TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified						
PARAMETER SYMBOL VALUE UNITS						
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P _{pp}	200	Watts			
Operating Temperature	T,	-55 to 150	°C			
Storage Temperature	Т _{stg}	-55 to 150	°C			

	ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (Notes 1-3)	DEVICE MARKING	RATED STAND-OFF VOLTAGE V _{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA V _(BR) VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I _p = 1A V _c VOLTS	MAXIMUM LEAKAGE CURRENT @V _{wm} Ι _D μΑ	TYPICAL CAPACITANCE @0V, 1MHz Cj pF		
CP05	QRH	5.0	6.0	9.8	20	70		
CP05C	QRL	5.0	6.0	9.8	20	70		
CP12	QRI	12.0	13.3	19.0	1	50		
CP12C	QRM	12.0	13.3	19.0	1	50		
CP15	QRJ	15.0	16.7	24.0	1	30		
CP15C	QRN	15.0	16.7	24.0	1	30		
CP24	QRK	24.0	26.7	43.0	1	25		
CP24C	QRO	24.0	26.7	43.0	1	25		

NOTES

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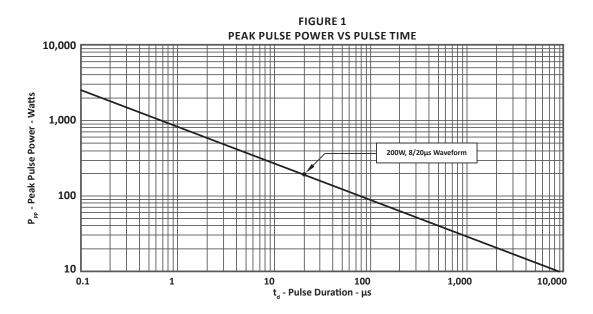
1. Part numbers with an additional "C" suffix are bidirectional, i.e., CP05<u>C</u>.

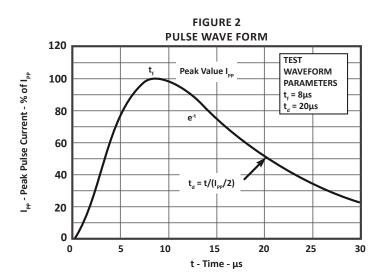
2. Unidirectional Only: For CPxx, test between pin 1 to 2 or 5, 4 to 2 or 5, 6 to 2 or 5, 3 to 2 or 5. For CPxxC, test between 2 to 1, 3, 4, 5, or 6.

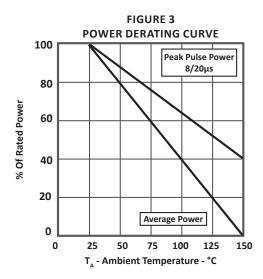
3. Bidirectional Only: For CPxxC, test between pin 5 to 1 or 3 or 4 or 6. Electrical characteristics apply in both directions.

4. Unidirectional Only: For CPxx, capacitance measured between pins 1, 3, 4, 6 to 2. For CPxxC, capacitance measured between pins 2 to 1, 3, 4, 5, or 6.

TYPICAL DEVICE CHARACTERISTICS







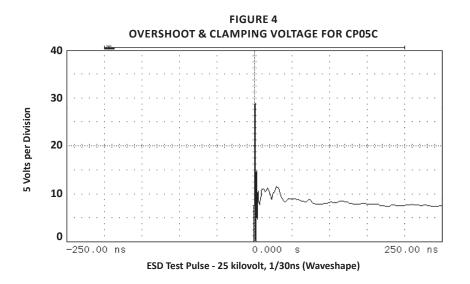
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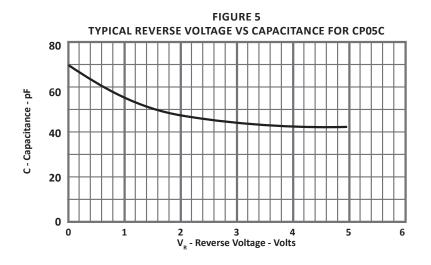
Only One Name Means ProTek'TionTM

CES

PROJEK DE

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APPLICATION INFORMATION

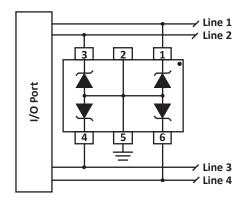


FIGURE 1 - COMMON-MODE I/O PORT PROTECTION (UNIDIRECTIONAL)

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 5 connected to ground.
- Pin 6 not connected.

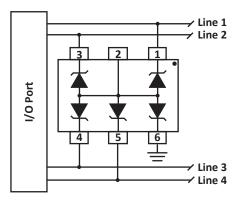


FIGURE 1 - COMMON-MODE I/O PORT PROTECTION (BIDIRECTIONAL)

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.
- Pin 6 connected to ground.
- Pin 2 not connected.

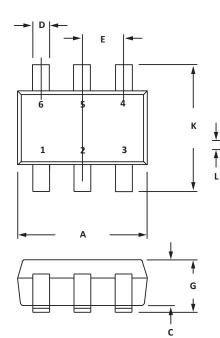
CIRCUIT BOARD RECOMMENDATIONS

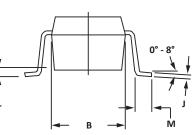
Circuit board layout is critical for electromagnetic compatibility protection. The following guidelines are recommended:

- 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.

SOT-23-6 PACKAGE INFORMATION

OUTLINE DIMENSIONS							
DIM	MILLIN	IETERS	INCHES				
DIIVI	MIN	MAX	MIN	MAX			
А	2.80	3.05	0.110	0.120			
В	1.50	1.75	0.059	0.070			
С	0.90	1.30	0.036	0.051			
D	0.30	0.40	0.012	0.016			
E	0.85	1.05	0.033	0.040			
G	0.90	1.45	0.036	0.057			
J	0.09	0.20	0.003	0.008			
к	2.60	3.00	0.102	0.118			
L	0.0	0.15	0.0	0.006			
М	0.30	0.60	0.012	0.024			
NOTEC							





NOTES

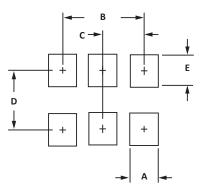
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1. Controlling dimension: inches.

2. Dimensioning and tolerances per ANSI Y14.5M, 1985.

3. Dimensions are exclusive of mold flash and metal burrs.

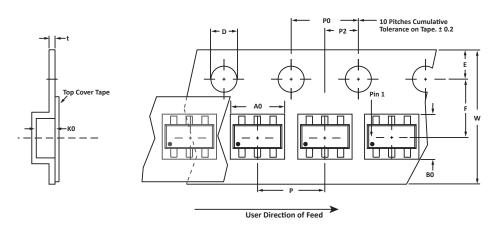
PAD LAYOUT DIMENSIONS						
DIM	MILLIMETERS	INCHES				
DIIVI	NOMINAL	NOMINAL				
А	0.70	0.028				
В	1.90	0.074				
С	0.95	0.037				
D	2.40	0.094				
E	1.00	0.039				
	NOTES 1. Controlling dimension: inches.					





TAPE AND REEL

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SPECIFICATIONS												
REEL DIA.	TAPE WIDTH	A0	В0	КО	D	E	F	W	PO	P2	Р	tmax
178mm (7")	8mm	3.20 ± 0.10	3.20 ± 0.10	1.65 ± 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
 Surface mount pro Suffix - T7 = 7" Ree 	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.											

Package outline, pad layout and tape specifications per document number 06013.R5 2/11

ORDERING INFORMATION							
BASE PART NUMBER (xx = Voltage) LEADFREE SUFFIX TAPE SUFFIX QTY/REEL REEL SIZE TUBE QTY							
CPxx/CPxxC	-LF	-T7	3,000	7″	n/a		
This device is only available in a Lead-Free configuration.							

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.

CONTACT US

Corporate Headquarters

2929 South Fair Lane Tempe, Arizona 85282 USA

By Telephone

General: 602-431-8101 Sales: & Marketing: 602-414-5109 Customer Service: 602-414-5114 Product Technical Support: 602-414-5107

By Fax

General: 602-431-2288

By E-mail:

Asia Sales: <u>asiasales@protekdevices.com</u> Europe Sales: <u>europesales@protekdevices.com</u> U.S. Sales: <u>ussales@protekdevices.com</u> Distributor Sales: <u>distysales@protekdevices.com</u> Customer Service: <u>service@protekdevices.com</u> Technical Support: <u>support@protekdevices.com</u>

ProTek Devices (Asia Pacific) Pte. Ltd.

8 Ubi Road 2, #06-19 Zervex Singapore - 408538 Tel: +65-67488312 Fax: +65-67488313

Web

www.protekdevices.com

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