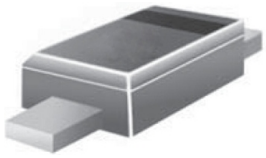
## Features

- Working voltages: 5V
- Low Leakage Current
- Low operating and clamping voltages
- Lead Free/RoHS compliant
- Solid-state silicon avalanche technology
- Provides ESD protection to IEC61000-4-2(ESD): ±15kV (air discharge), ±15kV (contact discharge)

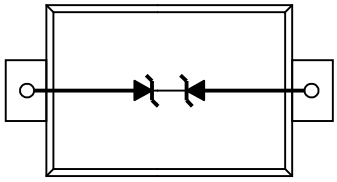


SOD-523

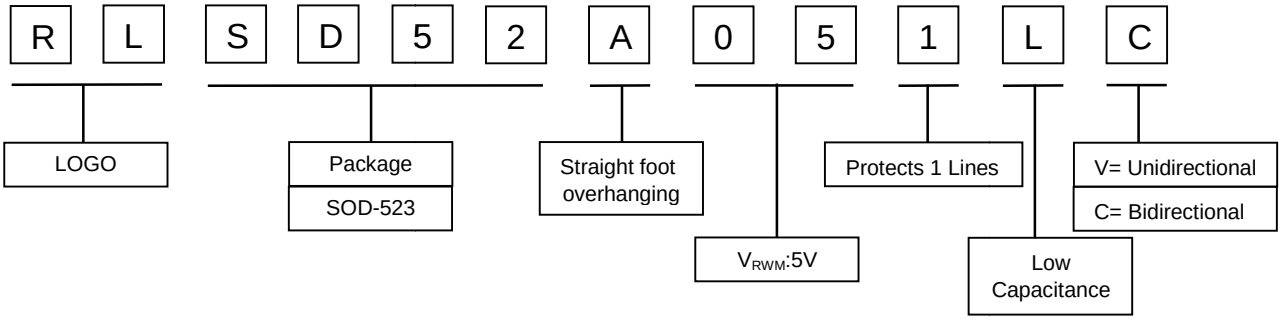
## Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

## Electrical symbol



## Part Number Code




## Absolute Maximum Rating

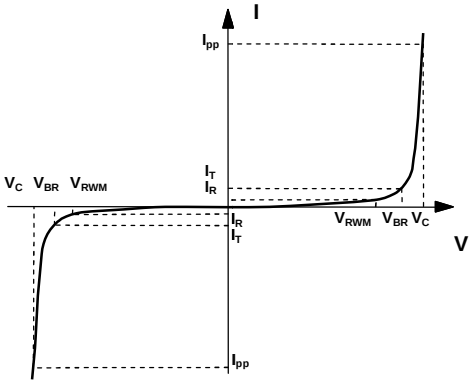
| Rating | Symbol | Value | Units |
|---|---|---|---|
| ESD Voltage (Contact) | $V_{ESD}$ | ±15 | kV |
| ESD Voltage (Air) | $V_{ESD}$ | ±15 | kV |
| Lead Soldering Temperature | $T_L$ | 260 (10 sec.) | °C |
| Junction Temperature Range | $T_J$ | -55 to 125 | °C |
| Storage Temperature | $T_{STG}$ | -55 to 150 | °C |

## Electrical Characteristics (@ 25°C Unless Otherwise Specified)

| Type Number | Reverse Stand-Off Voltage | Minimum Breakdown Voltage | $V_C$ @8/20μS | | Reverse Leakage @$V_{RWM}$ | Typical Capacitance |
|---|---|---|---|---|---|---|
| | $V_{RWM}$ | $V_{BR}$ @1mA | (max.) | @$I_{PP}$ | $I_R$@$V_{RWM}$ | DC=0V<br>$C_J$@ 1 MHz |
| | V | V | V | A | μA | pF |
| RLSD52A051LC | 5.0 | 5.4 | 12.9 | 3 | 1.0 | 0.5 |

## Electrical Parameters (T=25°C)

| 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 |




## Characteristic Curves

**Fig 1. 8/20μs Pulse Waveform**

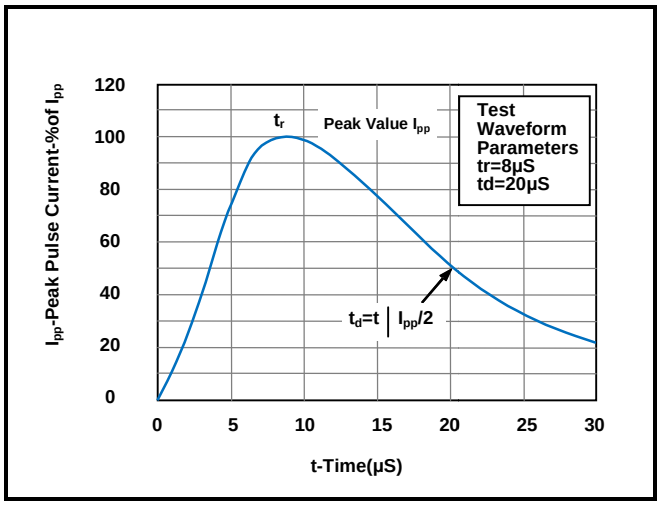



**Fig2.ESD Pulse Waveform (according to IEC61000-4-2)**

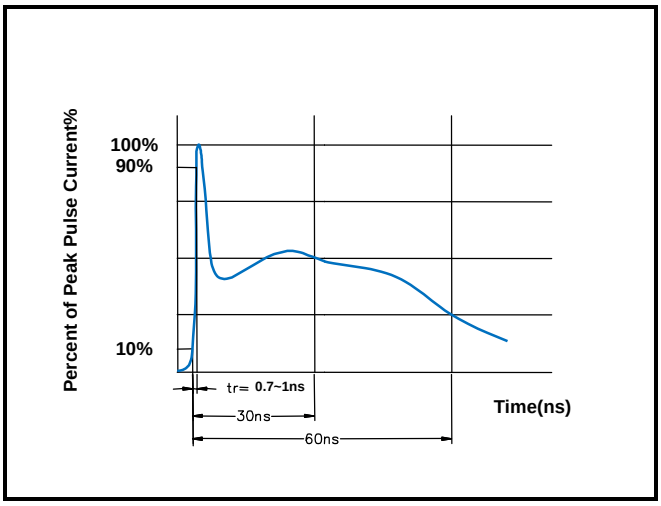



**Fig 3. Power Derating Curve**

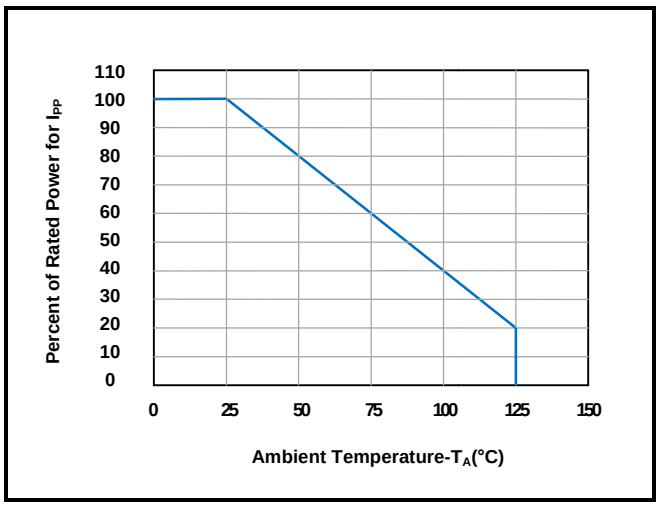
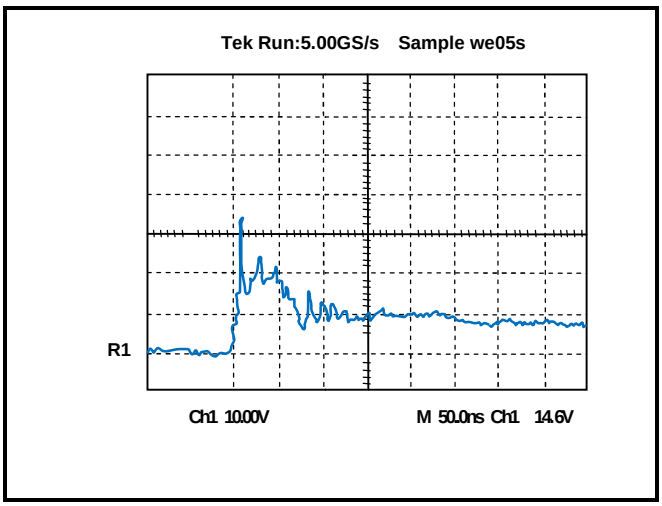
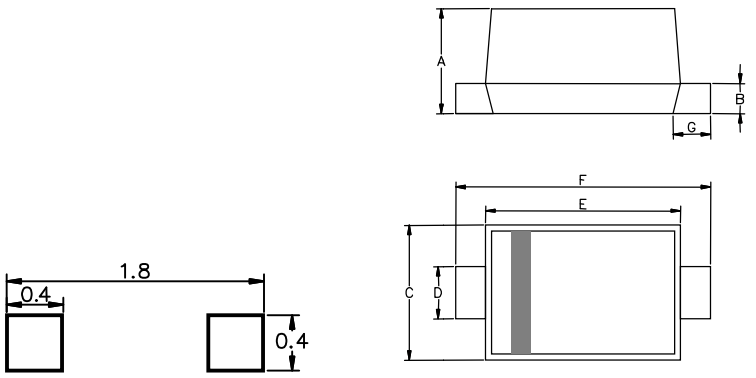



**Figure 4.ESD Clamping(8KV Contact per IEC61000-4-2)**



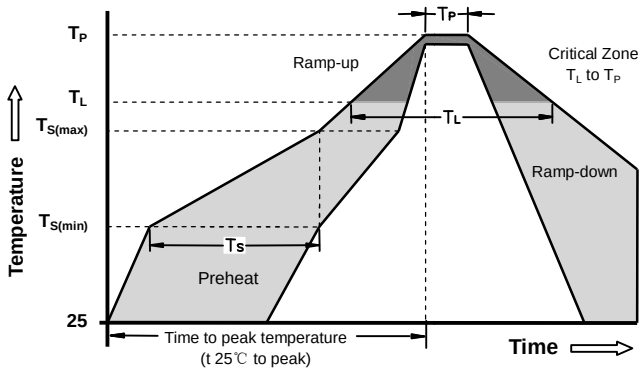
## Dimensions & Recommended soldering footprint(mm)




| DIM | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.5 | 0.7 | 0.020 | 0.028 |
| B | 0.07 | 0.2 | 0.003 | 0.008 |
| C | 0.7 | 0.9 | 0.028 | 0.035 |
| D | 0.25 | 0.35 | 0.010 | 0.014 |
| E | 1.1 | 1.3 | 0.043 | 0.051 |
| F | 1.5 | 1.7 | 0.059 | 0.067 |
| G | 0.15 | 0.25 | 0.006 | 0.010 |

| Part Number | Component package | Quantity | Reel Size | Molding compound flammability rating | Lead Finish |
|---|---|---|---|---|---|
| RLSD52A051LC | SOD-523 | 3000 | 7 inch | UL 94V-0 | Lead Free |

## Soldering Parameters - Reflow Soldering (Surface Mount Devices)




| 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 Seconds |
| Average ramp up rate ( Liquids Temp $T_L$) to peak | | 3°C/second max |
| $T_{S(max)}$ to TL - Ramp-up Rate | | 3°C/second max |
| Reflow | - Temperature ($T_L$) (Liquids) | 217°C |
| | - Time (min to max) ($t_s$) | 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 | | 280°C |

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