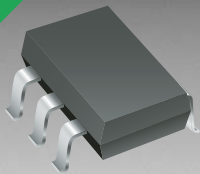


\*ROHS COMPLIANT



**BOURNS®**

## Features

- RoHS Compliant\*
- Low capacitance - 1.9 pF
- ESD protection >40k V
- Surge protection

## Applications

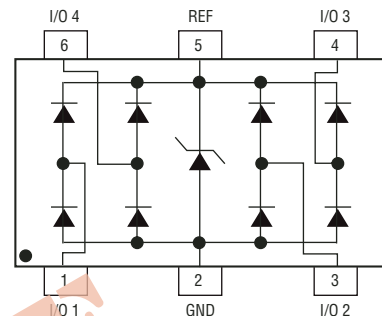
- Personal Digital Assistants (PDAs)
- Mobile phones & accessories
- Memory card protection
- SIM card port protection
- Portable electronics
- Ethernet

# CDSC706-0504F – Surface Mount TVS Diode Array

## General Information

The CDSC706-0504F device provides ESD, EFT and Surge protection for high speed data ports meeting IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements. The Transient Voltage Suppressor array, protecting up to 4 data lines, offers a Working Peak Reverse Voltage of 5 V and Minimum Breakdown Voltage of 6 V.

The SC70-6L packaged device will mount directly onto the industry standard SC70-6 footprint. Bourns® Chip Diodes conform to JEDEC standards, are easy to handle with standard pick and place equipment and the flat configuration minimizes roll away.



## Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20 \mu s$ ) <sup>1</sup>	P <sub>PK</sub>	200	W
Peak Pulse Current ( $t_p = 8/20 \mu s$ )	I <sub>PPM</sub>	6	A
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C
Operating Temperature	T <sub>OPR</sub>	-55 to +150	°C

Note:

1. See Peak Pulse Power vs. Pulse Time.

## Thermal Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Minimum Breakdown Voltage @ 1 mA	V <sub>BR</sub>	6	V
Maximum Working Peak Voltage	V <sub>WM</sub>	5	V
Maximum Leakage Current @ V <sub>WM</sub>	I <sub>D</sub>	3	μA
Maximum Clamping Voltage @ I <sub>P</sub> = 1 A	V <sub>C</sub>	15	V
Maximum Clamping Voltage @ I <sub>P</sub> = 5 A	V <sub>C</sub>	25	V
Typical Junction Capacitance @ 0 V 1 MHz	C <sub>D</sub>	1.9	pF
Maximum Junction Capacitance @ 0 V 1 MHz	C <sub>D</sub>	3	pF

\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.

Specifications are subject to change without notice.

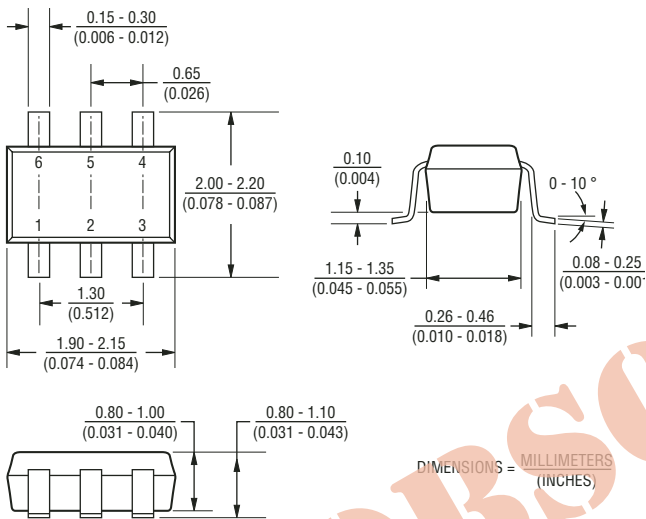
Customers should verify actual device performance in their specific applications.

# CDSC706-0504F – Surface Mount TVS Diode Array

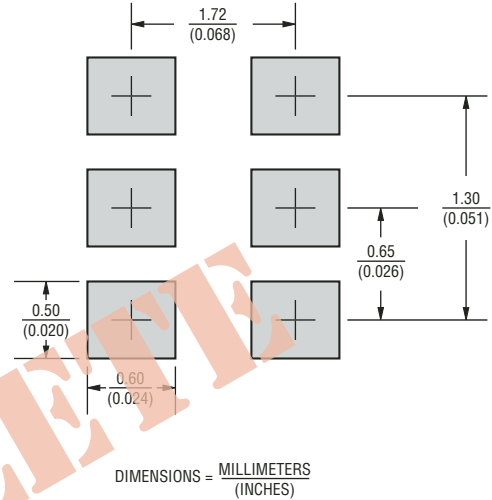
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## Product Dimensions

This is a molded JEDEC SC70-6L package with Nickel Paladium-Gold (Ni/Pd/Au) on the lead frame. It weighs approximately 7 mg and has a flammability rating of UL 94V-0.



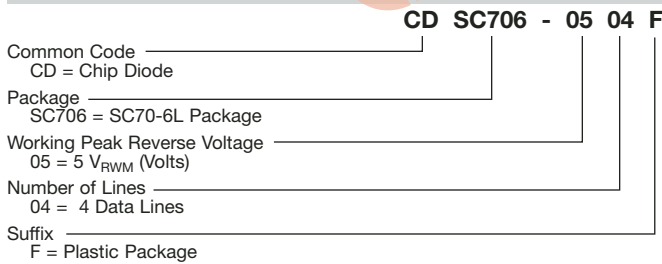
## Recommended Footprint



## Typical Part Marking

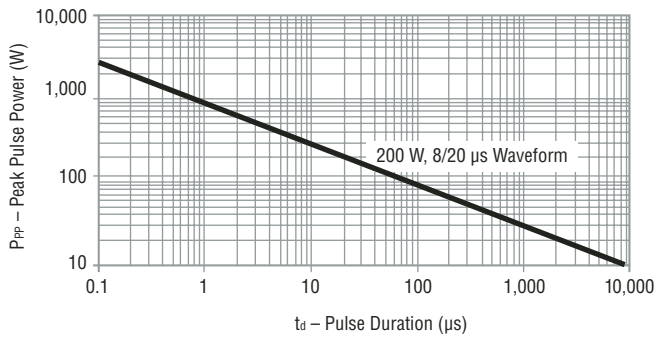
CDSC706-0504F ..... A5

## How To Order

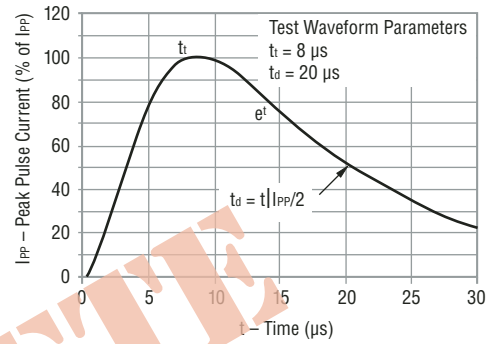


Performance Graphs

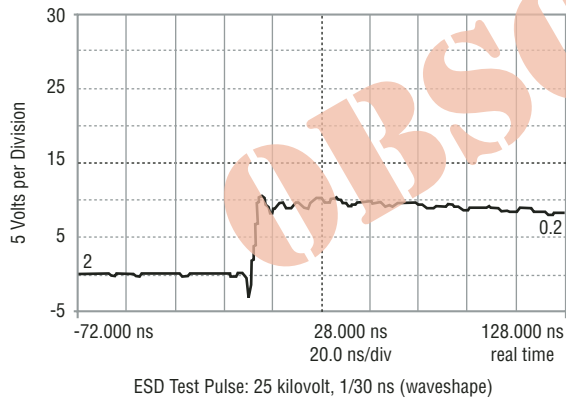
Peak Pulse Power vs Pulse Time



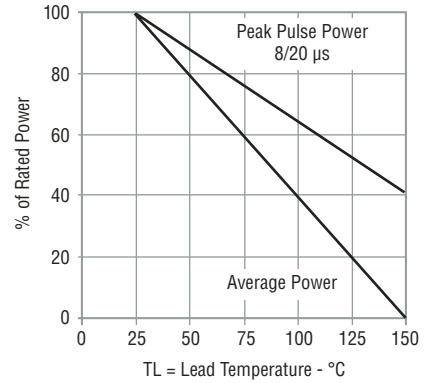
Pulse Waveform



Overshoot & Clamping Voltage



Power Derating Curve

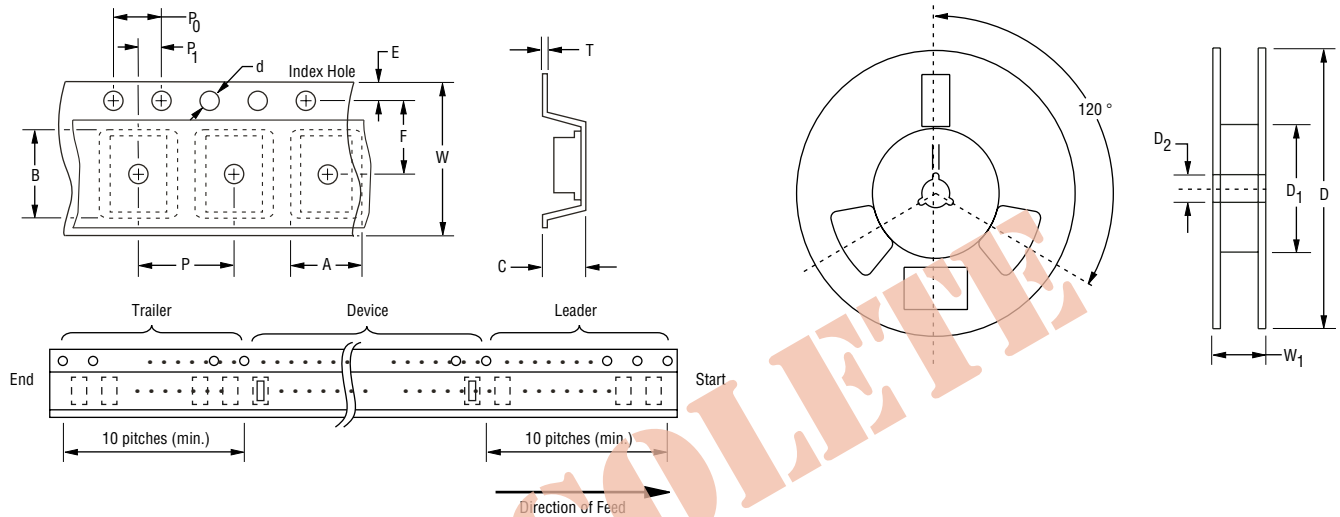


# CDSC706-0504F – Surface Mount TVS Diode Array

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## Packaging Information

The product is packaged in an 8 mm x 4 mm tape and reel format per EIA-481-A standard.



Item	Symbol	SC70-6L
Carrier Width	A	$\frac{2.25 \pm 0.10}{(0.088 - 0.004)}$
Carrier Length	B	$\frac{2.34 \pm 0.10}{(0.092 - 0.004)}$
Carrier Depth	C	$\frac{1.22 \pm 0.10}{(0.048 - 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 - 0.002)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D <sub>1</sub>	$\frac{50.0}{(1.969)}$ Min.
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 - 0.004)}$
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 - 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Sprocket Hole Pitch	P <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
Overall Tape Thickness	T	$\frac{0.20 \pm 0.10}{(0.008 - 0.004)}$
Tape Width	W	$\frac{8.00 \pm 0.20}{(0.315 - 0.008)}$
Reel Width	W <sub>1</sub>	$\frac{14.4}{(0.567)}$ Max.
Quantity per Reel	—	3,000



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