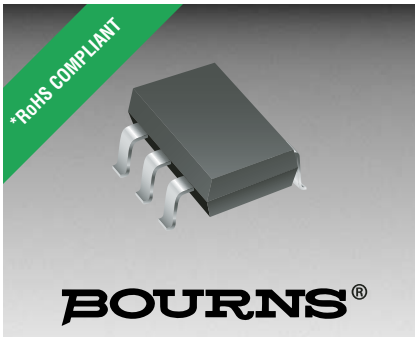




Features

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

Applications

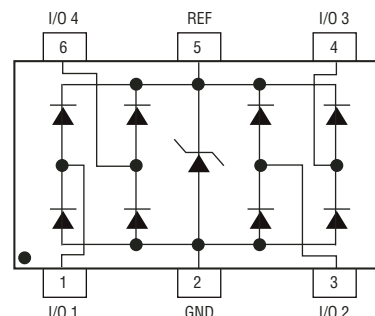
- Personal Digital Assistants (PDAs)
- Mobile phones & accessories
- Memory card protection
- SIM card port protection
- Portable electronics
- Ethernet

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 (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20 \mu\text{s}$) ¹	P_{PK}	200	W
Peak Pulse Current ($t_p = 8/20 \mu\text{s}$)	I_{PPM}	6	A
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$
Operating Temperature	T_{OPR}	-55 to +150	$^\circ\text{C}$

Note:

1. See Peak Pulse Power vs. Pulse Time.

Thermal Characteristics (@ $T_A = 25^\circ\text{C}$ 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 @ $I_P = 1 \text{ A}$	V_C	15	V
Maximum Clamping Voltage @ $I_P = 5 \text{ A}$	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.

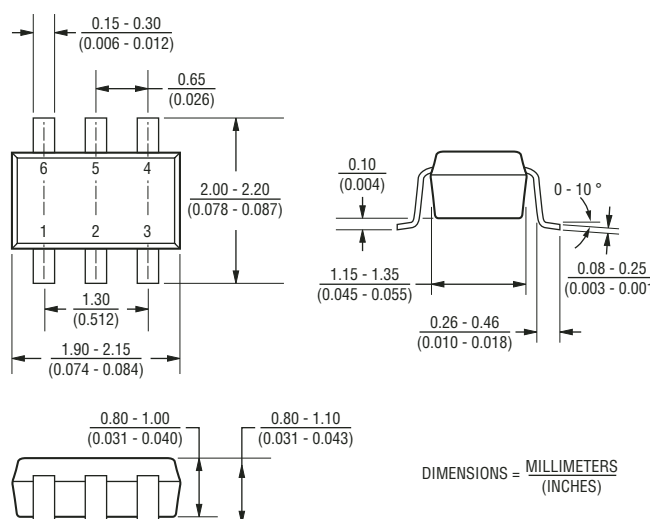
Customers should verify actual device performance in their specific applications.

CDSC706-0504F – Surface Mount TVS Diode Array

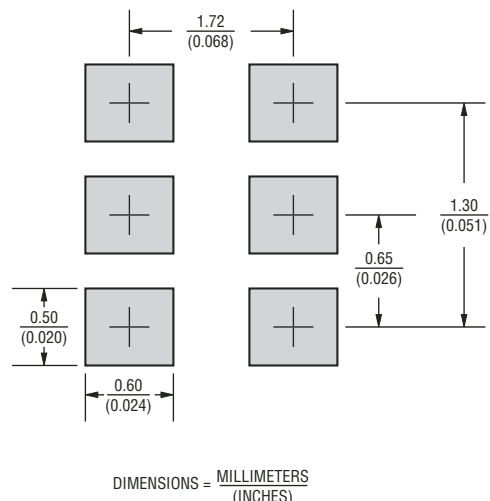
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Product Dimensions

This is a molded JEDEC SC70-6L package with Nickel Palladium-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	SC706	-	05	04	F
Package	CD	SC706	-	05	04	F
Working Peak Reverse Voltage	CD	SC706	-	05	04	F
Number of Lines	CD	SC706	-	05	04	F
Suffix	CD	SC706	-	05	04	F

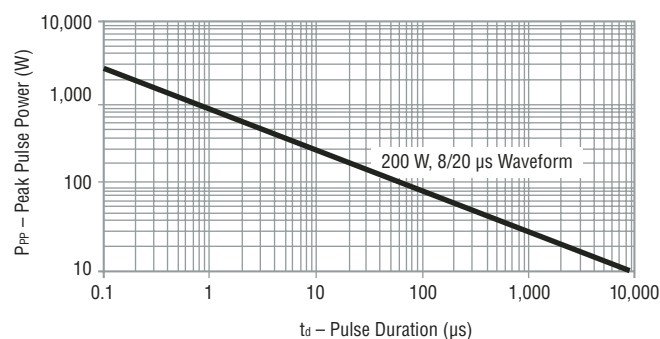
CD = Chip Diode
SC706 = SC70-6L Package
05 = 5 V_{RWM} (Volts)
04 = 4 Data Lines
F = Plastic Package

CDSC706-0504F – Surface Mount TVS Diode Array

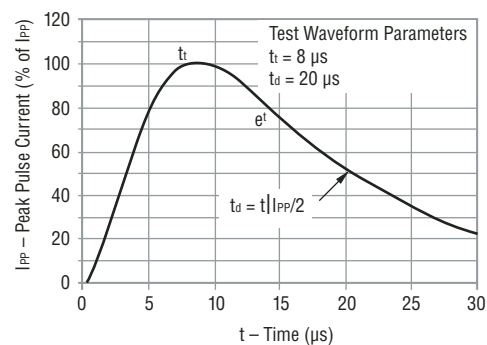
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Performance Graphs

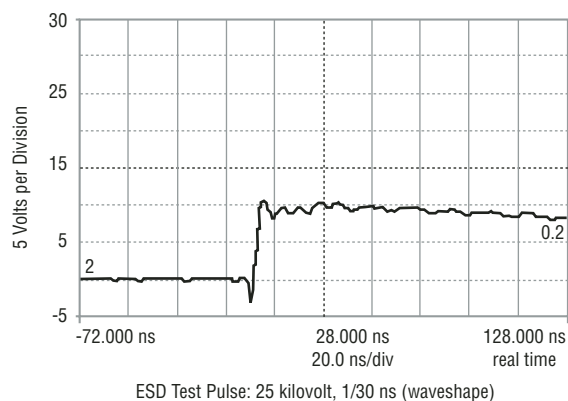
Peak Pulse Power vs Pulse Time



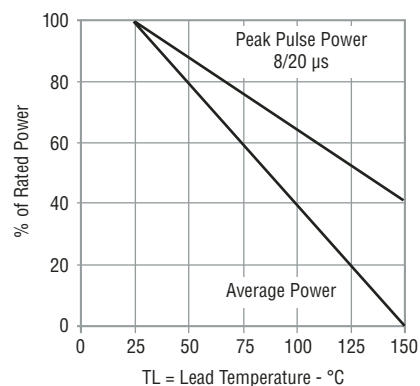
Pulse Waveform



Overshoot & Clamping Voltage



Power Derating Curve

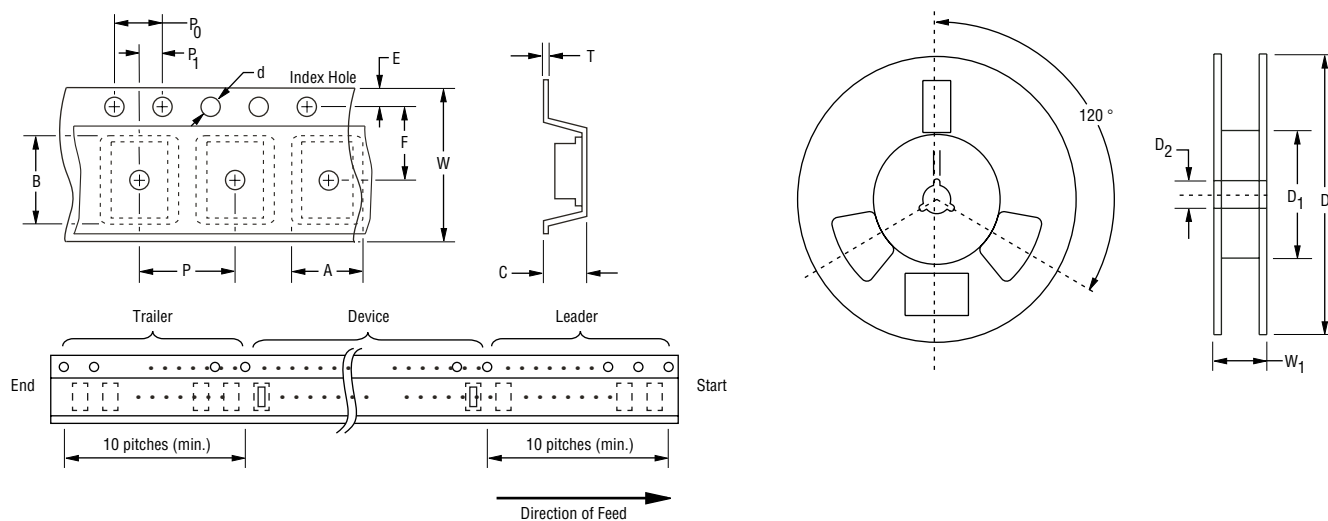


CDSC706-0504F – Surface Mount TVS Diode Array

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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 ₁	$\frac{50.0}{(1.969)} \text{ Min.}$
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	$\frac{14.4}{(0.567)} \text{ Max.}$
Quantity per Reel	—	3,000



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