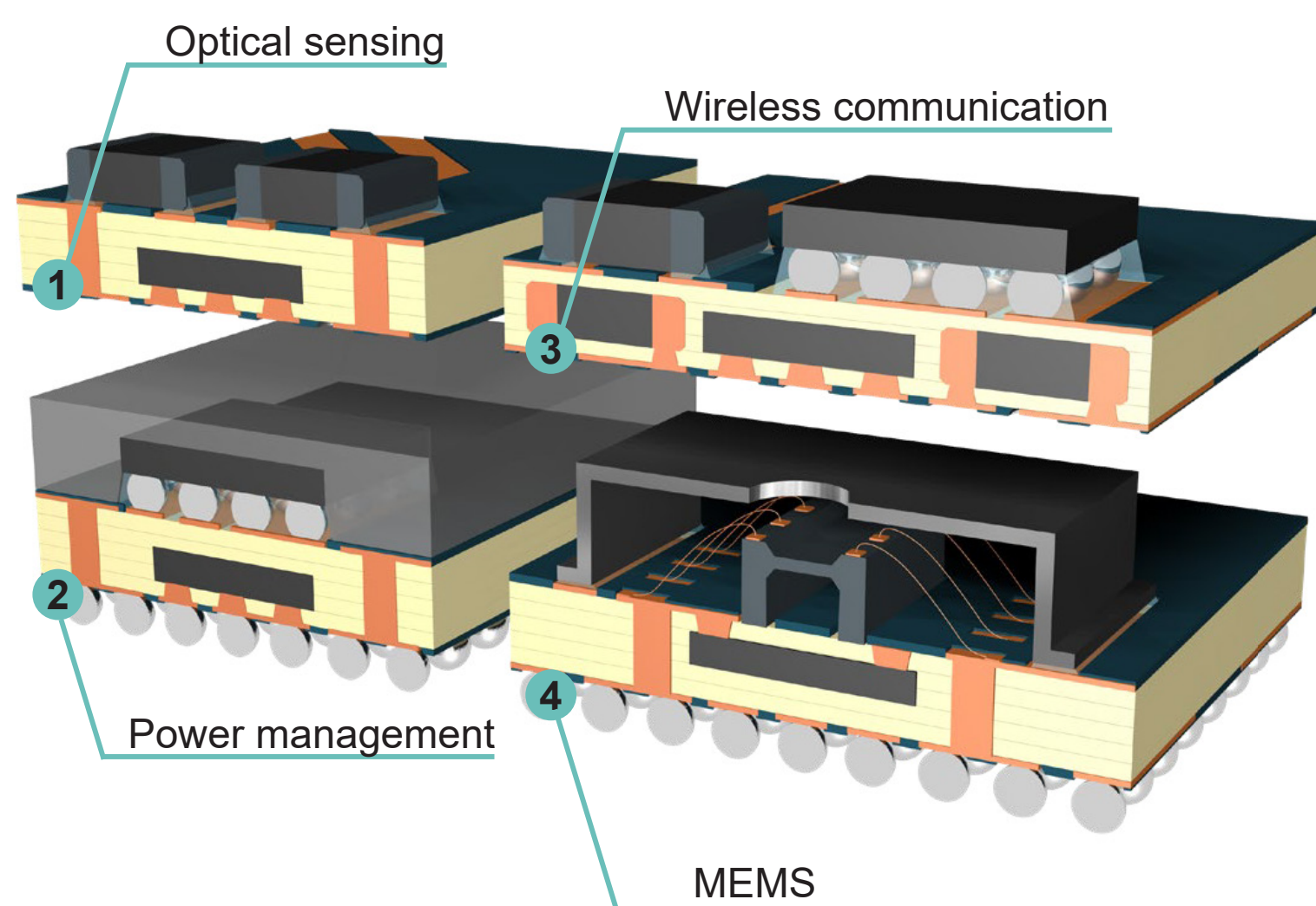
Embedded Component Packaging

Thank you for visiting the AT&S booth. Visit ats.net for more information.



Application

Modules



Benefits

Miniaturization

- Footprint reduction
- Higher degree of component integration (additional assembly layer)

Electrical Performance

- Improved signal performance (higher data rates)
- Reduction of parasitic effects

Mechanical Performance

- Package enables protective enclosure for enhanced durability and reliability
- Excellent drop, shock and vibration resistance

Thermal Management

- Improved heat transfer due to direct copper connection
- Increased heat dissipation in epoxy vs air (compared to SMD)

EMI Shielding

- Partial or full shielding of the embedded package
- Reduced coupling of radio waves, electromagnetic and electrostatic fields

Modularization

- Footprints can be customized and module versions can be realized without separate tooling thanks to digital imaging

Anti-Tamper & Security

- Hidden components help prevent reverse engineering and counterfeiting

Thermal and electrical performance

Standard SMT

Module thickness: 1.3 mm

COMMUTATION LOOP

Loop area: 12.4 mm²
Loop resistance: 2.2 mΩ

DOUBLE PULSE TEST

Ringing voltage: 17.5 V

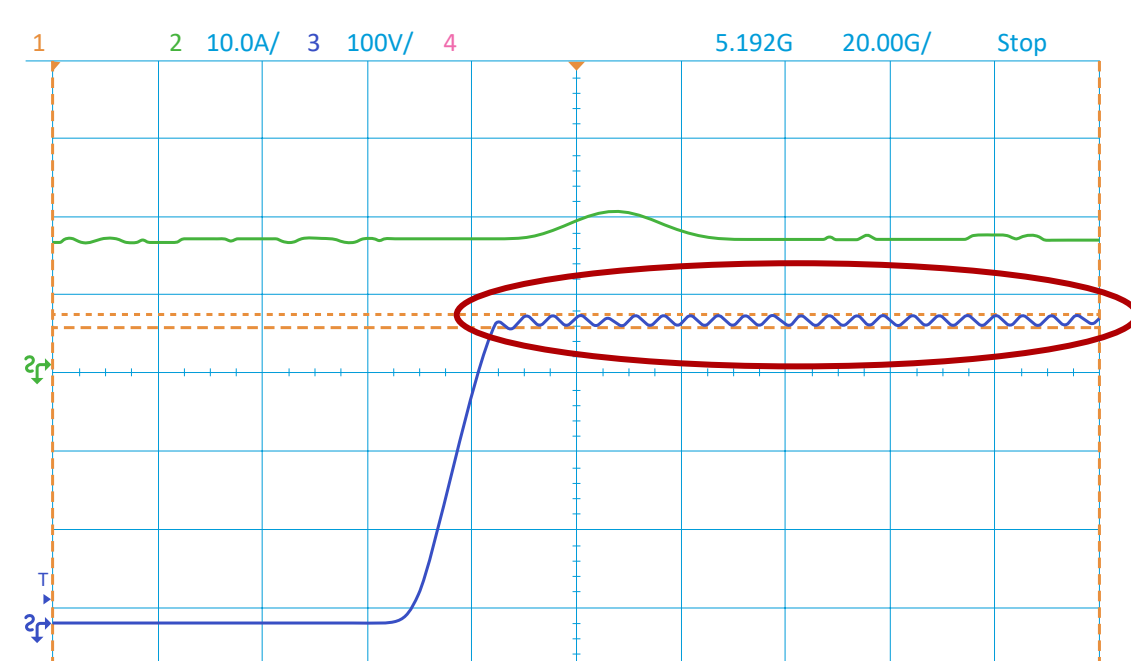
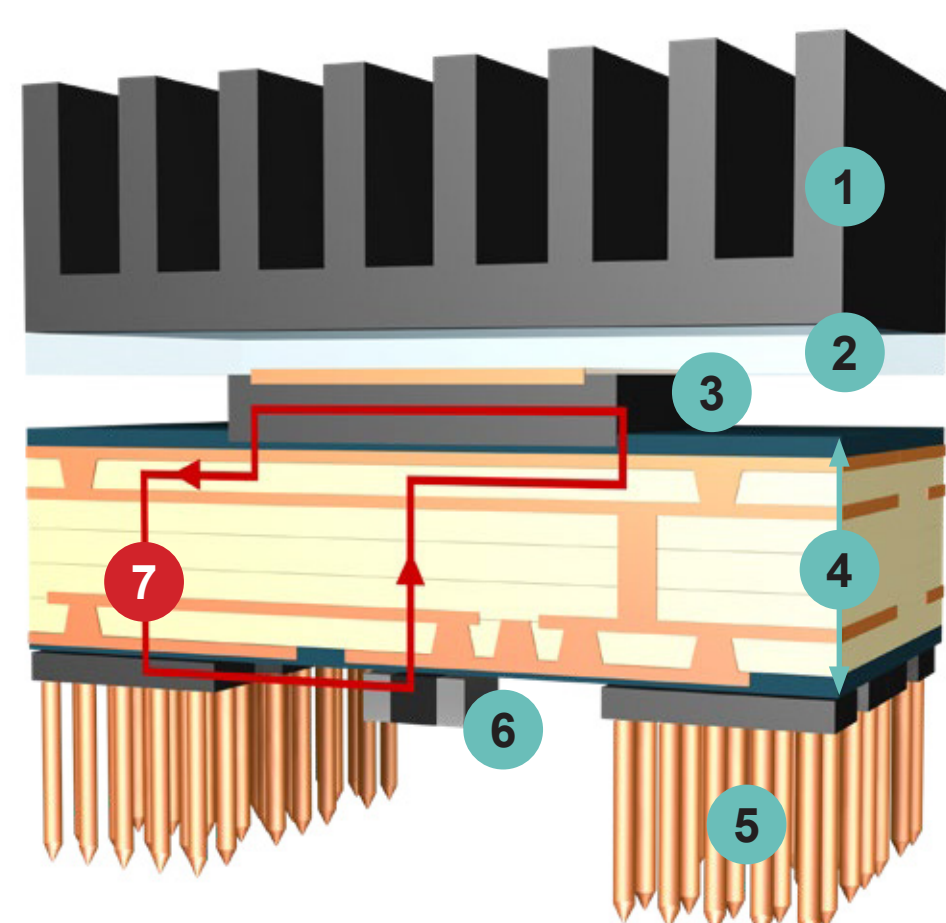
PERFORMANCE

Output power
1385 W

Temperature
47.5°C

Module losses
8.8 W

Thermal conductivity @4 W losses
16.6 W/K



- 1 Heat sink
- 2 TIM
- 3 GaN transistor
- 4 Printed circuit board
- 5 Connectors
- 6 DC-link capacitor
- 7 Commutation loop

Embedded

Module thickness: 0.75 mm

COMMUTATION LOOP

Loop area: 7.74 mm²
Loop resistance: 1.3 mΩ

DOUBLE PULSE TEST

Ringing voltage: < 1 V

PERFORMANCE

Output power
1385 W

Temperature
42°C

Module losses
5.4 W

Thermal conductivity @4 W losses
13.6 W/K

