HPESD12VS1UJ,115
ESD PROTECTION DIODE

Discription

The HPESD12VS1UJ,115 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 unidirectional line in applications where arrays are not practical.



SOD-323

Features

- ★ Unidirectional ESD protection of one line
- ★ Reverse stand-off voltage: 12.0V Max
- ★ Low leakage current: uA Level
- ★ Response time is typically < 1 us
- ★ Low clamping voltage: V_C = 33 V @ I_{PP} = 12 A
- ★ ESD Protection: 30kV(air)/ 30kV(contact) (IEC61000-4-2)
- ★ RoHS compliant



Circuit Diagram

Orderingin formation

Product ID	Pack	Qty(PCS)
HPESD12VS1UJ,115	SOD-323	3000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	350	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	±30 ±30	KV

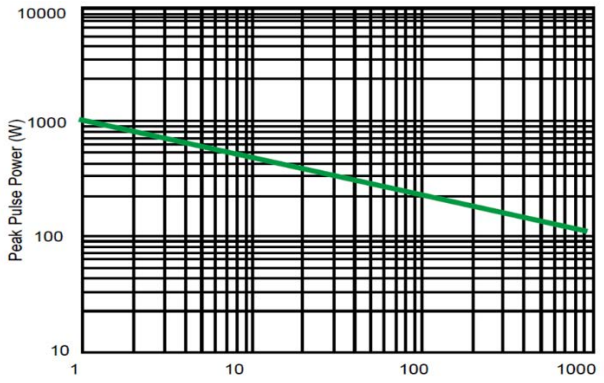
Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.VF = 0.9V at IF = 10mA

V_{RWM} (V)	I_R(uA) @ V_{RWM}	V_{BR} (V)@ I_T (Note 1)	I_T	V_C (V) @ I_{PP}=1 A*	V_C (V) @ Max I_{PP}*	I_{PP} (A)*	P_{PK} (W)*	C (pF)
Max	Max	Min	mA	Typ	Max	Max	Max	Max
12	1.0	13.3	1	19	33	15	350	110

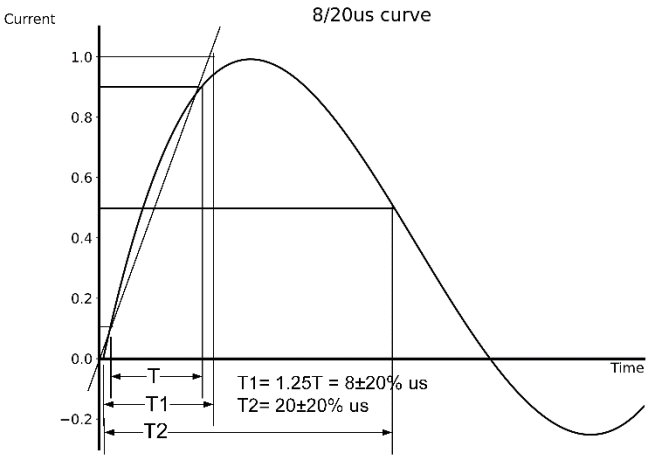
*Surge current waveform per Figure 1.

1. V_{BR} is measured with a pluse test current I_T at an ambient temperature of 25℃.

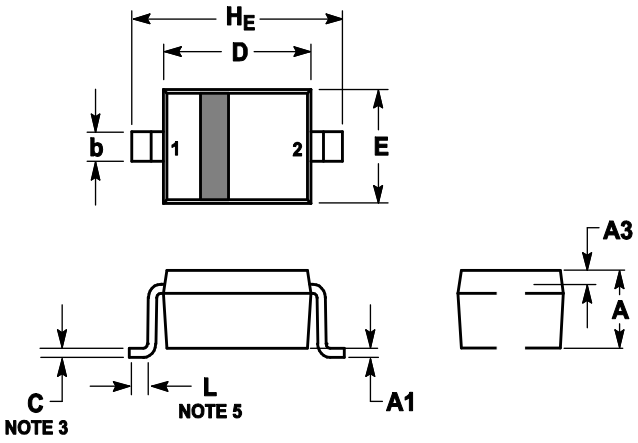
Typical Characteristics (T_A=25°C unless otherwise Specified)



Non-repetitive peak pulse power vs. pulse time



Outline And Dimensions

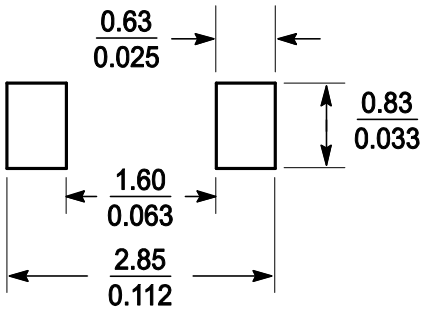


Notes:

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.

	MILLIMETERS			INCHES		
DIM	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

Soledering Footprint



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1SMB5930BT3G IRLML2244TRPBF-HXY S4D15120H SS5150 1SMB5934B 2N7002-HXY E4D10120A
TLV74318PDBVR-HXY ISL28133FHZ-T7 AOD403-HXY ISL28233FUZ-T7 MJD127G C6D06065Q-TR
MUR1040FCT PTVSHC3D5VU BD237STU HBAS40-05LT1G SG3525-HXY SGM3798YG/TR
Si2323DS-T1-E3-HXY DSC06065 MSC040SMA120B4 TPS7A0533PDBZR-HXY C3M0040120D