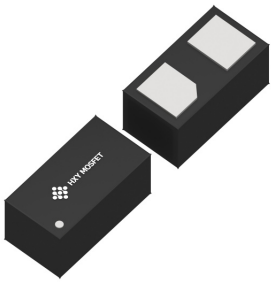
# RCLAMP3391ZCTFT
ESD PROTECTION DIODE

## Discription

Femtofarad bidirectional ElectroStatic Discharge (ESD) protection diode in a leadless ultra small DFN0603-2L Surface-Mounted Device (SMD) plastic package designed to protect one signal line from the damage caused by ESD and other transients. The combination of extremely low capacitance, high ESD maximum rating and ultra small package makes the device ideal for high-speed data line protection and antenna protection applications.



DFN0603-2L

## Features

★ Ultra small SMD package
★ Bidirectional ESD protection of one line
★ Femtofarad capacitance: CJ = 0.7pF (Typ)
★ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±8KV, Contact discharge: ±15KV
★ RoHS Compliant

Circuit Diagram

## Applications

★ ultra high-speed datalines
★ very sensitive interface lines
★ generic interface lines
in portable electronics,communication,consumer and computing devices.

## Ordering Information

| Product ID | Pack | Qty(PCS) |
|---|---|---|
| RCLAMP3391ZCTFT | DFN0603-2L | 15000 |

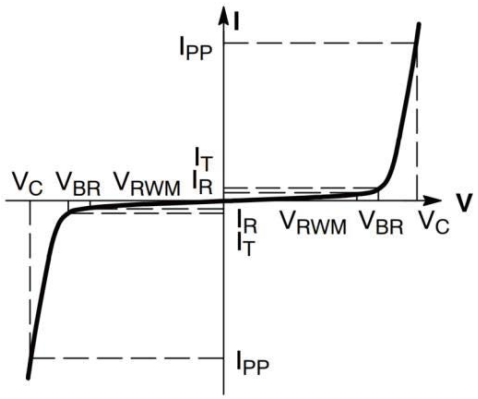
## Absolute Ratings(Tamb=25°C)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power (tp = 8/20μs) | $P_{PK}$ | 96 | W |
| Maximum lead temperature for soldering during 10s | $T_L$ | 260 | °C |
| Storage Temperature Range | $T_{stg}$ | -55 to +150 | °C |
| Operating Temperature Range | $T_{OP}$ | -40 to +125 | °C |
| ESD voltage IEC 61000-4-2 (air discharge) | $V_{ESD}$ | 8 | kV |
| ESD voltage IEC 61000-4-2 (contact discharge) | $V_{ESD}$ | 15 | kV |

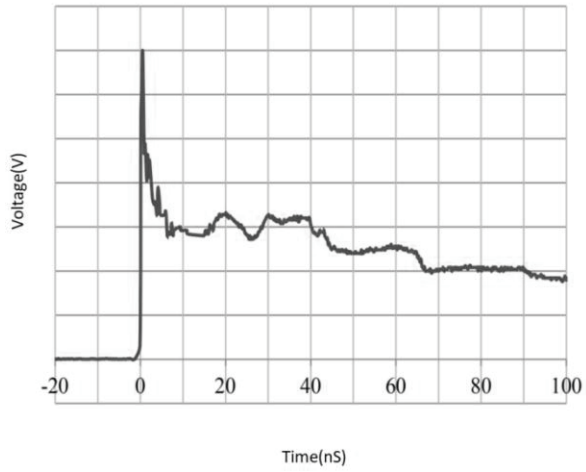
## Electrical Characteristics

| Parameter | Symbol | Min | Typ | Max | Unit | Condition |
|---|---|---|---|---|---|---|
| Reverse Working Voltage | $V_{RWM}$ | -- | -- | 3.3 | V | |
| Breakdown Voltage | $V_{BR}$ | 4.2 | -- | -- | V | $I_T$=1mA |
| Leakage Current ILeak | $I_R$ | -- | -- | 1.0 | uA | $V_{RWM}$=5V |
| Clamping Voltage | $V_C$ | -- | -- | 12 | V | $I_{PP}$=1A,Tp=8/20μs |
| Clamping Voltage | $V_C$ | -- | -- | 24 | V | $I_{PP}$=4.5A,Tp=8/20μs |
| Junction Capacitance | $C_J$ | -- | 0.55 | 0.7 | pF | $V_R$=0V, f=1MHz |

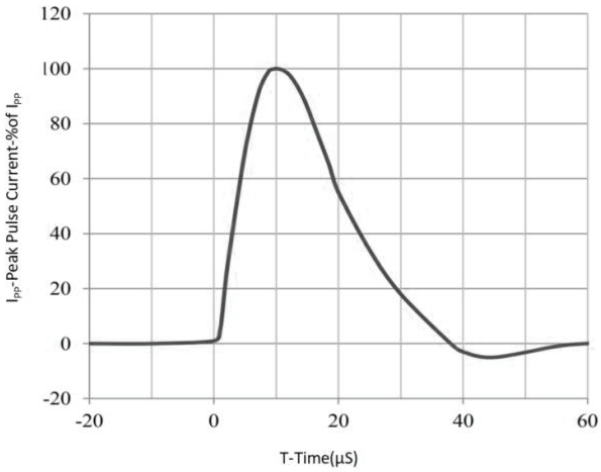
| Symbol | Parameter |
|---|---|
| $I_{PPM}$ | Maximum Reverse Peak Pulse Current |
| $V_C$ | Clamping Voltage @ $I_{PP}$ |
| $V_{RWM}$ | Working Peak Reverse Voltage |
| $I_R$ | Reverse Leakage Current @ $V_{RWM}$ |
| $I_T$ | Test Current |
| $V_{BR}$ | Breakdown Voltage @ $I_T$ |



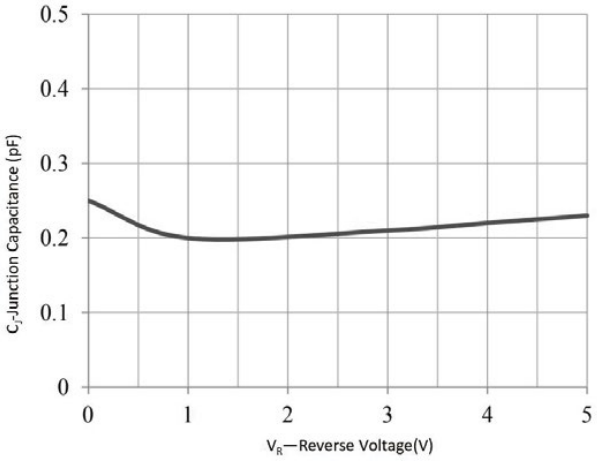
## Typical Characteristics



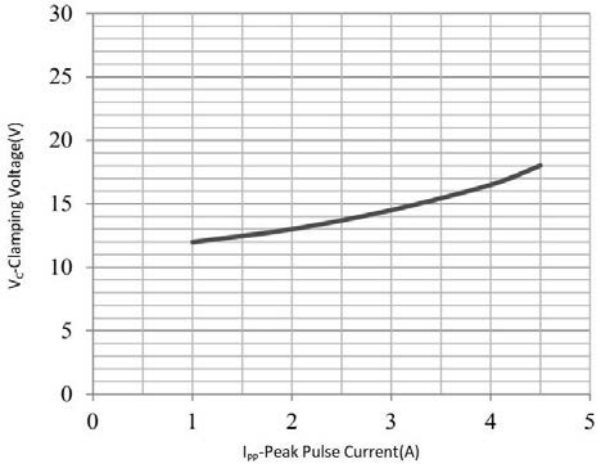

IEC61000−4−2 Pulse Waveform



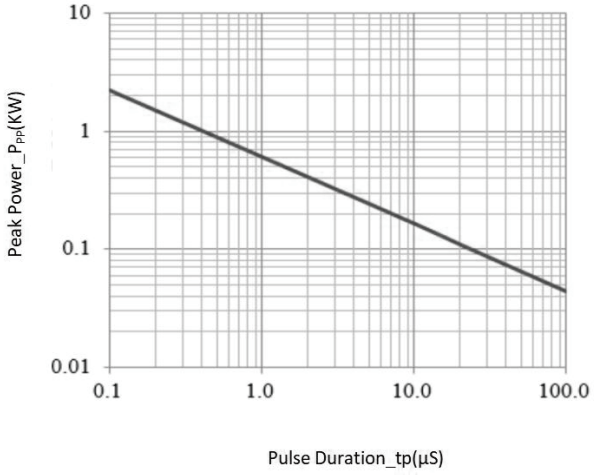

EC61000-4-5 Waveform( 8/20μs pulse)



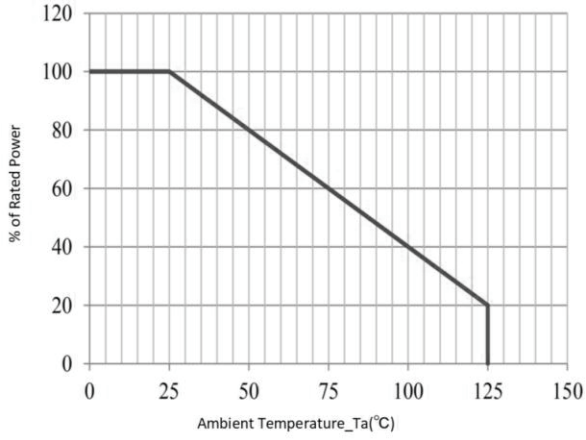

Junction Capacitance vs. Reverse Voltage




Clamping Voltage vs. Peak Pulse Current

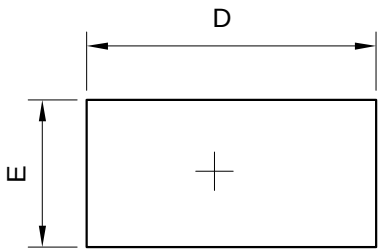



Peak Pulse Power vs. Pulse Time

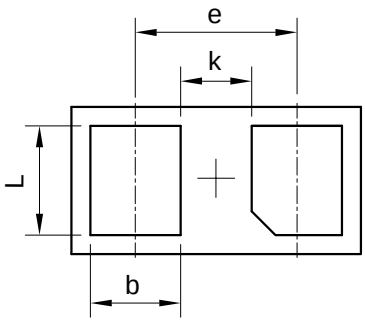



Power Derating Curve

## Outline And Dimensions




TOP VIEW

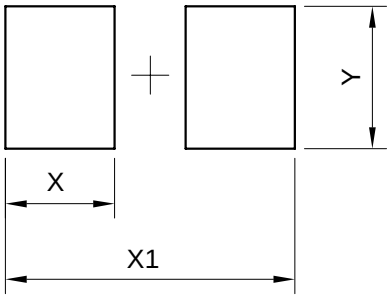



BOTTOM VVIEW

| DFN0603-2L | | | |
|---|---|---|---|
| Dim | Min | Typ. | Max |
| D | 0.58 | 0.61 | 0.64 |
| E | 0.28 | 0.31 | 0.34 |
| e | - | 0.34 | - |
| L | 0.20 | 0.23 | 0.26 |
| b | 0.16 | 0.19 | 0.22 |
| A | 0.25 | 0.28 | 0.31 |
| k | 0.12 | 0.15 | 0.18 |
| All Dimensions in mm | | | |


SSIDE VIEW

## Soledering Footprint




| DFN0603-2L | |
|---|---|
| DIM | (mm) |
| X | 0.23 |
| X1 | 0.61 |
| Y | 0.30 |

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