

ESD0501CU

Ultra Low Capacitance ESD Protection Diode

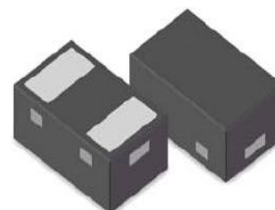
General description

Silicon Protection Diode in a SOD-882 Package.

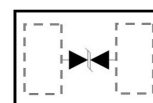
FEATURES

- Capacitance typ. 3 pF
- Bidirectional configurations
- Low Leakage Current
- Low clamping voltage
- IEC 61000-4-2 $\pm 8\text{Kv}$ Contact $\pm 15\text{Kv}$ air.
- RoHS Compliant
- Green EMC

Device Marking: 5CU or Q5



SOD-882 Package



Absolute Maximum Ratings (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	± 8 ± 15	kV
P _{PP}	Peak Pulse Power (8/20 μ s)	28	W
T _{OPT}	Operating Temperature	-55~150	°C
T _{STG}	Storage Temperature	-55~150	°C

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V _{RWM}	Reverse Working Voltage				5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	5.6		9.4	V
I _R	Reverse Leakage Current	V _{RWM} = 5V			1.0	μ A
V _C	Clamping Voltage	I _{PP} = 1A, t _p = 8/20 μ s			10.5	V
		I _{PP} = 2A, t _p = 8/20 μ s			14.0	V
V _{CTLP}	TLP Clamping Voltage	I _{PP} = 16A IEC61000-4-2 Level 4 equivalent ($\pm 8\text{kV}$ Contact, $\pm 15\text{kV}$ Air)		14.5		V
R _{DYN}	Dynamic Resistance	t _p = 100ns		0.3		Ω
C _J	Junction Capacitance	V _R = 0V, f = 1MHz		3.0	3.5	pF

ESD0501CU

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 μ s Waveform per IEC61000-4-5

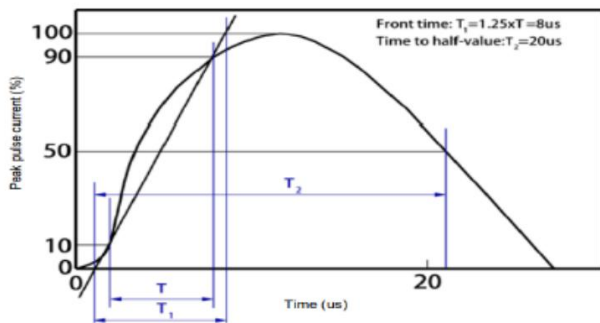


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2

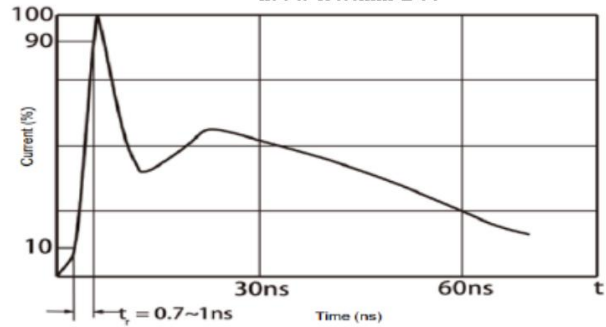


Fig 3 Power Derating Curve

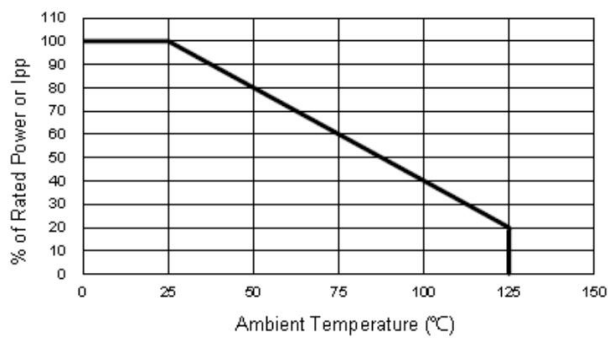


Fig 4 Voltage vs Capacitance

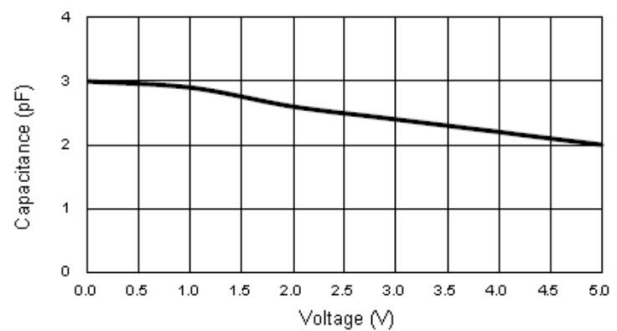


Fig 5 Transmission Line Pulsing (TLP) Measurement

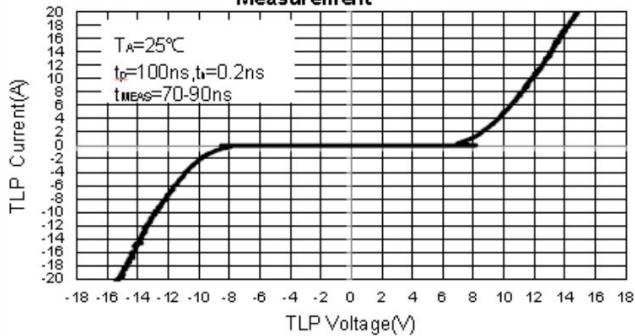
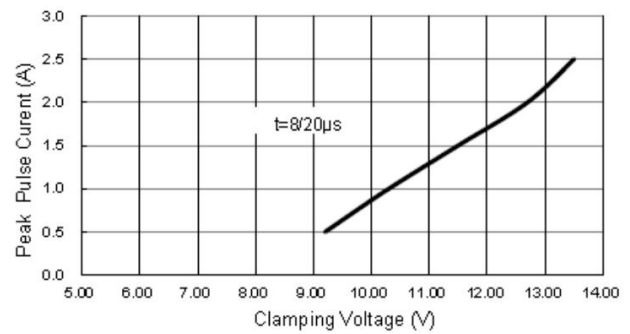


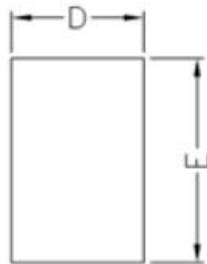
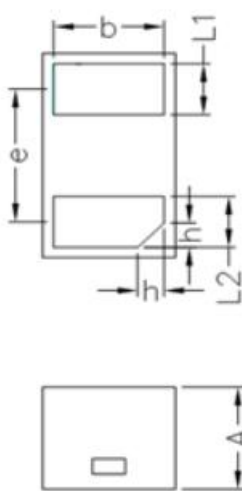
Fig 6 Clamping Voltage vs Peak Pulse Current





ESD0501CU

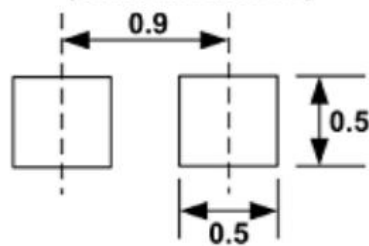
SOD-882 PACKAGE OUTLINE DIMENSIONS



Unit: mm

	MIN	NOM	MAX
D	0.55	0.60	0.65
E	0.95	1.00	1.05
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
b	0.45	0.50	0.55
e	0.65BSC		
A	0.45	0.50	0.55
h	0.07	0.12	0.17

Dimension: Millimeter
(Stencil thickness: 0.1)



Soldering Footprint

Important Notice and Disclaimer

DOESHARE has used reasonable care in preparing the information included in this document, but DOESHARE does not warrant that such information is error free. DOESHARE assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.

DOESHARE no warranty, representation or guarantee regarding the documents, circuits and products specification, DOESHARE reservation rights to make changes for any documents, products, circuits and specifications at any time without notice.

Purchasers are solely responsible for the choice, selection and use of the DOESHARE products and services described herein, and DOESHARE assumes no liability whatsoever relating to the choice, selection or use of the products and services described herein.

No license, express or implied, by implication or otherwise under any intellectual property rights of DOESHARE.

Resale of DOESHARE products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by DOESHARE for the DOESHARE product or service described herein and shall not create or extend in any manner whatsoever, any liability of DOESHARE.