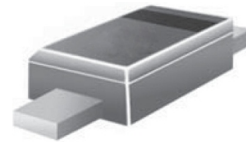


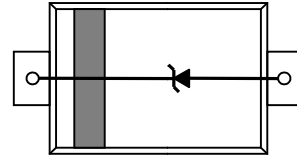
Features

- I 200 Watts Peak Pulse Power per Line (tp = 8/20µs)
- I Working voltages: 3.3V,5V,12V
- I Low Leakage Current
- I Low operating and clamping voltages
- I Lead Free/RoHS compliant
- I Solid-state silicon avalanche technology
- I Provides ESD protection to IEC61000-4-2(ESD): ±25kV (air discharge), ±25kV (contact discharge)



SOD-523

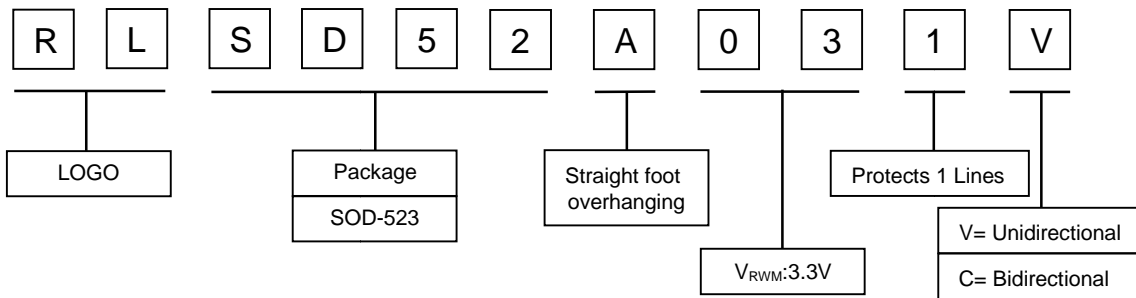
Electrical symbol



Applications

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

Part Number Code



Absolute Maximum Rating

| Rating | Symbol | Value | Units |
|-------------------------------|------------------|---------------|-------|
| Peak Pulse Power (tp =8/20µs) | P _{PP} | 200 | W |
| ESD Voltage (Contact) | V _{ESD} | ±25 | kV |
| ESD Voltage (Air) | V _{ESD} | ±25 | kV |
| Lead Soldering Temperature | T _L | 260 (10 sec.) | °C |
| Operating Temperature Range | T _{OP} | -40 to 125 | °C |
| Storage Temperature | T _{STG} | -55 to 150 | °C |

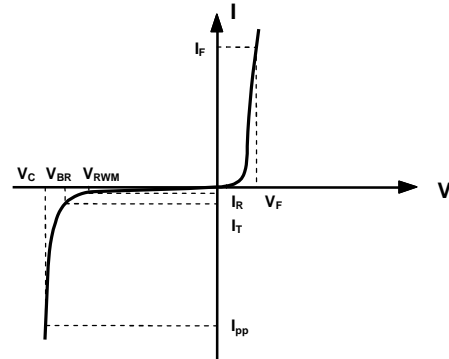
Electrical Characteristics (@ 25°C Unless Otherwise Specified)

| Type Number | Reverse Stand-Off Voltage | Minimum Breakdown Voltage | Peak Pulse Voltage @8/20µS | V _C @8/20µS | | Reverse Leakage @V _{RWM} | Typical Capacitance |
|-------------|---------------------------|---------------------------|----------------------------|------------------------|------------------|-----------------------------------|---------------------------------|
| | V _{RWM} | V _{BR} @1mA | V _C @5A | (max.) | @I _{PP} | I _R @V _{RWM} | DC=0V C _J @ 1 MHz |
| | V | V | V | V | A | µA | pF |
| RLSD52A031V | 3.3 | 5.0 | 8.4 | 14.1 | 11.2 | 1.0 | 105 |
| RLSD52A051V | 5.0 | 6.2 | 11.6 | 18.6 | 9.4 | 1.0 | 80 |
| RLSD52A121V | 12.0 | 13.5 | 17.0 | 25.0 | 9.6 | 1.0 | 55 |



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 |
| I_F | Forward Current |
| V_F | Forward Voltage @ I_F |



Characteristic Curves

Fig 1. 8/20µs Pulse Waveform

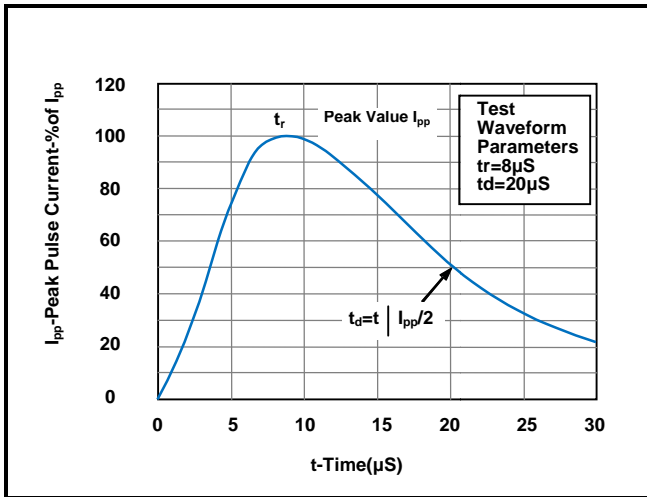
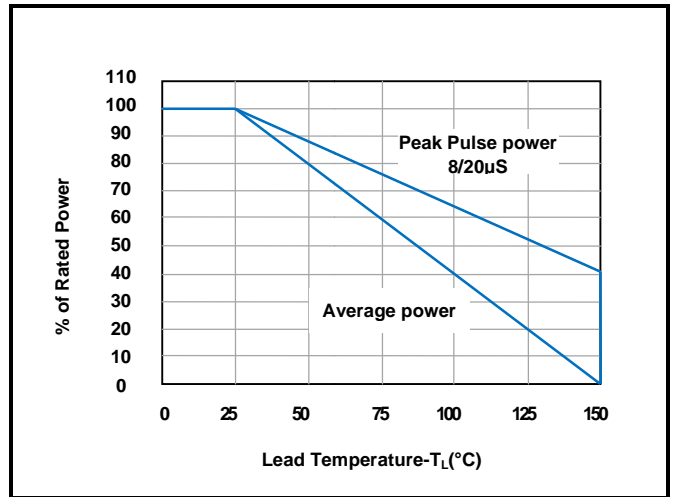
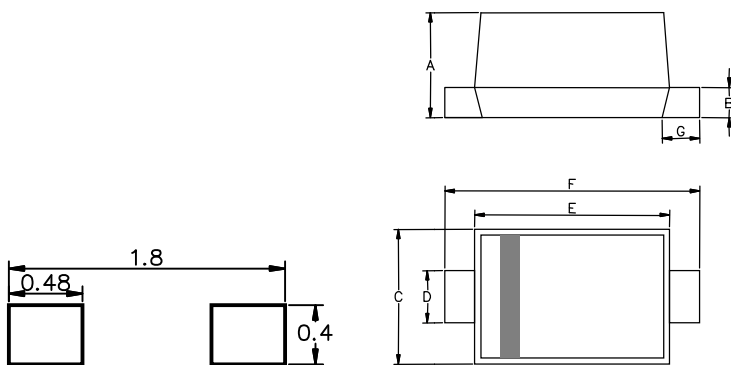


Fig 2. Power Derating Curve



Dimensions & Recommended soldering footprint(mm)

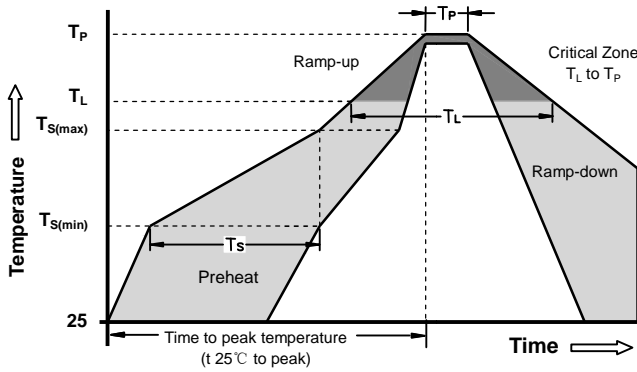


| DIM | Millimeters | | Inches | |
|-----|-------------|------|--------|-------|
| | Min | Max | Min | Max |
| A | 0.50 | 0.70 | 0.020 | 0.028 |
| B | 0.07 | 0.20 | 0.003 | 0.008 |
| C | 0.70 | 0.90 | 0.028 | 0.035 |
| D | 0.25 | 0.35 | 0.010 | 0.014 |
| E | 1.10 | 1.30 | 0.043 | 0.051 |
| F | 1.50 | 1.70 | 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 |
|-------------|-------------------|----------|-----------|--------------------------------------|-------------|
| RLSD52AXX1V | 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 T_L - 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 |

