



Discription

The HCESD0603NC5VB protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



DFN0603-2L

Features

- ★ Small Body Outline Dimensions:
0.61 mm x 0.31 mm
- ★ Low Body Height: 0.28 mm
- ★ Low Leakage
- ★ Response Time is Typically < 1 ns
- ★ ESD Rating of Class 3 per Human Body Model
- ★ IEC61000-4-2 Level 4 ESD Protection
- ★ These are Pb-Free Devices
- ★ We declare that the material of product compliance with RoHS requirements and Halogen Free.



Circuit Diagram

Ordering information

| Product ID | Pack | Qty(PCS) |
|----------------|------------|----------|
| HCESD0603NC5VB | DFN0603-2L | 15000 |

Absolute Ratings(Tamb = 25°C)

| Symbol | Parameter | Value | Units |
|------------------|---|------------------------------------|------------------|
| P _{PP} | Peak Pulse Power (t _p = 8/20μs) | 90 | W |
| T _L | Maximum lead temperature for soldering during 10s | 260 | °C |
| T _{stg} | Storage Temperature Range | -55 to +150 | °C |
| T _{op} | Operating Temperature Range | -40 to +125 | °C |
| T _j | Maximum junction temperature | 150 | °C |
| | IEC61000-4-2 (ESD) | air discharge contact discharge | ±30 ±30 KV |



Electrical Characteristics

| Device | V_{RWM} (V) | I_R (μ A) @ V_{RWM} | V_{BR} (V) @ I_T (Note 1) | | I_T (mA) | I_{PP} (A) | V_C (V) @ Max I_{PP} | P_{PK} (W) (8*20 μ s) | C (pF) |
|----------------|------------------|---------------------------------------|--|-----|---------------|-----------------|--------------------------------|-----------------------------------|-----------|
| | Max | Max | Min | Max | | Max | Max | Max | Typ |
| HCESD0603NC5VB | 5.0 | 1.0 | 5.7 | 8.0 | 1.0 | 9.0 | 10 | 90 | 15 |

Other voltage available upon request.

- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C
- Surge current waveform per Figure 3.

Typical Characteristics

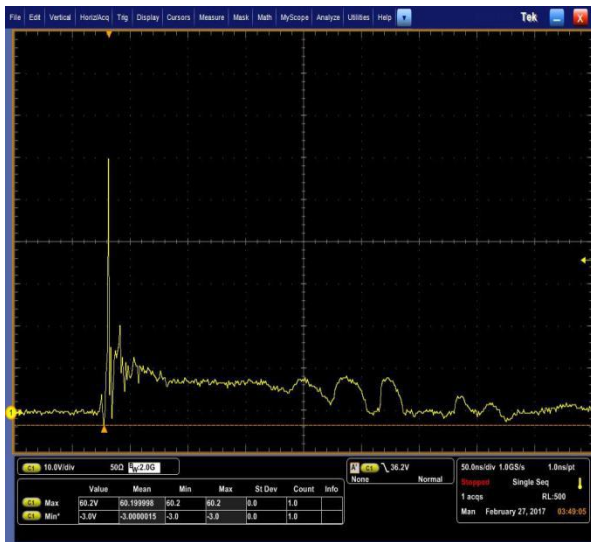


Fig1. ESD Clamping Voltage Screenshot Positive 8 kV Contact per IEC61000-4-2



Fig2. ESD Clamping Voltage Screenshot Negative 8 kV Contact per IEC61000-4-2

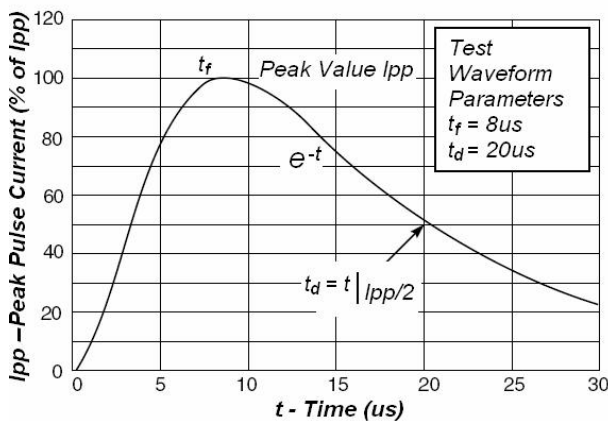


Fig3. Pulse Waveform

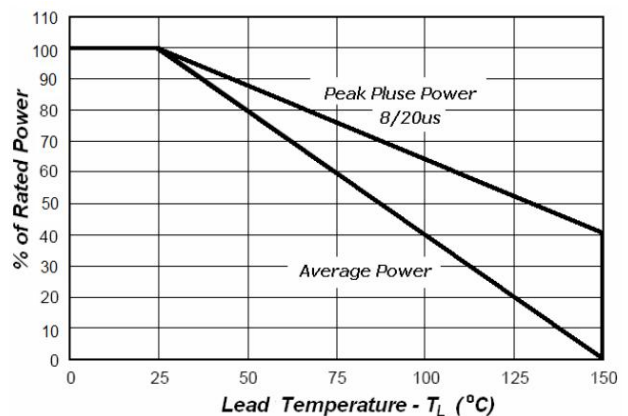
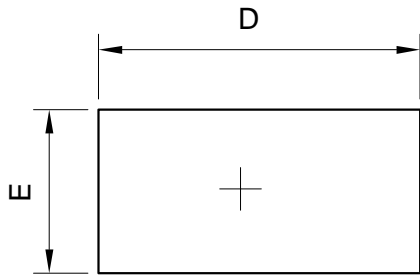


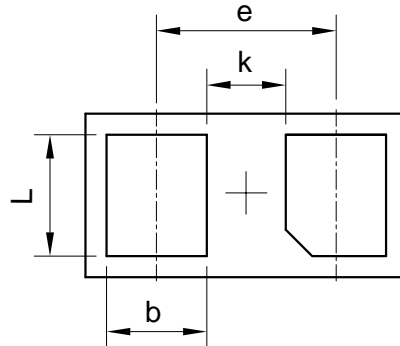
Fig4. Power Derating Curve



Outline And Dimensions

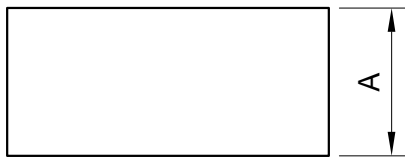


TOP VIEW



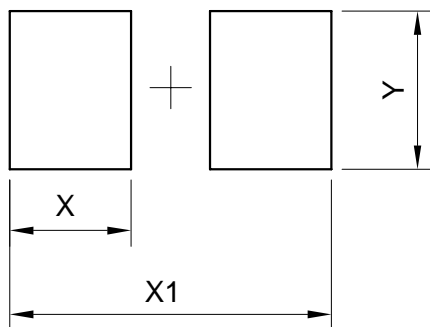
BOTTOM VIEW

| 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

Soldering Footprint



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



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