ALPHA® ACCUFLUX® BTC-578 PREFORM

Low Void Technology for Bottom Termination Components

DESCRIPTION

ALPHA AccuFlux BTC-578 Preforms are designed to enhance reliability and heat transfer through the reduction of voiding under bottom termination components. AccuFlux BTC-578 technology is a precision controlled micro-flux coating applied to solder preforms to promote repeatable wetting, spread, and voiding on large area substrates such as bottom termination components. Voiding requirements are becoming more challenging as component packages shrink and power densities increase. The rapid market expansion for smaller, more economic power packages (QFNs/MLF/DFNs, QFPs, DPAK) creates the need for effective thermal management and predictable reliability. The AccuFlux BTC-578 preform achieves consistent voiding as low as 2% for effective heat dissipation, maximizes solder volume to enhance mechanical integrity, and maintains excellent electrochemical reliability.

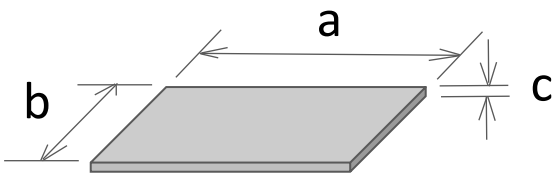
READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- **Effective heat dissipation** through consistent voiding as low as 2%
- **Enhanced process stability and predictable reliability** through repeatable void distribution
- **Prevents mechanical stack-up issues** between thermal pads and signal leads through increased solder volume to create repeatable bondline
- **Maximizes mechanical integrity** through increased solder volume
- **Enhanced electrochemical reliability** on shrinking component packages through low flux residue

PRODUCT INFORMATION

- 1.40mm x 1.40mm minimum length x width
- 0.100mm to 0.150mm thickness
- 300µg/cm2 +/- 80 µg/cm2 AccuFlux BTC-578 coating thickness
- Packaged in EIA-481 standard 7 inch & 13 inch diameter Tape & Reel format
- Additional package availability in custom trays
- All SAC Alloys, Innolot, & Low-Temp SnBi Alloys



Legend	Tolerance
a = length	±0.05mm
b = width	±0.05mm
c = thickness	±10%

AccuFlux BTC-578 Preform size is customized from the bottom termination component package size to optimize void reduction

TECHNICAL DATA

ALPHA AccuFlux BTC-578 Flux Coated Preform was designed specifically to reduce voids under bottom termination components. The amount of flux on the preform was carefully analyzed and promotes low voiding. ALPHA's AccuFlux coating process is precision controlled and maintains a consistent flux coating across all preform sizes. Alpha has defined micro grams per square centimeter (µg/cm2) as the relevant metric to define flux volume on the preform.

Flux Type	Flux Classification	Halogen-Free	Flux Loading ($\mu g/cm^2$)
BTC-578	ROL0	Yes (Zero Halogen)	220 to 380

Electrical Reliability

Flux Reliability Data (J-STD-004-B				Results
Test	Standard	Method	Conditions	
SIR- Surface Insulation Resistance	IPC-TM-650	2.6.3.3	85 ºC / 85%RH - 7 days	PASS
SIR- Surface Insulation Resistance	IPC-TM-650	2.6.3.7	40 ºC / 90%RH - 7 days	PASS
ECM- Electrical Chemical Migration	IPC-TM-650	2.6.14.1	65 ºC & 85 ºC / 85%RH – 500hrs	PASS
Copper Corrosion	IPC-TM-650	9 days	40 ºC / 93%RH	PASS
Copper Mirror	IPC-TM-650	2.6.3.7	25 ºC / 50%RH – 24hrs	PASS

STORAGE AND HANDELING

To promote maximum shelf life and void performance, the BTC-578 preform is shipped in vacuum sealed bags. It is recommended to store the packaging in normal warehouse conditions (typically 55% RH or less and at temperatures less than 30 °C (86 °F)). Allow the containers to reach ambient temperature before opening to avoid condensation of humid air from the environment. A FIFO, first in first out, policy is always desirable when using solder preforms.

Packaging is already optimized to minimize handling and thus exposure to air. It is recommended not to open more packages as will be used in a typical work shift. It is critical to store all open preform packaging types in a nitrogen cabinet after use or if usage will extend beyond a 24-hour period.

When properly stored in a nitrogen cabinet a shelf life of 12 months from date of manufacture can be assured. Be sure to contact ALPHA for the most up-to-date information and recent version of the technical bulletin.

RECYCLING SERVICES

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or link here.

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available at MacdermidAlpha.com/assembly-solutions/knowledge-base.**

CONTACT INFORMATION

To confirm this document is the most recent version, please contact Assembly@MacDermidAlpha.com

www.macdermidalpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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