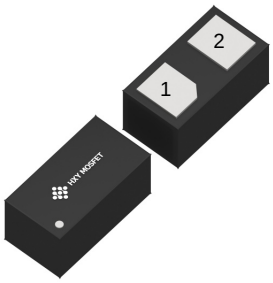
HESD5451XZ
ESD PROTECTION DIODE

Discription

The HESD5451XZ 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)
HESD5451XZ	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 (μA) @ 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 μs)	C (pF)
	Max	Max	Min	Max		Max	Max	Max	Typ
HESD5451XZ	5.0	1.0	5.7	8.0	1.0	9.0	10	90	15

Other voltage available upon request.

2. V_{BR} is measured with a pulse test current IT at an ambient temperature of 25℃

3. 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

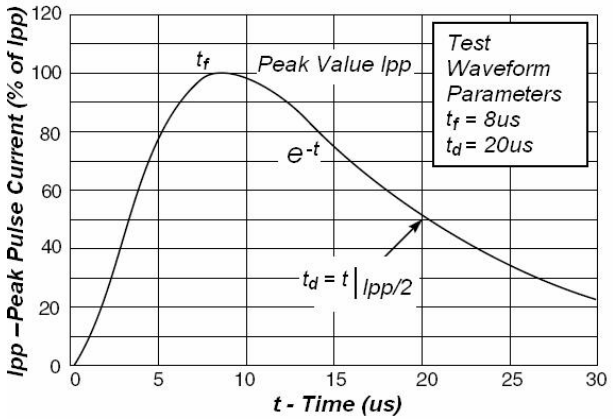


Fig3. Pulse Waveform

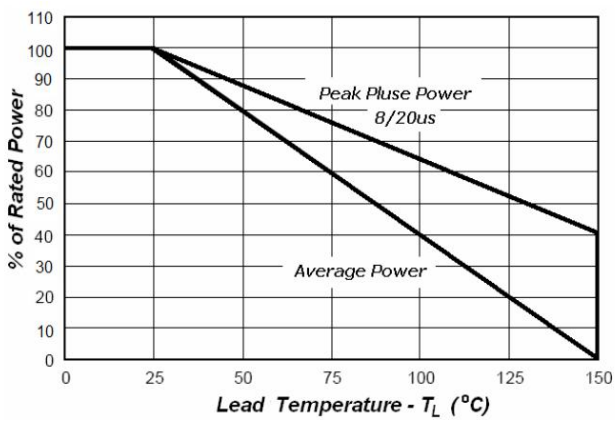
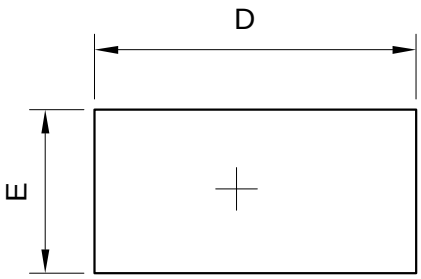
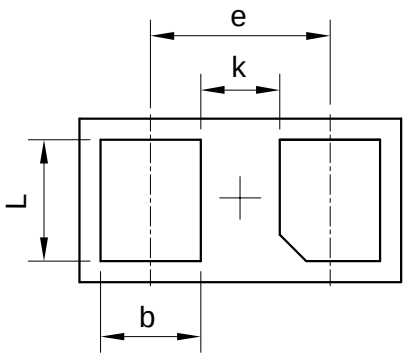


Fig4.Power Derating Curve

Outline And Dimensions



TOP VIEW



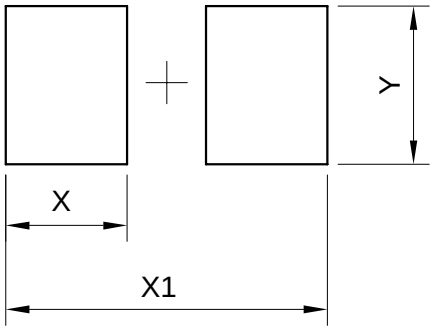
BOTTOM VVIEW

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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