

**BIDIRECTIONAL ESD
PROTECTION DIODE**
**STAND-OFF VOLTAGE - 5.0 Volts
POWER DISSIPATION - 30 Watts**
GENERAL DESCRIPTION

The L03ESDL5V0CG3-2 is designed to protect sensitive electronics from damage or latch up due to ESD, lightning and other voltage induced transient events, and the device will protect two lines operating at 5.0 volts.

FEATURES

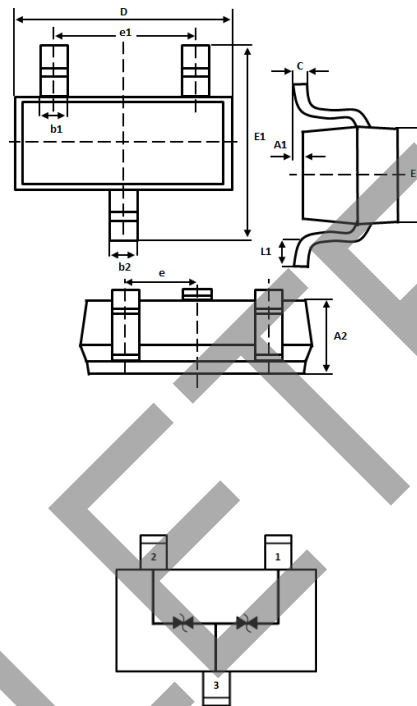
- Bidirectional ESD protection of tow line.
- Max. peak pulse power : Ppp = 30W at tp = 8/20 us.
- IEC 61000-4-2, level 4 (ESD), > ± 15KV (air) ; > ± 8KV (contact)
- IEC 61000-4-5, Ppp = 2A tp = 8/20 us.

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)
- Terminals: Lead Free Plating(Matte Tin Finish)
- Component in accordance to RoHs 2011/65/EU

SOT-523


SOD-523		
DIM.	MIN.	MAX.
A	0.70	0.90
A1	0.00	0.10
A2	0.60	0.80
b1	0.15	0.30
b2	0.15	0.33
C	0.10	0.20
D	1.50	1.70
E	0.75	0.85
E1	1.45	1.75
e	0.5 Typ.	
e1	0.90	1.10
L1	0.20	0.44
All Dimensions in millimeter		

PIN ASSIGNMENT	
1,2	Input lines
3	Ground

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power (tp = 8/20 us)	P _{PPM}	30	W
Peak pulse current (tp = 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.	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	--	3.5	pF
Clamping Voltage	V _{CL}	I _{PP} = 1A, tp = 8/20 us	--	12	V
		I _{PP} = 2A, tp = 8/20 us		15	

REV.2, Feb.-2019, KSIR16

RATING AND CHARACTERISTIC CURVES
L03ESDL5V0CG3-2



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

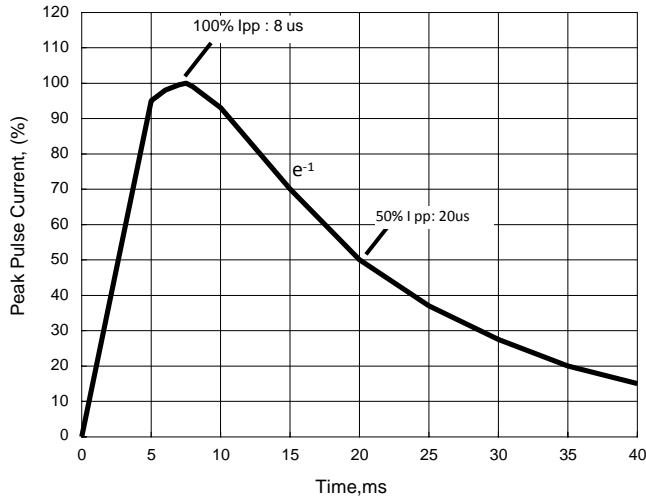


FIG.2- ESD pulse waveform according to IEC 61000-4-2

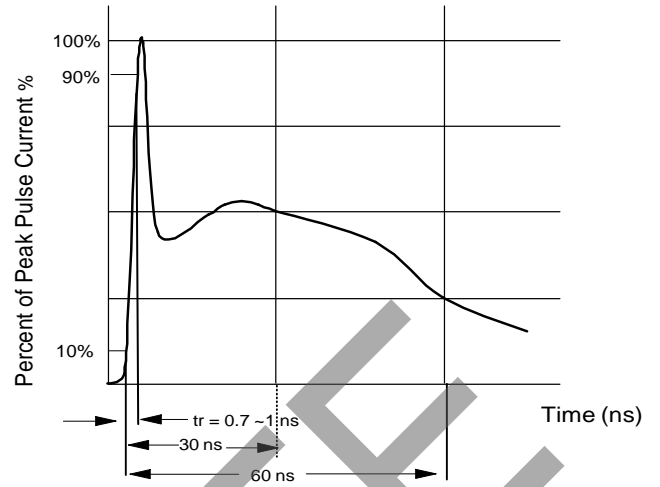


FIG.3- reverse leakage current versus Tj

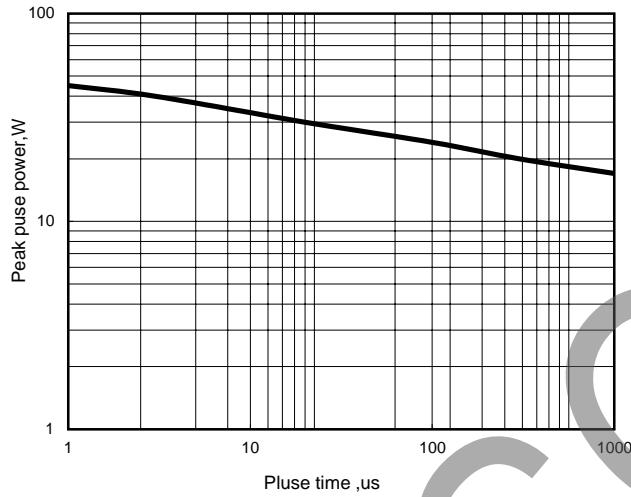


FIG.4- typical junction capacitance

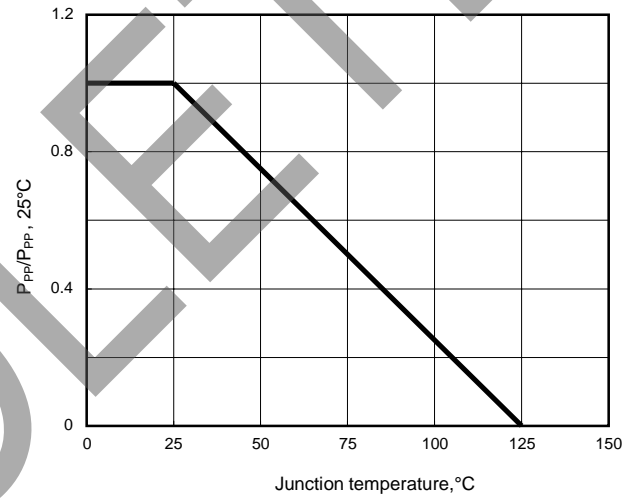


FIG.5- Capacitance versus reverse voltage

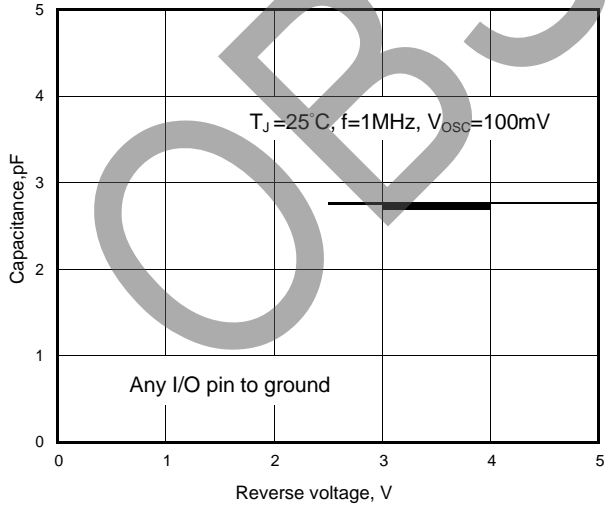
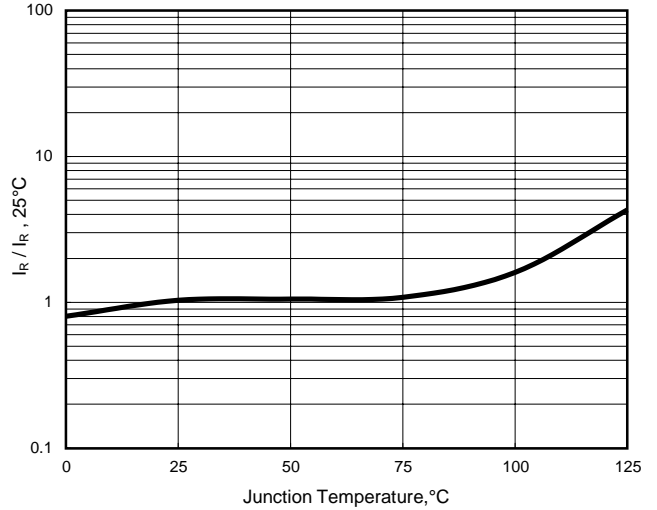


FIG.6- reverse leakage current versus Tj



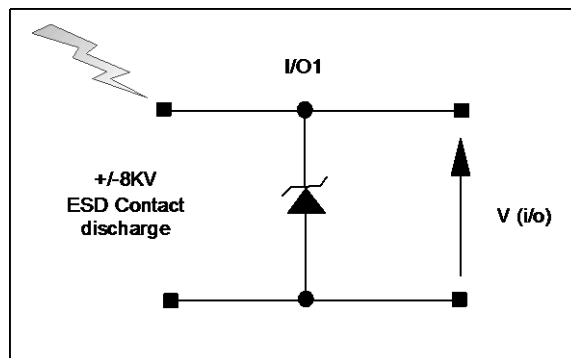


FIG.7- ESD Test Configuration

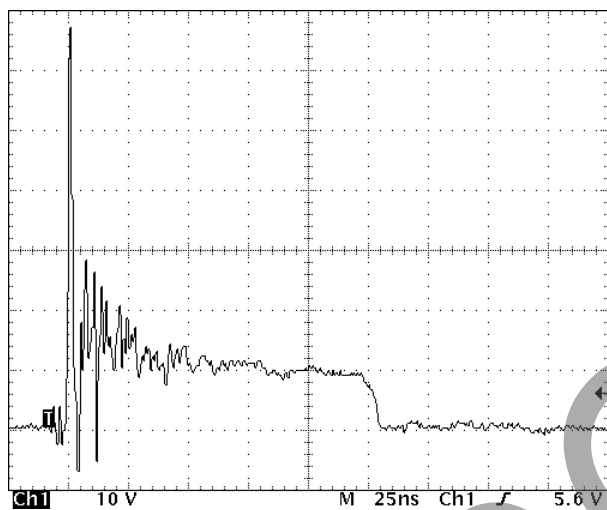


FIG.8- Clamped +8 kV ESD voltage waveform

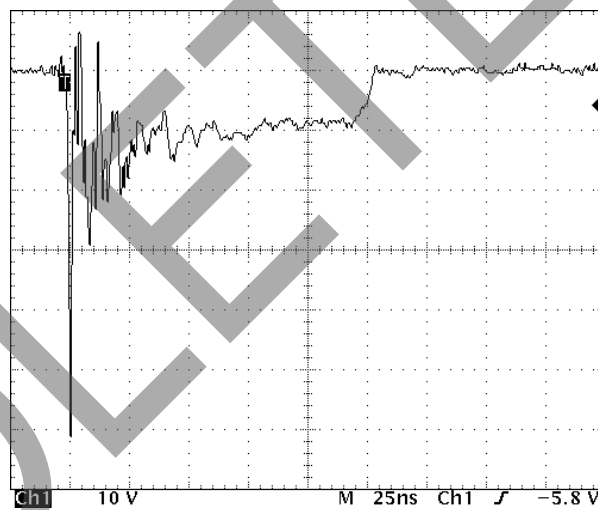


FIG.9- Clamped -8 kV ESD voltage waveform

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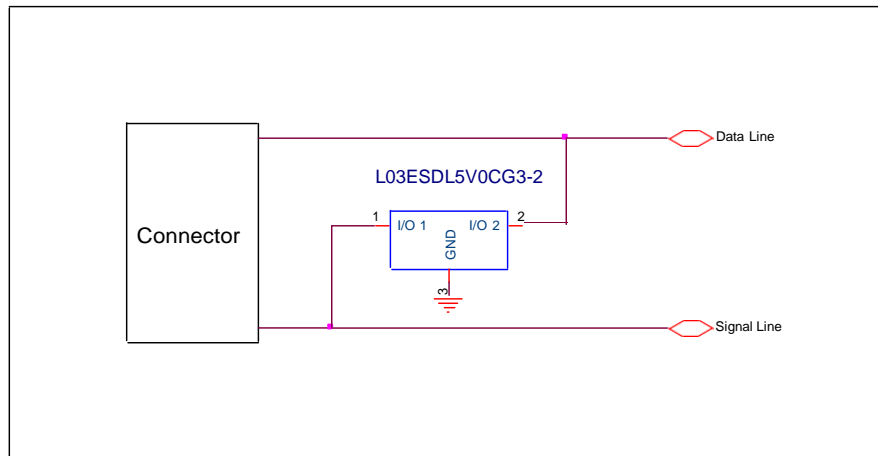


FIG.10- Computers, peripherals, and communication system ESD protection

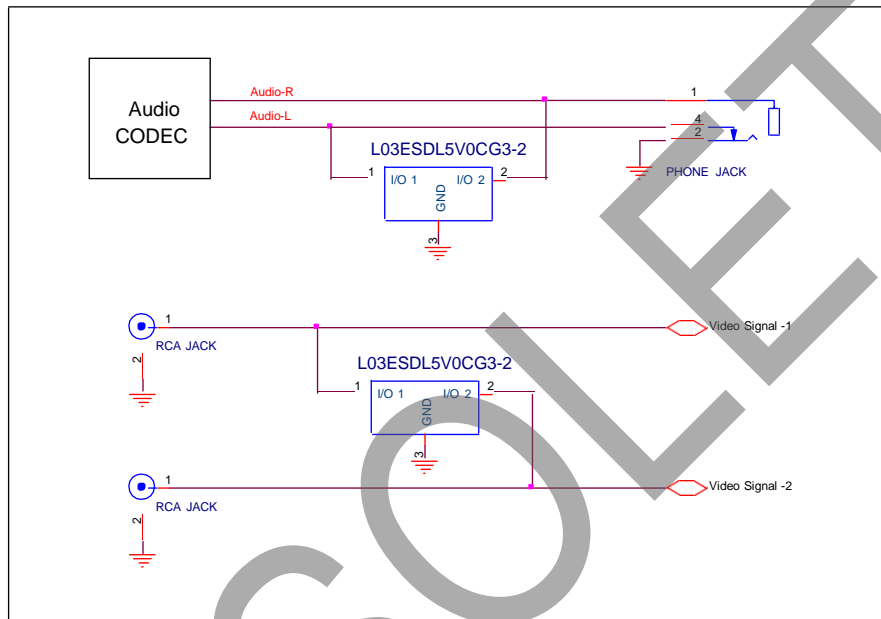


FIG.11- Audio and Video Equipment ESD Protection

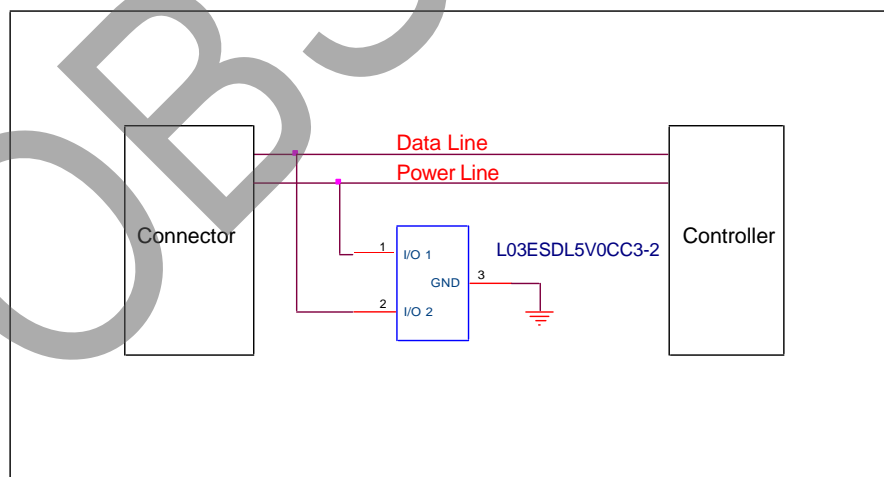
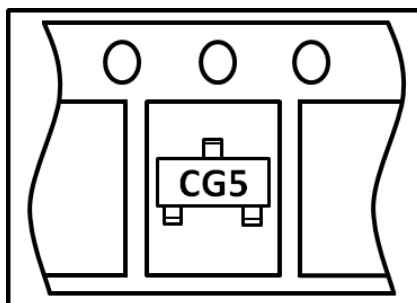


FIG.12- Portable instrumentation ESD protection

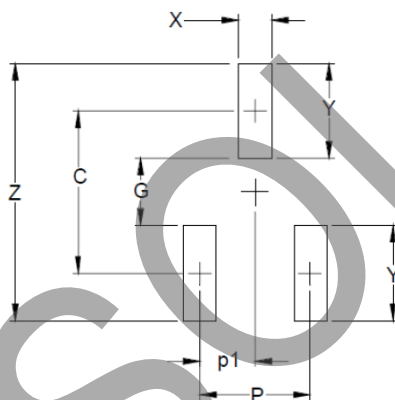
Marking & Orientation



Packaging Information

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
L03ESDL5V0CG3-2	3000	7	45000	180K

SOT-523 Soldering Pad Layout



Dim.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.20
G	0.60	0.24
X	0.40	0.16
Y	0.80	0.31
Z	2.20	0.87

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