

EMI FILTER/TVS ARRAY

APPLICATIONS

- ✓ Cellular Phones
- ✓ SMART Cards
- ✓ Notebooks
- ✓ Personal Digital Assistant (PDA)
- ✓ Ground Positioning System (GPS)

IEC COMPATIBILITY (EN61000-4)

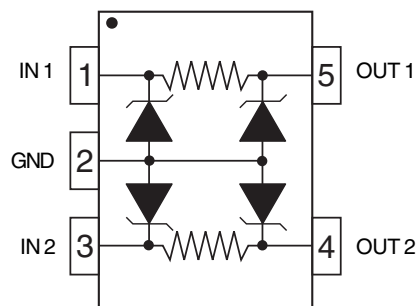
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

FEATURES

- ✓ ESD Protection > 25 kilovolts
- ✓ 175 Watts Peak Pulse Power per Line (tp = 8/20µs)
- ✓ Bidirectional EMI Filtering
- ✓ Low Insertion Loss: Up to 10MHz, -3db Roll-Off @ 40MHz
- ✓ Protects Up to Two (2) Data Lines
- ✓ RoHS Compliant in Lead-Free Versions

MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SC-70-5L
- ✓ Weight 7 milligrams (Approximate)
- ✓ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:
 - Tin-Lead - Sn/Pb, 85/15: 240-245°C
 - Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Marking Code & Pin One Defined By Dot on Top of Package

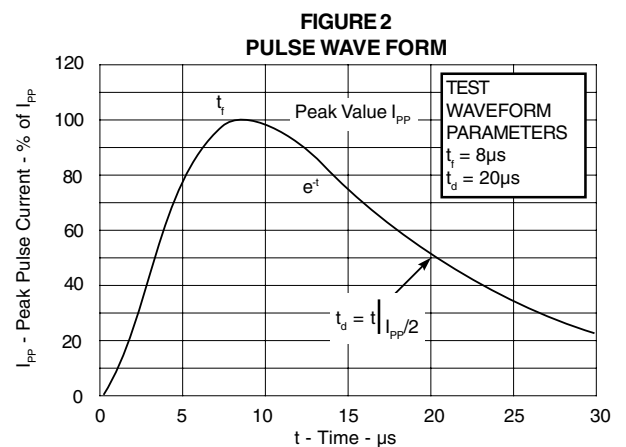
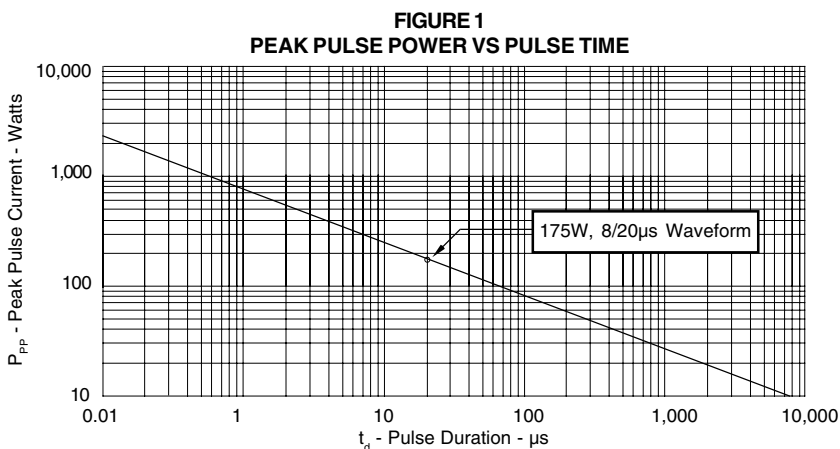
**PIN CONFIGURATION**

DEVICE CHARACTERISTICS

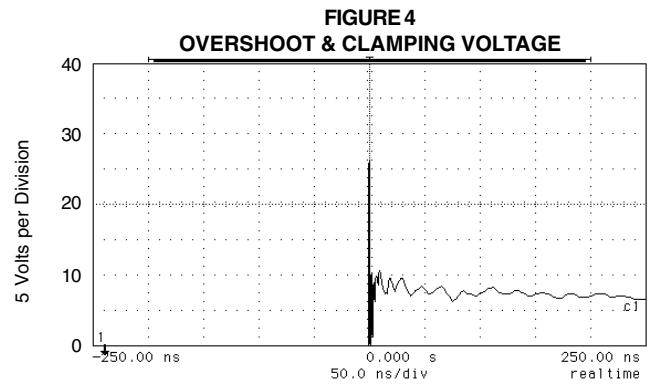
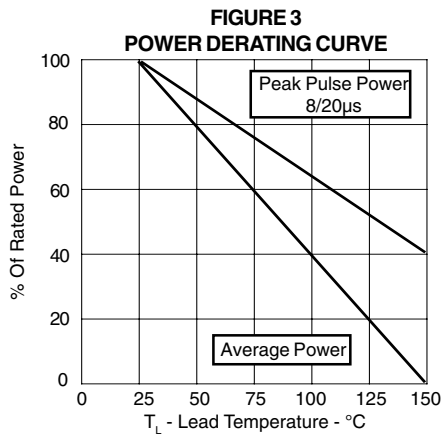
| MAXIMUM RATINGS @ 25°C Unless Otherwise Specified | | | |
|-------------------------------------------------------|-----------|----------------|-------|
| PARAMETER | SYMBOL | VALUE | UNITS |
| Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1 | P_{PP} | 175 | Watts |
| Operating Temperature | T_J | -55°C to 150°C | °C |
| Storage Temperature | T_{STG} | -55°C to 150°C | °C |
| Typical Series Resistance per Line | R | 40 | Ohms |

| ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified | | | | | | | |
|-----------------------------------------------------------------------|----------------|-------------------------|------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|
| PART NUMBER | DEVICE MARKING | RATED STAND-OFF VOLTAGE | MINIMUM BREAKDOWN VOLTAGE | MAXIMUM REVERSE LEAKAGE CURRENT | MAXIMUM REVERSE LEAKAGE CURRENT | TYPICAL CAPACITOR (Per Junction) | MAXIMUM CAPACITANCE (See Note 1) |
| | | V_{WM} VOLTS | @ 1mA $V^{(BR)}$ VOLTS | @ V_{WM} I_D μA | @ 3.3V I_D μA | @ 0V, 1 MHz C_J pF | @ 0V, 1 MHz C_{TOT} pF |
| STF701 | 05F | 5.0 | 6.0 | 5.0 | 1.0 | 40 | 160 |

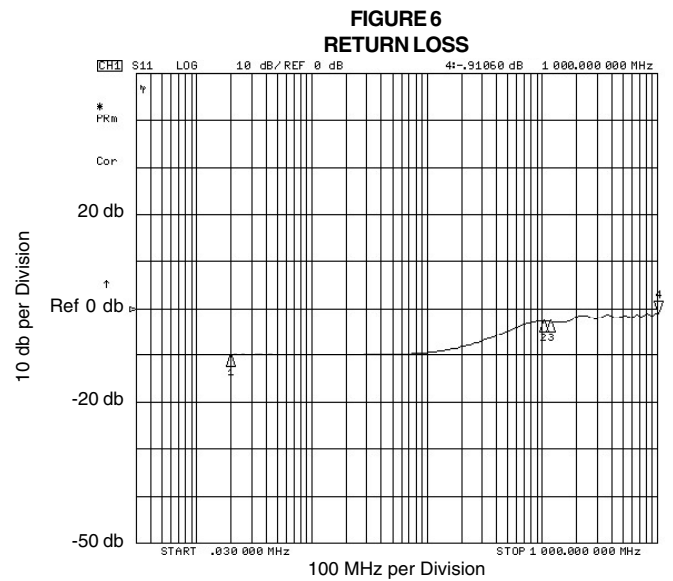
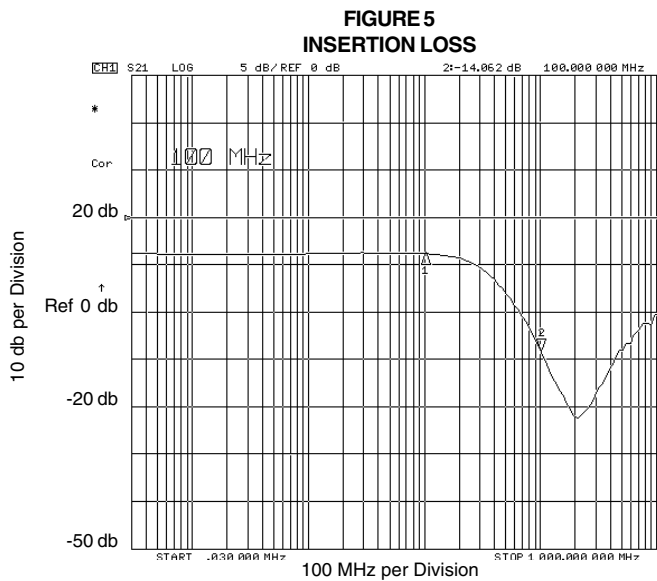
Note 1: Capacitance measured between input and output, per line.



GRAPHS



ESD Test Pulse: 25 kilovolt, 1/30ns (waveform)



PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE

SC70-5L

PACKAGE DIMENSIONS

| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 1.90 | 2.15 | 0.074 | 0.084 |
| B | 1.15 | 1.35 | 0.045 | 0.055 |
| C | 0.80 | 1.00 | 0.031 | 0.040 |
| D | 0.15 | 0.30 | 0.006 | 0.012 |
| E | 0.65 BSC | - | 0.0255 BSC | - |
| F | 1.30 BSC | - | 0.0512 BSC | - |
| G | 0.80 | 1.10 | 0.031 | 0.043 |
| J | 0.08 | 0.25 | 0.003 | 0.010 |
| K | 1.90 | 2.15 | 0.074 | 0.084 |
| L | 0 | 0.10 | 0 | 0.004 |
| M | 0.26 | 0.46 | 0.010 | 0.018 |

MOUNTING PAD

| TYPICAL | | |
|---------|-------------|--------|
| DIM | Millimeters | Inches |
| 1 | 0.50 | 0.020 |
| 2 | 1.30 | 0.051 |
| 3 | 0.65 | 0.026 |
| 4 | 1.72 | 0.068 |
| 5 | 0.60 | 0.024 |
| 6 | 1.11 | 0.044 |
| 7 | 2.33 | 0.092 |

NOTES

- Dimensioning and tolerances per ANSI Y14.5M, 1985.
- Controlling Dimension: Inches
- Dimensions are exclusive of mold flash and metal burrs.

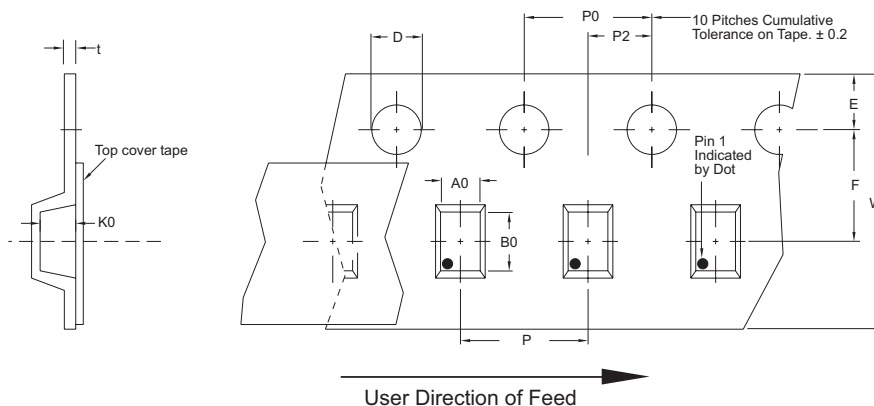
TAPE & REEL ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix-T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., STF701-T7.
- Suffix-LF = Lead-Free, Pure Tin Plating, i.e., STF701-LF-T7.

Outline & Dimensions: Rev 2 - 10/05, 06005

Tape & Reel Specifications (Dimensions in millimeters)

| Reel Dia. | Tape Width | A0 | B0 | K0 | D | E | F | W | P0 | P2 | P | tmax |
|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| 178mm (7") | 8mm | 2.25 ± 0.10 | 2.34 ± 0.10 | 1.22 ± 0.10 | 1.50 ± 0.10 | 1.75 ± 0.10 | 3.50 ± 0.05 | 8.00 ± 0.30 | 4.00 ± 0.10 | 2.00 ± 0.05 | 4.00 ± 0.10 | 0.25 |



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