

Features

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

Applications

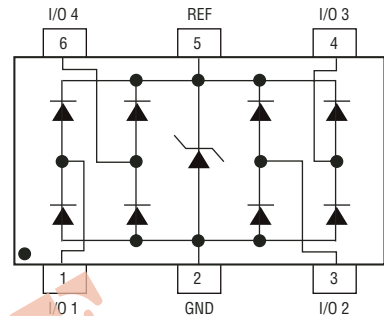
- Personal Digital Assistants (PDAs)
- Mobile phones & accessories
- Memory card protection
- SIM card port protection
- Portable electronics
- Ethernet

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_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (t _p = 8/20 μs) ¹	P _{PK}	200	W
Peak Pulse Current (t _p = 8/20 μs)	I _{PPM}	6	A
Storage Temperature	T _{STG}	-55 to +150	°C
Operating Temperature	T _{OPR}	-55 to +150	°C

Note:

1. See Peak Pulse Power vs. Pulse Time.

Thermal Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Minimum Breakdown Voltage @ 1 mA	V _{BR}	6	V
Maximum Working Peak Voltage	V _{WM}	5	V
Maximum Leakage Current @ V _{WM}	I _D	3	μA
Maximum Clamping Voltage @ I _P = 1 A	V _C	15	V
Maximum Clamping Voltage @ I _P = 5 A	V _C	25	V
Typical Junction Capacitance @ 0 V 1 MHz	C _D	1.9	pF
Maximum Junction Capacitance @ 0 V 1 MHz	C _D	3	pF

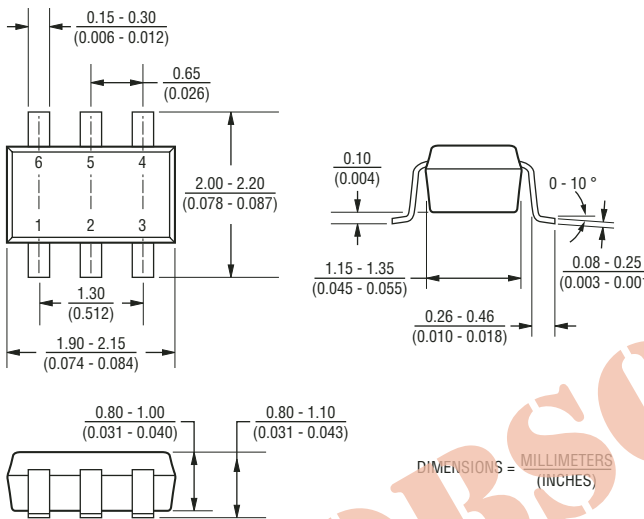
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.
 Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications.

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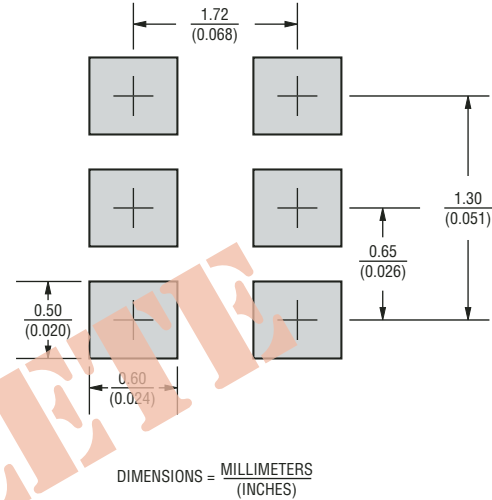


Product Dimensions

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

CD SC706 - 05 04 F

Common Code _____
 CD = Chip Diode

Package _____
 SC706 = SC70-6L Package

Working Peak Reverse Voltage _____
 05 = 5 V_{RWM} (Volts)

Number of Lines _____
 04 = 4 Data Lines

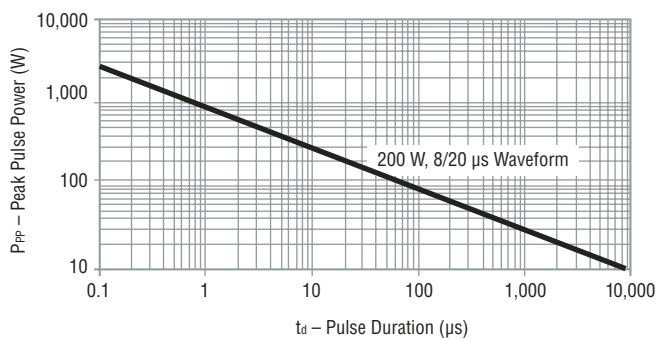
Suffix _____
 F = Plastic Package

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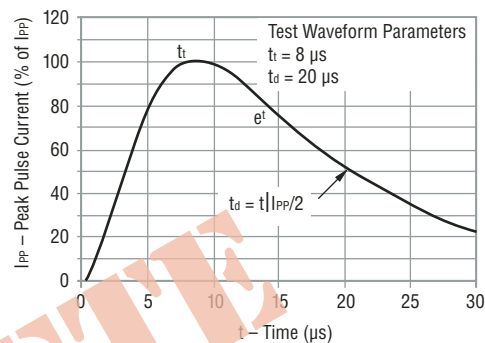
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Performance Graphs

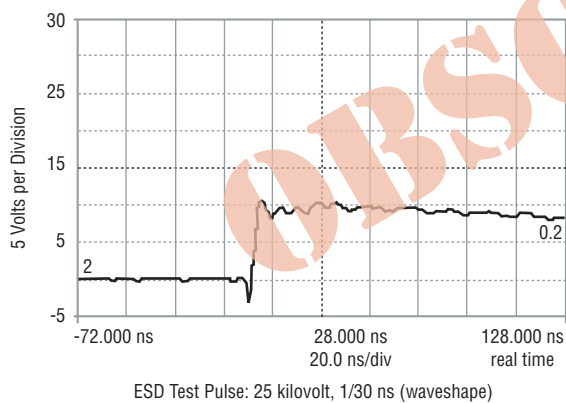
Peak Pulse Power vs Pulse Time



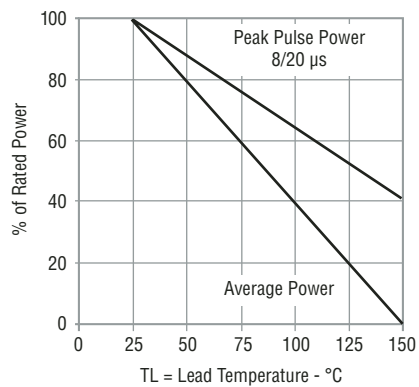
Pulse Waveform



Overshoot & Clamping Voltage



Power Derating Curve

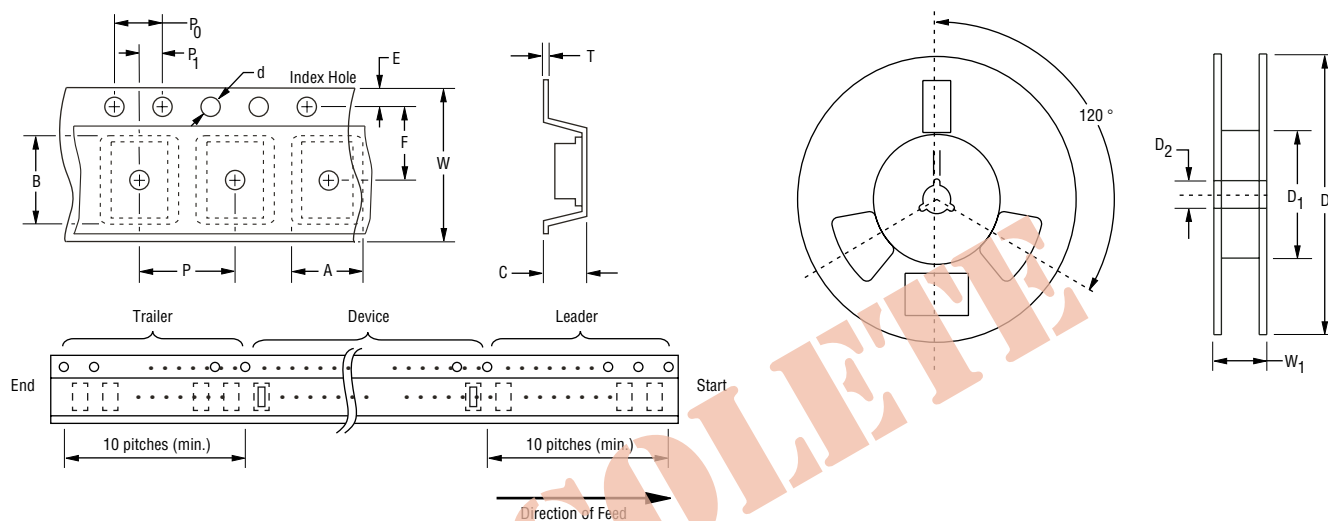


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BOURNS®

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 ₁	$\frac{50.0}{(1.969)}$ Min.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
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 ₀	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
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 ₁	$\frac{14.4}{(0.567)}$ Max.
Quantity per Reel	—	3,000



Reliable Electronic Solutions

Asia-Pacific:

Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe:

Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas:

Tel: +1-951 781-5500 • Fax: +1-951 781-5700

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