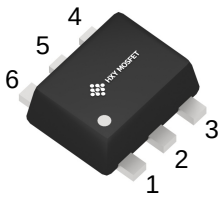
HESDLC5VU5DI-A
ESD PROTECTION DIODE

Discription

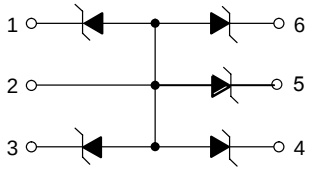
The HESDLC5VU5DI-A is a 5-channel ultra low capacitance rail clamp ESD protection diodes array. Each channel consists of a pair of ESD diodes that steer positive or negative ESD current to either the positive or negative rail.A zener diode is integrated in to the array between the positive and negative 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.



SOT-563

FEATURES

- Working Peak Reverse Voltage: 5 V
- Low Leakage current: <1uA@3V
- High ESD protection Level: >20kV per HBM
- IEC61000- 4- 2 Level 4 ESD Protection
- IEC61000- 4- 4 Level 4 EFT Protection
- Five separate unidirectional configurations



Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
HESDLC5VU5DI-A	SOT-563	3000

Absolute Ratings (T_{amb}=25°C)

Characteristics	Symbol	Ratings	Unit
Peak Pulse Power(8/20μs)	P_{PP}	20	W
Peak Pulse Current(8/20μs)	I_{PP}	1.6	A
ESD per IEC 61000-4-2(Air)	V_{ESD1}	±20kV	kV
ESD per IEC 61000-4-2(Contact)	V_{ESD2}	±16kV	kV
Operating Temperature Range	Topr	-55 ~ +125	°C
Storage Temperature Range	Tstg	-55 ~ +150	°C

Electrical characteristics (T_A=25 °C, unless otherwise noted)

	Conditions	Minimum	Typical	Maximum	Unit
I_R	V_{RWM}=5V			0.5	uA
V_F	I_F= -10mA	-0.4	-0.8	-1.25	V
V_{BR}	I_T=1mA	6.2	6.8	7.2	V
V_C	I_{PP}=1A, tp = 8/20us, note1			12	V
	I_{PP}=1.6A, tp = 8/20us, note1			14.4	V
C	Pin1 to 2 V_R = 0V, f = 1MHz		9		pF

Note1: Surge current waveform per Figure 1.

Typical Characteristics

Figure 1. Pulse Waveform

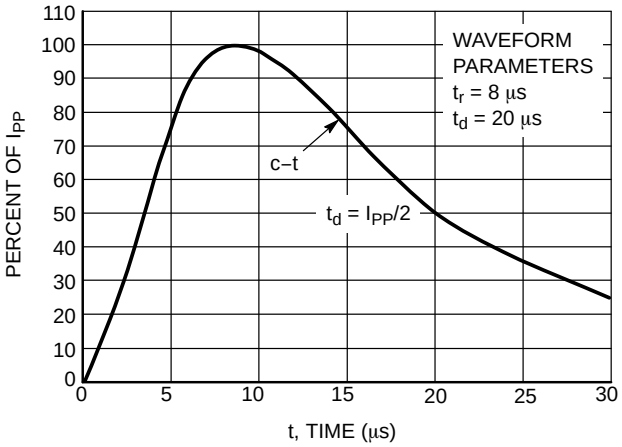


Figure 2. Power Derating Curve

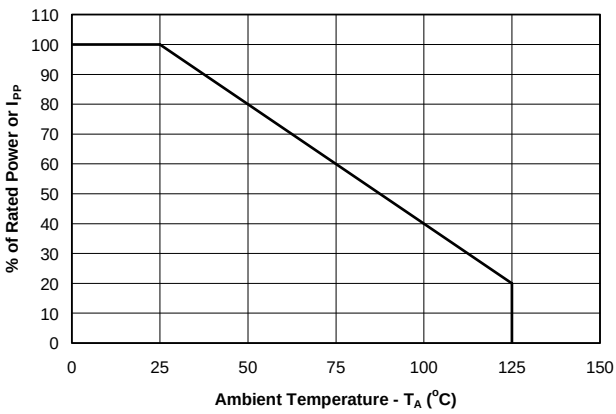


Figure 3. Non-Repetitive Peak Pulse Power vs. Pulse Time

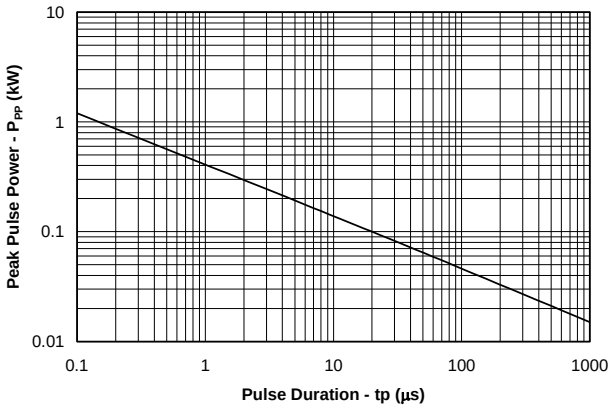
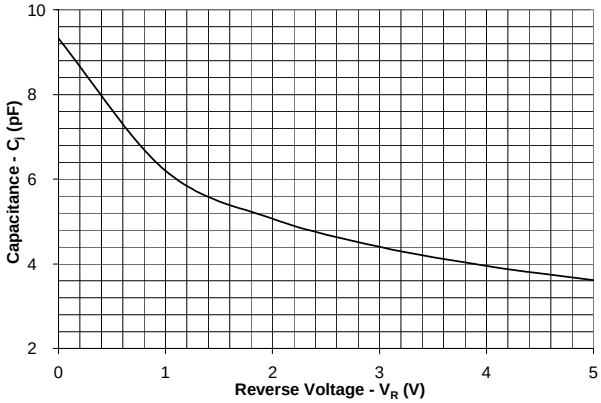
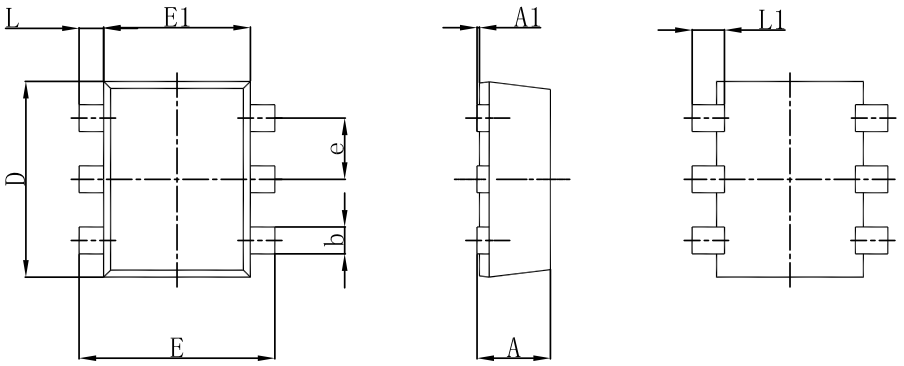
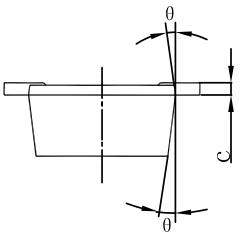


Figure 4. Junction Capacitance vs. Reverse Voltage



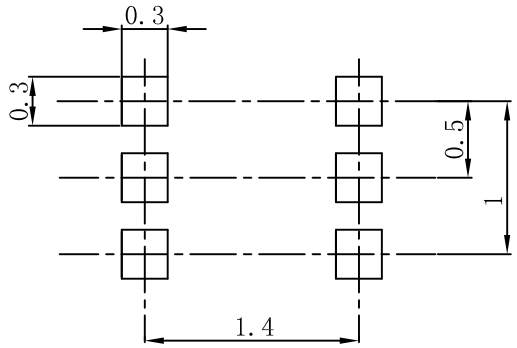
SOT-563 Package Outline Dimensions





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	0.000	0.050	0.000	0.002
e	0.450	0.550	0.018	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
L1	0.200	0.400	0.008	0.016
θ	7 °REF.		7 °REF.	

SOT-563 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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