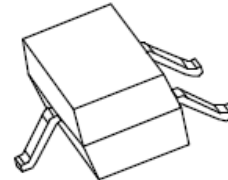


**TVS ARRAY SERIES**

**FEATURES**

- ✓ Protects 3.3, 5, 12, 15, 24 , 36V Components
- ✓ Unidirectional or Bidirectional
- ✓ Low Leakage
- ✓ Provides Electrically Isolated Protection
- ✓ 300 W @ 8/20 μs
- ✓ Protects 1 or 2 Lines
- ✓ 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

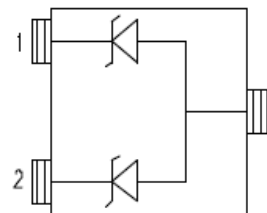
**SOT-23**



**DESCRIPTION**

The S23XX series of TVS array have been designed to provide unidirectional or bidirectional 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 2 unidirectional or 1 bidirectional data line or interface line.

**SCHEMATIC & PIN CONFIGURATION**



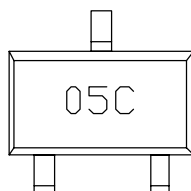
**APPLICATION**

- ✓ 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 05C is S2305

05C = Part Name

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



**Ordering Information:**

Device	Package	Shipping
S2303 THRU S2336	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.

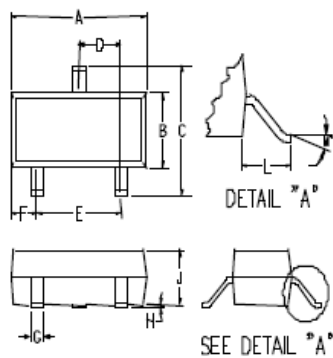
**ABSOLUTE MAXIMUM RATINGS**

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 $V_{wm}$ (v) Max	Breakdown Voltage $V_{BR}$ @1mA (V) Min	Clamping Voltage $V_c$ @ 1 A (V) Max	Leakage Current $I_R$ @ $V_{wm}$ ( $\mu$ A) Max	Capacitance C @ 0V 1MHz (pF) Pin 1-3 or 2-3 Max	Capacitance C @ 0V 1MHz (pF) Pin 1- 2 Max
S2303	3.3	4	8	200	600	300
S2305	5.0	6	10.8	20	400	200
S2312	12.0	13.3	19	0.1	160	80
S2315	15.0	16.7	25	0.1	130	65
S2324	24.0	26.7	44	0.1	80	40
S2336	36.0	40.0	60	0.1	50	28

**PACKAGE OUTLINES & DIMENSIONS**



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**

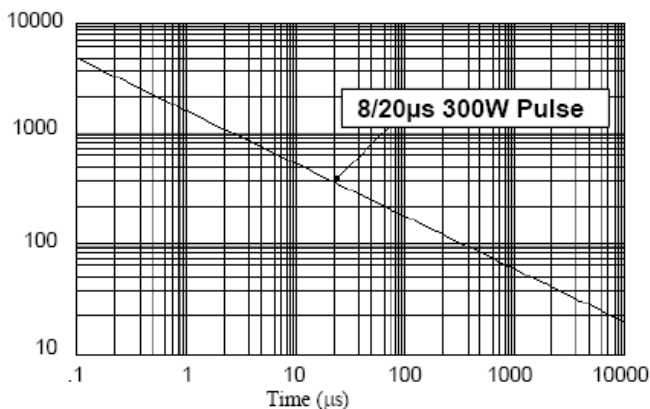


Figure 1. Peak Pulse Power Vs Pulse Time ( $\mu$ s)

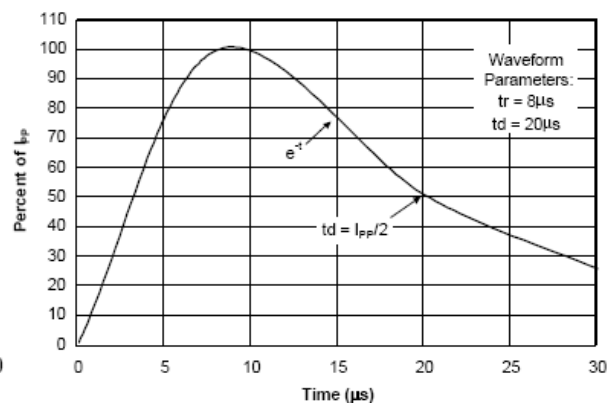


Figure 2. Pulse Wave Form



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