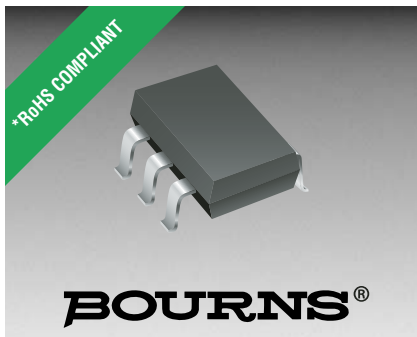




Features

- Lead free device (RoHS Compliant*)
- Small SC70-6L package
- ESD protection >25k V
- Protects 4 bidirectional or 5 unidirectional lines

Applications

- Notebook computers
- Cell phones
- Digital cameras
- PDAs

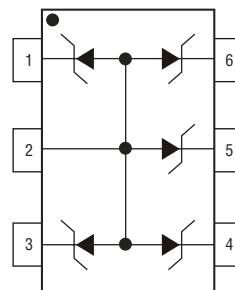
CDSC706-T05C~T24C – TVS Diode Arrays

General Information

The CDSC706-T series provides ESD and EFT protection for the external ports of portable electronic devices such as cell phones, handheld electronics and personal computers.

The ESD protection provided by the component enables a data port to withstand a minimum ± 8 KV Contact / ± 15 KV Air Discharge per the ESD test method specified in IEC 61000-4-2. The device measures 2.0 mm x 2.10 mm and is available in a SC70-6 package and intended to be mounted directly onto an FR4 printed circuit board.

The Bourns® device will meet IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements in normal use.



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

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20 \mu\text{s}$) ¹	P_{PK}	100	W
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.

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

Parameter	Symbol	CDSC706-				Unit
		T05C	T12C	T15C	T24C	
Breakdown Voltage Minimum @ 1 mA	V_{BR}	6	13.3	16.7	26.7	V
Working Peak Voltage	V_{WM}	5	12	15	24	V
Leakage Current @ V_{WM}	I_D	5	1	1	1	μA
Capacitance Typical @ 0 V, 1 MHz	C_J	60	30	25	20	pF
ESD Protection per IEC 61000-4-2		8				kV
Minimum Contact Discharge						kV
Minimum Air Discharge		15				
EFT Protection per IEC 61000-4-4 @ 5/50 ns		40				A
Surge Protection per IEC 61000-4-5 @ 8/20 μs		12 @ 9 A	23.8 @ 4.2 A	33.3 @ 3 A	55.5 @ 1.8 A	V

*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.

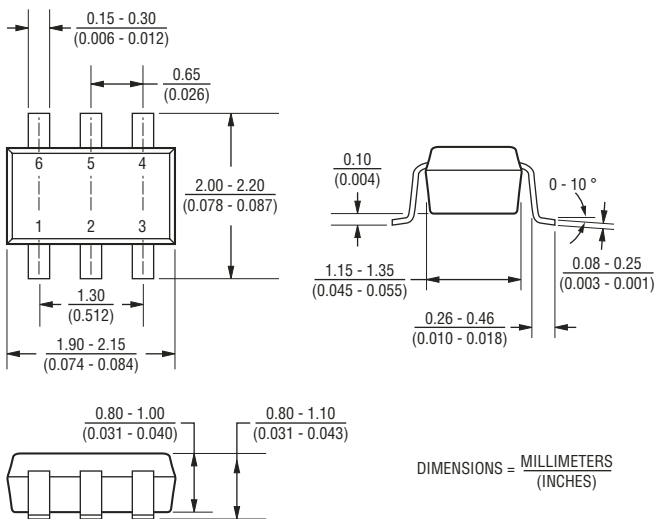
CDSC706-T05C~T24C – TVS Diode Arrays

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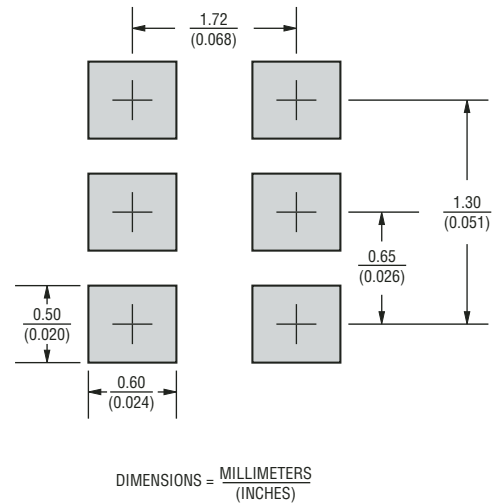
Mechanical Characteristics

This is a molded JEDEC SC70-6L package with lead free 100 % Sn plating on the terminations. It weighs approximately 7 mg.

Product Dimensions



Recommended Footprint



How To Order

CD SC706 - T 05 C

Common Code _____
 CD = Chip Diode

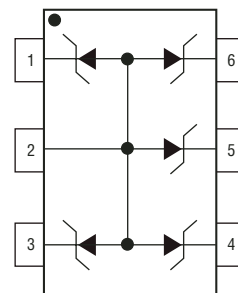
Package _____
 SC706 = SC70-6L Package

Model _____
 T = Transient Voltage Suppressor

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

Suffix _____
 C = Bidirectional Diode

Block Diagram



Typical Part Marking

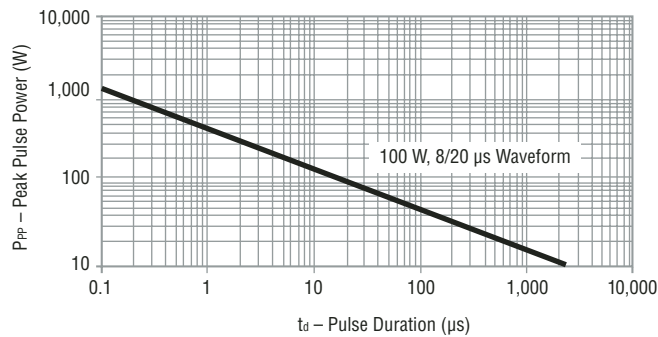
CDSC706-T05C	05C
CDSC706-T12C	12C
CDSC706-T15C	15C
CDSC706-T24C	24C

CDSC706-T05C~T24C – TVS Diode Arrays

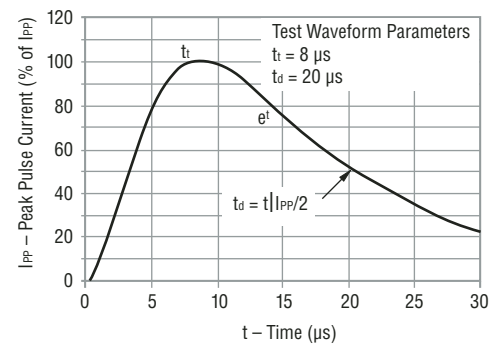
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Performance Graphs

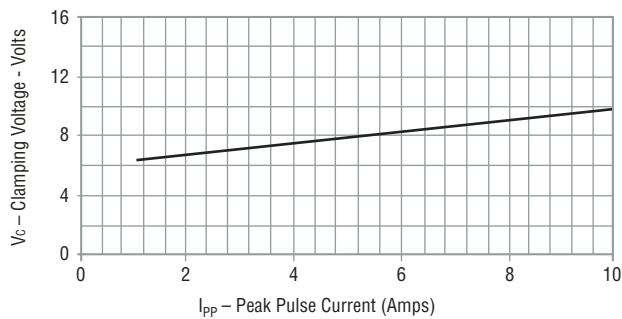
Peak Pulse Power vs Pulse Time



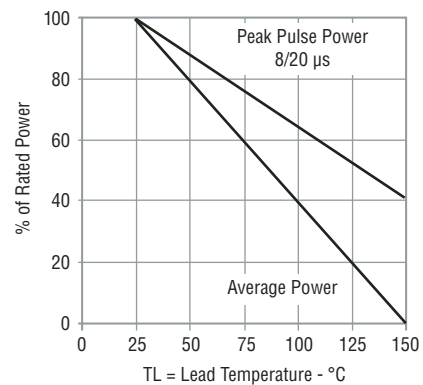
Pulse Waveform



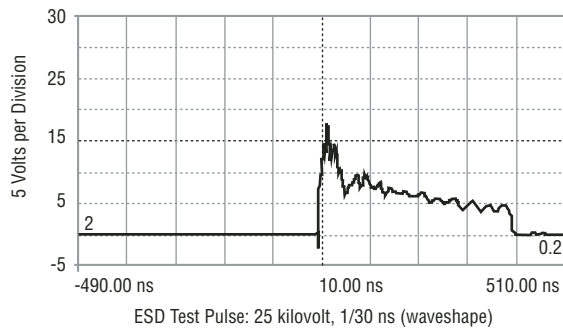
Typical Clamping Voltage vs Peak Pulse Current



Power Derating Curve



Overshoot & Clamping Voltage

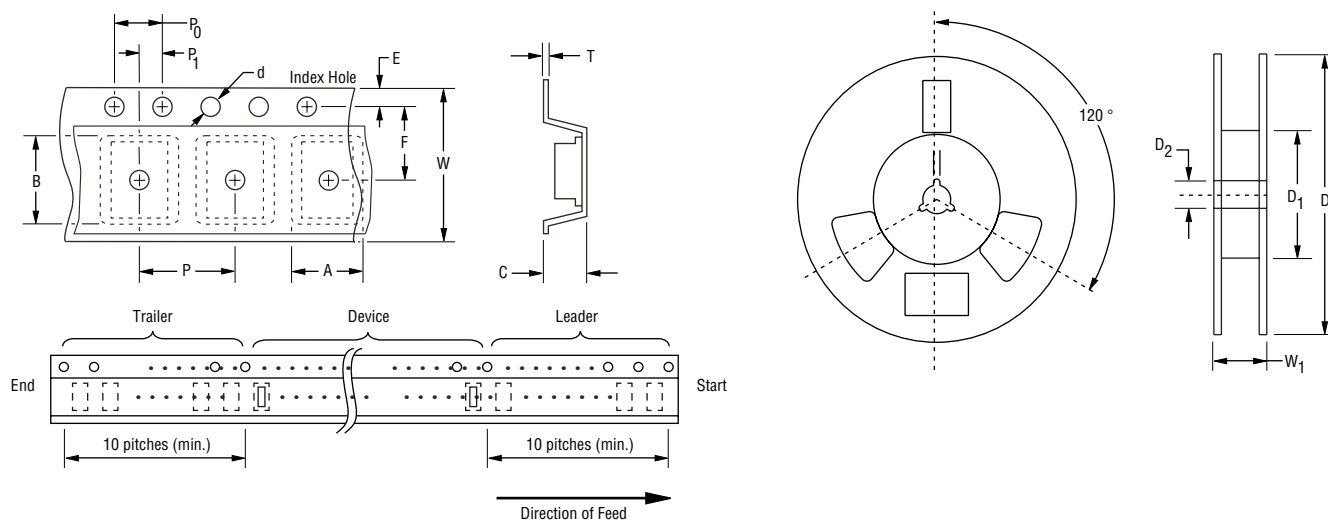


CDSC706-T05C~T24C – TVS Diode Arrays

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Packaging Information

The surface mount product is packaged in an 8 mm x 4 mm tape and reel format per EIA-481 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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