HPESD12VL1BA115
ESD PROTECTION DIODE

Discription

The HPESD12VL1BA115 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.

SOD-323

Features

★ Small Body Outline Dimensions
★ Low Body Height
★ Peak Power up to 200 Watts @ 8 x 20 _s Pulse
★ Low Leakage current
★ Response Time is Typically < 1 ns
★ ESD Rating of Class 3 (> 16 kV) per Human Body Model
★ IEC61000−4−2 Level 4 ESD Protection
★ IEC61000−4−4 Level 4 EFT Protection

Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
HPESD12VL1BA115	SOD-323	3000

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	400	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +155	°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	±15 ±8	KV
	IEC61000-4-4 (EFT)	40	A
	ESD Voltage Per Human Body Model	16	KV

Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				12.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	13.5			V
I_R	Reverse Leakage Current	V_{RWM} = 12V			1.0	uA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			15.0	V
		I_{PP} = 15A, t_p = 8/20μs			23.0	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		10.0		pF

Typical Characteristics

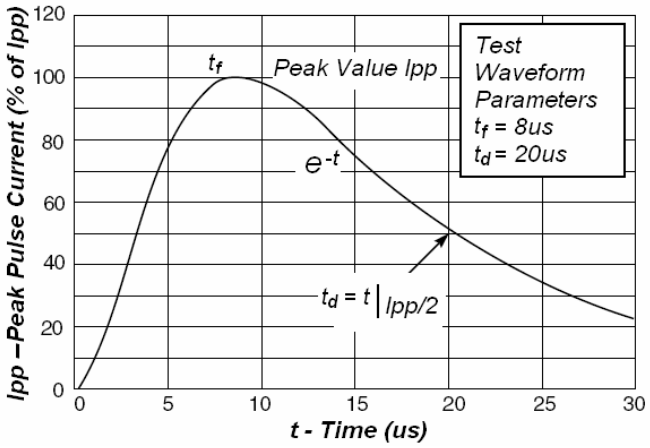


Fig1. Pulse Waveform

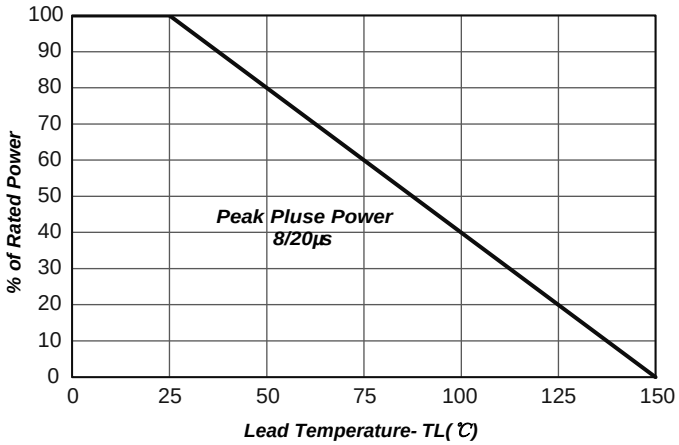
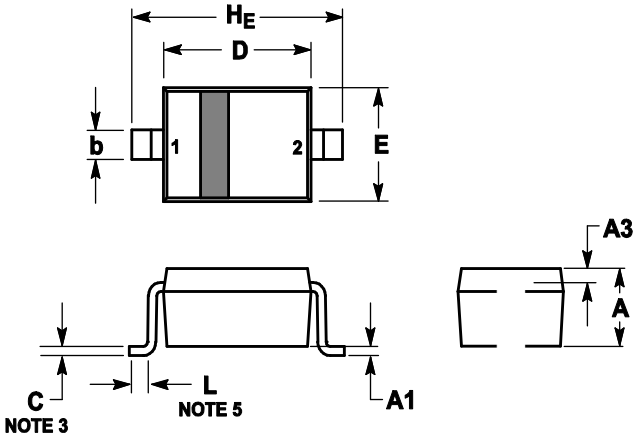


Fig2.Power Derating

OUTLINE AND DIMENSIONS

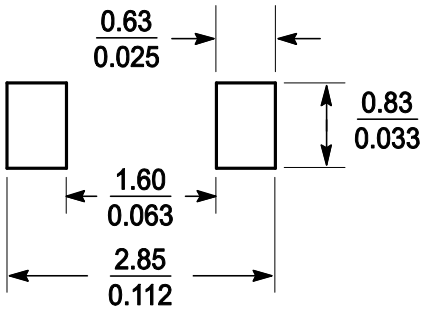


Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.8	0.9	1	0.031	0.035	0.04
A1	0	0.05	0.1	0	0.002	0.004
A3	0.15REF			0.006REF		
b	0.25	0.32	0.4	0.01	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.6	1.7	1.8	0.062	0.066	0.07
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H_E	2.3	2.5	2.7	0.09	0.098	0.105

SOLDERING FOOTPRINT



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