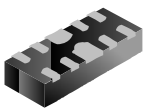
4-CHANNEL LOW CAPACITANCE ESD PROTECTION DIODES ARRAY

LRC8804DT1G



DFN-2510

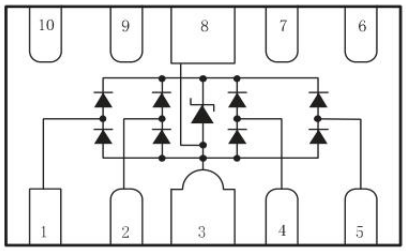
The LRC8804DT1G is a 4-channel ultra low capacitance rail clam ESD protection diodes array . Each channel consists of a pair of diodes that steer positive or negative ESD current to either the positive or negative rail . A zener diode is integrated in to the array between the positive and negative supply 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 LRC8804DT1G is idea to protect high speed data lines.

●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;
   - IEC61000-4-5 (Lightning) 4 A (8/20μS)
3) Channel I/O to GND capacitance: 0.6pF(Max)
4) Channel I/O to I/O capacitance: 0.3pF(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
LRC8804DT1G	24B	3000Tape&Reel

LRC8804DT1G

●ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Limits	Unit
Peak Pulse Power(8/20us)	P_{PP}	75	W
Peak Pulse Current(8/20us)	I_{PP}	5	A
ESD per IEC 61000-4-2(Air)	V_{ESD1}	±15kV	kV
ESD per IEC 61000-4-2(Contact)	V_{ESD2}	±15kV	kV
Operating Temperature Range	Topr	-55 ~ +125	°C
Storage Temperature Range	Tstg	-55 ~ +150	°C

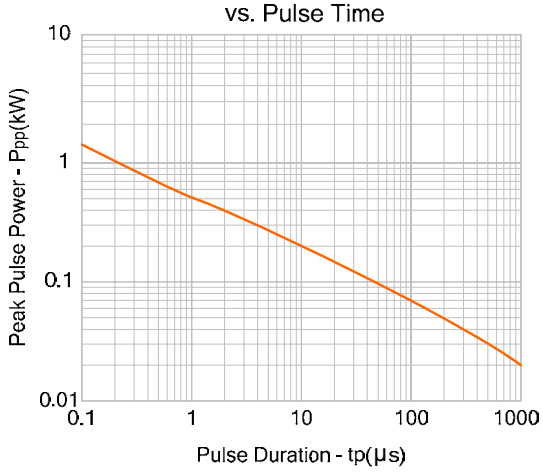
●ELECTRICAL CHARACTERISTICS (Ta= 25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse Working Voltage	V_{RWM}	–	–	5.5	V	Any I/O pin to GND
Reverse Breakdown Voltage	V_{BR}	6	–	–	V	It =1mA; Any I/O pin to GND
Reverse Leakage Current	I_R	–	–	1	μA	V_{RWM} =5V, T=25°C; Any I/O pin to GND
Positive Clamping Voltage	V_{C1}	–	8.5	12	V	I_{PP}=1A, t_P=8/20μs; Positive pulse; Any I/O pin to GND
Negative Clamping Voltage	V_{C2}	–	1.8	–	V	I_{PP}=1A, t_P=8/20μs; Negative pulse; Any I/O pin to GND
Junction Capacitance Between Channel	C_{J1}	–	–	0.3	pF	V_R=0V, f=1MHz; Between I/O pins
Junction Capacitance Between I/O And GND	C_{J2}	–	–	0.6	pF	V_R=0V, f=1MHz; Any I/O pin to GND
Dynamic Resistance	$R_{dynamic}$	–	0.776	–	Ohm	Positive Transient(TLP)

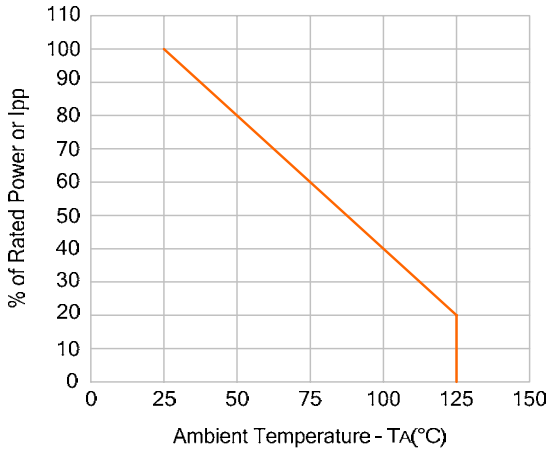
LRC8804DT1G

ELECTRICAL CHARACTERISTIC CURVES

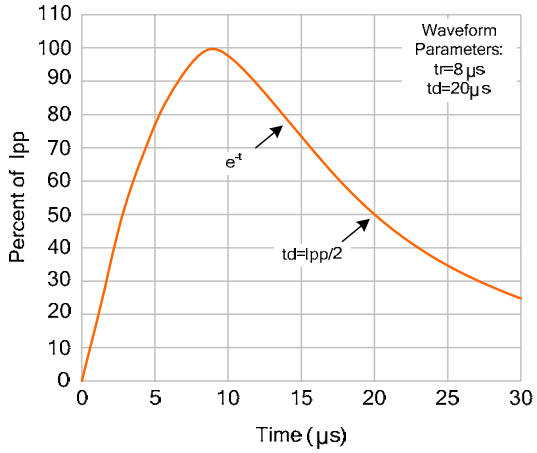
Non-Repetitive Peak Pulse Power vs. Pulse Time



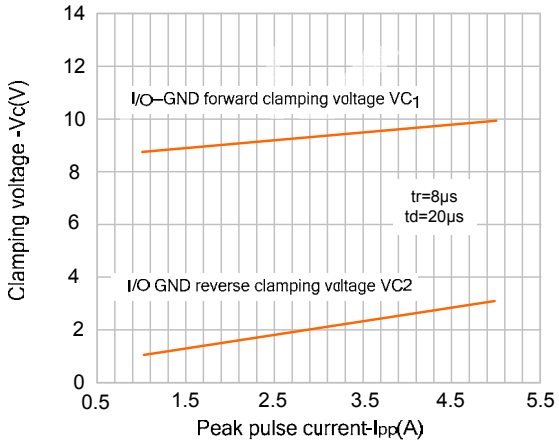
Power Derating Curve



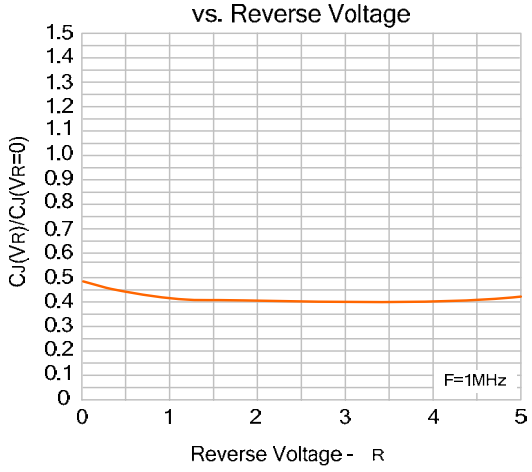
Pulse Waveform



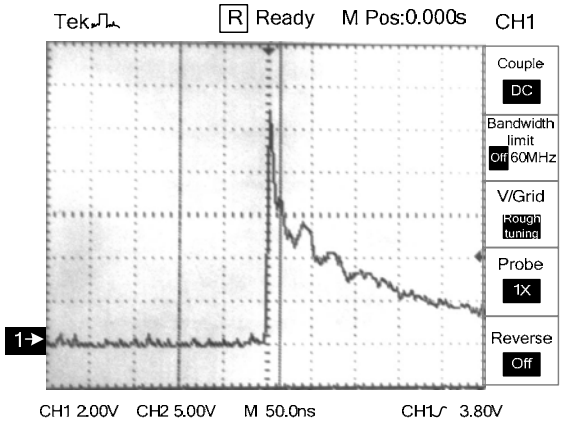
I/O–GND clamping voltage vs. peak pulse current



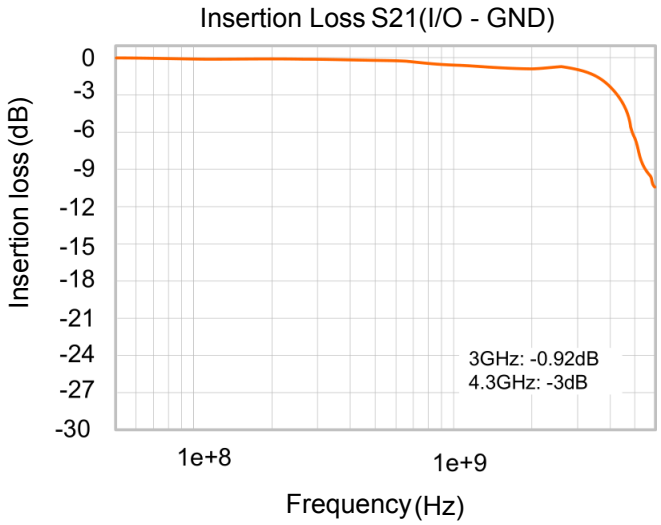
Normalized Capacitance vs. Reverse Voltage



ESD Clamping for +8KV pulse per IEC61000-4-2

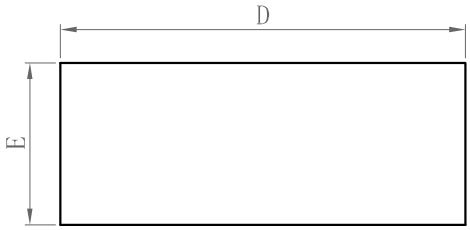


ELECTRICAL CHARACTERISTIC CURVES

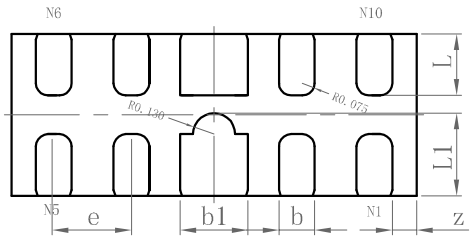


LRC8804DT1G

OUTLINE AND DIMENSIONS

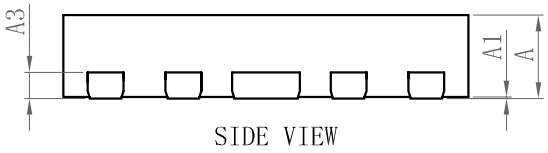


TOP VIEW



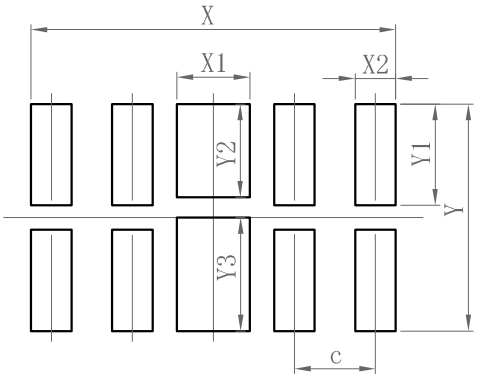
BOTTOM VIEW

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

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SZA12A SZAF5.1A L1SS184LT1G LESD5Z5.0T1G LM5Z7V5T1G LMBR1100ET1G LMSZ5248BT1G L9014QLT1G LMBTA13LT1G LTL431APTLT1G LUDZS5.6BT1G P6KE150A LDTC123JET1G LM3Z5V6T1G LMSZ5252BT1G LR78M05D S-LMSZ5265BT1G SM2100AF LM3Z18VT1G LM5Z3V3T1G LMBT4401LT1G L2N7002FLT1G L2N7002KWT1G LMBT4403LT1G S-L1N4148WT1G LMBTA92LT1G LMBR0520T1G LMSZ5243BT1G LMSZ5245BT1G S-LUDZS3.3BT1G