

UNBUMPED LOW CAPACITANCE FLIP CHIP ARRAY

APPLICATIONS

- ✓ Cellular Phones
- ✓ Personal Digital Assistant (PDA)
- ✓ Notebook Computers
- ✓ SMART Cards

IEC COMPATIBILITY (EN61000-4)

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

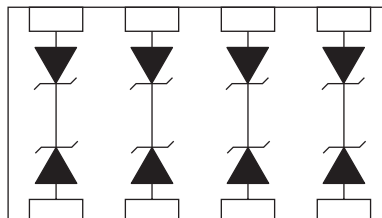
FEATURES

- ✓ ESD Protection > 25 kilovolts
- ✓ Low ESD Overshoot Voltage
- ✓ Bidirectional Configuration & Monolithic Structure
- ✓ Protects 4 Isolated Lines
- ✓ Low Capacitance: 6pF
- ✓ Low Leakage Current
- ✓ RoHS Compliant

MECHANICAL CHARACTERISTICS

- ✓ Standard EIA Chip Size: 0408
- ✓ Weight 0.73 milligrams (Approximate)
- ✓ Solder Reflow Temperature:
Lead-Free: 260-270°C
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Plastic & Paper Tape and Reel Per EIA Standard 481
- ✓ Device Marking On Reel

PIN CONFIGURATION



ULLC0408FC05C*

DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_A	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (See Notes 1)	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_b μA	TYPICAL CAPACITANCE 0V @ 1 MHz C pF
ULLC0408FC05C	5.0	6.0	5.0	6

Note 1: Device is bidirectional.

ULLC0408FC05C*

GRAPHS

FIGURE 1
OVERSHOOT & CLAMPING VOLTAGE

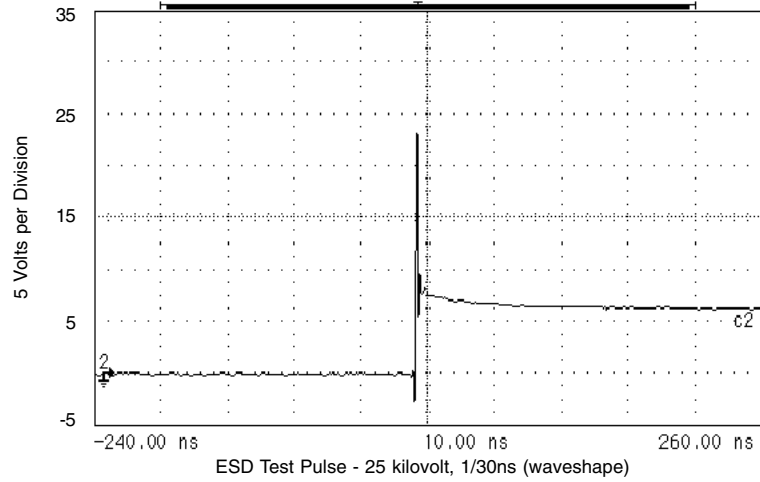
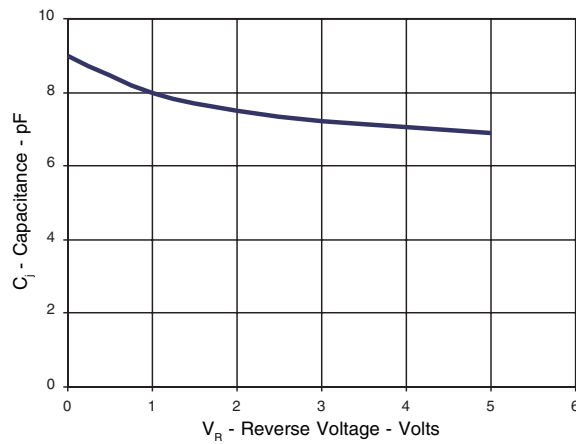


FIGURE 2
CAPACITANCE VS REVERSE VOLTAGE

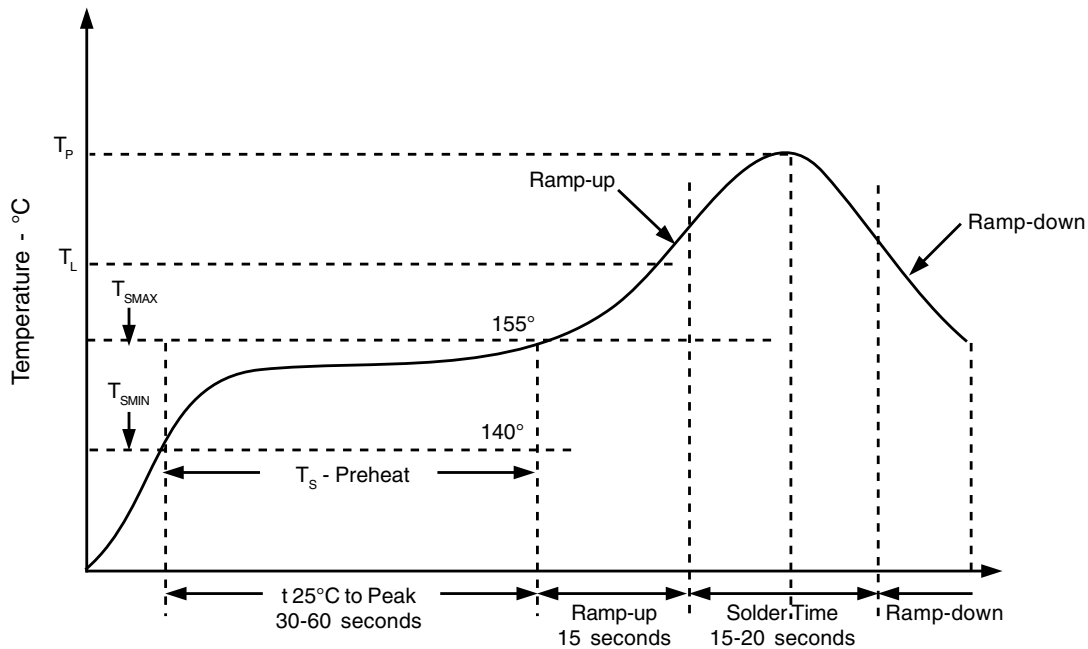
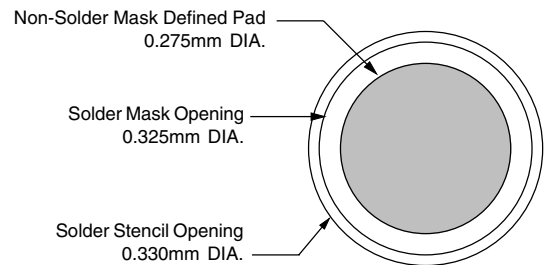


APPLICATION INFORMATION

PRINTED CIRCUIT BOARD RECOMMENDATIONS	
PARAMETER	VALUE
Pad Size on PCB	0.275mm
Pad Shape	Round
Pad Definition	Non-Solder Mask Defined Pads
Solder Mask Opening	0.325mm Round
Solder Stencil Thickness	0.150mm
Solder Stencil Aperture Opening (laser cut, 5% tapered walls)	0.330mm Round
Solder Paste Type	No Clean
Pad Protective Finish	OSP(Entek Cu Plus 106A)
Tolerance - Edge To Corner Ball	±50µm
Solder Ball Side Coplanarity	±20µm
Maximum Dwell Time Above Liquidous (183°C)	60 Seconds
Soldering Maximum Temperature	270°C

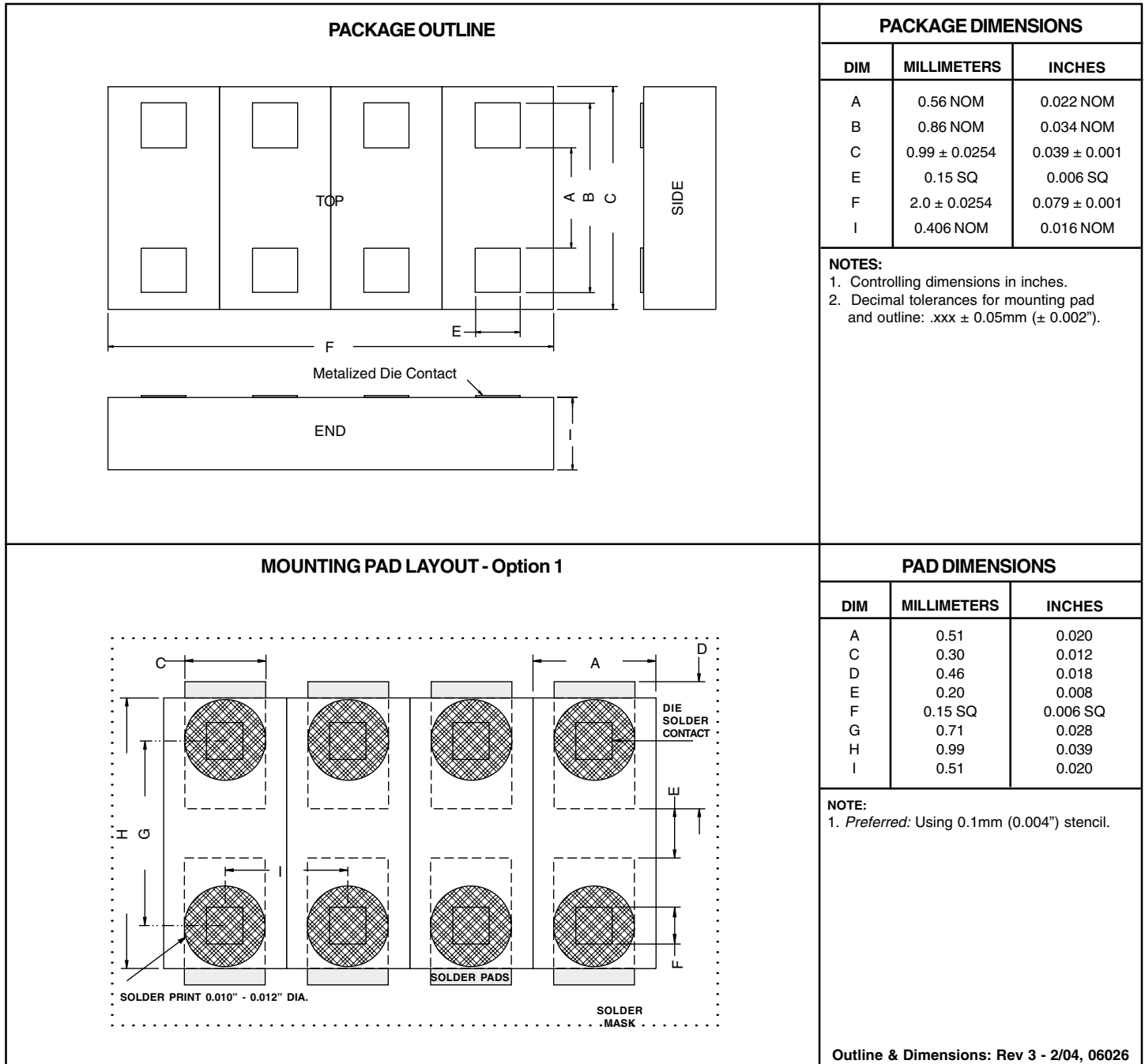
REQUIREMENTS
<p>Temperature:</p> <p>T_p for Lead-Free (SnAgCu): 260-270°C</p> <p>T_p for Tin-Lead: 240-245°C</p> <p>Preheat time and temperature depends on solder paste and flux activation temperature, component size, weight, surface area & plating.</p>

RECOMMENDED NON-SOLDER MASK DEFINED PAD ILLUSTRATION



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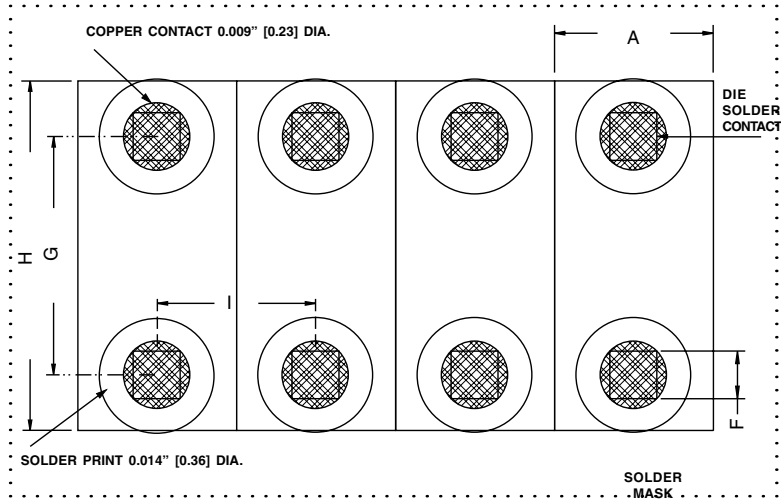
U0408 PACKAGE OUTLINE & DIMENSIONS



ULLC0408FC05C*

U0408 PACKAGE OUTLINE & DIMENSIONS

MOUNTING PAD LAYOUT - Option 2



PACKAGE DIMENSIONS

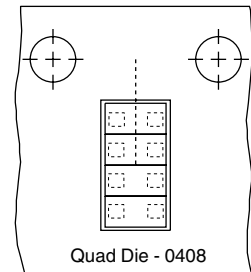
DIM	MILLIMETERS	INCHES
A	0.51	0.020
F	0.15 SQ	0.006 SQ
G	0.71	0.028
H	0.99	0.039
I	0.51	0.020

NOTES:

- Controlling dimensions in inches.
- Decimal tolerances for mounting pad and outline: .xxx ± 0.05mm (± 0.002").
- Preferred: Using 0.1mm (0.004") stencil.

Outline & Dimensions: Rev 3 - 2/04, 06026

TAPE & REEL ORIENTATION



NOTE:

- Top view of tape. Solder bumps are face down in tape package.

TAPE & REEL ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA 481.
- 8mm Plastic Tape: 7 Inch Reels - 5,000 pieces per reel. Ordering Suffix: -T75-1 (i.e., ULLC0408FC05C-T75-1).
- 8mm Paper Tape: 7 Inch Reels - 5,000 pieces per reel. Ordering Suffix: -T75-2 (i.e., ULLC0408FC05C-T75-2).

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