

ESDULC5V0D9

Description

The ESDULC5V0D9 L is designed to protect voltage sensitive components that require ultra-low capacitance from ESD and transient voltage events. Excellent clamping capability, low capacitance, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed and antenna line applications.

Features

- SOD 923 package
- Ultra Low Capacitance 0.5 pF
- operating voltage: 5V
- Unidirectional configurations
- Low clamping voltage
- Response time is typically < 1ns

Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P _{pp}	60	W
Maximum Reverse Peak Pulse Current	I _{PP} *1	4	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 16	KV
ESD per IEC 61000-4-2 (Contact)		± 16	
Storage Temperature Range	T _{STJ}	-55 to +150	°C
Operating Temperature Range	T _J	-55 to +125	°C

Electrical Characteristics

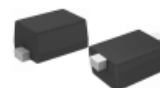
TA=25°C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{RWM}	Reverse Working Peak Voltage	-			5	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	6		9	V
I _R	Reverse Current	V _{RWM} = 5V			0.1	μA
V _C	Clamping Voltage	I _{PP} =1A, t _P =8/20μs			11	V
V _C	Clamping Voltage	I _{PP} =4A, t _P =8/20μs			15	V
C _D	Diode Capacitance	VR = 0V, f = 1MHz		0.5	0.7	pF

- Complies with following standards:

- IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±15kV
 - Contact discharge: ±15kV
- IEC61000-4-5 (Lightning) 4A (8/20μs)

Circuit Diagram

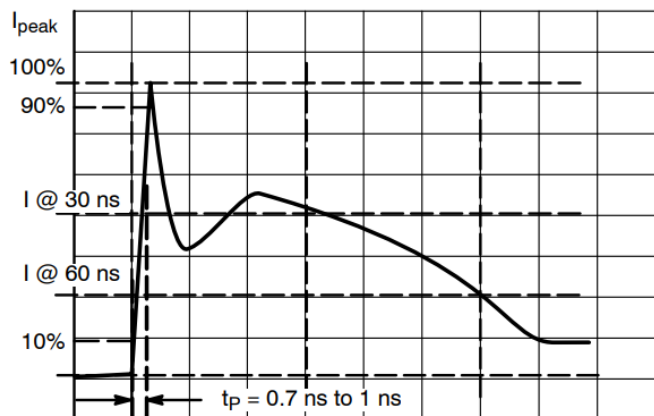


SOD 923

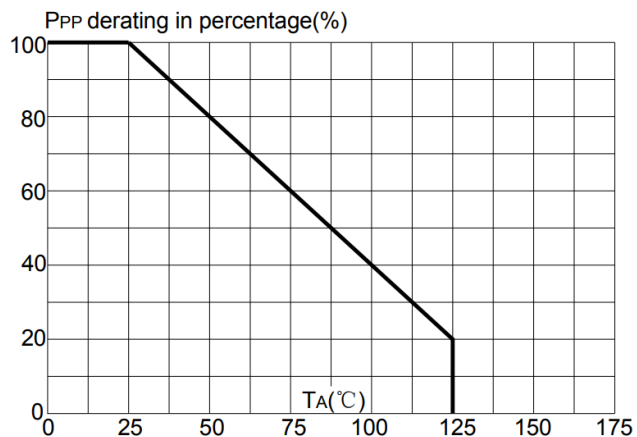


Configuration

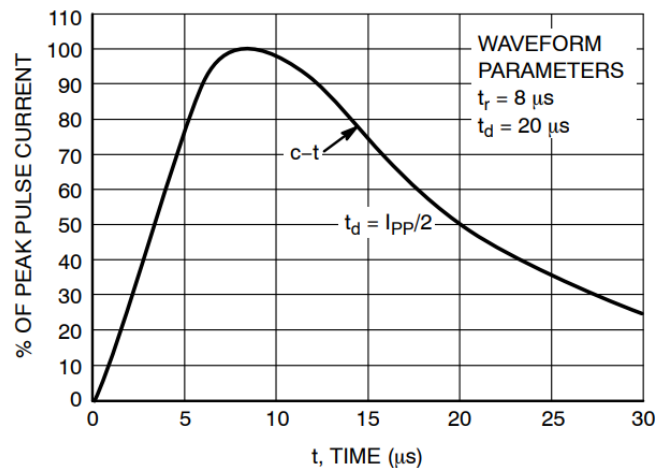
Characteristic Curves



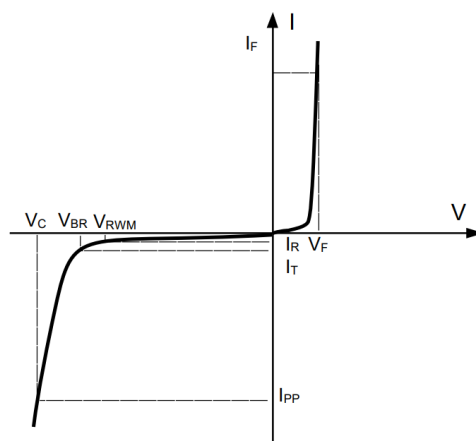
IEC61000-4-2 Pulse Waveform



Power Derating Curve

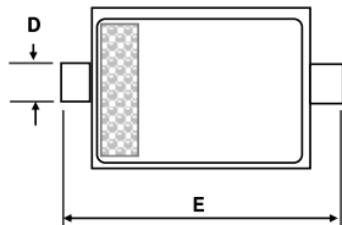
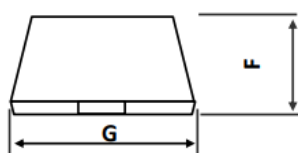
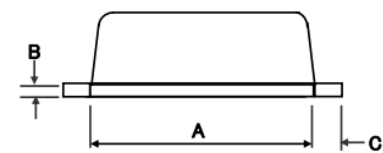


8/20μs Pulse Waveform



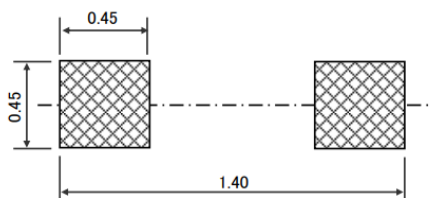
V-I Characteristics for Unidirectional Diode

SOD-923 Package Outline & Dimensions



SOD923 * Package Outline

Unit(mm)	A	B	C	D	E	F	G
Max	0.90	0.20	0.15	0.30	1.10	0.45	0.65
Min	0.70	0.05	0.05	0.15	0.90	0.39	0.55



Land Pattern Recommendation

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.