

S-LR3105LT1G

ESD Protection Diode

1. FEATURES

- Ultra low leakage: nA level.
- Low clamping voltage.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

2. APPLICATIONS

- CAN bus protection
- Automotive applications

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LR3105LT1G	105	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

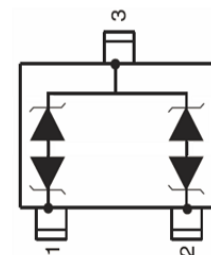
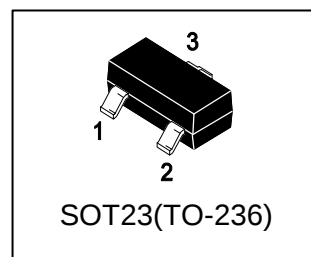
Parameter	Symbol	Limits	Unit
IEC 61000-4-2 (ESD) Contact		±30	kV
Air		±30	
peak pulse power@8/20 μs(Note 1)	PPP	350	W
peak pulse current @8/20 μs(Note 1)	IPP	8	A
Storage Temperature Range	Tstg	-55~+150	°C
Operating Temperature Range	TJ	-55~+150	°C

1. Surge current waveform per Figure 1 according to IEC 61000-4-5.

5. THERMAL CHARACTERISTICS

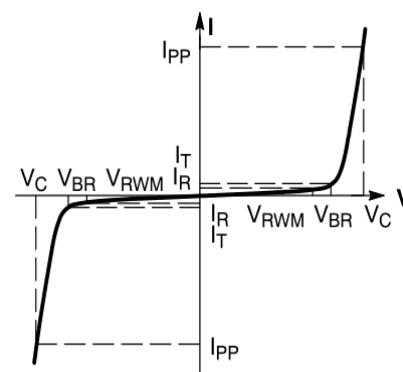
Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-4 Board (Note 2) @ TA = 25°C	PD	250	mW
Derate above 25°C		2.0	mW/°C
Thermal Resistance, Junction-to-Ambient(Note 2)	RθJA	500	°C/W

2. 30.0mm×25.0mm×1.6mm(FR4), Copper foil thickness 35μm;



6.ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Symbol	Parameter
IPP	Maximum Reverse Peak Pulse Current
VC	Clamping Voltage @ IPP
VRWM	Working Peak Reverse Voltage
IR	Maximum Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage @ IT
IT	Test Current
Ppk	Peak Power Dissipation
C	Capacitance @ VR = 0 and f = 1.0 MHz



7.ELECTRICAL CHARACTERISTICS (Ta= 25 °C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	VRWM	-	-	32	V
Reverse leakage current (VRWM = 32 V, Pin 1、2 to Pin 3) (VRWM = 32 V, Pin 3 to Pin 1、2)	IRM	-	-	200 200	nA
breakdown voltage (IT = 1 mA, Pin 1、2 to Pin 3) (IT = 1 mA, Pin 3 to Pin 1、2)	VBR	35.6	-	-	V
Clamping Voltage(Note 1) (IPP = 5A (8 x 20µs pulse))	VC	-	-	59	V
Clamping Voltage(Note 1) (IPP = 8A (8 x 20µs pulse))	VC	-	-	66	V
Junction Capacitance (VR = 0V, f = 1MHz)	CJ	-	30	-	pF

1.Surge current waveform per Figure 1 according to IEC 61000-4-5.

8. ELECTRICAL CHARACTERISTICS CURVES

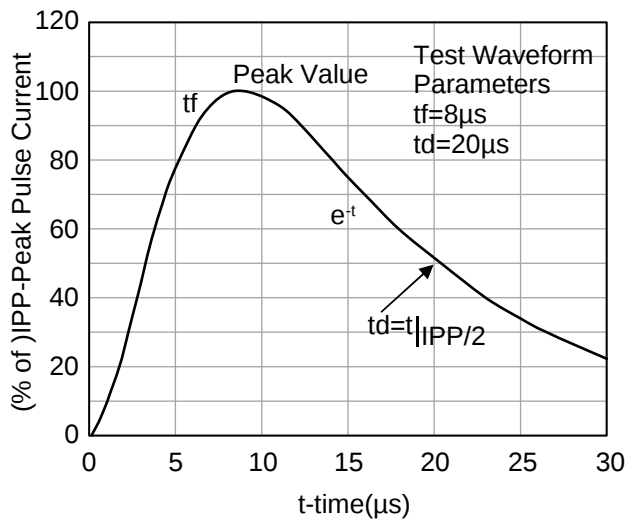


Figure 1. Pulse Waveform according to IEC 61000-4-5

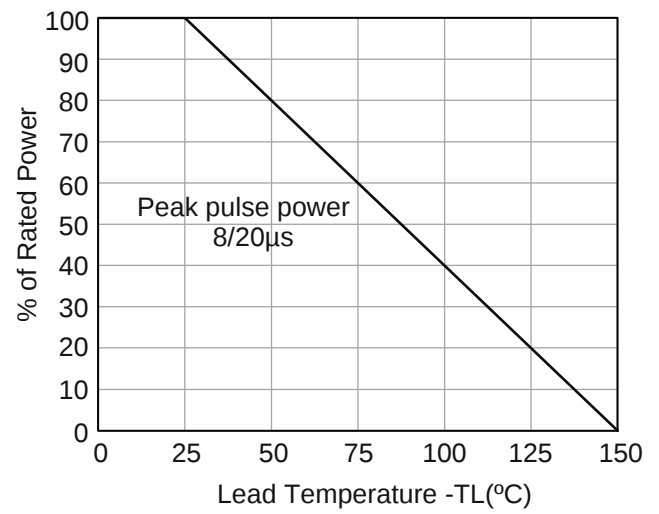


Figure 2. Power Derating Curve

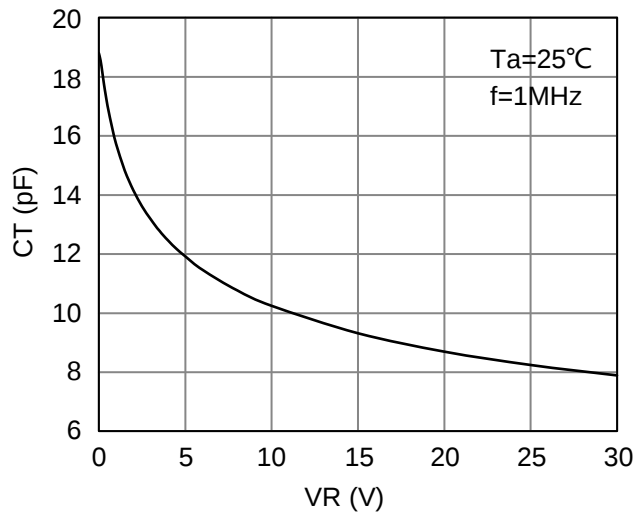


Figure 3. Capacitance

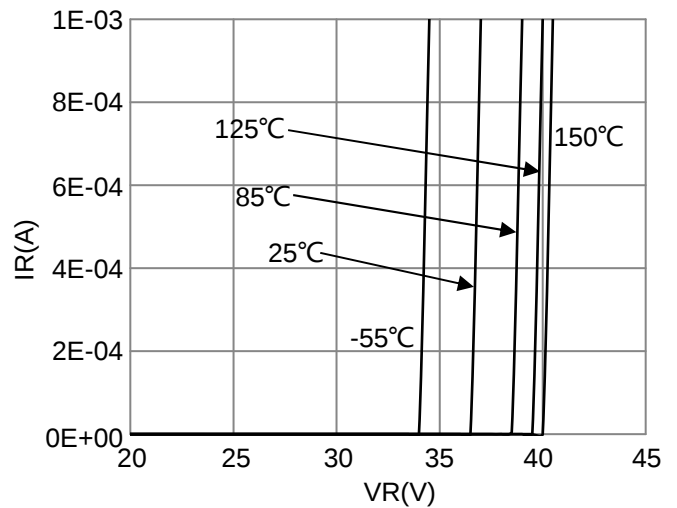
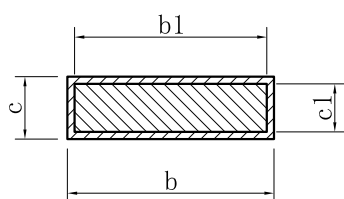
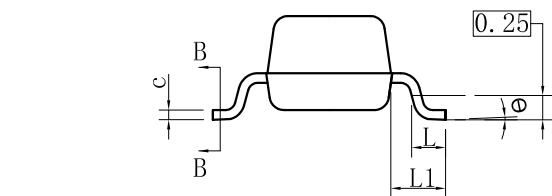
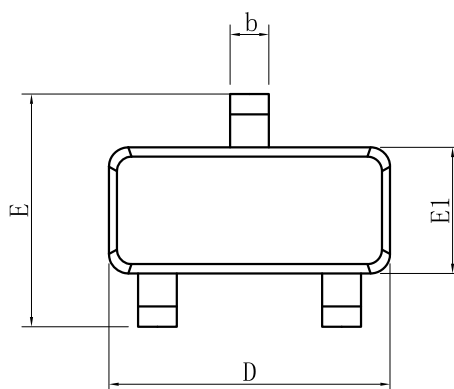
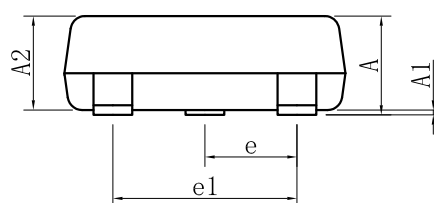


Figure 4. IR vs. VR

9.OUTLINE AND DIMENSIONS



SECTION B-B

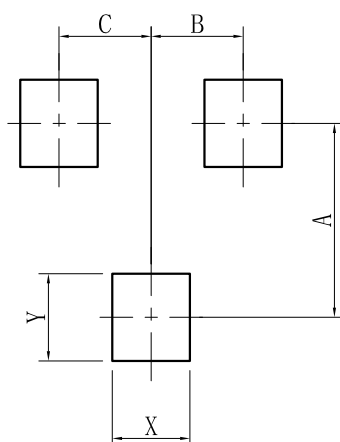


SOT23			
DIM	MIN	NOR	MAX
A	0.89	—	1.12
A1	0.01	—	0.10
A2	0.88	0.95	1.02
b	0.30	—	0.50
b1	0.30	0.40	0.45
c	0.08	—	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	—	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	—	8°
All Dimensions in mm			

GENERAL NOTES

- 1.Top package surface finish $Ra0.4 \pm 0.2\mu m$
- 2.Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
- 3.Side package surface finish $Ra0.4 \pm 0.2\mu m$

10.SOLDERING FOOTPRINT



SOT-23	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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