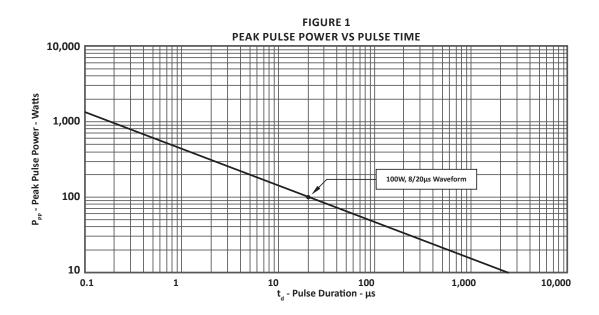
# **TYPICAL DEVICE CHARACTERISTICS**

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified							
PARAMETER	SYMBOL	VALUE	UNITS				
Peak Pulse Power (tp = 8/20μs) - See Figure 1	P <sub>PP</sub>	100	Watts				
Operating Temperature	T <sub>L</sub>	-55 to 150	°C				
Storage Temperature	T <sub>stg</sub>	-55 to 150	°C				

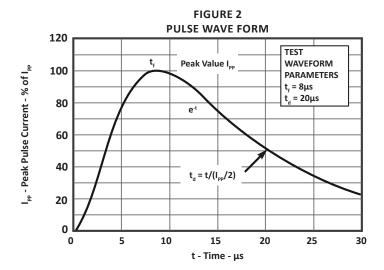
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified								
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V <sub>WM</sub> VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA V <sub>(BR)</sub> VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I <sub>p</sub> = 5A V <sub>c</sub> VOLTS	MAXIMUM LEAKAGE CURRENT @V <sub>WM</sub> I <sub>D</sub> μΑ	MAXIMUM CAPACITANCE (Note 1)  @0V, 1MHz Cj pF		
SMF05C	05C	5.0	6.0	9.8	5	60		
SMF12C	12C	12.0	13.3	18.0	1	30		
SMF15C	15C	15.0	16.7	22.0	1	25		
SMF24C	24C	24.0	26.7	50.0	1	20		

## NOTES



<sup>1.</sup> Pins 1, 3, 4, 5 or 6 to pin 2.

# **TYPICAL DEVICE CHARACTERISTICS**



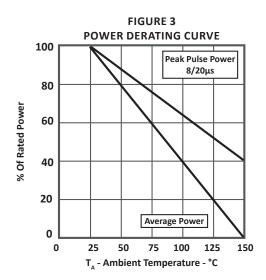
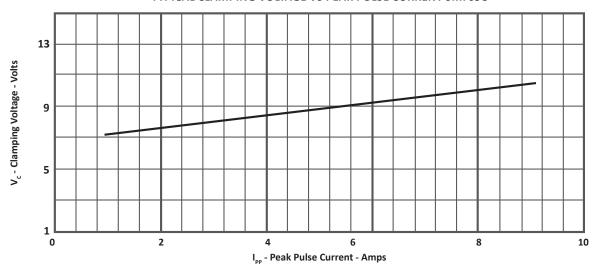
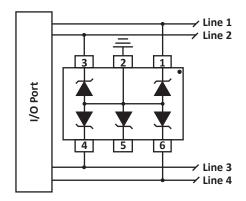


FIGURE 4
TYPICAL CLAMPING VOLTAGE VS PEAK PULSE CURRENT SMF05C



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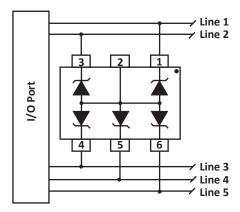
## APPLICATION INFORMATION



# FIGURE 1 - COMMON-MODE I/O PORT PROTECTION (UNIDIRECTIONAL)

Circuit connectivity is as follows:

- Line 1 connected to pin 1.
- Line 2 connected to pin 3.
- Line 3 connected to pin 4.
- Line 4 connected to pin 6.
- Pin 2 connected to ground.
- Pin 5 not connected.



# FIGURE 2 - COMMON-MODE I/O PORT PROTECTION (BIDIRECTIONAL)

Circuit connectivity is as follows:

- Line 1 connected to pin 1.
- Line 2 connected to pin 3.
- Line 3 connected to pin 4.
- Line 4 connected to pin 5.
- Line 5 connected to pin 6.
- Pin 2 not connected.

## **CIRCUIT BOARD RECOMMENDATIONS**

Circuit board layout is critical for electromagnetic compatibility protection. The following guidelines are recommended:

- The protection device should be placed near the input terminals or connectors, the device will divert the transient current immediately before it can be coupled into the nearby traces.
- The path length between the TVS device and the protected line should be minimized.
- All conductive loops including power and ground loops should be minimized.
- The transient current return path to ground should be kept as short as possible to reduce parasitic inductance.
- Ground planes should be used whenever possible. For multilayer PCBs, use ground vias.

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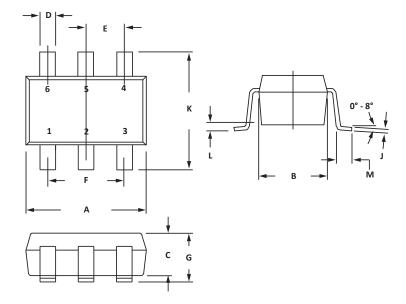


# **SC70-6L PACKAGE INFORMATION**

OUTLINE DIMENSIONS							
DIM	MILLIN	IETERS	INCHES				
ווועו	MIN	MAX	MIN	MAX			
Α	1.90	2.15	0.074	0.084			
В	1.15	1.35	0.045	0.055			
С	0.80 1.00		0.031	0.040			
D	0.15	0.30	0.005	0.012			
Е	0.65	BSC	0.026 BSC				
F	1.30 BSC		0.051 BSC				
G	0.80	1.10	0.031	0.043			
J	0.08	0.25	0.003	0.010			
K	2.00	2.40	0.078	0.095			
L		0.10		0.004			
М	0.26	0.46	0.010	0.018			



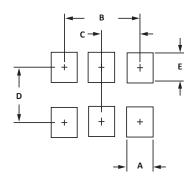
- 1. Controlling dimension: inches.
- 2. Dimensioning and tolerances per ANSI Y14.5M, 1985.
- 3. Dimensions are exclusive of mold flash and metal burrs.



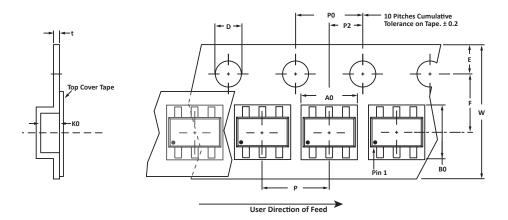
PAD LAYOUT DIMENSIONS						
DIM	MILLIMETERS	INCHES				
	NOMINAL	NOMINAL				
А	0.50	0.020				
В	1.30	0.051				
С	0.65	0.026				
D	1.72	0.068				
E	0.60	0.024				

### NOTES

1. Controlling dimension: inches.



# **TAPE AND REEL**



SPECIFICATIONS												
REEL DIA.	TAPE WIDTH	Α0	В0	КО	D	E	F	w	P0	P2	Р	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

#### NOTES

- 1. Dimensions are in millimeters.
- 2. Surface mount product is taped and reeled in accordance with EIA-481.
- 3. Suffix T7 = 7" Reel 3,000 pieces per 8mm tape.
- 4. Marking on Part marking code (see page 2) and pin one defined by dot on package.

ORDERING INFORMATION							
BASE PART NUMBER (xx = Voltage)	I IFADEREF SUFFIX I TAPE SUFFIX I OTY/REFI I REFI SIZE I TURE OTY						
SMFxxC	-LF	-T7	3,000	7"	n/a		
This device is only available in a Lead-Free configuration.							

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## COMPANY INFORMATION

#### **COMPANY PROFILE**

In business more than 25 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers LED wafer die for ESD protection and related high frequency products. ProTek Devices is ISO 9001:2015 certified.

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