

SMT 256 Series Solder Joint Encapsulate Product Datasheet

Enhance Solder Joint Reliability

Eliminate Solder Joint Cracking

Eliminate Underfilling

Description

SMT 256 SERIES solder joint encapsulate adhesive has been designed to enhance solder joint reliability and eliminate solder joint cracking for CSP, BGA, Flip chip and PoP (package on package), particularly for lead free application. During the reflow process, SMT 256 SERIES removes metal oxide and allows solder joint to be formed; meanwhile, a 3-D polymer network starts to form and encapsulates individual solder joints with enhancing solder joint to eliminate some drawbacks of underfilling (large CTE above Tg, trouble process control). The reliability of solder joints such as thermal cycling and drop performance can dramatically improve drop compared with that with the use of flux or solder paste. The polymer network can be removed using methyl ethyl ketone (MEK) or heating.

Typical Physical Properties

Product Name	SMT 256
PROPERTIES OF UNCURED MATERIAL	
Appearance	Colorless or yellowish Liquid
Specific Gravity (ASTM D 1475-60)	1.05
Viscosity (Brookfield, 0.5 rpm)	12,000-20,000cp
Quantitative Halide Content	0%

Extractable ions (MIL-STD-883E)	
Na+	<5ppm
K+	<5ppm
F-	<5ppm
Cl-	<10ppm
Surface insulation resistance (J-STD-004)	Pass

Application

SMT 256 SERIES can be applied using dipping, dispense, print (stencil or screen) or pin transfer process. Less volume of SMT 256 SERIES will lead to solder joint voids, or open solder joints; too much volume of SMT 256 SERIES will cause solder bridge extrusion. In order to achieve high yield and best reliability the process parameters of applying SMT 256 SERIES has to be optimized.

Reflow & Cure

SMT 256 SERIES is completely comparable with the current SMT assembly process and all kinds of pad surface finishes such as Ni/Au, Immersion Ag, OSP. It can be used in convection, conduction, infrared, or vapor phase soldering systems under air or nitrogen atmosphere. The time from ambient temperature to peak temperature should be 4 to 5 min with a peak temperature from 230 °C to 260 °C.

Storage & Shelf Life

6 months provided materials are kept in a sealed original container at – 20 °C or below. 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 256 Series is a friendly, non-toxic material. However, general hygiene practice is recommended when handling this material. For detailed information please consult our SDS.



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Package

SMT 256 SERIES adhesives are available in 5 cc, 10cc and 30cc syringes. Other packages are available depending upon customer's request. Contact YINCAE for order information.