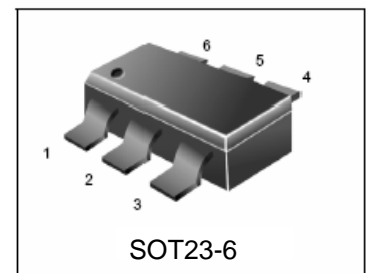


## 4-CHANNEL LOW CAPACITANCE ESD PROTECTION DIODES ARRAY

### DESCRIPTIONS

The LRCSR05-04T1G is a 4-channel ultra low capacitance rail clamp ESD protection diodes array. Each channel consists of a pair of ESD diodes that steer positive or negative ESD current to either the positive or negative rail. A zener diode is integrated in to the array between the positive and negative supply rails. In the typical applications, the negative rail pin (assigned as GND) is connected with system ground. The Positive ESD current is steered to the ground through an ESD diode and Zener diode and the positive ESD voltage is clamped to the zener voltage. The LRCSR05-04T1G is idea to protect high speed data lines. Three package type is provided for easy PCB layout.

### LRCSR05-04T1G



### FEATURES

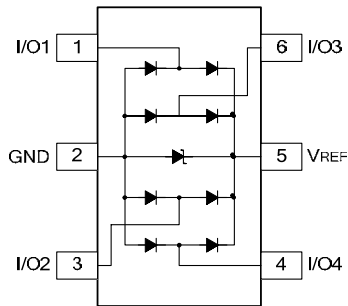
- \* 4 channels of ESD protection;
- \* Provides ESD protection to IEC61000-4-2 level 4
  - $\pm 15$ kV air discharge
  - $\pm 10$ kV contact discharge;
- \* Channel I/O to GND capacitance: 2pF(Max)
- \* Channel I/O to I/O capacitance: 1pF(Max.)
- \* Low clamping voltage;
- \* Low operating voltage;
- \* Improved zener structure;
- \* Optimized package for easy high speed data lines PCB layout;
- \* RoHS compliant.

### APPLICATIONS

- \* HDMI / DVI ports;
- \* Display Port interface;
- \* 10M / 100M / 1G Ethernet;
- \* USB 2.0 interface;
- \* VGA interface
- \* Set-top box;
- \* Flat panel Monitors / TVs;
- \* PC / Note book

### ORDERING INFORMATION

Part No.	Package	Marking	Material	Shipping
LRCSR05-04T1G	SOT23-6	AP7	Halogen Free	3000Tape&Reel

**PIN CONFIGURATION**


(Top view)

**ABSOLUTE MAXIMUM RATINGS**

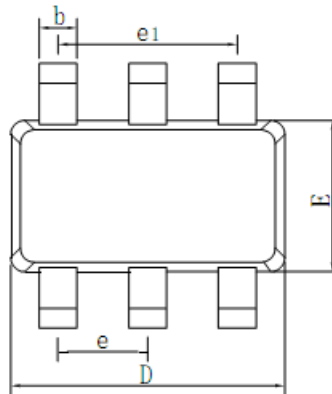
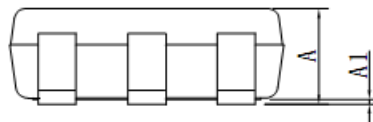
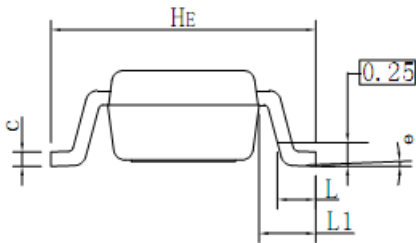
Characteristics	Symbol	Ratings	Unit
Peak Pulse Power(8/20 $\mu$ s)	P <sub>PP</sub>	200	W
Peak Pulse Current(8/20 $\mu$ s)	I <sub>PP</sub>	12	A
ESD per IEC 61000-4-2(Air)	V <sub>ESD1</sub>	$\pm 15$ kV	kV
ESD per IEC 61000-4-2(Contact)	V <sub>ESD2</sub>	$\pm 10$ kV	kV
Operating Temperature Range	T <sub>opr</sub>	-55 ~ +125	$^{\circ}$ C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ +150	$^{\circ}$ C

**ELECTRICAL CHARACTERISTICS**(T<sub>amb</sub>=25 $^{\circ}$ C)

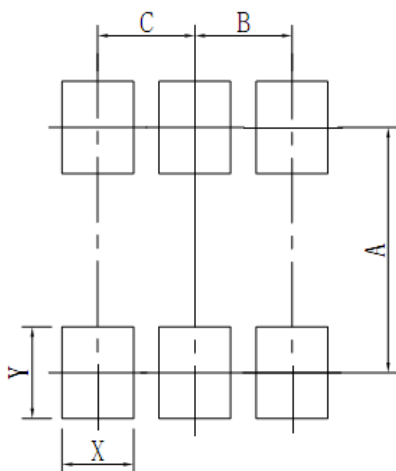
Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V <sub>RWM</sub>	Any I/O pin to GND			5	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>t</sub> =1mA; Any I/O pin to GND	6			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =5V, T=25 $^{\circ}$ C; Any I/O pin to GND			1	$\mu$ A
Positive Clamping Voltage	V <sub>C1</sub>	I <sub>PP</sub> =5A, t <sub>p</sub> =8/20 $\mu$ s; Positive pulse; Any I/O pin to GND		11.5	13	V
Positive Clamping Voltage	V <sub>C1</sub>	I <sub>PP</sub> =12A, t <sub>p</sub> =8/20 $\mu$ s; Positive pulse; Any I/O pin to GND		16.5	18	V
Junction Capacitance Between Channel	C <sub>J1</sub>	V <sub>R</sub> =0V, f=1MHz; Between I/O pins		0.7	1	pF
Junction Capacitance Between I/O And GND	C <sub>J2</sub>	V <sub>R</sub> =0V, f=1MHz; Any I/O pin to GND		1.5	2	pF

**OUTLINE AND DIMENSIONS**

SOT23-6



SOT23-6			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.25	0.40	0.50
c	0.10	0.17	0.26
D	2.80	2.90	3.10
E	1.30	1.60	1.70
e	0.85	0.95	1.05
e1	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.50	2.80	3.00
θ	0°	-	10°

**SOLDERING FOOTPRINT**


SOT23-6	
DIM	(mm)
X	0.70
Y	0.90
A	2.40
B	0.95
C	0.95

**DISCLAIMER**

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