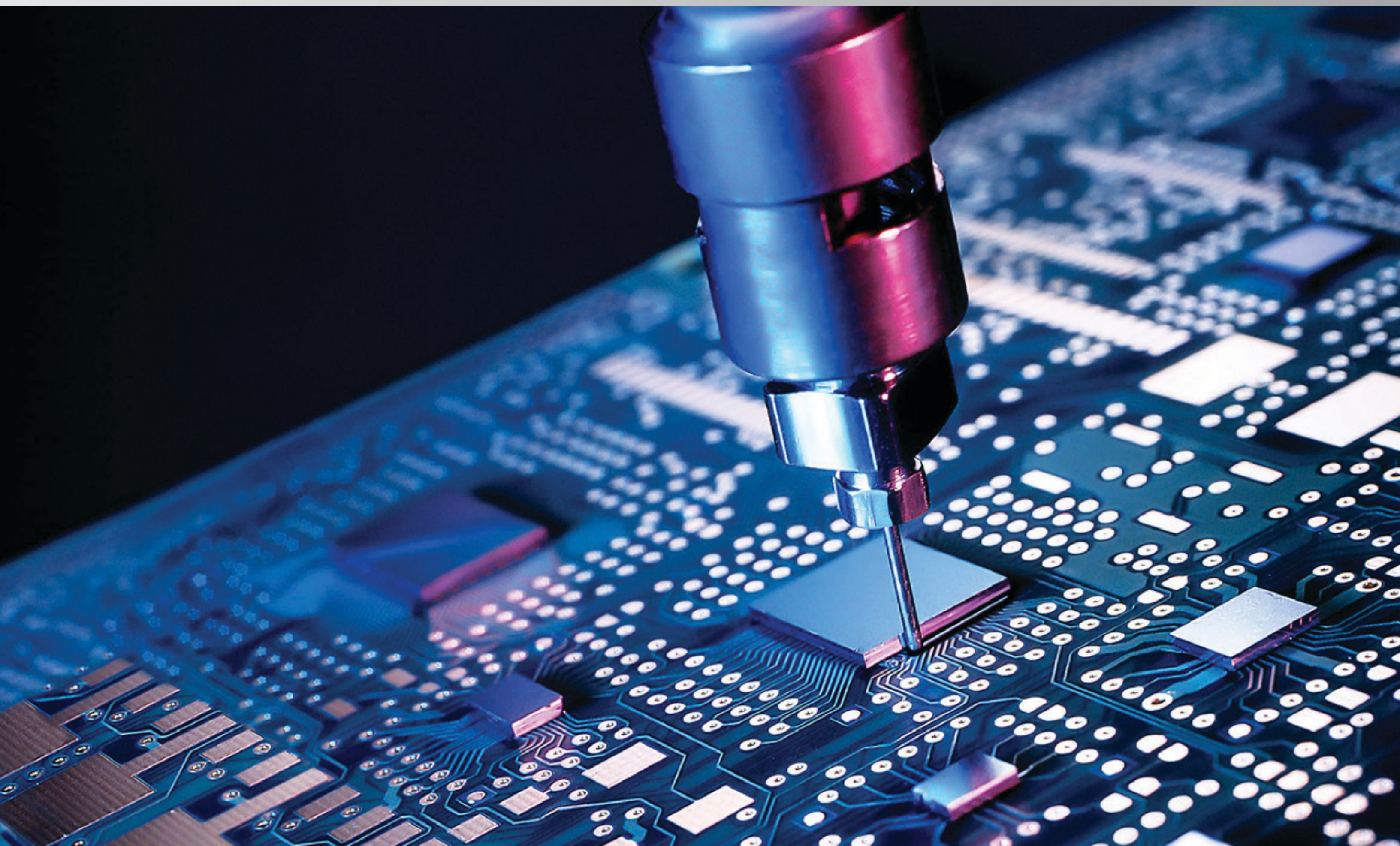
LOCTITE®



LOCTITE® *ECCOBOND* UF 1173

HIGH RELIABILITY, NON-REWORKABLE EPOXY UNDERFILL

With miniaturization and increasing component functionality now impacting nearly all electronic sectors, including automotive and aerospace, improved interconnect protection is critical to achieve highly-demanding reliability requirements. Henkel's new underfill formulation, *LOCTITE® ECCOBOND* UF 1173, safeguards fine-pitch array devices such as BGAs and CSPs in a formulation that can withstand the high operating temperatures induced by smaller, higher-functioning devices within harsh environments. With a glass transition temperature (T_g) of 159°C, a low coefficient thermal expansion (CTE) and no reportable REACH SVHCs* or CMR classifications, *LOCTITE ECCOBOND* UF 1173 offers stress-reducing interconnect protection at high operating temperatures, while prioritizing health and safety.

*As per current, June 2018 REACH SVHC documentation.

Henkel

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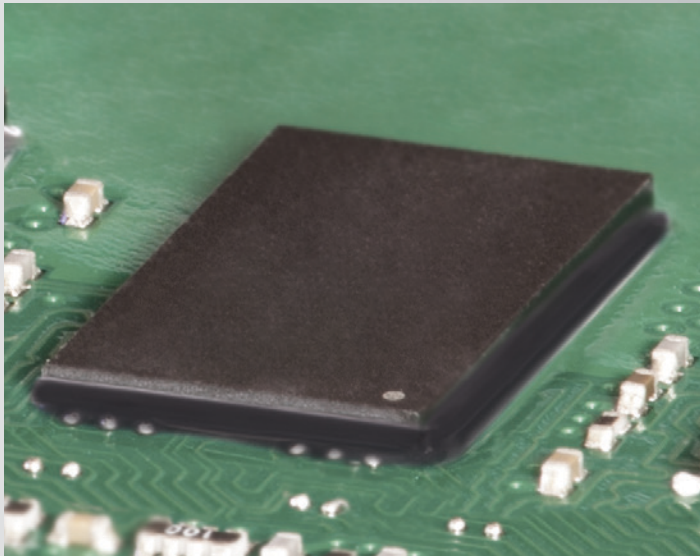

Key Benefits

- Solder connection protection from shock, drop, vibration and moisture
- Able to withstand high operating temperatures with a high T_g of 159°C and a low CTE
- Excellent thermal cycling performance (passed 5,000 cycles of thermal shock of -40°C/150°C)
- One-component material; no mixing required
- Can be jet or needle dispensed
- Fast flowing, quick curing
- Does not contain any reportable REACH SVHCs* and is not CMR classified
- Long shelf life

LOCTITE ECCOBOND UF 1173 is designed to provide a uniform and void-free encapsulant underfill, maximizing the device's temperature cycling capability and distributing stress away from solder connects, thus enhancing solder joint reliability in CSP and BGA packages.

TYPICAL PROPERTIES OF UNCURED MATERIAL	
Viscosity by Rheometer AR 1000 at 10 s^{-1} (Pa-s)	7.5
Thixotropic Index	0.711
Pot Life at 25°C (hours)	48
Shelf Life at -40°C (days)	180
Filler Loading	63%

TYPICAL PROPERTIES OF CURED MATERIAL		
Glass Transition Temperature, T_g by TMA (°C)		159
Coefficient of Thermal Expansion (ppm/°C)	Below T_g:	20
	Above T_g:	102
Storage Modulus, 25°C (MPa)		5,939

As per current, June 2018 REACH SVHC documentation.

Across the Board,
Around the Globe.

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