

APPLICATIONS

- ✓ Cellular Phones
- ✓ MCM Boards
- ✓ Wireless Communication Circuits
- ✓ IR LEDs
- ✓ SMART & PCMCIA Cards

IEC COMPATIBILITY (EN61000-4)

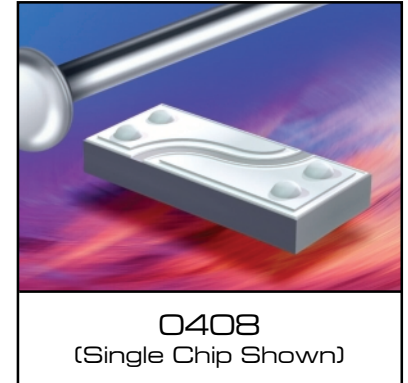
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

FEATURES

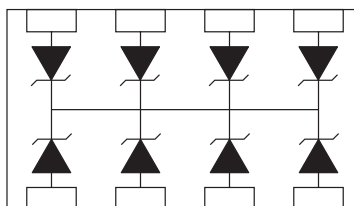
- ✓ ESD Protection > 25 kilovolts
- ✓ Available in Multiple Voltage Types Ranging From 3.3V to 36V
- ✓ 250 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- ✓ Bidirectional Configuration & Monolithic Structure
- ✓ Protects 4 to 7 Lines

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

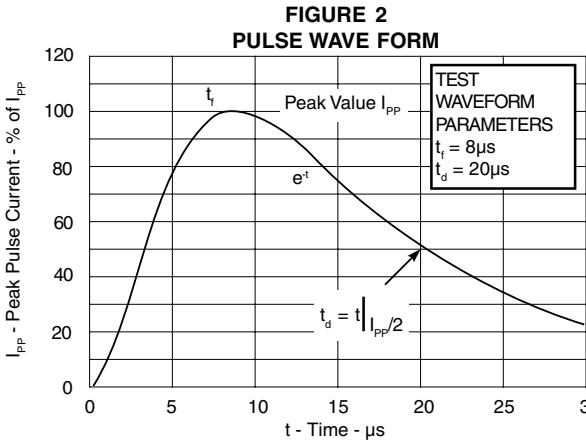
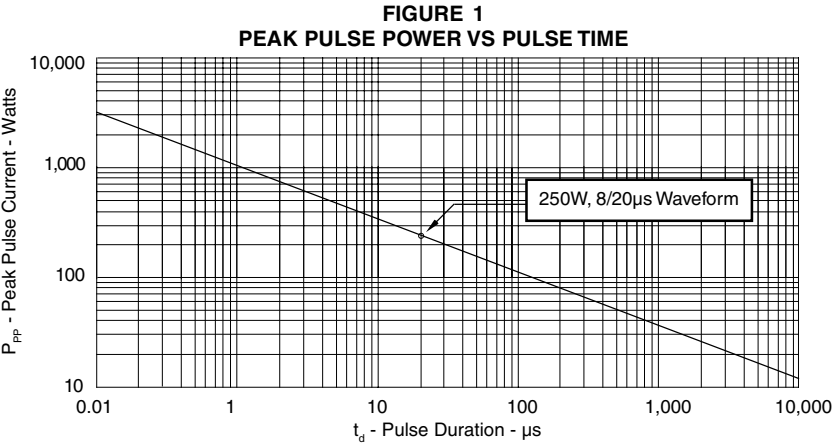


DEVICE CHARACTERISTICS

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

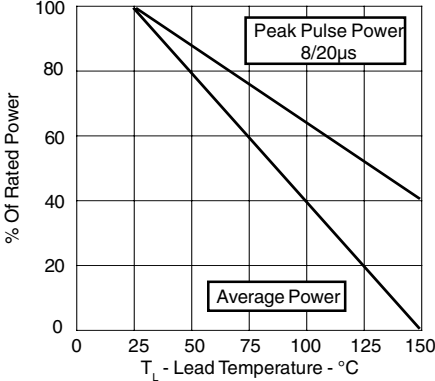
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER (See Note 1)	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_p = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20µs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT (See Note 2) @ V_{WM} I_D µA	TYPICAL CAPACITANCE @ 0V, 1 MHz C pF
P0408FC3.3C	3.3	4.0	7.0	12.5V @ 20A	75*	150
P0408FC05C	5.0	6.0	9.8	14.7V @ 17A	10**	100
P0408FC08C	8.0	8.5	13.4	19.2V @ 13A	10***	75
P0408FC12C	12.0	13.3	19.0	29.7V @ 9.0A	1	50
P0408FC15C	15.0	16.7	24.0	35.7V @ 7.0A	1	40
P0408FC24C	24.0	26.7	43.0	55.0V @ 5.0A	1	30
P0408FC36C	36.0	40.0	64.0	84.0V @ 3.0A	1	25

Note 1: All devices are bidirectional. Electrical characteristics apply in both directions.
Note 2: *Maximum leakage current < 5µA @ 2.8V. **Maximum leakage current < 500nA @ 3.3V. ***Maximum leakage current < 200nA @ 5V.

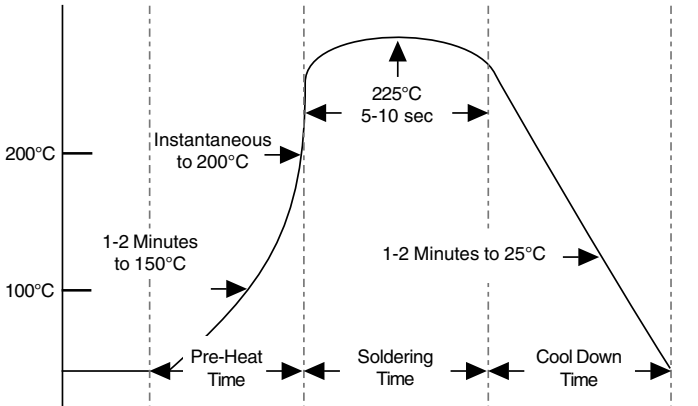


GRAPHS

**FIGURE 3
 POWER DERATING CURVE**

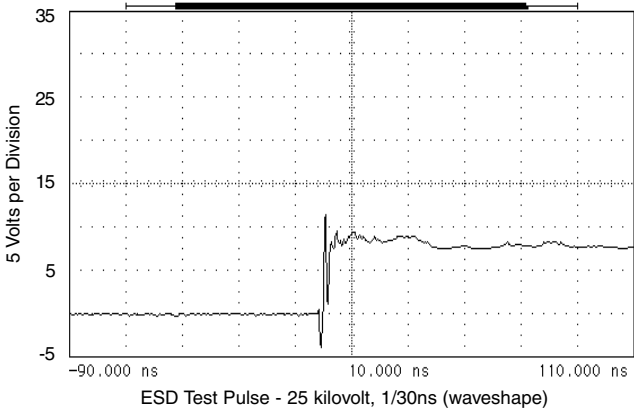


**FIGURE 4
 REFLOW SOLDER PROFILE**

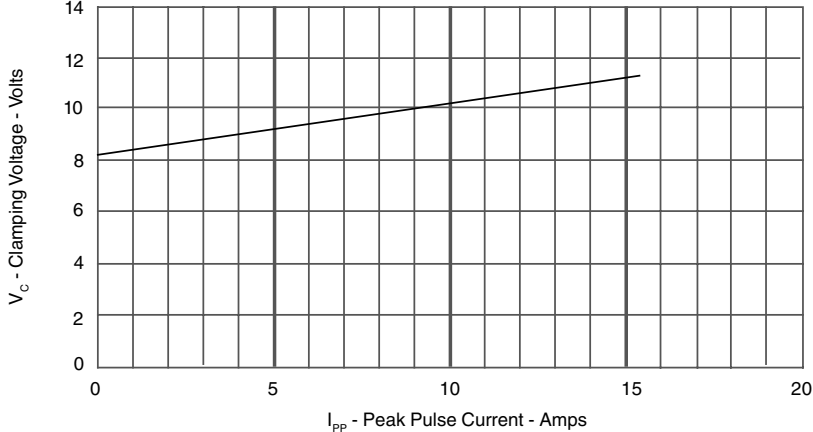


Note: This reflow profile does not take into account the printed circuit board (PCB) material heating time. Additional time may be required for the preheat time and cool down time upon the PCB or board material.

**FIGURE 5
 OVERSHOOT & CLAMPING VOLTAGE FOR P0408FC05C**



**FIGURE 6
 TYPICAL CLAMPING VOLTAGE VS PEAK PULSE CURRENT FOR P0408FC05C**



P0408FC3.3C*
 thru
P0408FC36C*

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:

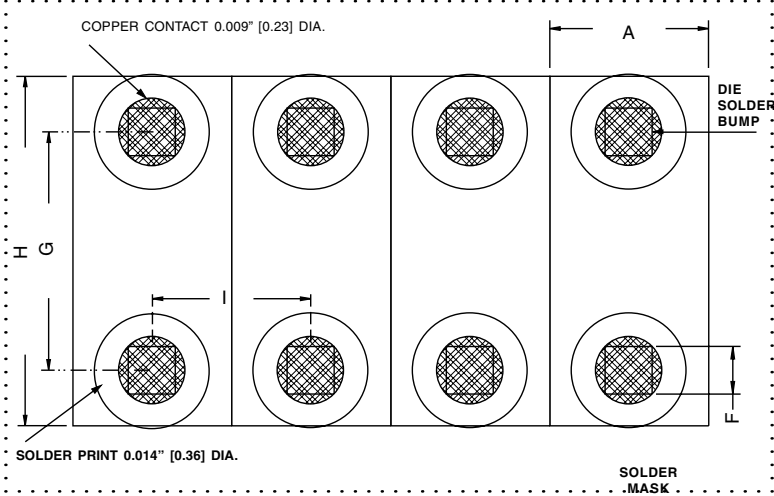
- Preferred:* Using 0.1mm (0.004") stencil.

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

P0408FC3.3C* thru P0408FC36C*

PACKAGE OUTLINE & DIMENSIONS

MOUNTING PAD LAYOUT - Option 2



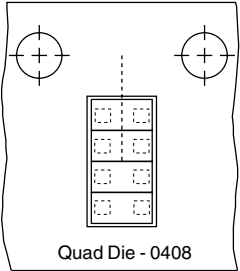
PACKAGE DIMENSIONS

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., P0408FC05C-T75-1).
- 8mm Paper Tape: 7 Inch Reels -10,000 pieces per reel. Ordering Suffix: -T710-2 (i.e., P0408FC05C-T710-2).

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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