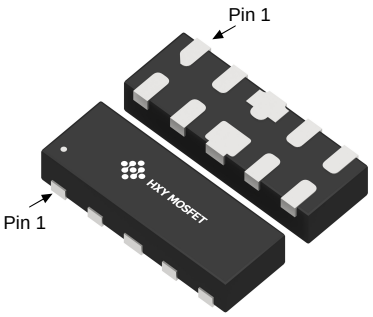
## Discription

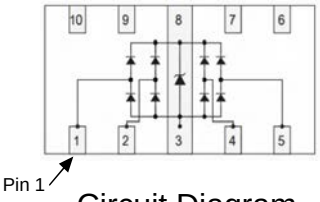
The HESD7004MUTAG is a 4-channel ultra low capacitance rail clam ESD protection diodes array . Each channel consists of a pair of diodes that steer positive or negative ESD current to either the positive or negative rail . A zener diode is integrated in to the array between the positive and negative supply rails.
In the typical applications, the negative rail pin (assigned as GND) is connected with system ground . The Positive ESD current is steered to the ground through an ESD diode and Zener diode and the positive ESD voltage is clamped to the zener voltage.




DFN2510-10L

## Features

★ 4 channels of ESD protection;
★ Provides ESD protection to IEC61000-4-2 level 4
- ±17kV air discharge
- ±12kV contact discharge;
★ Ultra-low Capacitance:0.6pF(Typical)
★ Low clamping voltage;
★ Low operating voltage;
★ Solid-state silicon technology
★ Protecting four I/O line
★ RoHS compliant and Halogen Free.




Circuit Diagram

## Ordering information

| Product ID | Pack | Qty(PCS) |
|---|---|---|
| HESD7004MUTAG | DFN2510-10L | 3000 |

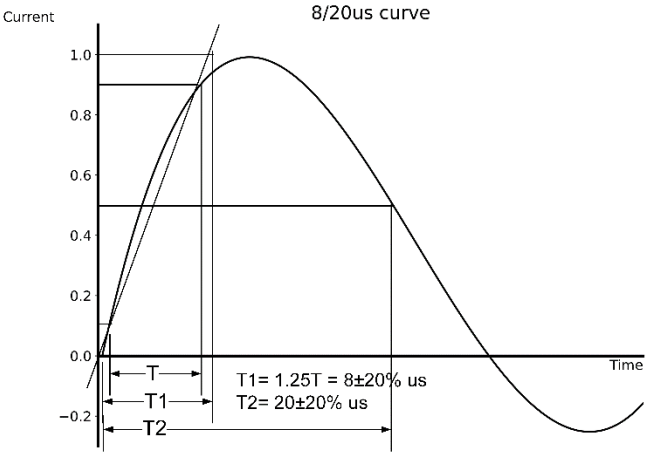
## Absolute Ratings(Tamb = 25°C)

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $P_{PP}$ | Peak Pulse Power ($t_p$ = 8/20μs) | 60 | W |
| $I_{PP}$ | Peak Pulse Current(8/20us) | 4.5 | A |
| $T_L$ | 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<br>contact discharge | ±17<br>±12 | KV |

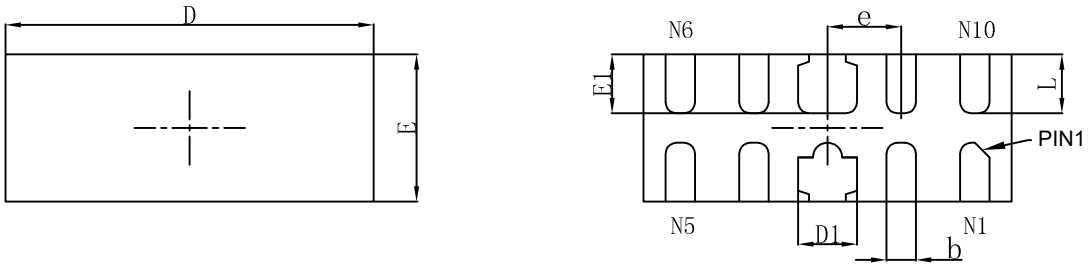
## Electrical Characteristics (Ta= 25℃)

| Symbol | Parameter | Test Condition | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| $V_{RWM}$ | Reverse Working Voltage | | | | 5.0 | V |
| $V_{BR}$ | Reverse Breakdown Voltage | $I_T$ = 1mA | 6.0 | | | V |
| $I_R$ | Reverse Leakage Current | $V_{RWM}$ = 5.0V | | | 1.0 | μA |
| $V_C$ | Clamping Voltage | $I_{PP}$ = 1A, $t_p$ = 8/20μs | | 8.5 | | V |
| | | $I_{PP}$ = 3A, $t_p$ = 8/20μs | | 12 | | V |
| $C_J$ | Junction Capacitance | $V_R$ = 0V, f = 1MHz<br>Any I/O pin to GND | | 0.6 | | pF |
| $C_J$ | Junction Capacitance | $V_R$ = 0V, f = 1MHz<br>Any I/O pin to I/O | | 0.3 | | pF |

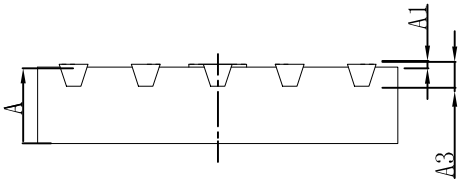
## Typical Characteristics



## Outline And Dimensions



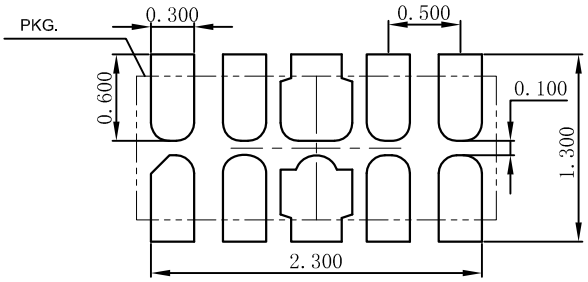

**Bottom View**




**Side View**

| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 0.450 | 0.550 | 0.017 | 0.022 |
| A1 | 0.000 | 0.050 | 0.000 | 0.002 |
| A3 | 0.152REF. | | 0.006REF. | |
| D | 2.450 | 2.550 | 0.096 | 0.100 |
| E | 0.950 | 1.050 | 0.037 | 0.041 |
| D1 | 0.350 | 0.450 | 0.014 | 0.018 |
| E1 | 0.350 | 0.450 | 0.014 | 0.018 |
| b | 0.150 | 0.250 | 0.006 | 0.010 |
| e | 0.500TYP. | | 0.020TYP. | |
| L | | | | |

## Soledering Footprint



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