

BIDIRECTIONAL LOW CAPACITANCE FLIP CHIP

APPLICATIONS

- ✓ Cellular Phones
- ✓ Handheld Electronics
- ✓ Personal Digital Assistants (PDAs)
- ✓ Notebook Computers
- ✓ SMART Cards

IEC COMPATIBILITY (EN61000-4)

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

FEATURES

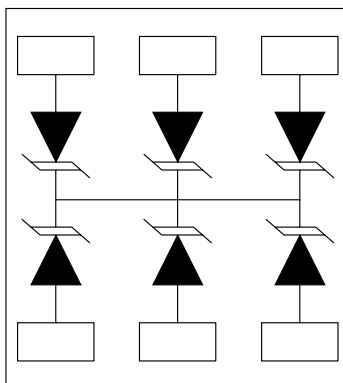
- ✓ ESD Protection > 25 kilovolts
- ✓ Available in Six Voltage Types Ranging From 3.3V to 24V
- ✓ 200 Watts Peak Pulse Power Dissipation per Line (8/20μs)
- ✓ Low Clamping Voltage
- ✓ **LOW CAPACITANCE**
- ✓ **LOW STANDBY CURRENT**

MECHANICAL CHARACTERISTICS

- ✓ Standard EIA Chip Size: 0406
- ✓ Weight 0.73 milligrams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Plastic & Paper Tape and Reel Per EIA Standard 481-1-A
- ✓ Device Marking On Reel
- ✓ Top Contacts: Solder Bump 0.004" in Height (Nominal)



CIRCUIT DIAGRAM



LC0406FC3.3C thru LC0406FC24C

DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

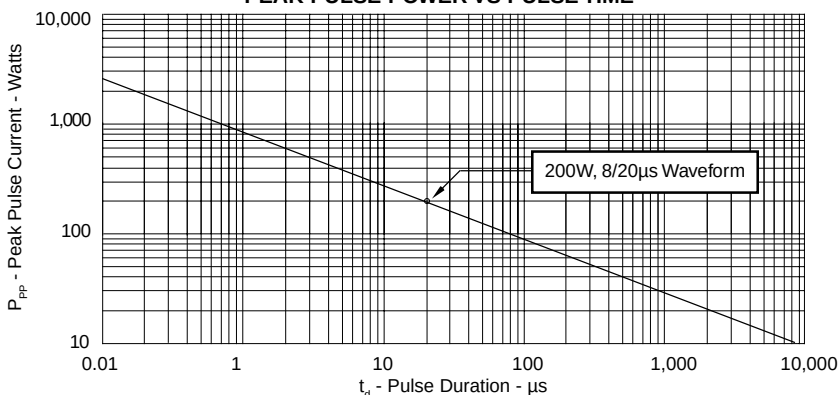
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	200	Watts
Operating Temperature	T_J	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

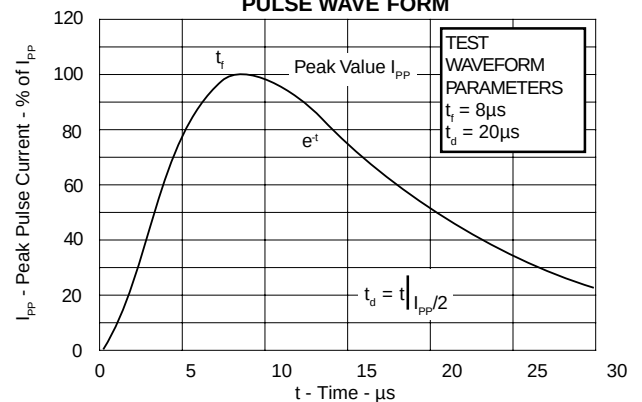
PART NUMBER (See Note 1)	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_p = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	TYPICAL CAPACITANCE 0V @ 1 MHz C pF
LC0406FC3.3C	3.3	4.0	7.0	12.5V @ 16A	75	70
LC0406FC05C	5.9	6.0	11.0	13V @ 15A	10	35
LC0406FC08C	8.0	8.0	13.2	18V @ 11A	1	32
LC0406FC12C	12.0	13.3	19.8	26.9V @ 7.4A	1	30
LC0406FC15C	15.0	16.7	25.4	34.5V @ 5.8A	1	25
LC0406FC24C	24.0	26.7	37.2	50.6V @ 4A	1	20

Note 1: All devices are bidirectional. Electrical characteristics apply in both directions. Electrical characteristics for 3V, 8V, 12V, 15V and 24V devices are preliminary.

**FIGURE 1
PEAK PULSE POWER VS PULSE TIME**

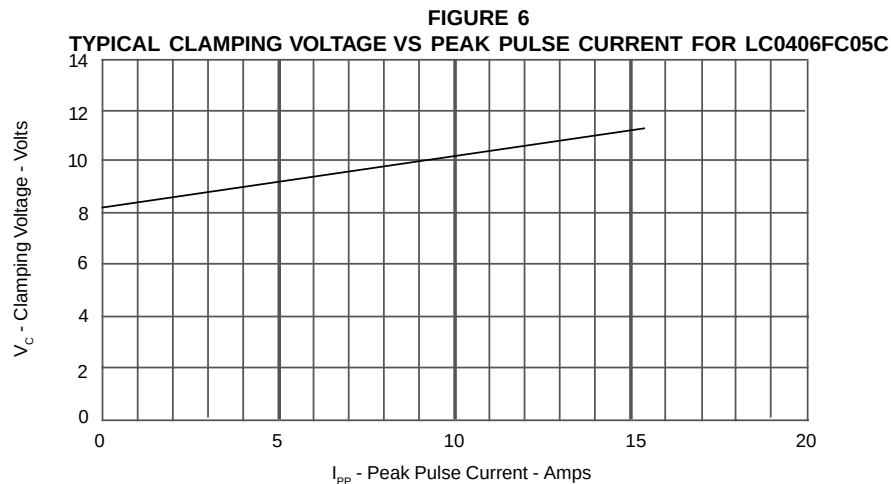
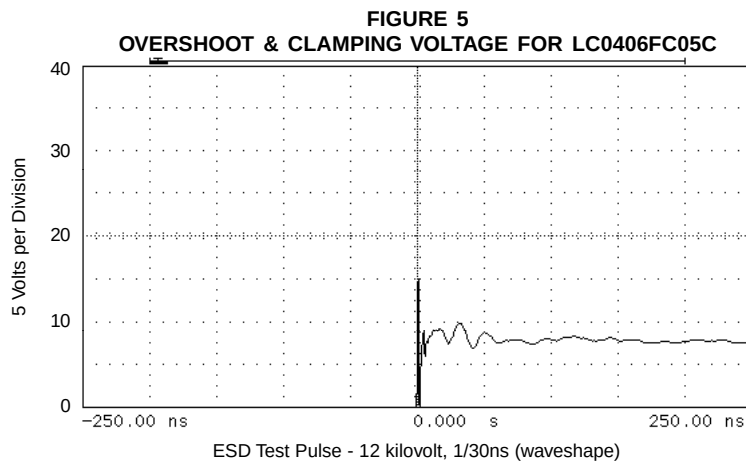
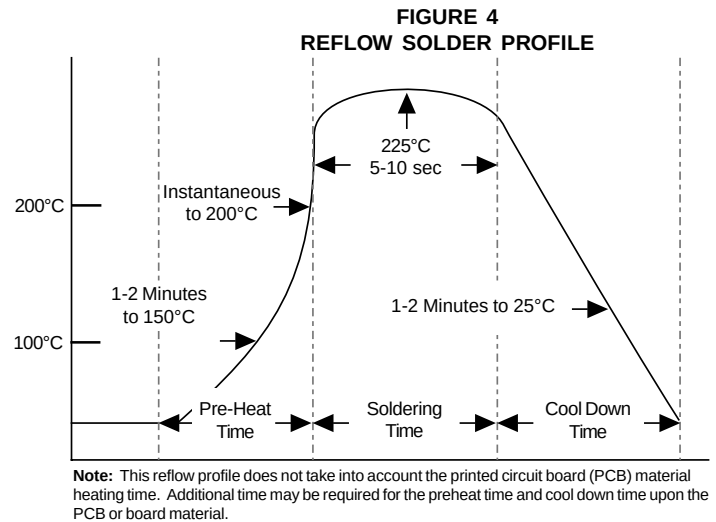
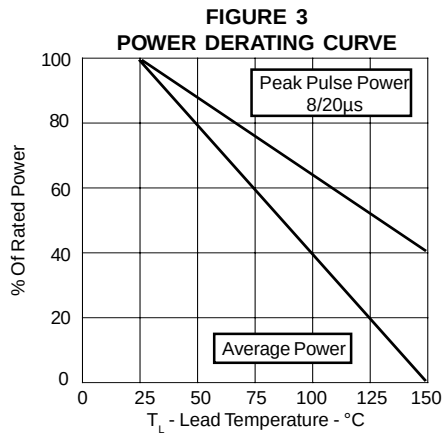


**FIGURE 2
PULSE WAVE FORM**



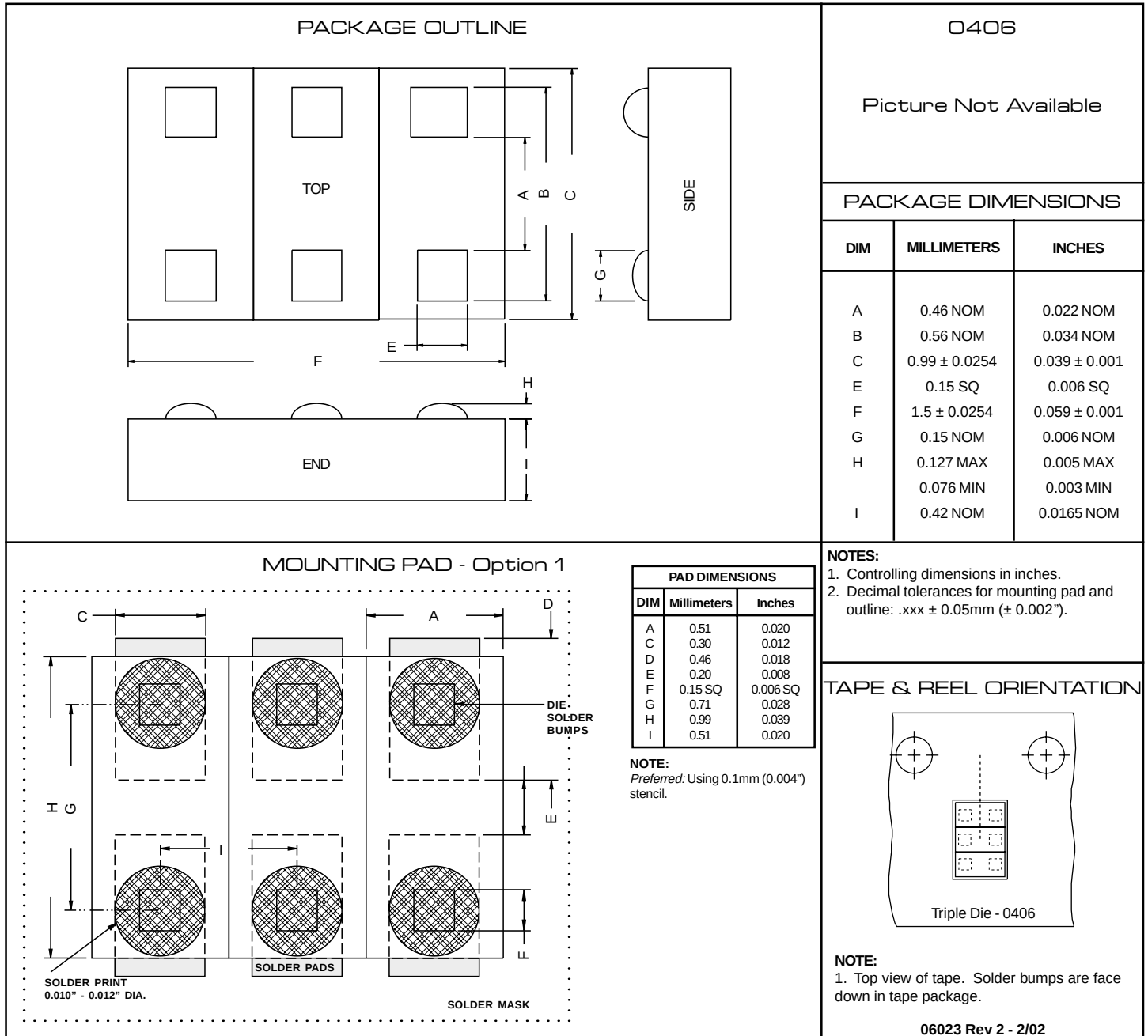
LC0406FC3.3C thru LC0406FC24C

GRAPHS



LC0406FC3.3C thru LC0406FC24C

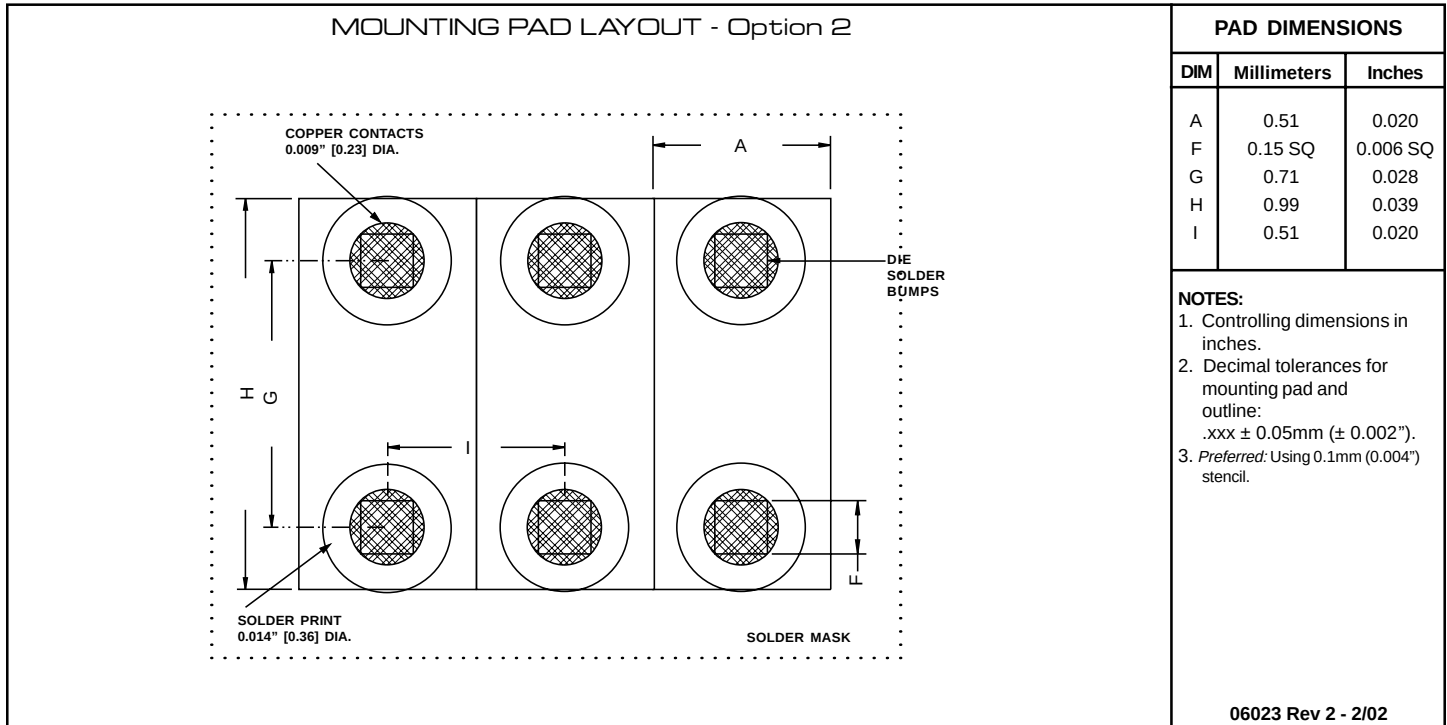
PACKAGE OUTLINE & DIMENSIONS



TAPE & REEL PACKAGING:
Surface mount product is taped and reeled in accordance with EIA-481, reel quantities and sizes are as follows:
Paper Tape: 7 Inch Reel - 3,000 or 10,000 pieces per reel. Plastic Tape: 7 Inch Reel - 3,000 or 5,000 per reel.

LC0406FC3.3C thru LC0406FC24C

PACKAGE OUTLINE & DIMENSIONS



TAPE & REEL PACKAGING:

Surface mount product is taped and reeled in accordance with EIA-481, reel quantities and sizes are as follows:
Paper Tape: 7 Inch Reel - 3,000 or 10,000 pieces per reel. Plastic Tape: 7 Inch Reel - 3,000 or 5,000 per reel.

COPYRIGHT © ProTek Devices 2001

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice (except JEDEC). DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice, and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance, ProTek assumes no responsibility with respect to the selection or specifications of such products.

ProTek Devices
 2929 South Fair Lane, Tempe, AZ 85282
 Tel: 602-431-8101 Fax: 602-431-2288
 E-Mail: sales@protekdevices.com
 Web Site: www.protekdevices.com