

High Capacitance ESD Protection Diode

1 Features

- IEC 61000-4-2 Level 4 ESD Protection
 - ± 30 -kV Contact Discharge
 - ± 30 -kV Air Gap Discharge
- Peak Reverse Working Voltage: 15V (Maximum)
- IO Capacitance: 120pF (Maximum)
- DC Breakdown Voltage: 17.5V (Minimum)
- Low Leakage Current: 1 μ A (Maximum)
- SOD-523 Package

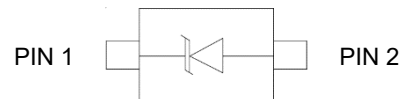
2 Applications

- Personal digital assistants (PDA's)
- Peripherals
- Portable Electronics
- Notebooks, Desktops, and Servers
- Cell phone Handsets and Accessories

3 Description

The SLED515HCU is a unidirectional ESD protection diode for circuit protection. The SLED515HCU is rated to dissipate ESD strikes at the maximum level specified in the IEC 61000-4-2 international standard. The low dynamic resistance and low clamping voltage ensure system level protection against transient events.

4 Pin Configuration and Bottom View



SOD-523

5 Device Information

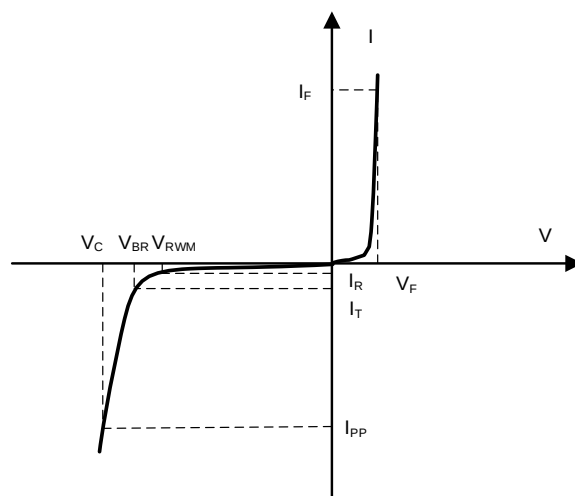
PART NUMBER	PACKAGE	BODY SIZE (NOM)
SLED515HCU	SOD-523	1.60 mm x 1.00mm

6 Absolute maximum Ratings @25°C

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20 μ s)	P _{PP}	380	W
Peak Pulse Current (tp=8/20 μ s)	I _{PP}	12	A
Operating Temperature	T _J	-55 to 125	°C
Storage Temperature	T _{STG}	-55 to 150	°C
ESD Protection-Contact Discharge	V _{ESD}	± 30	kV
ESD Protection-Air Discharge	V _{ESD}	± 30	kV

7 Electronics Parameter Definiations

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F



8 Electrical characteristics (@25°C unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Peak Reverse Working Voltage	V_{RWM}				15	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	17.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 15\text{V}$, $T_A = 25^\circ\text{C}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$			19	V
Clamping Voltage	V_C	$I_{PP} = 12\text{A}$, $t_p = 8/20\mu\text{s}$			32	V
Junction Capacitance	C_j	$V_R = 0\text{V}$, $f = 1\text{MHz}$		95	120	pF

9 Typical Characteristics

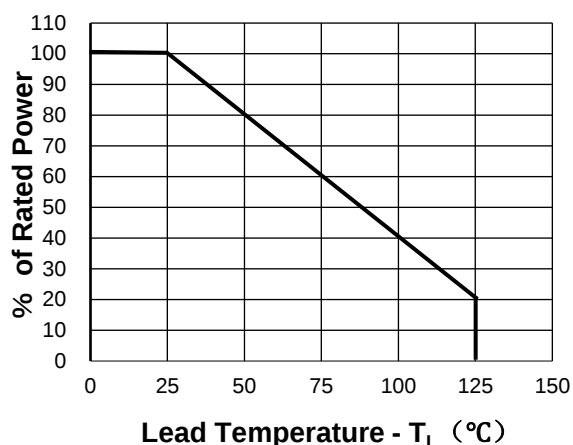


Fig 1. Power Derating Curve

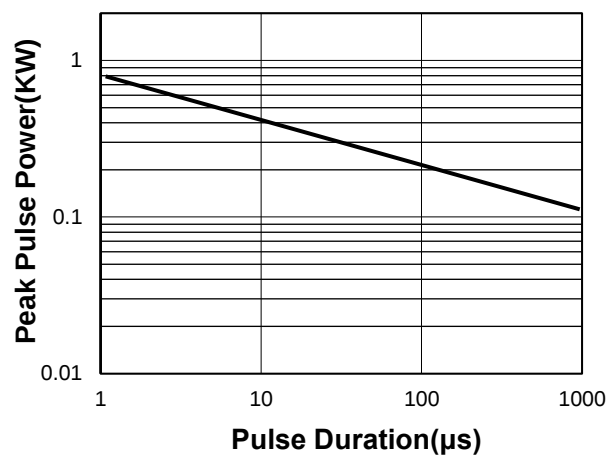


Fig 2. Peak Pulse Power vs. Pulse Time Current

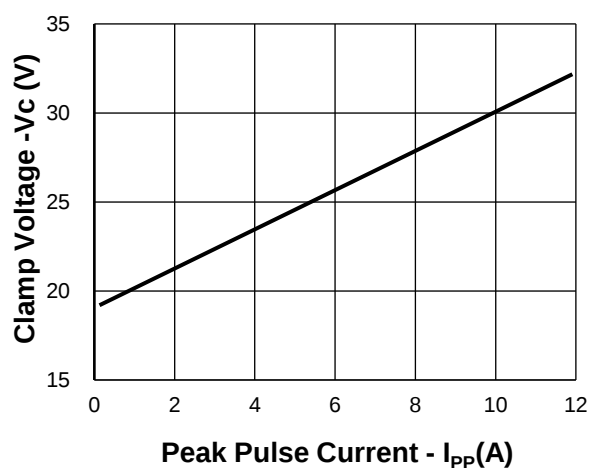


Fig 3. Peak Pulse Power vs. Pulse Time Current

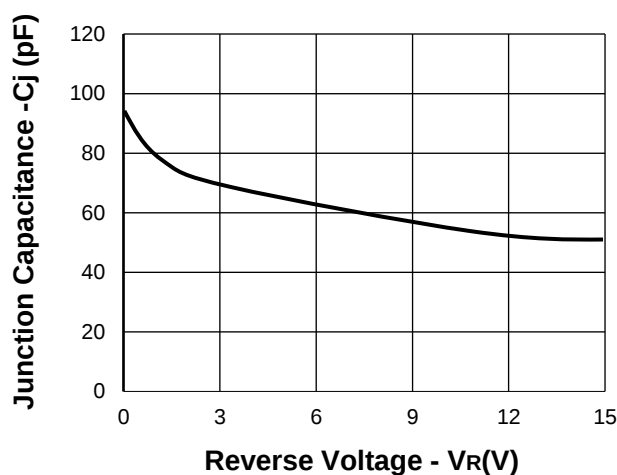
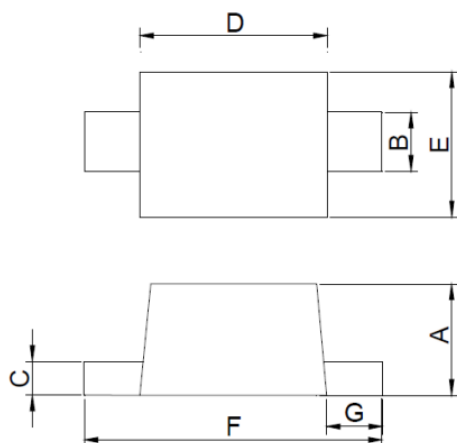


Fig 4. Junction Capacitance vs. Reverse

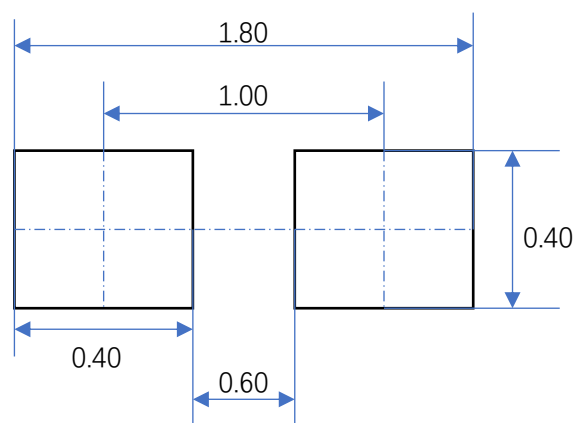
10 Product dimension

SOD-523



DIM	UNITS (mm)		
	MIN.	TYP.	MAX.
A	0.50	0.60	0.70
B	0.25	0.30	0.35
C	0.07	-	0.20
D	0.00	1.10	1.30
E	0.70	0.80	0.90
F	1.50	1.60	1.70
G	0.15	0.20	0.25

11 PCB Layout Footprints



12 Ordering Information

Part Number	Packaging	Reel Size
SLED515HCU	3000/Tape & Reel	7 inch