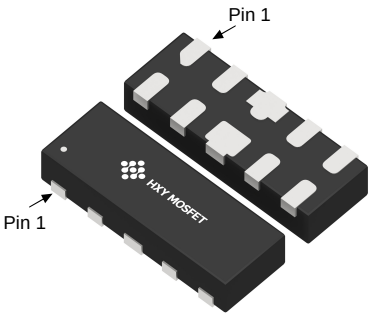
Discription

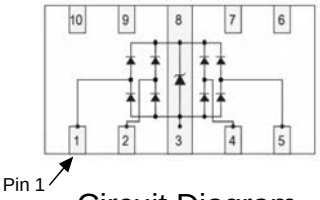
The ESD5304D is a 4-channel ultra low capacitance rail clam ESD protection diodes array . Each channel consists of a pair of diodes that steer positive or negative ESD current to either the positive or negative rail . A zener diode is integrated in to the array between the positive and negative supply 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
(UDFN-10(1x2.5))

Features

- Solid-state silicon-avalanche technology
- Low operating and clamping voltage
- Up to four I/O Lines of Protection
- Ultra low capacitance: 0.5pF typical(I/O to I/O)
- Low Leakage
- Low operating voltage:5V
- Flow-Through design



Circuit Diagram

Ordering information

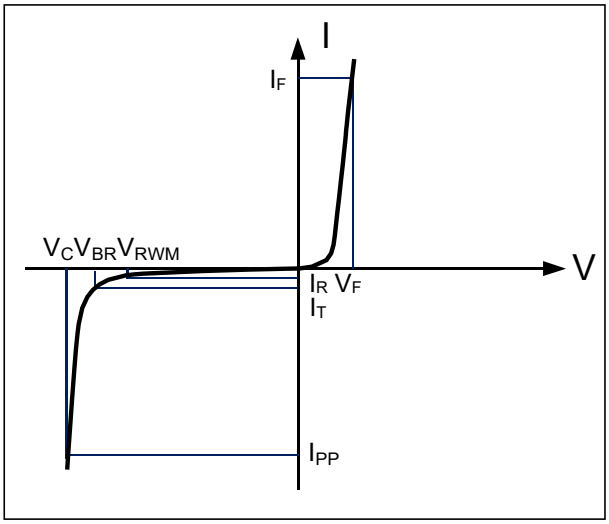
Product ID	Pack	Qty(PCS)
ESD5304D	DFN2510-10L(UDFN-10(1x2.5))	3000

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	150	W
I_{PP}	Peak Pulse Current(8/20us)	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 contact discharge	±17 ±12	KV

Electrical Parameters (T=25°C)

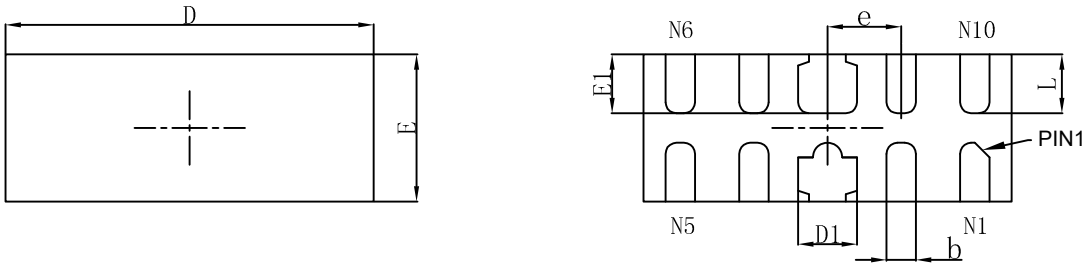
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



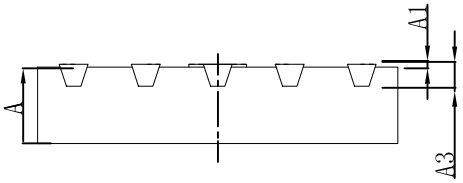
Electrical Characteristics

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}	Any I/O pin to ground			5.0	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA Any I/O pin to ground	6.0			V
Reverse Leakage Current	I_R	V_{RWM} = 5V, T=25°C Any I/O pin to ground			1	μA
Clamping Voltage	Vc	I_{pp}=5A, t_p=8/20μs Any I/O pin to ground			15	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz I/O pin to GND			0.8	pF
		V_R = 0V, f = 1MHz Between I/O pins		0.3		pF

Outline And Dimensions



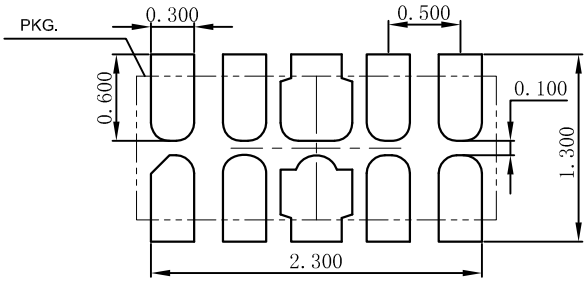
Bottom View



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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