

## LOW CAPACITANCE FLIP CHIP ARRAY

### APPLICATIONS

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

### IEC COMPATIBILITY (EN61000-4)

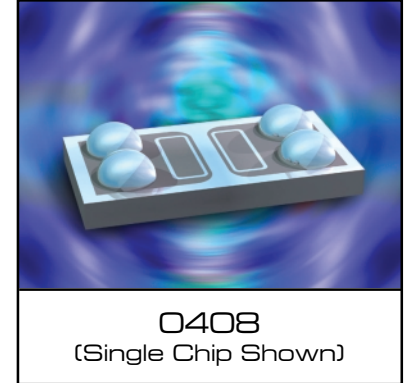
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

### FEATURES

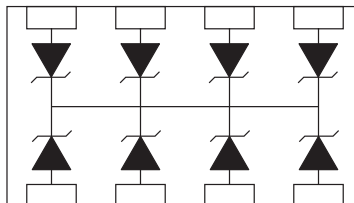
- ✓ ESD Protection > 25 kilovolts
- ✓ Available in Six Voltage Types Ranging From 3.3V to 24V
- ✓ 200 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- ✓ Low Clamping Voltage
- ✓ Bidirectional Configuration & Monolithic Structure
- ✓ Protects 4 to 7 Lines
- ✓ **LOW CAPACITANCE**
- ✓ **LOW LEAKAGE CURRENT**

### MECHANICAL CHARACTERISTICS

- ✓ Standard EIA Chip Size: 0408
- ✓ Weight 0.73 milligrams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Plastic & Paper Tape and Reel Per EIA Standard 481
- ✓ Device Marking On Reel
- ✓ Top Contacts: Solder Bump 0.004" in Height (Nominal)



### PIN CONFIGURATION



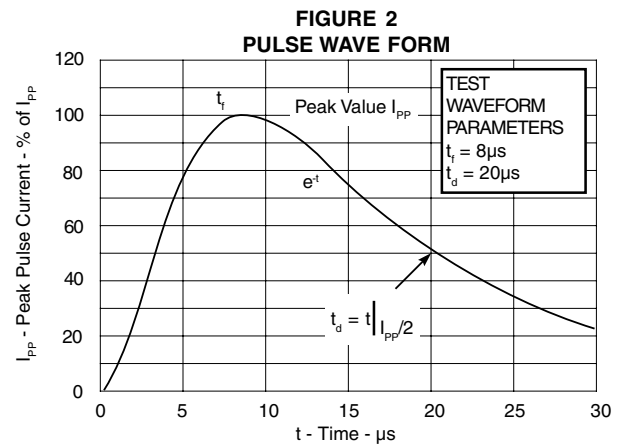
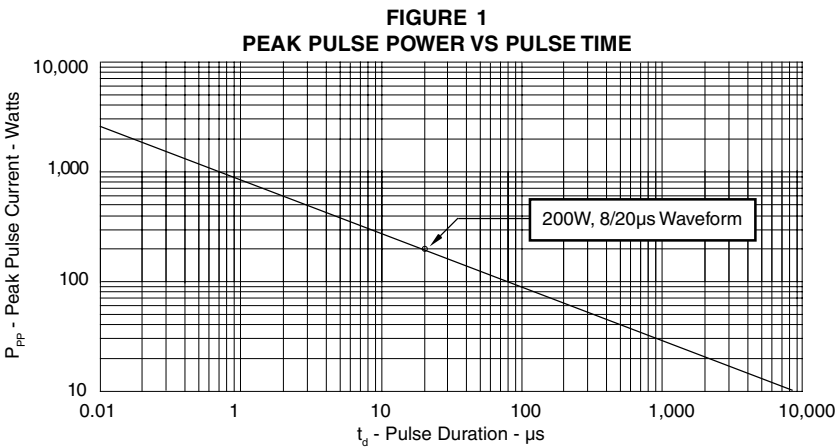
## DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	200	Watts
Operating Temperature	$T_J$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C

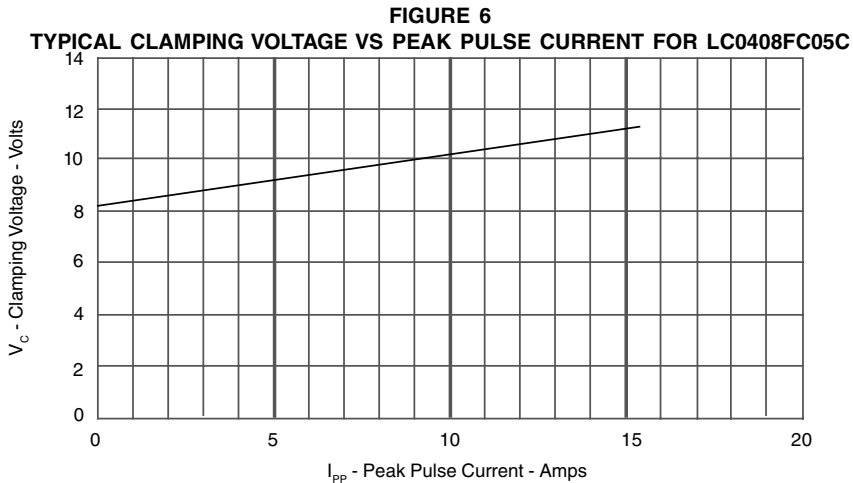
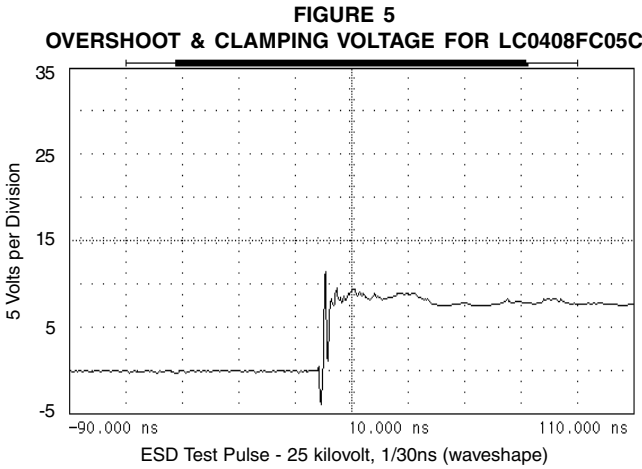
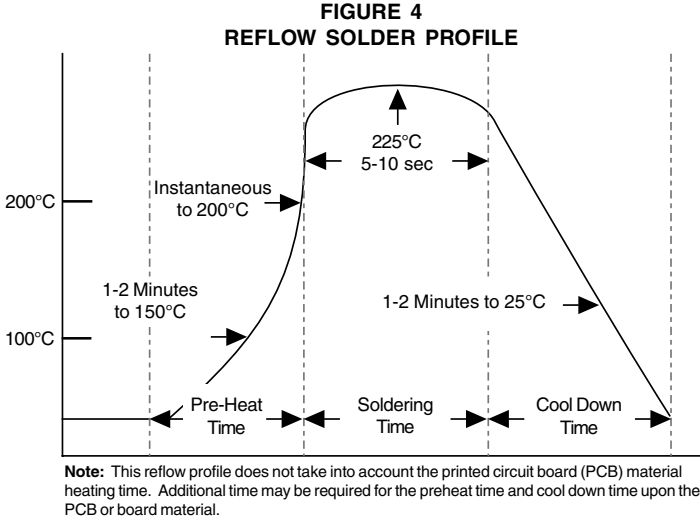
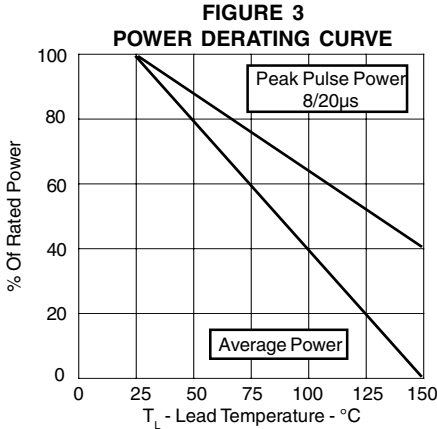
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER (See Note 1)	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT (See Note 2)	TYPICAL CAPACITANCE
		@ 1mA $V_{(BR)}$ VOLTS	@ $I_p = 1A$ $V_C$ VOLTS	@ 8/20 $\mu s$ $V_C @ I_{PP}$	@ $V_{WM}$ $I_D$ $\mu A$	@ 0V, 1 MHz C pF
LC0408FC3.3C	3.3	4.0	7.0	12.5V @ 16A	75*	70
LC0408FC05C	5.9	6.0	11.0	13V @ 15A	10**	35
LC0408FC08C	8.0	8.5	13.2	18V @ 11A	1	32
LC0408FC12C	12.0	13.3	19.8	26.9V @ 7.4A	1	30
LC0408FC15C	15.0	16.7	25.4	34.5V @ 5.8A	1	25
LC0408FC24C	24.0	26.7	37.2	50.6V @ 4A	1	20

**Note 1:** All devices are bidirectional. Electrical characteristics apply in both directions.

**Note 2:** \*Maximum leakage current < 5 $\mu A$  @ 2.8V. \*\*Maximum leakage current < 500nA @ 3.3V.



## GRAPHS



**PACKAGE OUTLINE & DIMENSIONS**

PACKAGE OUTLINE		PACKAGE DIMENSIONS		
DIM	MILLIMETERS	INCHES		
A	0.56 NOM	0.022 NOM		
B	0.86 NOM	0.034 NOM		
C	0.99 ± 0.0254	0.039 ± 0.001		
E	0.15 SQ	0.006 SQ		
F	2.0 ± 0.0254	0.079 ± 0.001		
G	0.15 NOM	0.006 NOM		
H	0.127 MAX	0.005 MAX		
I	0.076 MIN	0.003 MIN		
	0.406 NOM	0.016 NOM		

**NOTES:**

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

MOUNTING PAD LAYOUT - Option 1		PAD DIMENSIONS		
DIM	MILLIMETERS	INCHES		
A	0.51	0.020		
C	0.30	0.012		
D	0.46	0.018		
E	0.20	0.008		
F	0.15 SQ	0.006 SQ		
G	0.71	0.028		
H	0.99	0.039		
I	0.51	0.020		

**NOTE:**

- Preferred: Using 0.1mm (0.004") stencil.

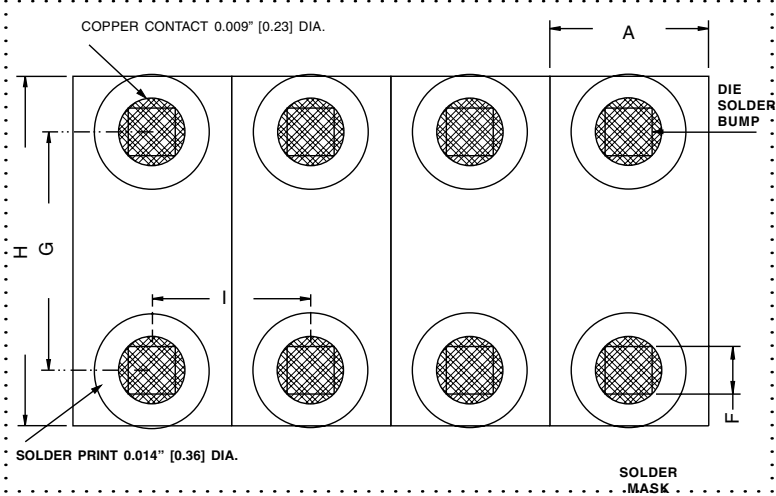
  

**Outline & Dimensions: Rev 3 - 11/02, 06021**

# LC0408FC3.3C thru LC0408FC24C

## PACKAGE OUTLINE & DIMENSIONS

MOUNTING PAD LAYOUT - Option 2



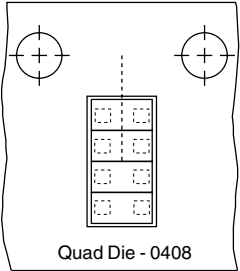
PACKAGE DIMENSIONS

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 - 11/02, 06021

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., LC0408FC05C-T75-1).
- 8mm Paper Tape: 7 Inch Reels - 10,000 pieces per reel. Ordering Suffix: -T710-2 (i.e., LC0408FC05C-T710-2).

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