

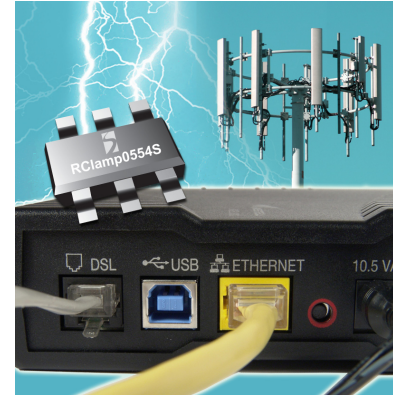
# Product Brief



SEMTECH PROTECTION PRODUCTS

## RClamp<sup>®</sup> 0554S

Low Capacitance TVS Diode Array



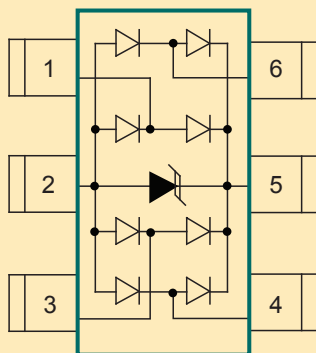
### Low Clamping Performance TVS Array for ESD, Cable Discharge & Surge Protection

#### Key Product Features:

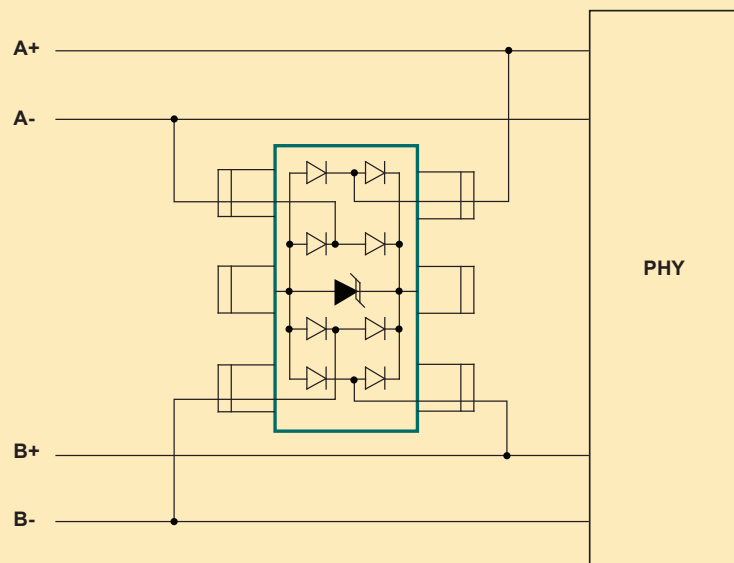
- High surge immunity:  $I_{pp}=25A, 8 \times 20\mu s$
- 4-line protection array
- Superior clamping voltage
- Low capacitance: 5pF
- Small package (SOT-23L)

#### Product Benefits:

- ➔ Protection for lightning, ESD & Cable Discharge
- ➔ Ideal for protecting two differential pairs
- ➔ Protects sensitive next generation transceivers
- ➔ Provides minimal loading to preserve signal integrity
- ➔ Footprint compatible with SRV05-4



RClamp0554S



# Product Brief

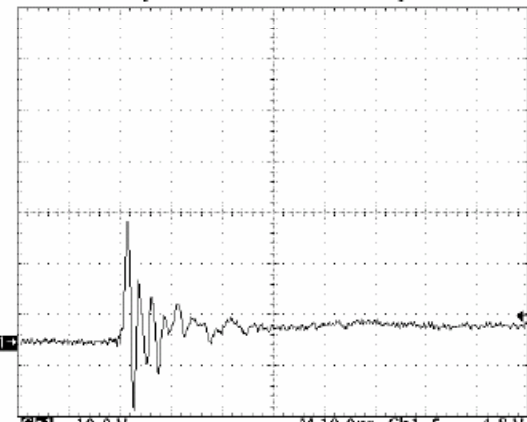
## RClamp® 0554S - Low Capacitance, Dual TVS Diode Array

| Maximum Rating   | Symbol    | Value                | Unit  |
|--|-----------|----------------------|-------|
| Peak Pulse Power ( $t_p = 8/20\mu s$ )                         | $P_{pk}$  | 375                  | Watts |
| Peak Pulse Power ( $t_p = 8/20\mu s$ )                         | $I_{pp}$  | 25                   | A     |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | $V_{ESD}$ | $\pm 30$<br>$\pm 25$ | kV    |
| Operating Temperature  | $T_j$     | -55 to +125          | °C    |
| Storage Temperature  | $T_{STG}$ | -55 to +150          | °C    |

## RClamp® 0554S - Low Capacitance, Dual TVS Diode Array

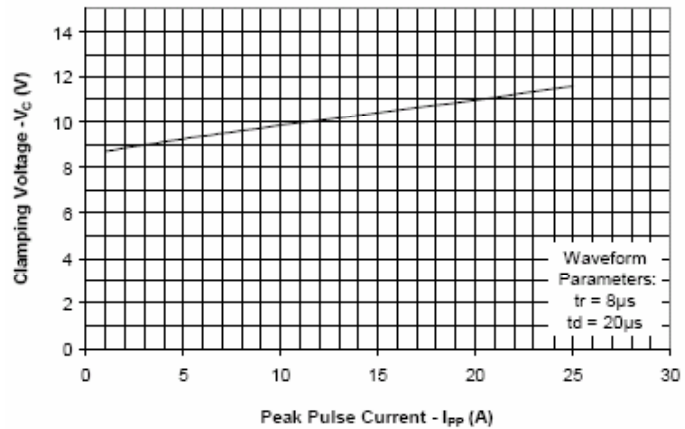
| Parameter                 | Symbol    | Condition                             | Min | Typ | Max | Units   |
|---------------------------|-----------|---------------------------------------|-----|-----|-----|---------|
| Reverse Stand-Off Voltage | $V_{RWM}$ |                                       |     |     | 5   | V       |
| Reverse Breakdown Voltage | $V_{BR}$  |                                       | 6   |     |     | V       |
| Reverse Leakage Current   | $I_R$     | $V_{RWM} = 5V, T = 25^\circ C$        |     |     | 0.5 | $\mu A$ |
| Clamping Voltage          | $V_C$     | $I_{pp} = 25A, t_p = 8/20\mu s$       |     |     | 15  | V       |
| Junction Capacitance      | $C_j$     | Any I/O to Gnd<br>$V_R = 0, f = 1MHz$ |     |     | 5   | pF      |
|                           |           | I/O to I/O<br>$V_R = 0, f = 1MHz$     |     | 3   |     | pF      |

### ESD Clamping (8kV Contact per IEC 61000-4-2)



Note: Data is taken with a 10x attenuator

### Surge Clamping ( $t_p = 8/20\mu s$ )



### Ordering Information

| Part Number     | Working Voltage | Qty Per Reel | Reel Size |
|-----------------|-----------------|--------------|-----------|
| RClamp0554S.TCT | 5V              | 3,000        | 7 inches  |

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