

# SRDA05-4R2

## Low Capacitance Surface Mount TVS for High-Speed Data Interfaces

The SRDA05-4 transient voltage suppressor is designed to protect equipment attached to high speed communication lines from ESD, EFT, and lightning.

### Features:

- SO-8 Package
- Peak Power – 500 Watts 8 x 20  $\mu$ S
- ESD Rating:  
IEC 61000-4-2 (ESD) 15 kV (air) 8 kV (contact)  
IEC 61000-4-4 (EFT) 40 A (5/50 ns)  
IEC 61000-4-5 (lightning) 23 (8/20  $\mu$ s)
- UL Flammability Rating of 94V-0

### Typical Applications:

- High Speed Communication Line Protection

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Power Dissipation 8 x 20 $\mu$ S @ $T_A = 25^\circ\text{C}$ (Note 1)	$P_{pk}$	500	W
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$
Lead Solder Temperature – Maximum 10 Seconds Duration	$T_L$	260	$^\circ\text{C}$

1. Non-repetitive current pulse 8 x 20  $\mu$ S exponential decay waveform

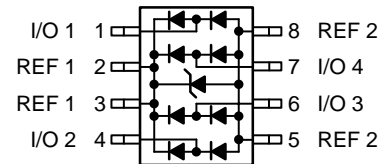


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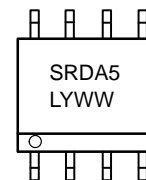
## SO-8 LOW CAPACITANCE VOLTAGE SUPPRESSOR 500 WATTS PEAK POWER 6 VOLTS

### PIN CONFIGURATION AND SCHEMATIC



**SO-8  
CASE 751  
PLASTIC**

### MARKING DIAGRAM



SRDA5= Device Code  
L = Location Code  
Y = Year  
WW = Work Week

### ORDERING INFORMATION

Device	Package	Shipping†
SRDA05-4R2	SO-8	2500/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

**ELECTRICAL CHARACTERISTICS**

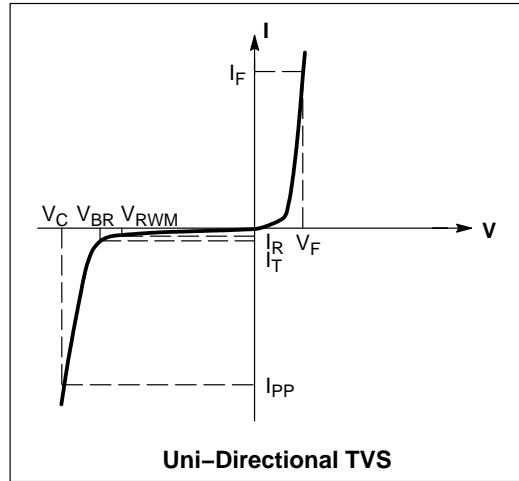
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage @ $I_T = 1.0 \text{ mA}$	$V_{BR}$	6.0	-	-	V
Reverse Leakage Current @ $V_{RWM} = 5.0 \text{ Volts}$	$I_R$	N/A	-	10	$\mu\text{A}$
Maximum Clamping Voltage @ $I_{PP} = 1.0 \text{ A}, 8 \times 20 \mu\text{S}$	$V_C$	N/A	-	9.8	V
Maximum Clamping Voltage @ $I_{PP} = 10 \text{ A}, 8 \times 20 \mu\text{S}$	$V_C$	N/A	-	12	V
Between I/O Pins and Ground @ $V_R = 0 \text{ Volts}, 1.0 \text{ MHz}$	Capacitance	-	10	15	pF
Between I/O Pins @ $V_R = 0 \text{ Volts}, 1.0 \text{ MHz}$	Capacitance	-	5	8	pF

**ELECTRICAL CHARACTERISTICS**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**UNIDIRECTIONAL** (Circuit tied to Pins 1 and 3 or 2 and 3)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$\Theta V_{BR}$	Maximum Temperature Coefficient of $V_{BR}$
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$
$Z_{ZT}$	Maximum Zener Impedance @ $I_{ZT}$
$I_{ZK}$	Reverse Current
$Z_{ZK}$	Maximum Zener Impedance @ $I_{ZK}$



TYPICAL CHARACTERISTICS

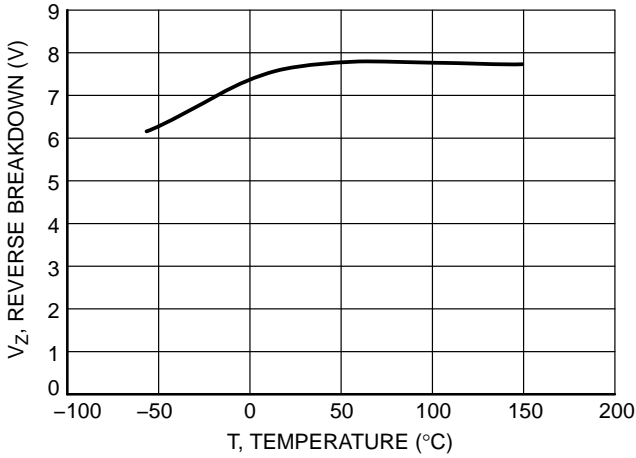


Figure 1. Reverse Breakdown versus Temperature

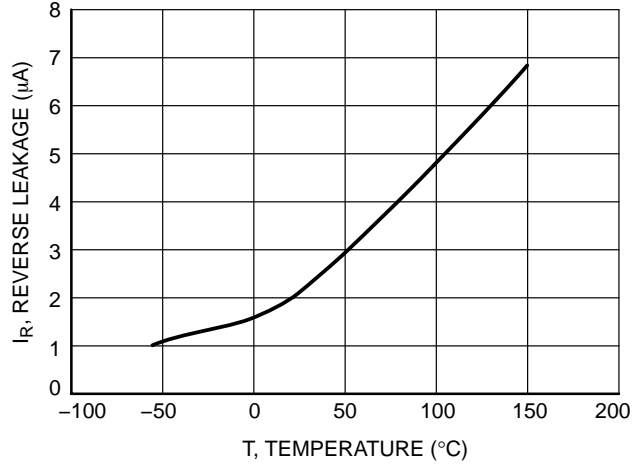


Figure 2. Reverse Leakage versus Temperature

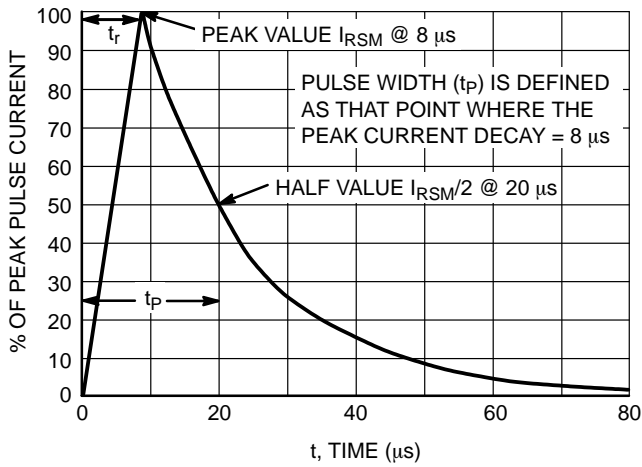


Figure 3. 8 x 20 μs Pulse Waveform

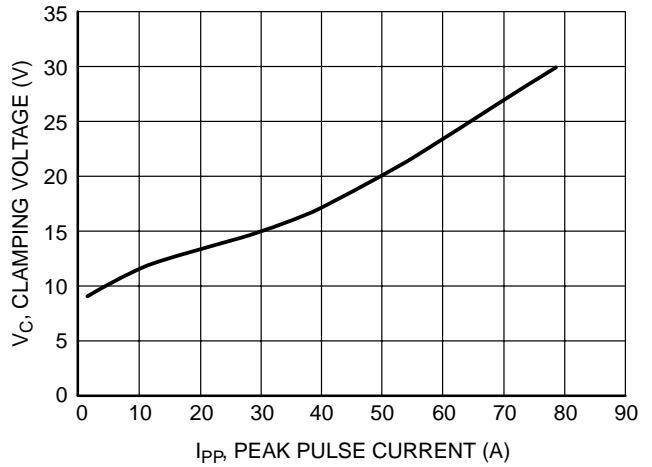
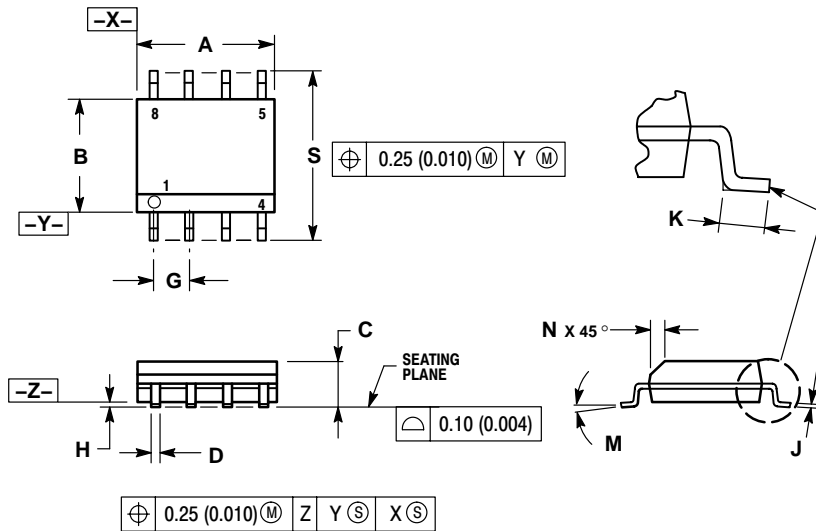


Figure 4. Clamping Voltage versus Peak Pulse Current

# SRDA05-4R2

## PACKAGE DIMENSIONS

SO-8  
CASE 751-07  
ISSUE AB

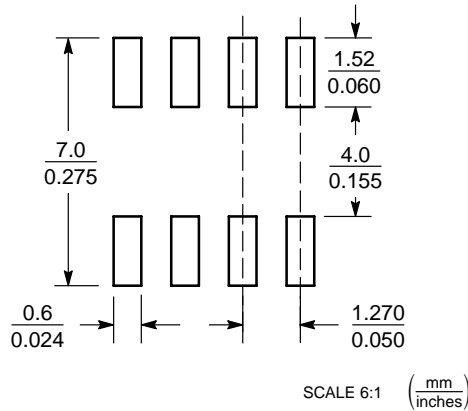


**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.
6. 751-01 THRU 751-06 ARE OBSOLETE. NEW STANDAAARD IS 751-07

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0°	8°	0°	8°
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

### SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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