

BIDIRECTIONAL ESD PROTECTION DIODE

**STAND-OFF VOLTAGE - 5.0 V
POWER DISSIPATION - 30 W**

GENERAL DESCRIPTION

The L03ESDL5V0CE2 is designed to protect sensitive electronics from damage or latch up due to ESD, lightning, and other voltage induced transient events.

FEATURES

- Bi-directional ESD protection of one line
- Max. peak pulse power: $P_{PP} = 30W$ at $t_p=8/20$ us.
- Low clamping voltage
- IEC 61000-4-2 (ESD), level 4(ESD), $>\pm 20KV$ (air); $>\pm 10KV$ (contact).
- Qualified to AEC-Q101 Rev_C

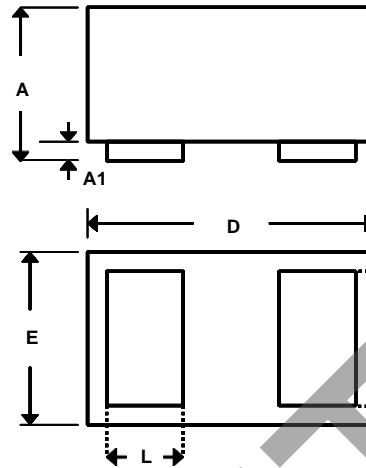
APPLICATION

- Computers and peripherals
- Communication system
- Audio & video equipment
- Portable instrumentation

MECHANICAL DATA

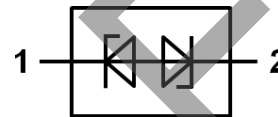
- Case material: "Green" molding compound UL flammability classification 94V-0 (No Br, Sb, Cl)
- Component in accordance to RoHs 2011/65/EU

SOD-882



SOD-882		
DIM.	MIN.	MAX.
A	0.47	0.53
A1	0.00	0.05
b	0.25	0.55
D	0.95	1.075
E	0.55	0.675
L	0.20	0.45

All dimension in millimeter



PIN ASSIGNMENT	
1	Cathode
2	Cathode

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power ($t_p = 8/20$ us)	P_{PM}	30	W
Peak pulse current ($t_p = 8/20$ us)	I_{PP}	2	A
Operating junction temperature range	T_J	-55 to +105	°C
Storage temperature range	T_{STG}	-55 to +150	°C
Soldering Temperature, $t_{max} = 10s$	T_L	260	°C

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX	UNIT
Reverse stand-off voltage	V_{DRM}	---	--	--	5.0	V
Reverse leakage current	I_{RM}	$V_{DRM} = 5 V$	--	--	100	nA
Breakdown voltage	V_{BR}	$I_R = 1 mA$	5.5	--	9.5	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$	--	3.0	3.5	pF
Clamping voltage	V_{CL}	$I_{PP} = 1A, t_p = 8/20 \mu S$	--	--	12	V
		$I_{PP} = 2A, t_p = 8/20 \mu S$	--	--	15	V

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FIG.1- 8/20us pulse waveform according to IEC 61000-4-5

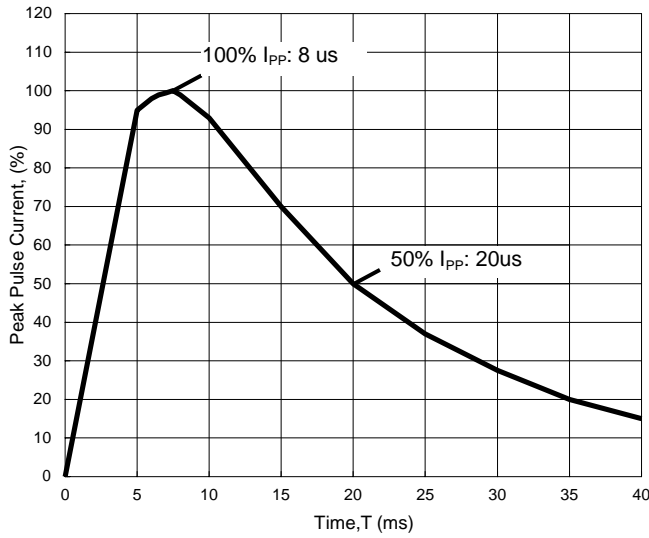


FIG .2- ESD pulse waveform according to IEC 61000-4-2

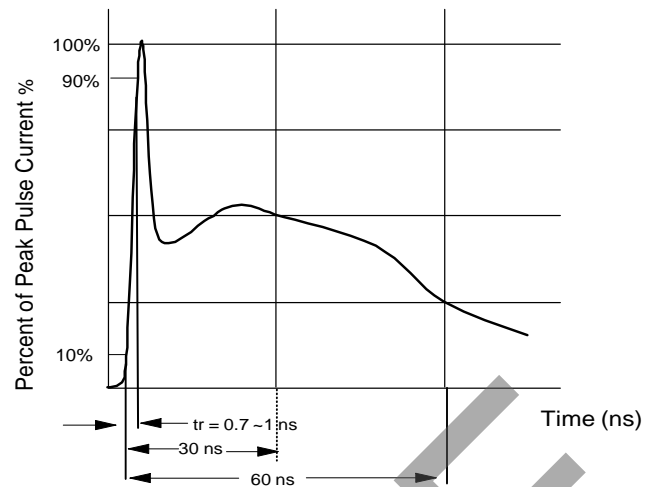


FIG.3- Power Dissipation Versus Pulse Time

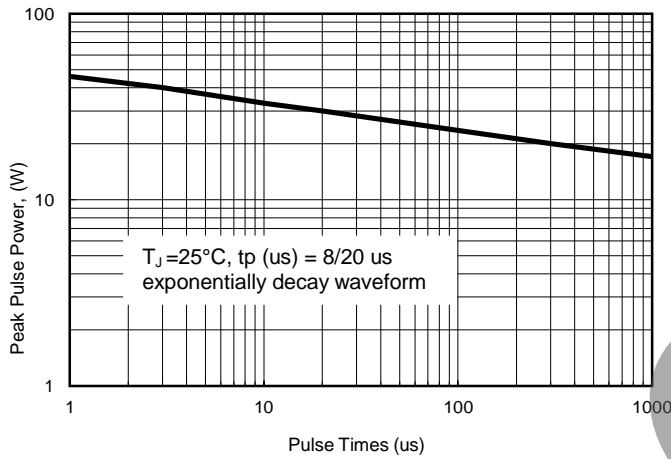


FIG.4- Peak Pulse Power Versus TJ

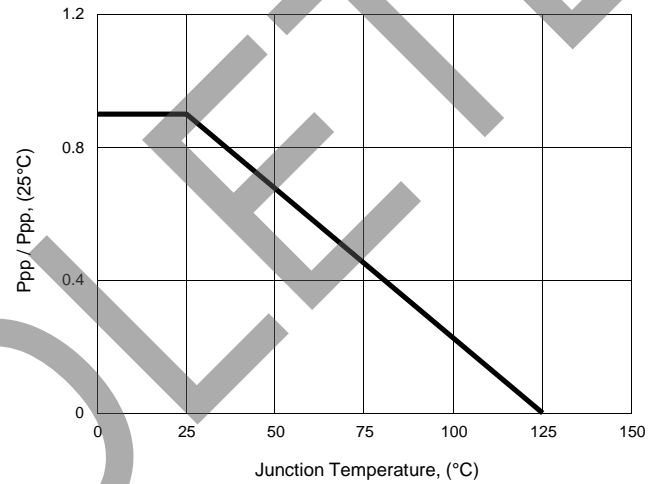


FIG.5- Typical Junction Capacitance

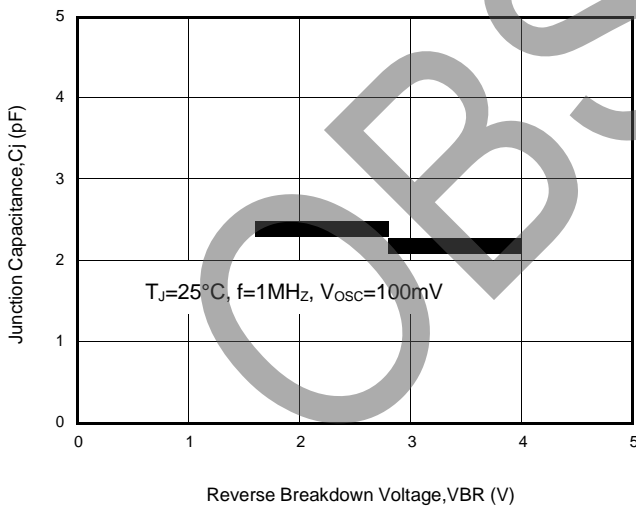
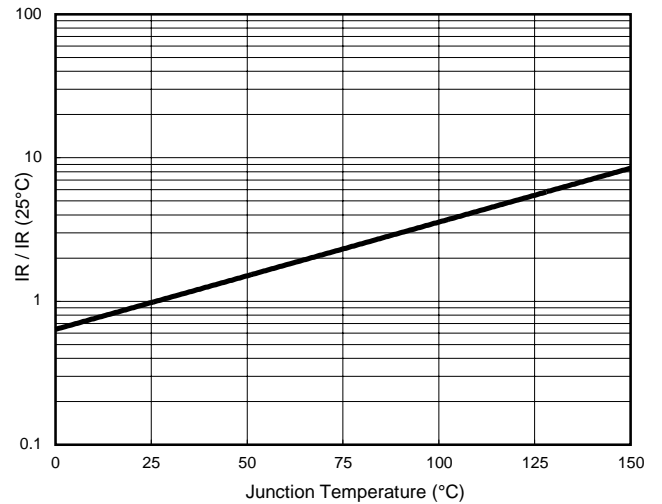


FIG.6- Reverse Leakage Current Versus TJ



RATING AND CHARACTERISTIC CURVES
L03ESDL5V0CE2

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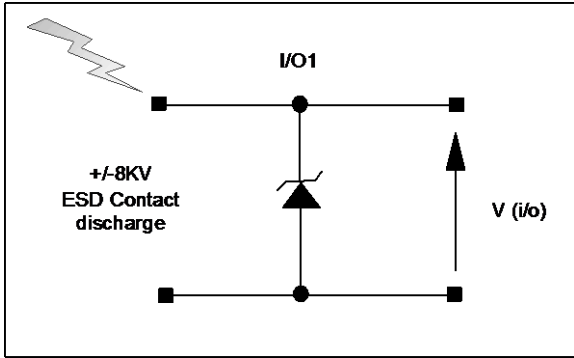


FIG.7- ESD Test Configuration

FIG.8- Clamped +8 kV ESD voltage waveform

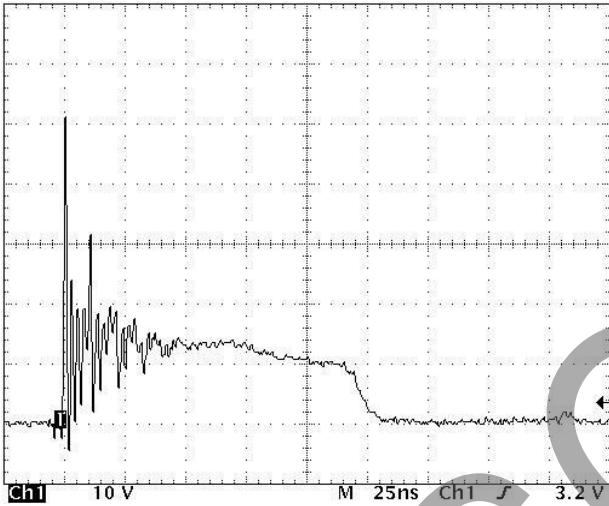
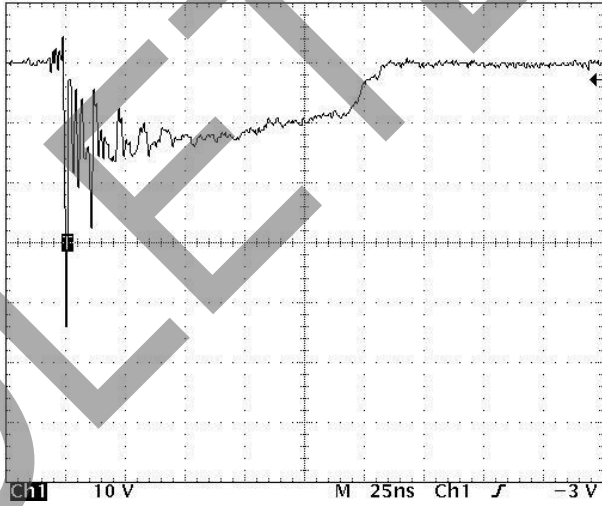
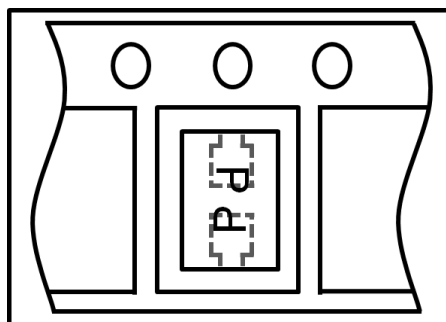


FIG.9- Clamped -8 kV ESD voltage waveform



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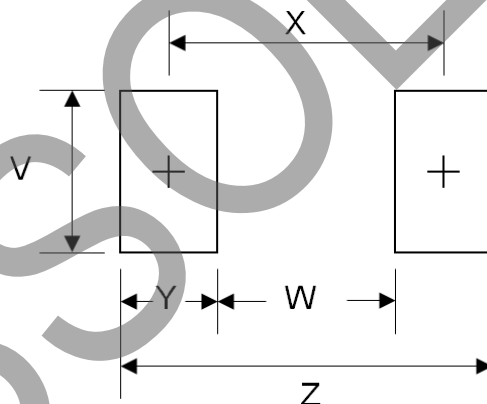
Marking & Orientation



Packaging Information

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
L03ESDL5V0CE2	10K	7	150K	300K

SOD-882 Soldering Pad Layout



DIM.	MILLIMETERS	INCHES
Z	1.30	0.051
X	0.75	0.029
W	0.20	0.007
Y	0.55	0.021
V	0.80	0.031

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