

**P/N 0805ESDA-TR1 is OBSOLETE.**

Cooper Electronic Technologies, a business unit of



3601 Quantum Blvd. Boynton Beach, FL 33462

October 4, 2004

Subject: **P/N 0805ESDA END OF LIFE NOTICE**

To Whom It May Concern:

Cooper Electronic Technologies' electrostatic discharge (ESD) overvoltage suppression device P/N 0805ESDA is now nearing the end of its product life cycle and is scheduled for replacement. The official **end of life date is December 31, 2004**. This phase out is prompted by new marketplace requirements that call for an ESD overvoltage suppressor having both a smaller footprint and improved functionality.

As formally announced in December, 2002, our 0603ESDA device is the recommended replacement for the 0805ESDA. Functionally, these two devices share similar electrical properties. However, the 0603ESDA device presents an even smaller mechanical footprint while providing improved electrical performance, exhibiting a lower typical trigger voltage and a lower typical capacitance. These enhancements enable the 0603ESDA to be used in many more applications than the 0805ESDA. The 0603ESDA is available now and at even more competitive price levels than the device it replaces. A detailed 0603ESDA data sheet can be found at (<http://www.cooperet.com/library/products/0603%20PolySurg%20Data%20Sheet.pdf>)

We will do our best to minimize any short-term inconvenience to our customers that may occur during this necessary transition while ensuring that the evolving demands of our marketplace are fully met. We are now implementing our earlier announcement and, effective immediately, customer orders for 0805ESDA devices will no longer be accepted for use in NEW PROGRAMS. Customers are invited to submit their final 0805ESDA production orders no later than December 31, 2004, for EXISTING PROGRAMS with all related deliveries to be scheduled and completed no later than March 31, 2005. EXISTING BLANKET ORDERS for the 0805ESDA device, which pre-date this notice and which already provide fixed delivery dates, will be honored and are unaffected by this notice.

Please plan accordingly for this necessary transition process. Cooper Electronic Technologies' personnel will assist with implementation as required.

Thank you for your cooperation.

Ray Smolenski  
Senior Product Manager

Brent Elliott  
Product Marketing Manager

**Cooper Electronic Technologies, a business unit of Cooper Bussmann**

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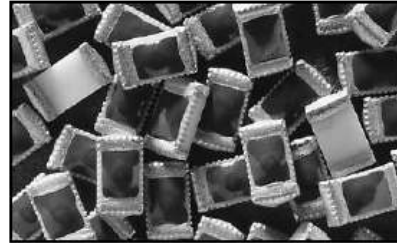
0603ESDA RECOMMENDED FOR NEW DESIGNS

**COOPER** Bussmann

**0805ESDA**, Single Line  
Polymer ESD Suppressor  
With SurgX® Technology

### Features:

- The best ESD protection for high frequency, low voltage applications.
- Exceeds testing requirements outlined in IEC 61000-4-2
- Extremely low capacitance
- Very low leakage current
- Fast response time
- Bi-directional
- Surface mount
- Solder Termination



### Description:

The ESDA product family based on SurgX® technology is specifically designed to protect sensitive electronic circuits from the threat of electrostatic discharge (ESD). The products react almost instantly to the transient voltage and effectively clamp it in an average of 35V for the duration of the ESD transient, meaning less voltage stress during the clamp period and greater IC protection. The design of ESDA series inherently produces an ultra low capacitance part. In the off state the product is virtually invisible to the circuit. Installed from signal line to ground, it is especially transparent to the high-speed digital circuits due to the high off-state impedance and low capacitance. Signals are not distorted or disrupted as

shown by extensive testing. With ESDA series, waveform definition stays true and high-speed signals do not suffer. ESDA series utilize a unique polymer-based material. The nature of the material creates a bi-directional part, which means that only one device is required to provide complete ESD protection regardless of the surge polarity. The combination of this material with proven thick film on ceramic technology produces a reliable, surface mount product that will help protect mobile communications, computers, data processing, test equipment, and many other electronic applications from ESD.

### Part Ratings and Characteristics:

Performance Characteristics	Units	Min	Typ	Max
Continuous operating voltage	VDC	-	12 <sup>1</sup>	-
Clamping voltage <sup>3</sup>	V	-	35	60
Trigger voltage <sup>4</sup>	V	-	150	300
ESD Threat voltage capability <sup>5</sup>	kV	-	8	15
Capacitance (@ 1 KHz ~ 1.8GHz)	pF	-	0.25	1
Leakage current (@ 12 VDC)	nA	0.01	<0.1	
Peak current <sup>3</sup>	A	-	30	45
Operating temperature	°C	-40	+25	+85
ESD pulse withstand <sup>3</sup>	# pulses	20	>500 <sup>2</sup>	-

#### Notes:

1. The product is 100% tested for 30V operating voltage at 25°C. Continuous operation with higher than 12VDC under extreme temperature and humidity may cause increasing leakage current and/or shifting device resistance. However, even under severe environmental test, characteristics of the device did not change up to 12VDC operation.
2. Some shifting in characteristics may occur when tested over several hundred ESD pulses at very rapid rate of 1 pulse per second or faster.
3. Per IEC 61000-4-2, 30A @ 8kV, level 4, clamp measurement made 30 ns after initiation of pulse, all tests in contact discharge mode.
4. Trigger measurement made using Transmission Line Pulse (TLP) method
5. SurgX devices are capable of withstanding up to a 15 kV, 45A ESD pulse. Device ratings are given at 8kV per Note 1, unless otherwise specified.

### Environmental Specifications:

- Humidity, steady state: MIL-STD-202F, Method 103B, 90-95% RH, 40°C, 96 hrs.
- Thermal shock: MIL-STD-202, Method 107G, -65°C to 125°C, 30 min. cycle, 5 cycles
- Vibration: MIL-STD-202F, Method 201A, (10 to 55 to 10 Hz, 1 min. cycle, 2 hrs each in X-Y-Z)
- Chemical resistance: ASTM D-543, 24 hrs @ 50°C, 3 solutions (H<sub>2</sub>O, detergent solution, defluxer)
- Full load voltage: Up to 24 VDC, 1000 hrs, 25°C
- Solder leach resistance and terminal adhesion: Per EIA-576
- Solderability: MIL-STD-202, Method 208 (95% coverage)

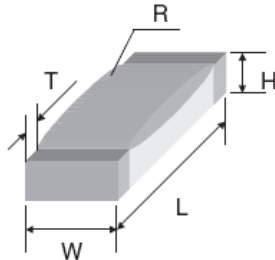
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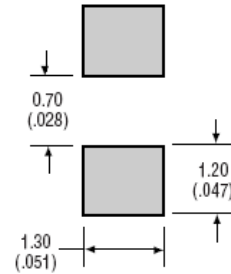
**0805ESDA**, Single Line  
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**Product Dimension**

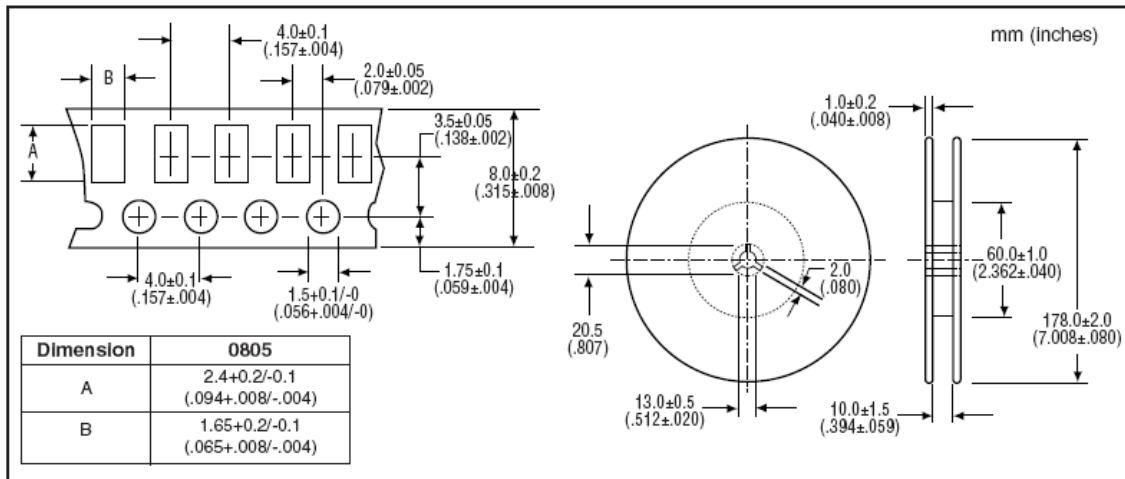


EIA Size	L	W	H	T	R
<b>0805</b>	2.0 ± 0.20	1.20 ± 0.20	0.70 ± 0.10	0.30 ± 0.20	0.70 ± 0.10
mm(Inch)	(.079 ± .008)	(.047 ± .008)	(.028 ± .004)	(.012 ± .008)	(.028 ± .005)

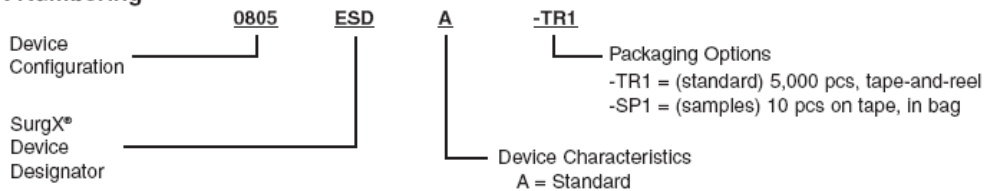
**Recommended Solder Pad Outline**  
(per IPC-SM-782)



**Tape-and-Reel Specification**



**Part Numbering**



Note: Spacing in part number is shown for clarity only. Device part number contains no spaces (e.g.0805ESDA-TR1)

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**Device Marking**

ESDA devices are marked on the tape and reel packages, not individually. Since the product is bi-directional and symmetrical, no orientation marking is required.

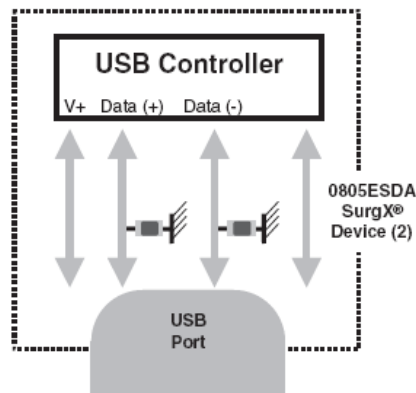
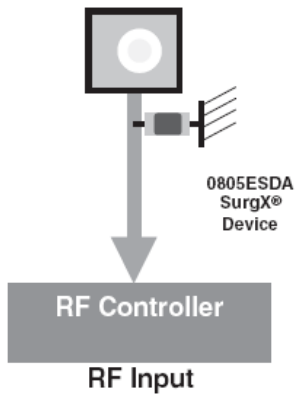
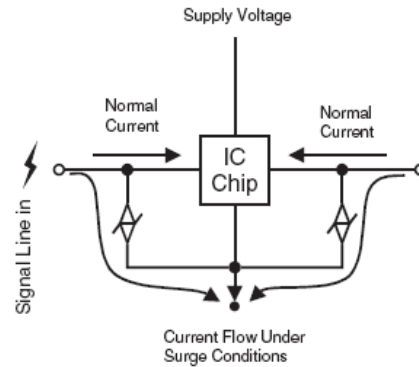
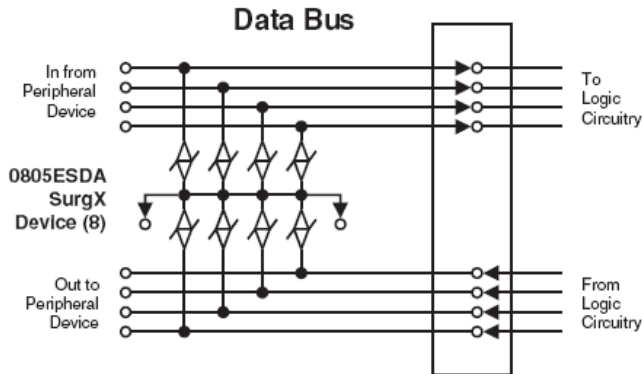
**Device Application**

ESDA series are applicable to most signal line circuits. It is applied in a shunt-connected manner. They are not applicable on lines where lightning or load-switching transients are present. ESDA series is ideal for use in computers and computer-related equipment, such as modems, keyboards, and printers. ESDA series is also well suited for portable electronic equipment such as mobile telephones, test equipment, and card scanners.

**Processing Recommendations**

ESDA series currently have a convex profile on the top surface of the part. This profile is a result of the construction of the device. They can be processed using standard pick – and – place equipment. The placement and processing techniques for ESDA series are similar to those used for chip resistors and chip capacitors. The Location in the circuit for the ESDA series has to be carefully determined. For the better performance of the device, it is recommended to place the device close to the signal input, prior to any other component.

**Typical Applications**



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Visit us on the Web at [www.cooperET.com](http://www.cooperET.com)

3601 Quantum Boulevard Boynton Beach, Florida 33426-8638

Tel: +1-561-752-5000 Toll Free: +1-888-414-2645 Fax: +1-561-742-1178

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