

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 μ 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 μ 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 μ 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 μ S exponential decay waveform

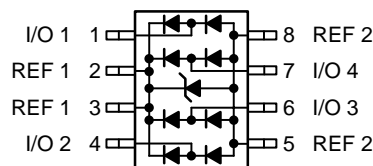


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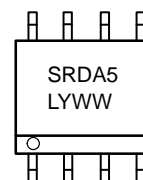
SO-8 LOW CAPACITANCE VOLTAGE SUPPRESSOR 500 WATTS PEAK POWER 6 VOLTS

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

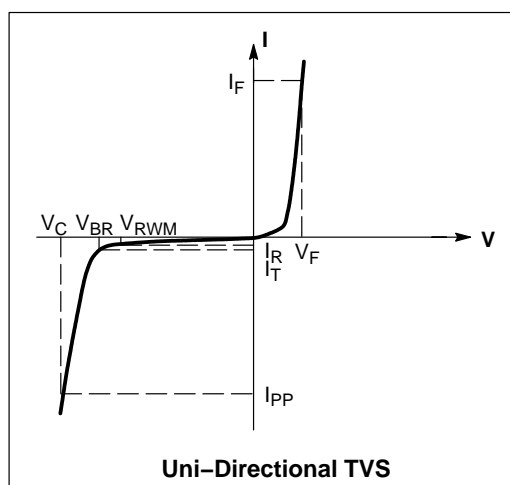
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage @ $I_T = 1.0 \text{ mA}$	V_{BR}	6.0	-	-	V
Reverse Leakage Current @ $V_{RWM} = 5.0 \text{ Volts}$	I_R	N/A	-	10	μA
Maximum Clamping Voltage @ $I_{PP} = 1.0 \text{ A}, 8 \times 20 \mu\text{S}$	V_C	N/A	-	9.8	V
Maximum Clamping Voltage @ $I_{PP} = 10 \text{ A}, 8 \times 20 \mu\text{S}$	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
ΘV_{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

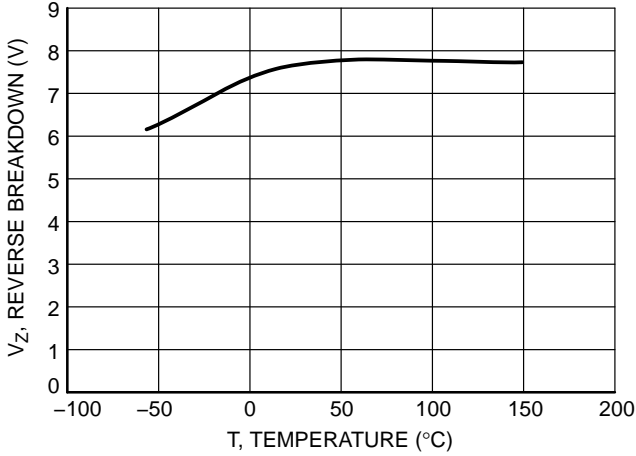


Figure 1. Reverse Breakdown versus Temperature

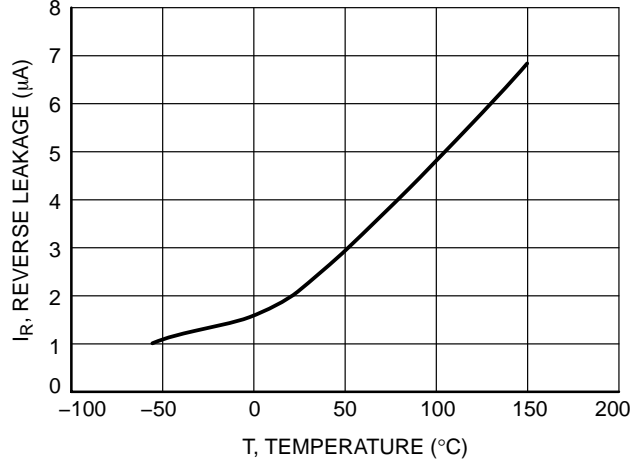


Figure 2. Reverse Leakage versus Temperature

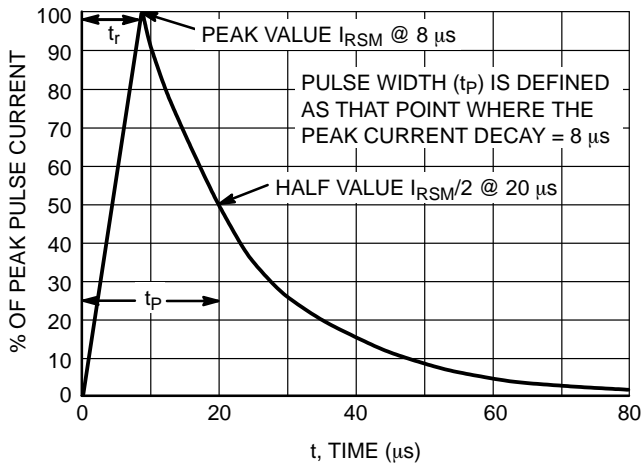


Figure 3. 8 × 20 μ s Pulse Waveform

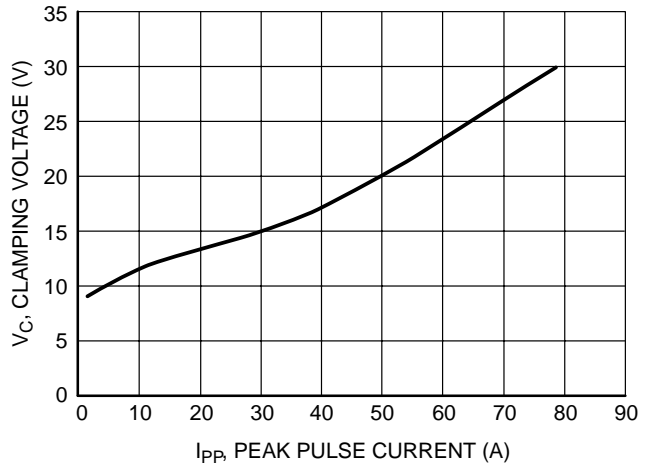
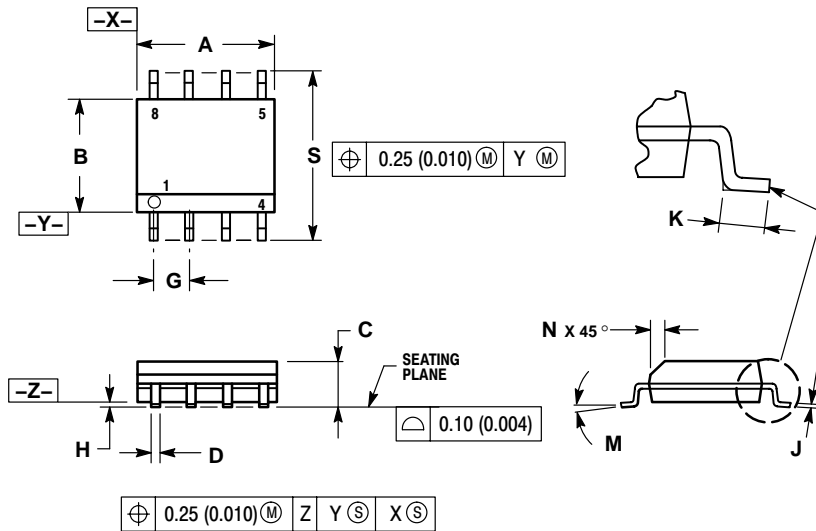


Figure 4. Clamping Voltage versus Peak Pulse Current

SRDA05-4R2

PACKAGE DIMENSIONS

SO-8
CASE 751-07
ISSUE AB

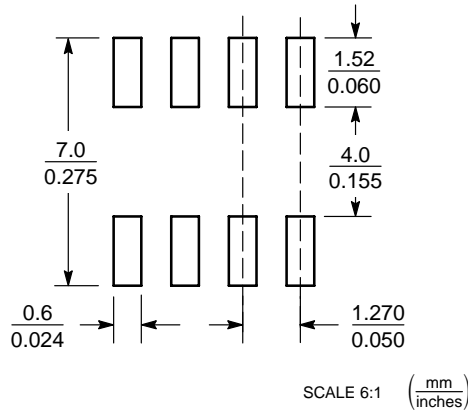


NOTES:

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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