

SMT 158HA Underfill Product Datasheet

Outstanding Thermal Cycling Performance

Excellent Mechanical Shock Performance

High Process Yield

Description

SMT 158HA is a fast flow, low temperature slow cure and high purity liquid epoxy underfill. This material can be used for flip chip, wafer-level chip scale package applications. It is also suitable for bare chip protection in a variety of advanced packages such as memory cards, chip carriers, hybrid circuits and multi-chip modules. It is designed for high production and friendly environments where process speed and mechanical shock are the key concerns. This material is easily dispensed, minimizes induced stresses and provides outstanding reliability performance (e.g. temperature cycling performance) and excellent mechanical resistance.

Typical Physical Properties

Product Name	SMT 158HA liquid encapsulant
PROPERTIES OF UNCURED MATERIAL	
Appearance	Black
Specific Gravity (ASTM D 1475-60)	1.8 g/cc
Viscosity (Brookfield, 0.5 rpm)	5-8.0 kcp
PROPERTIES OF CURED MATERIAL	
Glass Transition Temperature (T _g) (ASTM D3418-82)	157 °C
C.T. E (ASTM E 831), PPM /°C	$\alpha_1 = 22$; $\alpha_2 = 71$

Lap Shear Strength (FR4/FR4)	3600 psi
Extractable ions (MIL-STD-883E)	
Na+	<5ppm
K+	<5ppm
F-	<5ppm
Cl-	<10ppm
Surface insulation resistance (J-STD-004)	Pass

Recommended Curing Conditions

3h at 150°C or 2h at 165°C

Other alternative cure profiles are available depending on customer request.

Storage & Shelf Life

6 months provided materials are kept in a sealed original container at –40 °C. Storage beyond this period can produce higher viscosity. Protect from moisture, evaporation and foreign materials. Process ability of these products can be adversely affected by evaporation and contamination.

Safety

SMT 158HA is a friendly, non-toxic material. However, general hygiene practice is recommended when handling this material. For detailed information please consult our SDS.

Package

SMT 158HA capillary underfill series are available in 10cc and 30cc. Other packages are available depending upon customer's request. Contact YINCAE for order information.