4-CHANNEL LOW CAPACITANCE ESD PROTECTION DIODES ARRAY

LRC10455DT1G

The LRC10455DT1G is a 4-channel ultra low capacitance rail clam ESD protection diodes array . Each channel consists of a pair of 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.

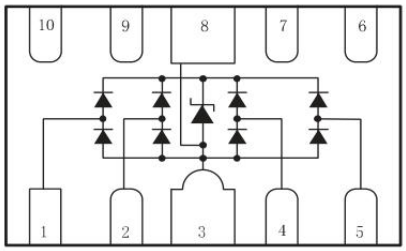
The LRC10455DT1G is idea to protect high speed data lines.

DFN-2510

●APPLICATIONS

1) HDMI / DVI ports
2)Display Port interface
3)10M / 100M / 1G Ethernet
4)USB 2.0 interface
4)VGA interface
5)Set-top box
6)Flat panel Monitors / TVs
7)PC / Note book

PIN CONFIGURATION



●FEATURES

1) 4 channels of ESD protection;
2)Provides ESD protection to IEC61000-4-2 level 4
- ±15kV air discharge
- ±15kV contact discharge;
3) Channel I/O to GND capacitance: 1pF(Max)
4) Channel I/O to I/O capacitance: 0.6pF(Max)
5) Low clamping voltage;
6) Low operating voltage;
7) Improved zener structure;
8) Optimized package for easy high speed data lines PCB layout;
9) RoHS compliant.

●DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LRC10455DT1G	5D	3000Tape&Reel

LRC10455DT1G

●ABSOLUTE MAXIMUM RATINGS

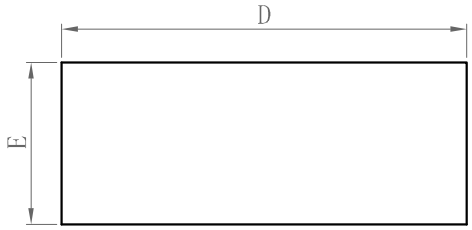
Parameter	Symbol	Limits	Unit
Peak Pulse Power(8/20us)	P_{PP}	60	W
Peak Pulse Current(8/20us)	I_{PP}	6	A
ESD per IEC 61000-4-2(Air)	V_{ESD}	±15kV	kV
ESD per IEC 61000-4-2(Contact)	V_{ESD}	±15kV	kV
Operating Temperature Range	Topr	-55 ~ +125	°C
Storage Temperature Range	Tstg	-55 ~ +150	°C

●ELECTRICAL CHARACTERISTICS (Ta= 25℃)

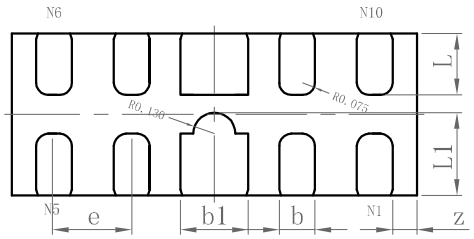
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse Working Voltage	V_{RWM}			3	V	Any I/O pin to GND
Reverse Breakdown Voltage	V_{BR}	3.3		4.8	V	It =1mA; Any I/O pin to GND
Reverse Leakage Current	I_R			1	uA	V_{RWM} =3V, T=25°C; Any I/O pin to GND
Positive Clamping Voltage	V_C			8	V	I_{PP}=5A, t_P=8/20μs; Positive pulse; Any I/O pin to GND
Junction Capacitance Between Channel	C_{J1}		0.5	0.6	pF	V_R=0V, f=1MHz; Between I/O pins
Junction Capacitance Between I/O And GND	C_{J2}			1	pF	V_R=0V, f=1MHz; Any I/O pin to GND

LRC10455DT1G

OUTLINE AND DIMENSIONS

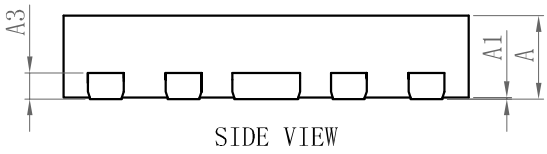


TOP VIEW



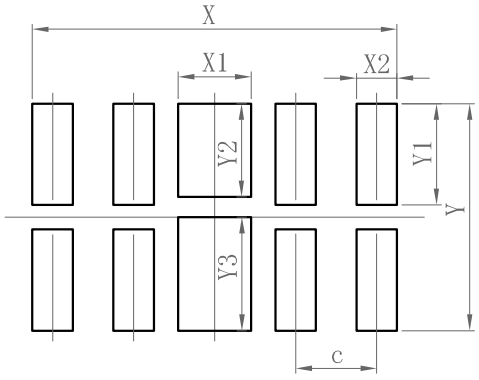
BOTTOM VIEW

DFN2510			
Dim	Min	Typ	Max
A	0.48	0.53	0.58
A1	0	0.02	0.05
A3	-	0.152	-
b	0.17	0.22	0.27
b1	0.37	0.42	0.47
D	2.45	2.50	2.55
e	0.45	0.50	0.55
E	0.95	1.00	1.05
L	0.33	0.38	0.43
L1	0.46	0.51	0.56
z	0.10	0.15	0.20
All Dimensions in mm			



SIDE VIEW

SOLDERING FOOTPRINT



DFN2510	mm
c	0.5
X	2.25
X1	0.45
X2	0.25
Y	1.4
Y1	0.625
Y2	0.575
Y3	0.7

DISCLAIMER

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