

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

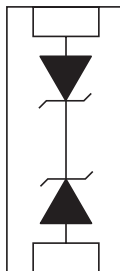
- ✓ ESD Protection > 25 kilovolts
- ✓ Available in Six Voltage Types Ranging From 3.3V to 24V
- ✓ 200 Watts Peak Pulse Power per Line (tp = 8/20µs)
- ✓ Low Clamping Voltage
- ✓ Bidirectional Configuration & Monolithic Structure
- ✓ Protects 1 Line
- ✓ **LOW CAPACITANCE**
- ✓ **LOW LEAKAGE CURRENT**

MECHANICAL CHARACTERISTICS

- ✓ Standard EIA Chip Size: 0402
- ✓ Weight 0.73 milligrams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Plastic & Paper Tape and Reel Per EIA Standard 481
- ✓ Device Marking On Reel



PIN CONFIGURATION



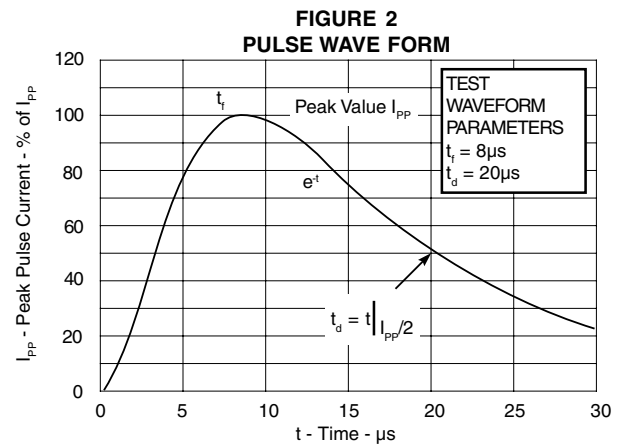
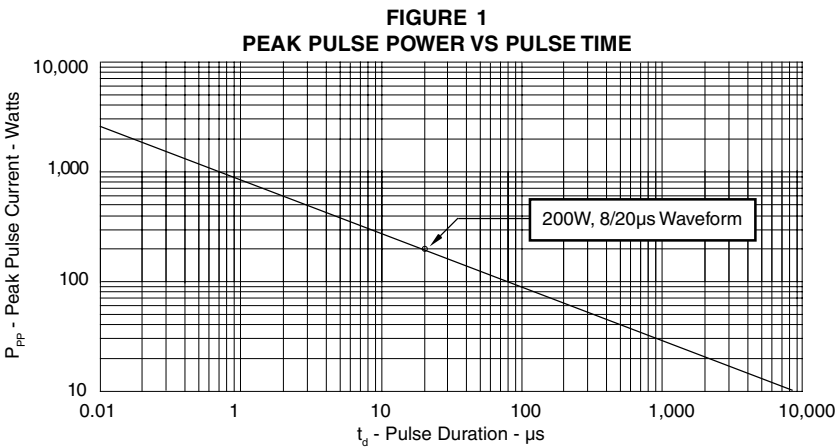
DEVICE CHARACTERISTICS

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

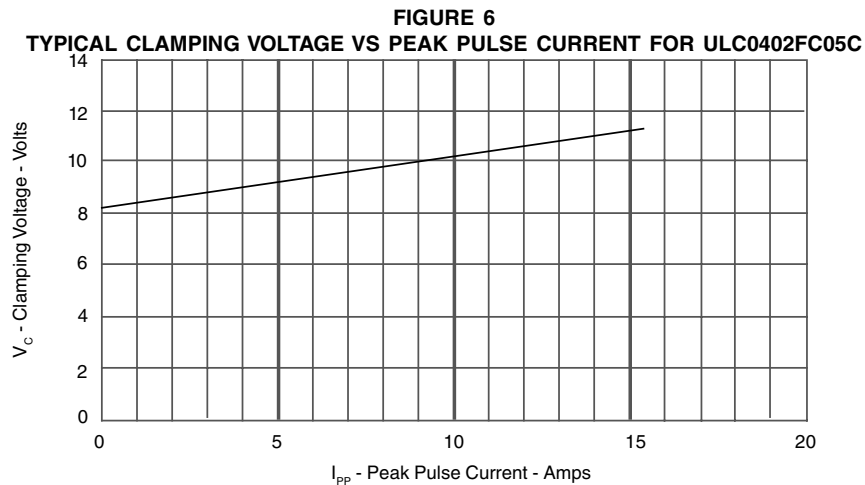
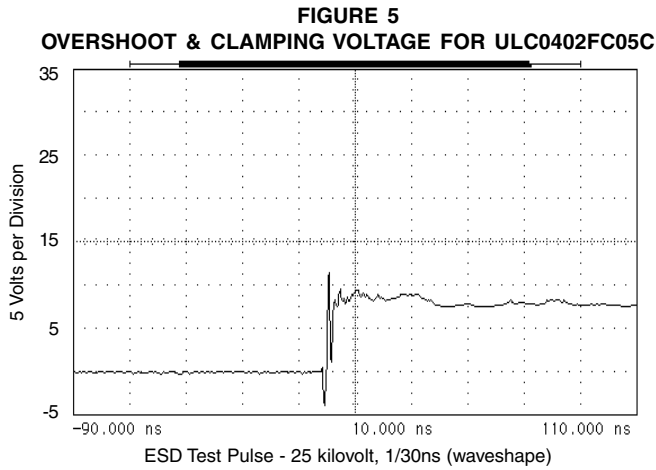
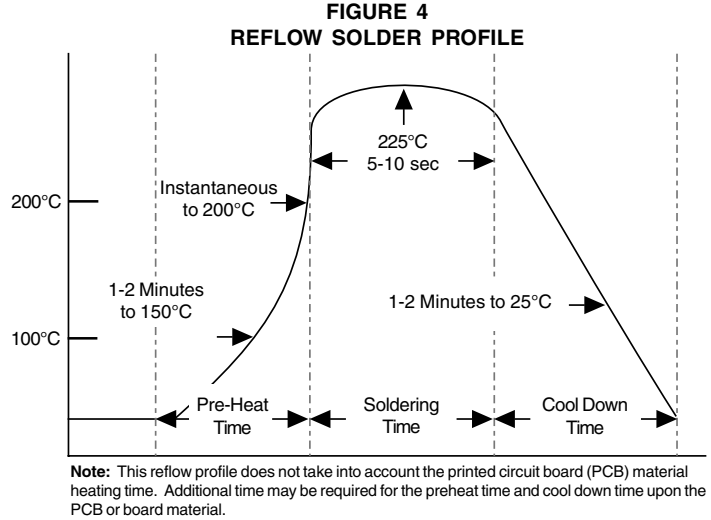
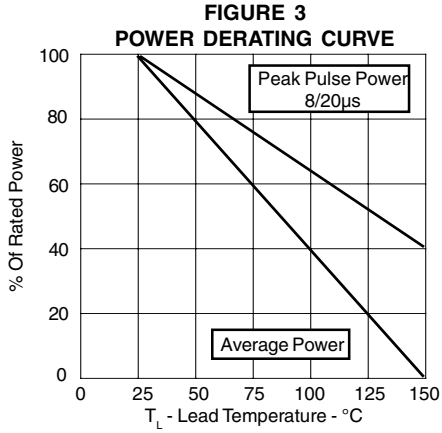
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER (See Note 1)	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_p = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT (See Note 2) @ V_{WM} I_D μA	TYPICAL CAPACITANCE
						@ 0V, 1 MHz C pF
ULC0402FC3.3C	3.3	4.0	7.0	12.5V @ 16A	75*	70
ULC0402FC05C	5.9	6.0	11.0	13V @ 15A	10**	35
ULC0402FC08C	8.0	8.5	13.2	18V @ 11A	1	32
ULC0402FC12C	12.0	13.3	19.8	26.9V @ 7.4A	1	30
ULC0402FC15C	15.0	16.7	25.4	34.5V @ 5.8A	1	25
ULC0402FC24C	24.0	26.7	37.2	50.6V @ 4A	1	20

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

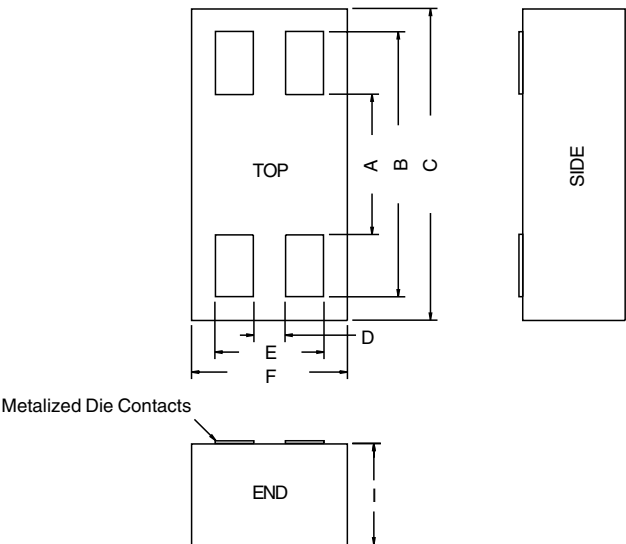

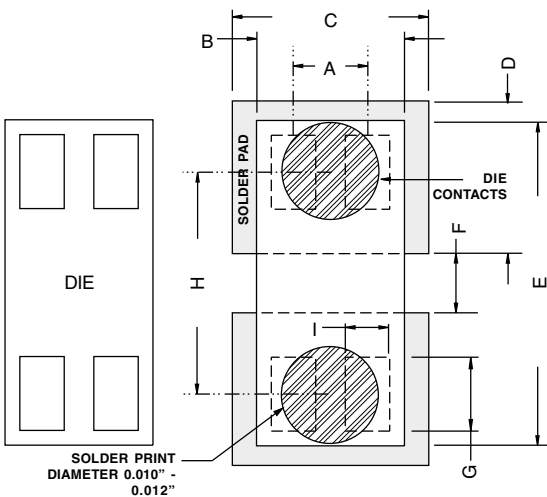
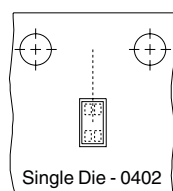
Note 2: *Maximum leakage current < 5 μA @ 2.8V. **Maximum leakage current < 500nA @ 3.3V.



GRAPHS



PACKAGE OUTLINE & DIMENSIONS

<p style="text-align: center;">PACKAGE OUTLINE</p>  <p style="text-align: center;">Metalized Die Contacts</p>	<p style="text-align: center;">U0402</p> 		
	<p style="text-align: center;">PACKAGE DIMENSIONS</p>		
	DIM	MILLIMETERS	INCHES
	A	0.46 NOM	0.018 NOM
	B	0.86 NOM	0.034 NOM
	C	0.99 ± 0.0254	0.039 ± 0.001
	D	0.10 NOM	0.004 NOM
	E	0.35 NOM	0.014 NOM
	F	0.483 ± 0.0254	0.019 ± 0.001
	I	0.406 NOM	0.016 NOM
	<p>NOTES:</p>		
	<p>1. Controlling dimensions in inches.</p>		
	<p>2. Decimal tolerances for mounting pad and outline:</p>		
	<p>.xxx ± 0.05mm (± 0.002").</p>		
	<p>3. Maximum chip size: 1.02 (0.040") by 0.51(0.020").</p>		
<p style="text-align: center;">MOUNTING PAD</p>  <p style="text-align: center;">SOLDER PRINT DIAMETER 0.010" - 0.012"</p>	<p style="text-align: center;">PAD DIMENSIONS</p>		
	DIM	MILLIMETERS	INCHES
	A	0.23	0.009
	B	0.48	0.019
	C	0.69	0.027
	D	0.46	0.018
	E	0.99	0.039
	F	0.20	0.008
	G	0.20	0.008
	H	0.66	0.026
	I	0.13	0.005
	<p>NOTE:</p>		
	<p>1. Top view of tape. Metal contacts are face down in tape package.</p>		
	<p style="text-align: center;">TAPE & REEL ORIENTATION</p>  <p style="text-align: center;">Single Die - 0402</p>		
	<p>NOTE:</p>		
	<p>1. Preferred: Using 0.1mm (0.004") stencil.</p>		
<p>TAPE & REEL ORDERING NOMENCLATURE</p>	<p style="text-align: center;">Outline & Dimensions: Rev 3 - 11/02, 06020</p>		
<p>1. Surface mount product is taped and reeled in accordance with EIA 481.</p>			
<p>2. 8mm Plastic Tape: 7 Inch Reels - 5,000 pieces per reel. Ordering Suffix: -T75-1 (i.e., ULC0402FC05C-T75-1).</p>			
<p>3. 8mm Paper Tape: 7 Inch Reels - 10,000 pieces per reel. Ordering Suffix: -T710-2 (i.e., ULC0402FC05C-T710-2).</p>			