TVS Diode Array (SPA® Diodes)

Low Capacitance ESD Protection - SRV05-4HTG-D

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
I_{PP}	Peak Current (t_p=8/20µs)	10	A
P_{Pk}	Peak Pulse Power (t_p=8/20µs)	150	W
T_{OP}	Operating Temperature	-40 to 125	°C
T_{STOR}	Storage Temperature	-55 to 150	°C

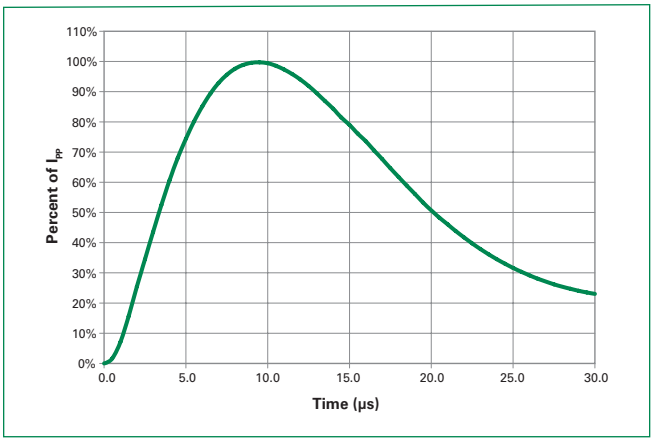
CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

Electrical Characteristics (T_{OP}=25°C)

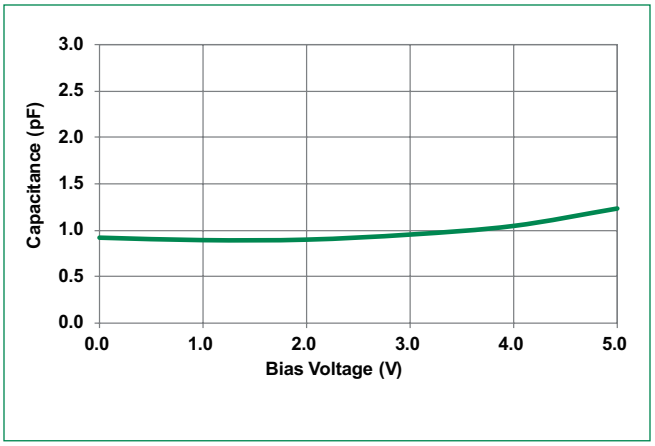
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Reverse Standoff Voltage	V_{RWM}	I_R = 1µA, I/O to GND			6	V
Breakdown Voltage	V_{BR}	I_R = 1mA, I/O to GND	6	8.5		V
Reverse Leakage Current	I_{LEAK}	V_R=5V, I/O to GND		0.1	0.5	µA
Clamp Voltage[1]	V_C	I_{PP}=5A, t_p=8/20µs, I/O to GND		11.7	13	V
		I_{PP}=8A, t_p=8/20µs, I/O to GND		12.5	14	V
		I_{PP}=10A, t_p=8/20µs, I/O to GND		13.2	15	V
Dynamic Resistance[2]	R_{DYN}	TLP, t_p=100ns, I/O to GND		0.28		Ω
ESD Withstand Voltage[1]	V_{ESD}	IEC 61000-4-2 (Contact Discharge)	±30			kV
		IEC 61000-4-2 (Air Discharge)	±30			kV
Diode Capacitance[1]	$C_{I/O-GND}$	Reverse Bias=0V, f=1MHz, I/O to GND		1	3	pF
	$C_{I/O-I/O}$	Reverse Bias=0V, f=1MHz, I/O to I/O		0.5		pF

Notes:
1. Parameter is guaranteed by design and/or component characterization.
2. Transmission Line Pulse (TLP) test setting : Std.TDR(50Ω),tp=100ns, tr=0.2ns ITLP and VTLP averaging window: start t1=70ns to end t2=80ns

8/20µs Pulse Waveform

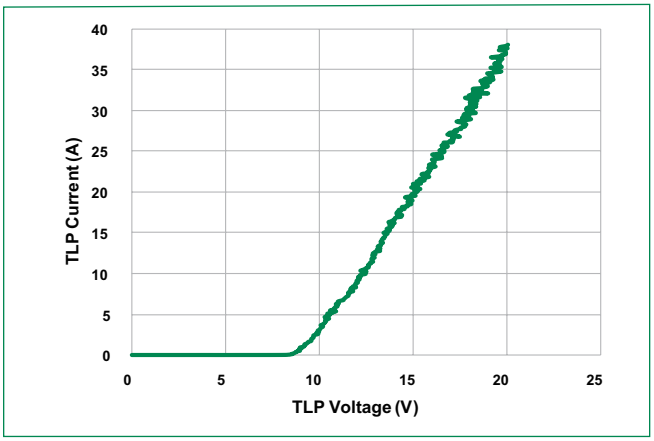


Capacitance vs. Reverse Bias

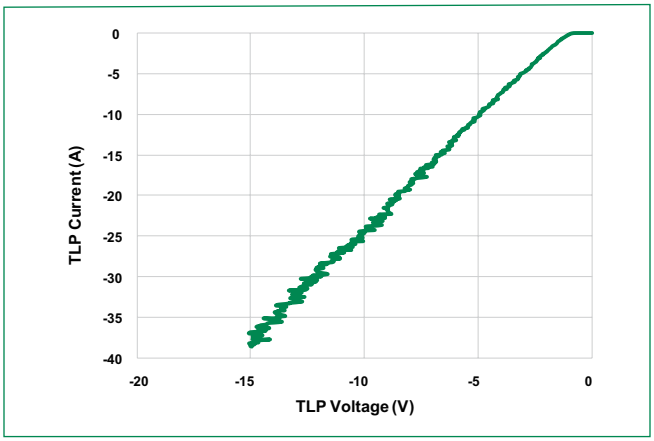


Revised: GD.01/08/21

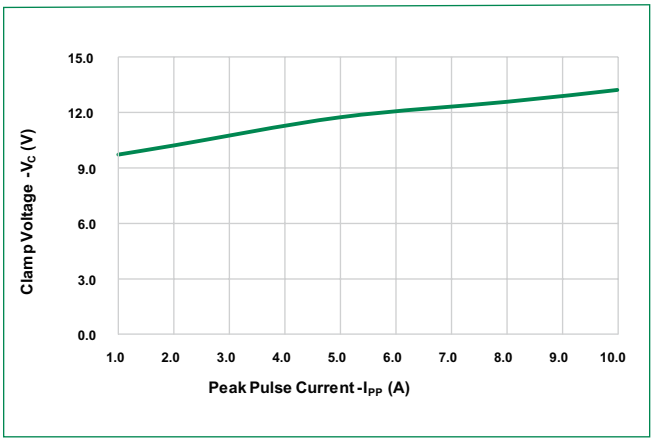
Positive Transmission Line Pulsing (TLP) Plot



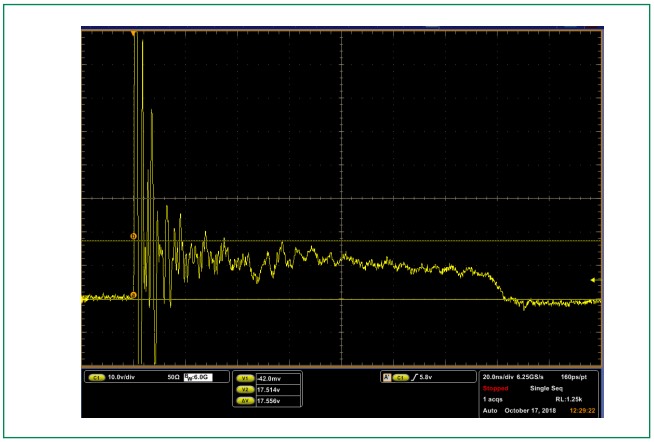
Negative Transmission Line Pulsing (TLP) Plot



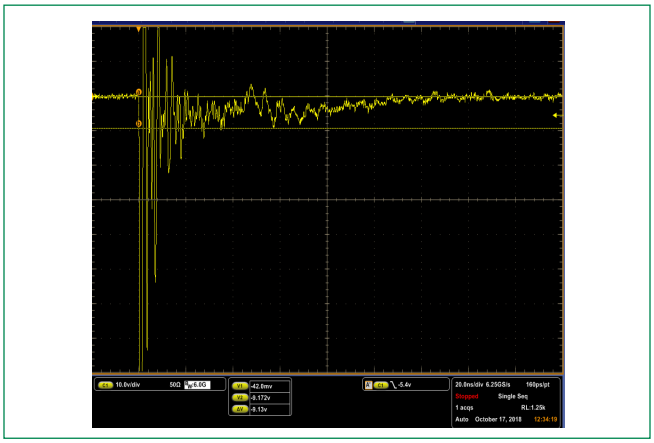
Clamping Voltage vs. Peak Pulse Current



IEC 61000-4-2 +8 kV Contact ESD Clamping Voltage



IEC 61000-4-2 -8 kV Contact ESD Clamping Voltage

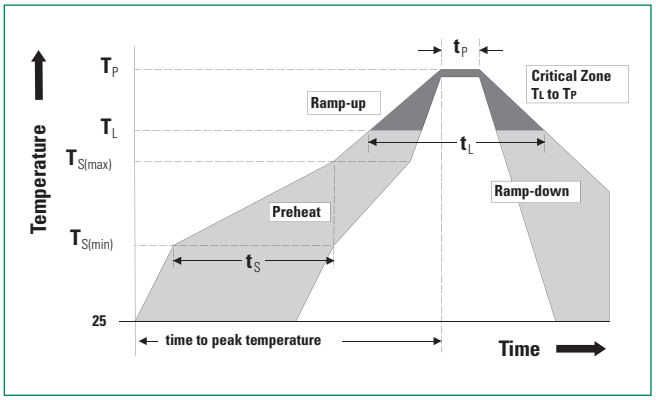


TVS Diode Array (SPA® Diodes)

Low Capacitance ESD Protection - SRV05-4HTG-D

Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	**- Temperature Min ($T_{s(min)}$)**	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	**- Temperature (T_L) (Liquidus)**	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C



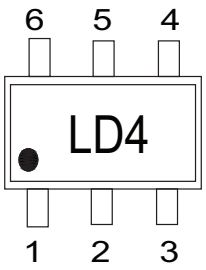
Ordering Information

Part Number	Package	Min. Order Qty.
SRV05-4HTG-D	SOT23-6	3000

Product Characteristics

Lead Plating	Matte TIn
Lead Material	Copper Alloy
Lead Conpanarity	0.004 inches(0.102mm)
Substrate Material	Silicon
Body Material	Molded Compound
Flammability	UL Recognized compound meeting flammability rating V-0

Part Marking System



L : Part code
D : Assembly code
4 : Number of channel

Part Numbering System

SRV05 -4 H T G -D

TVS Diode Arrays (SPA® Diodes)

Number of Channels

G= Green

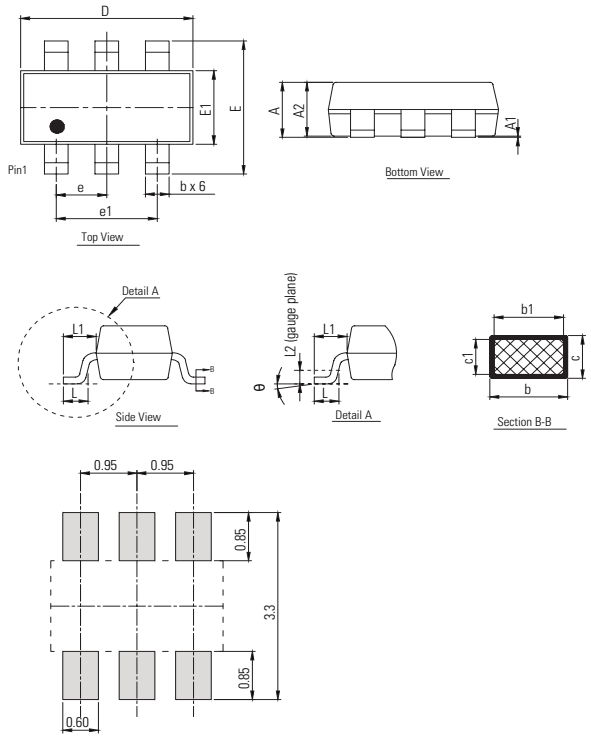
T= Tape & Reel

Package
H=SOT23-6

Revised: GD.01/08/21

TVS Diode Array (SPA® Diodes)
Low Capacitance ESD Protection - SRV05-4HTG-D

Package Dimensions - SOT23-6

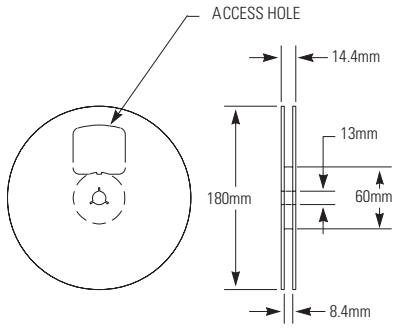


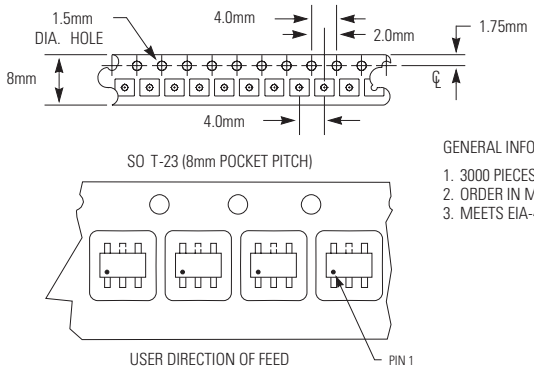
Recommended soldering pad layout (unit :mm)
Drawing#: H02-B

Symbol	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A	-	-	1.45	-	-	0.057
A1	0.00	-	0.15	0.000	-	0.006
A2	0.90	1.15	1.30	0.035	0.045	0.051
b	0.30	-	0.50	0.012	-	0.020
b1	0.30	0.40	0.45	0.012	0.016	0.018
c	0.08	-	0.22	0.003	-	0.009
c1	0.08	0.13	0.20	0.003	0.005	0.008
D	2.70	2.90	3.05	0.106	0.114	0.120
E	2.60	2.80	3.00	0.102	0.110	0.118
E1	1.45	1.60	1.75	0.057	0.063	0.069
e		0.95 BSC			0.037 BSC	
e1		1.90 BSC			0.075 BSC	
L	0.30	0.50	0.60	0.012	0.020	0.024
L1		0.60 REF			0.024 REF	
L2		0.25 BSC			0.010 BSC	
θ	0°	4°	8°	0°	4°	8°

Embossed Carrier Tape & Reel Specification — SOT23-6

8mm TAPE AND REEL





GENERAL INFORMA TION

1. 3000 PIECES PER REEL.
2. ORDER IN MUL TIPLES OF FULL REELS ONLY.
3. MEETS EIA-481 REVISION "A" SPECIFICATIONS.

Revised: GD.01/08/21

Mouser Electronics

Authorized Distributor

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Littelfuse:
SRV05-4HTG-D