LCDA03 THRU LCDA24

Technical Data
Data Sheet N0284, Rev. -

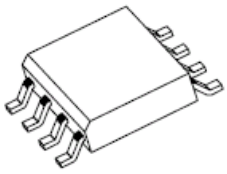
Green Products

TVS ARRAY SERIES

FEATURES

- ✓ Protects 3.3, 5, 12, 15, 24 V Components
- ✓ Bidirectional
- ✓ Low capacitance for high-speed data lines
- ✓ 300 W @ 8/20 μs
- ✓ Protects 2 I/O Lines
- ✓ Low leakage current
- ✓ SO-8 Packaging
- ✓ Solid-state silicon avalanche technology
- ✓ This is a Pb - Free Device
- ✓ All SMC parts are traceable to the wafer lot
- ✓ Additional testing can be offered upon request

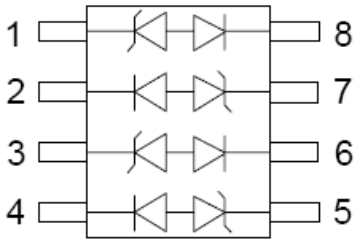
SO-8



DESCRIPTION

The LCDAXX series of TVS array are designed to protect sensitive electronics from damage or latch-up due to ESD and other voltage-induced transient events. Each device will protect two high-speed lines. they are bi-directional devices and may be used on lines where the signal polarities are above and below ground.

SCHEMATIC & PIN CONFIGURATION



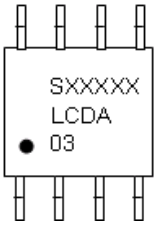
APPLICATION

- ✓ High-Speed Data Lines
- ✓ Microprocessor Based Equipment
- ✓ Universal Serial Bus (USB) Port Protection
- ✓ Notebooks, Desktops, and Servers
- ✓ Instrumentation
- ✓ LAN/WAN Equipment
- ✓ Peripherals

MECHANICAL CHARACTERISTICS

- ✓ SO-8 Surface Mount Package
- ✓ Approximate Weight: 0.1 grams
- ✓ PIN #1 Indicator: DOT on top of package
- ✓ Packaging: Tubes or Tape & Reel per EIA Standard 481

MARKING DIAGRAM



Where XXXXX is YYWWL

LCDA03 = Part Name
S = S
YY = Year
WW = Week
L = Lot Number

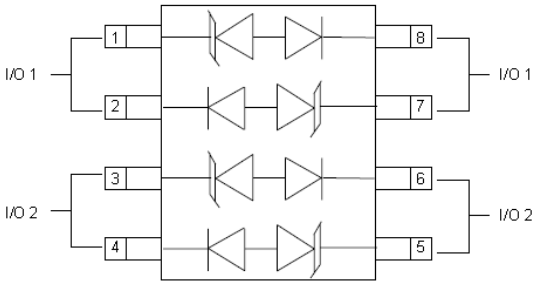
Cautions: Molding resin
Epoxy resin UL:94V-0

LCDA03 THRU LCDA24

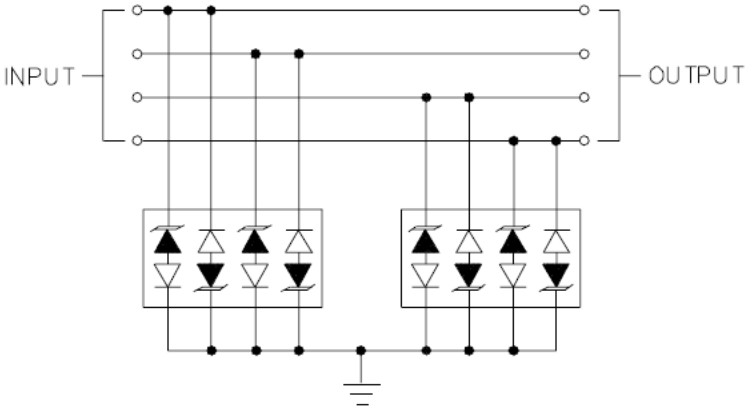
Technical Data
Data Sheet N0284, Rev. -

Green Products

Circuit Diagram



I/O Line Protection



Connection Options

The devices are connected as follows:

✔ Pins 1 and 2 are tied together and pins 7 and 8 are tied together providing the protection circuit for one I/O line. Pins 3 and 4 are tied together and pins 5 and 6 are tied together providing the protection circuit for the second I/O line. Since the device is electrically symmetrical, either side of the connected pairs may be used to protect the lines. The other side of the pair is used to make the ground connection. The ground connections should be made directly to the ground plane for best results. The path length is kept as short as possible to reduce the effects of parasitic inductance in the board traces.

Ordering Information:

Device	Package	Shipping
LCDA03 THRU LCDA24	SO-8 (Pb-Free)	2500pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
P	Peak Pulse Power, 8/20 μs Waveshape	300	W
T_J	Operating Temperature	-55 to +125	°C
T_{STG}	Storage Temperature	-55 to +150	°C
T_L	Lead Soldering Temperature	260 (10 Sec.)	°C

LCDA03 THRU LCDA24

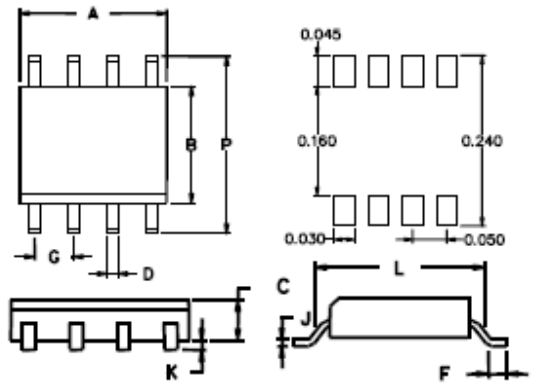
Technical Data
Data Sheet N0284, Rev. -

Green Products

ELECTRICAL CHARACTERISTICS @ 25 °C

Part Number	Stand-off Voltage V_{wm} (v) Max	Breakdown Voltage V_{BR} @1mA (V) Min	Clamping Voltage V_c @ 1 A (V) Max	Leakage Current I_R @ V_{wm} (μA) Max	Capacitance (f = 1MHz) C @ 0V (pF) Max	Temperature Coefficient of V_{BR} a(V_{BR}) mv/°C Max
LCDA03	3.3	4	7	200	5	-5
LCDA05	5.0	6	9.8	20	5	1
LCDA12	12.0	13.3	19	1	5	8
LCDA15	15.0	16.7	24	1	5	11
LCDA24	24.0	26.7	43	1	5	28

PACKAGE OUTLINES & DEMENSIONS



	INCHES		MILLIMETERS	
DIM	MIN.	MAX	MIN.	MAX.
A	0.189	0.196	4.8	5.0
B	0.150	0.157	3.8	4.0
C	0.053	0.069	1.35	1.75
D	0.011	0.021	0.28	0.53
F	0.016	0.050	0.41	1.27
G	0.050 BSC		1.27 BSC	
J	0.006	0.010	0.15	0.25
K	0.004	0.008	0.10	0.20
L	0.189	0.206	4.80	5.23
P	0.228	0.244	5.79	6.19

TYPICAL CHARACTERISTICS

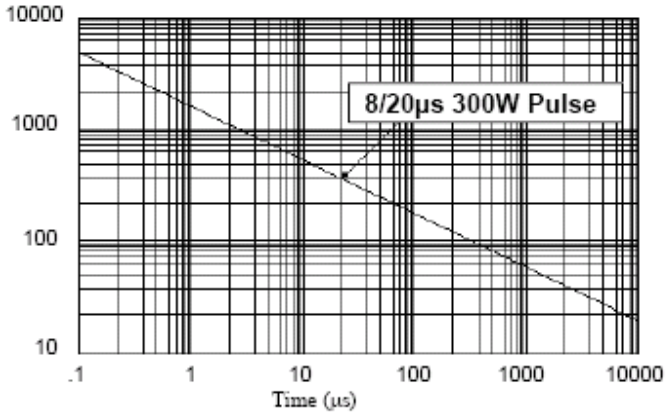


Figure 1. Peak Pulse Power Vs Pulse Time (μs)

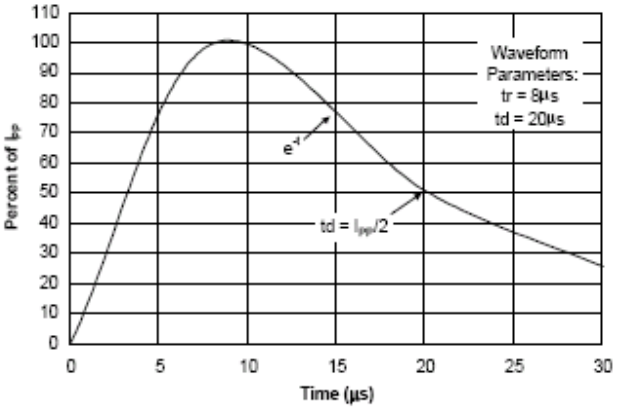


Figure 2. Pulse Wave Form

LCDA03
THRU
LCDA24

Technical Data ***Green Products***

Data Sheet N0284, Rev. -

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .

3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..