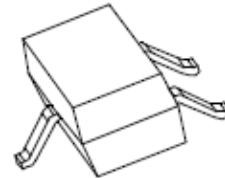


**TVS ARRAY SERIES**

**FEATURES**

- ✓ Protects 3.3, 5, 12, 15, 24 V Components
- ✓ Unidirectional
- ✓ Ultra Low Capacitance 3 pF
- ✓ Low Leakage
- ✓ Provides Electrically Isolated Protection
- ✓ 300 W @ 8/20  $\mu$ s
- ✓ Protects 1 Line
- ✓ SOT-23 Packaging
- ✓ This is a Pb - Free Device
- ✓ All SMC parts are traceable to the wafer lot
- ✓ Additional testing can be offered upon request

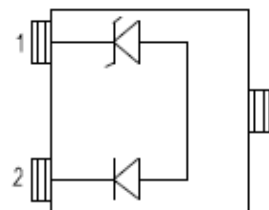
**SOT-23**



**DESCRIPTION**

The S23LCXX series of TVS array have been designed to provide unidirectional protection for sensitive electronics from damage due to voltage transients caused by electrostatic discharge (ESD), electrical fast transients (EFT), secondary lightning and other voltage-induced transient events. The device can be used to protect 1 unidirectional data line or interface line.

**SCHEMATIC & PIN CONFIGURATION**



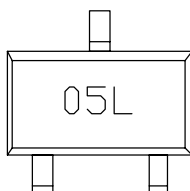
**APPLICATION**

- ✓ RS-232, RS-422 & RS-423
- ✓ Cellular Handsets & Accessories
- ✓ Universal Serial Bus (USB) Port Protection
- ✓ Portable Electronics
- ✓ LAN/WAN Equipment
- ✓ Wireless Bus Protection

**MECHANICAL CHARACTERISTICS**

- ✓ SOT-23 Surface Mount Package
- ✓ Approximate Weight: 0.015 grams
- ✓ PIN #1 Indicator: DOT on top of package
- ✓ Packaging: Tape and Reel Per EIA 481

**MARKING DIAGRAM**



Where 05L is S23LC05

05L = Part Name

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



**Ordering Information:**

Device	Package	Shipping
S23LC03 THRU S23LC36	SOT-23(Pb-Free)	3000pcs / reel

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

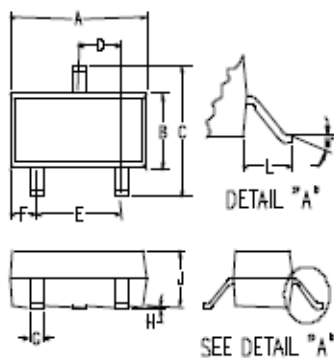
**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
P	Peak Pulse Power, 8/20 $\mu$ s Waveshape	300	W
T <sub>J</sub>	Operating Temperature	-55 to +125	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C
T <sub>L</sub>	Lead Soldering Temperature	260 (10 Sec.)	°C

**ELECTRICAL CHARACTERISTICS @ 25 °C**

Part Number	Stand-off Voltage $V_{vm}$ (v) Max	Breakdown Voltage $V_{BR}$ @1mA (V) Min	Clamping Voltage $V_c$ @ 1 A (V) Max	Leakage Current $I_R$ @ $V_{vm}$ ( $\mu$ A) Max	Capacitance (f = 1MHz) C @ 0V (pF) Max	Temperature Coefficient of $V_{BR}$ a( $V_{BR}$ ) mV/°C Max
S23LC03	3.3	4	8	200	3	-5
S23LC05	5.0	6	10.8	20	3	3
S23LC12	12.0	13.3	19	1	3	10
S23LC15	15.0	16.7	25	1	3	13
S23LC24	24.0	26.7	44	1	3	30

**PACKAGE OUTLINES & DEMENSIONS**



DIM	INCHES		MILLIMETERS	
	MIN.	MAX	MIN.	MAX.
A	0.110	0.119	2.794	3.023
B	0.047	0.055	1.194	1.397
C	0.083	0.104	2.108	2.642
D	0.035	0.040	0.889	1.016
E	0.070	0.081	1.778	2.057
F	0.017	0.024	0.432	0.610
G	0.014	0.020	0.356	0.508
H	0.005	0.004	0.013	0.102
J	0.034	0.040	0.864	1.016
K	0.003	0.007	0.076	0.178
L	-	0.022	-	0.559
M	-	8°	-	8°

**TYPICAL CHARACTERISTICS**

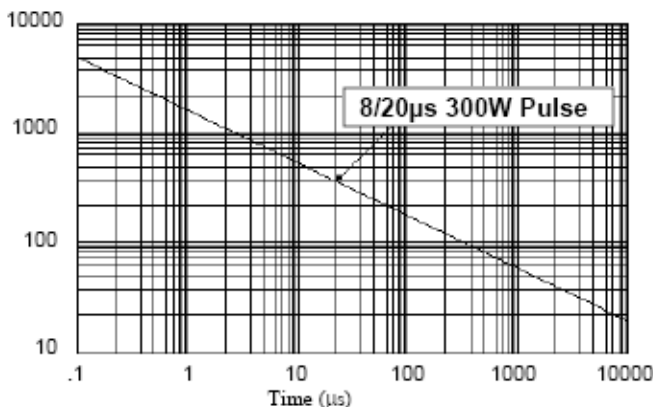


Figure 1. Peak Pulse Power Vs Pulse Time ( $\mu$ s)

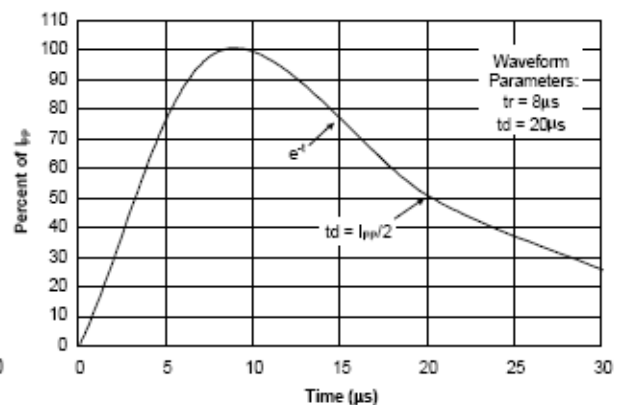


Figure 2. Pulse Wave Form

**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..