ALPHA® OM-353

Ultra-Fine Feature Solder Paste

No-Clean, Ultra-Fine Feature Solder Paste Enabling Excellent Printability and Post Reflow Residue Containment

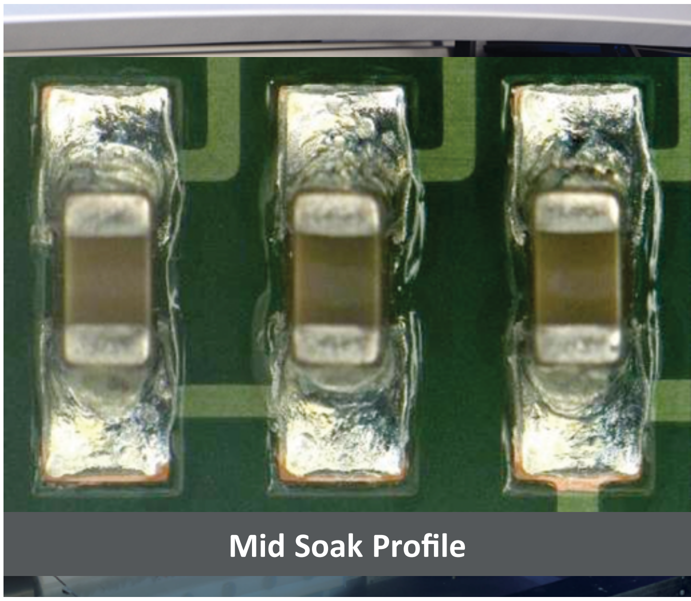
ALPHA OM-353 is designed to meet the growing demand for ultra fine feature applications and consistent print volume repeatability. It has been tested to give excellent printing performance down to 180µm pad size. ALPHA OM-353 residue is designed to remain on the solder joint to enhance electrochemical reliability and prevent solder wicking on component leads both leaded and passive components.

The paste is air reflow capable and is available in Type 4 and Type 5 powder sizes, as well as a broad range of alloy types including low silver alloys and the high reliability Innolot alloy.

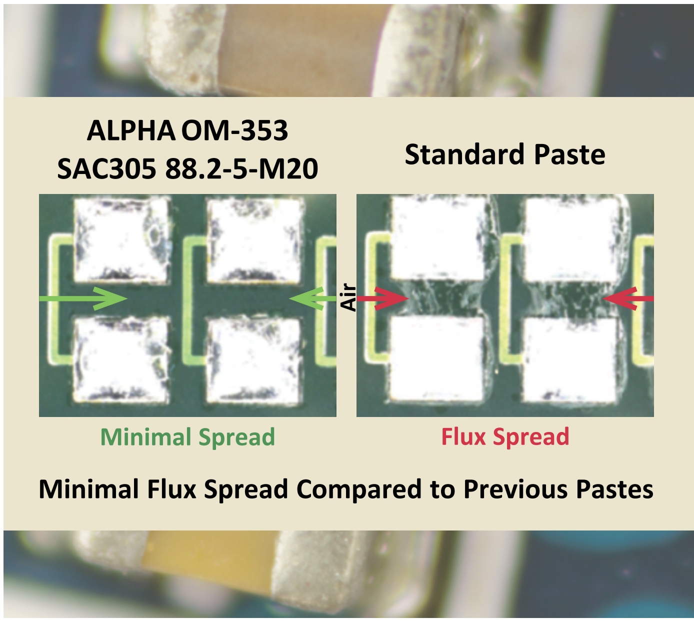
Testing shows ALPHA OM-353 to yield good coalescence under the following harsh conditions:

POWDER SIZE	PROFILE (AIR)	ALLOY	
		SAC305	SACX® 0307
T5	Low Soak	160 microns	170 microns
	High Soak	160 microns	170 microns

Note: value is minimum feature size to coalesce



Mid Soak Profile



Minimal Flux Spread Compared to Previous Pastes

KEY FEATURES

- Long Stencil Life: engineered for consistent. performance in warm and humid climates.
- High Tack Force Life: ensures high pick-and-place yields and good self-alignment.
- Excellent solder spread characteristics in Air & Nitrogen.
- Reduced Mid-Chip Solder Balling & Head-in-Pillow.
- Electrochemical reliability down to 0.200mm spacing.
- Excellent Solder Joint & Flux Residue Cosmetics.

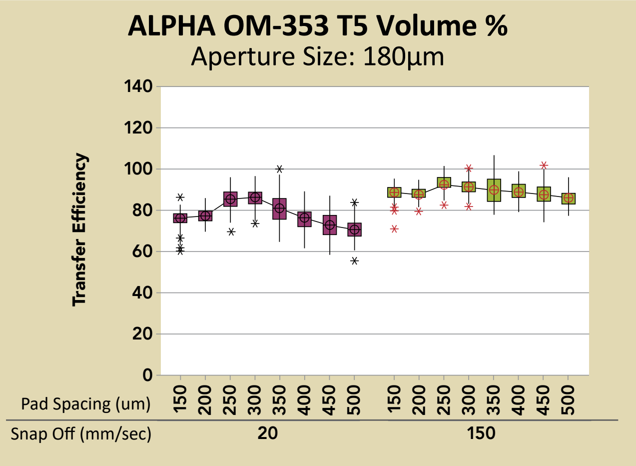
alpha

ALPHA® OM-353

Ultra-Fine Feature Solder Paste

ALPHA OM-353 T5 Volume %

Aperture Size: 180µm



Excellent Transfer Efficiency with Small Area Ratios

ALPHA OM-353 solder paste is a versatile product suitable for both SAC305 and SACX Plus 0307 alloys. Available in both T4 and T5 powders. With its excellent transfer efficiency, ALPHA OM-353 meets a wide range of requirements for ultra-fine and large feature assemblies.

PERFORMANCE SUMMARY

PROCESS BENEFITS	PROPERTIES	PERFORMANCE CAPABILITIES
Print Process Window	Fine Feature Print Definition	Excellent Transfer Volume and CpK Efficiency at 180 µm circle size
	Stencil Life	Over 8 Hours Stencil Life
	Print Speed Range	25-150 mm/s (1-6 in/s)
Reflow Process Yield	Reflow Environment	Air and Nitrogen
	Resistance to Voids	Meets IPC-7095 Class 3 Requirements
	Random Solder Balls	Preferable J-STD-004A and JIS Level 2
	Head-in-Pillow	Excellent per Alpha test method
	Residue Profile	Pin Testable
	Coalescence	160 µm
	Flux Residue Cosmetics	Clear
Electrical Reliability	SIR	Passes J-STD-004B
	Electromigration	Passes JIS Z 3197:1999 8.5.4
	J-STD-004B Classification	ROL0 (Halide Free)
Environmental	Halogen Content	Zero-halogen, no halogen intentionally added

alpha
HALOGEN
HALOGEN-FREE SOLUTIONS™

SCAN THE CODE
to know more

MacDermid Alpha
ELECTRONICS SOLUTIONS

macdermidalpha.com
January 2022

Alpha and Kester are a product brand of MacDermid Alpha Electronics Solutions.

For more information, contact us at
Assembly@MacDermidAlpha.com

© 2022 MacDermid, Inc. and its group of companies. All rights reserved.
® and ™ are registered trademarks or trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.