

4-CHANNEL LOW CAPACITANCE ESD PROTECTION DIODES ARRAY

◆ DESCRIPTIONS

The CMTLDF10CR35DLE 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 CMTLDF10CR35DLE is idea to protect high speed data lines.



◆ FEATURES

- 1、 4 channels of ESD protection;
- 2、 Provides ESD protection to IEC61000-4-2 level 4:
 $\pm 15\text{kV}$ (air discharge)
 $\pm 8\text{kV}$ (contact discharge) ;
- 3、 Channel I/O to GND capacitance: 0.6pF(Max);
- 4、 Channel I/O to I/O capacitance: 0.45pF(Max);
- 5、 Low clamping voltage;
- 6、 Improved zener structure;
- 7、 Optimized package for easy high speed data lines PCB layout;
- 8、 5V low operating voltage;
- 9、 RoHS compliant.

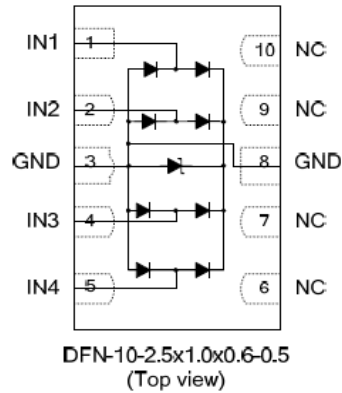
◆ APPLICATIONS

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

◆ ORDERING INFORMATION

Part No.	Package	Material	Packing
CMTLDF10CR35DLE	DFN-10	Halogen free	Tape

◆ **PIN CONFIGURATION**



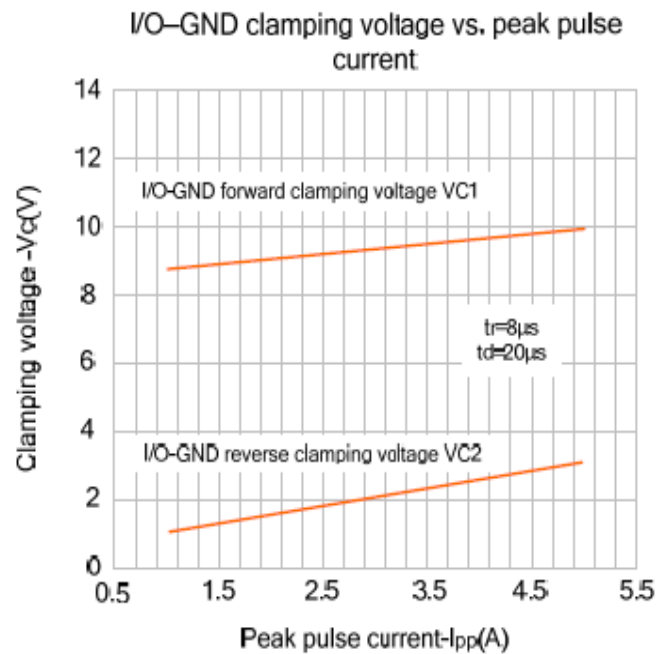
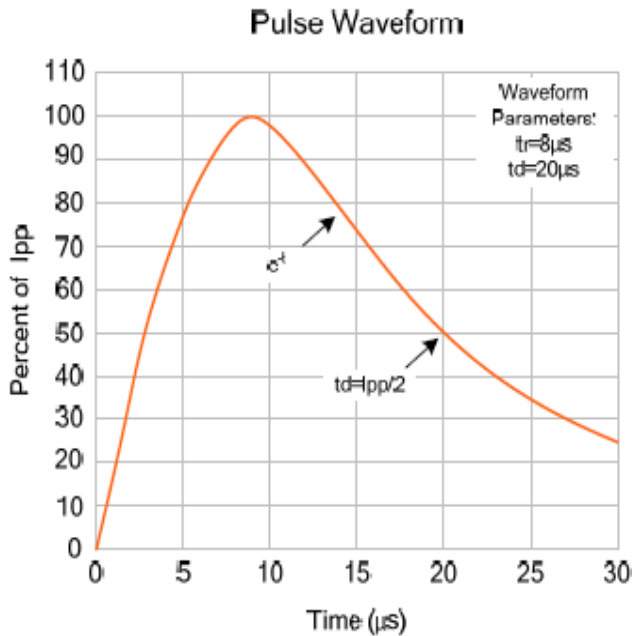
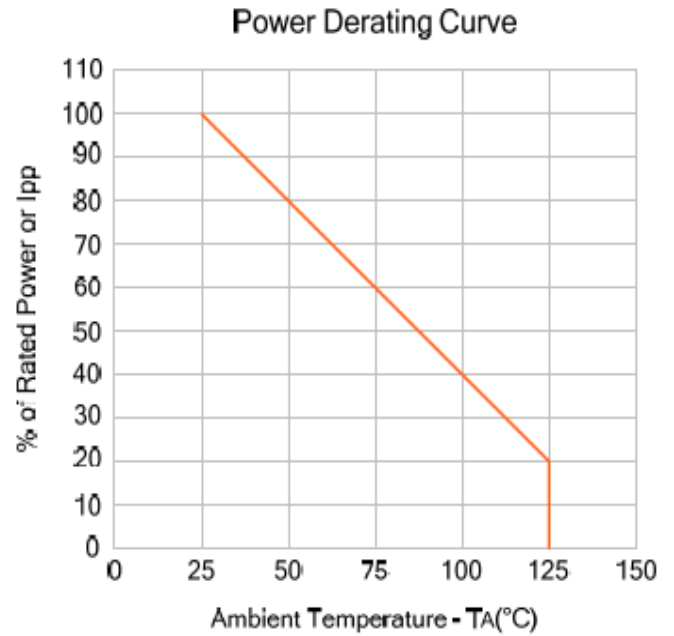
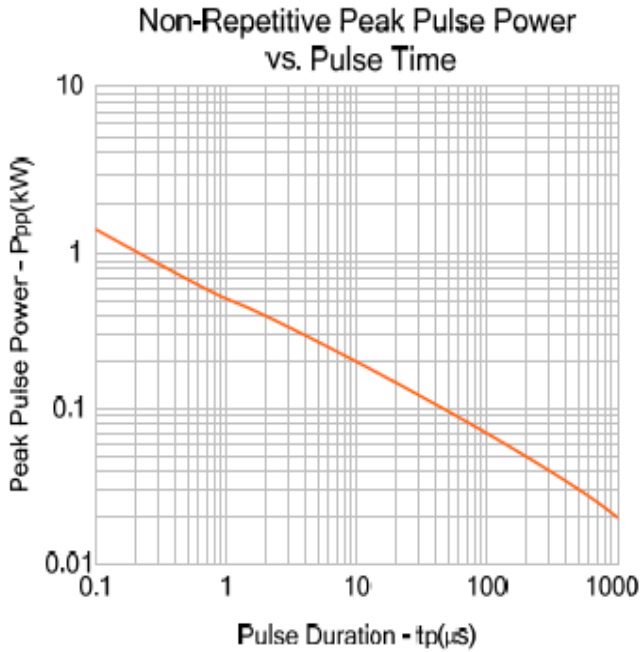
◆ **ABSOLUTE MAXIMUM RATINGS**

Characteristics	Symbol	Ratings	Unit
Peak Pulse Power (8/20 μ s)	P _{PP}	150	W
Peak Pulse Current (8/20 μ s)	I _{PP}	5	A
ESD Per IEC61000-4-2 (air discharge)	V _{ESD1}	±15	kV
ESD Per IEC61000-4-2 (contact discharge)	V _{ESD2}	±8	kV
Operating Temperature Range	T _{opr}	-55 ~ +125	°C
Storage Temperature Range	T _{stg}	-55 ~ +150	°C

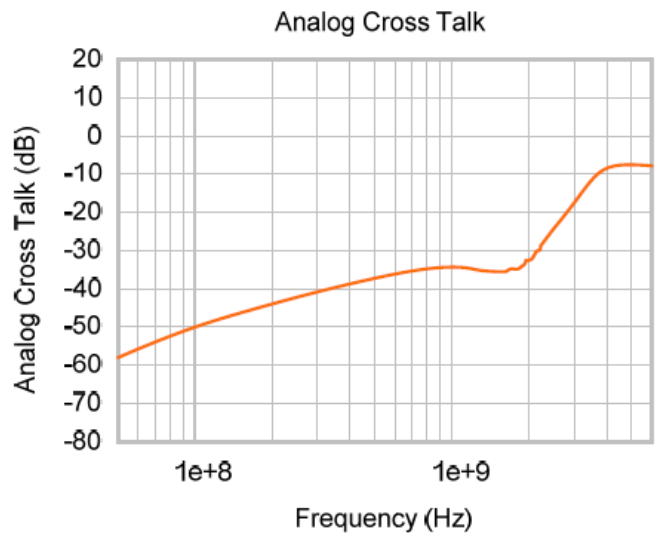
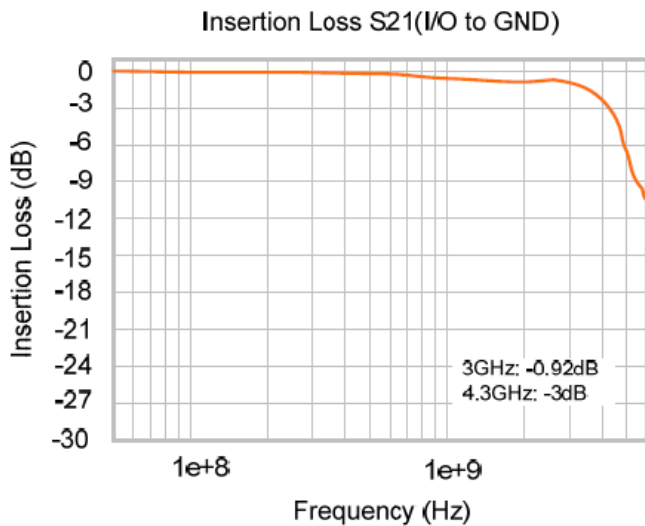
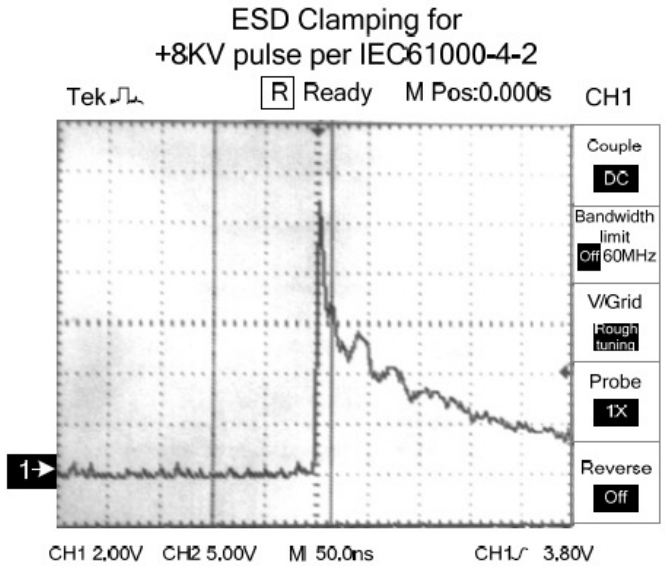
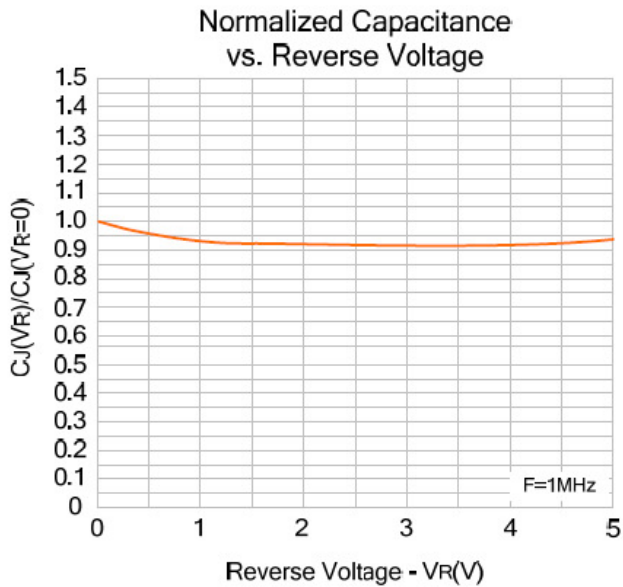
◆ **ELECTRICAL CHARACTERISTICS (T_{amb}=25°C)**

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V _{RWM}	Any I/O pin to GND			5	V
Reverse Breakdown Voltage	V _{BR}	Any I/O pin to GND I _t =1mA	6	7		V
Reverse Leakage Current	I _R	Any I/O pin to GND V _{RWM} =5V; T=25°C		0.03	1	μ A
Positive Clamping Voltage	V _{C1}	Any I/O pin to GND Positive puls I _{PP} =1A, t _p =8/20 μ S		8.5	12.0	V
Negative Clamping Voltage	V _{C2}	Any I/O pin to GND Negative puls I _{PP} =1A, t _p =8/20 μ S		1.8		V
Junction Capacitance Between Channel	C _{J1}	Between I/O pins V _R =0V, f=1MHz		0.35		pF
Junction Capacitance Between I/O And GND	C _{J2}	Any I/O pin to GND V _R =0V, f=1MHz		0.5	0.6	pF

◆ **TYPICAL ELECTRICAL CHARACTERISTICS CURVE**

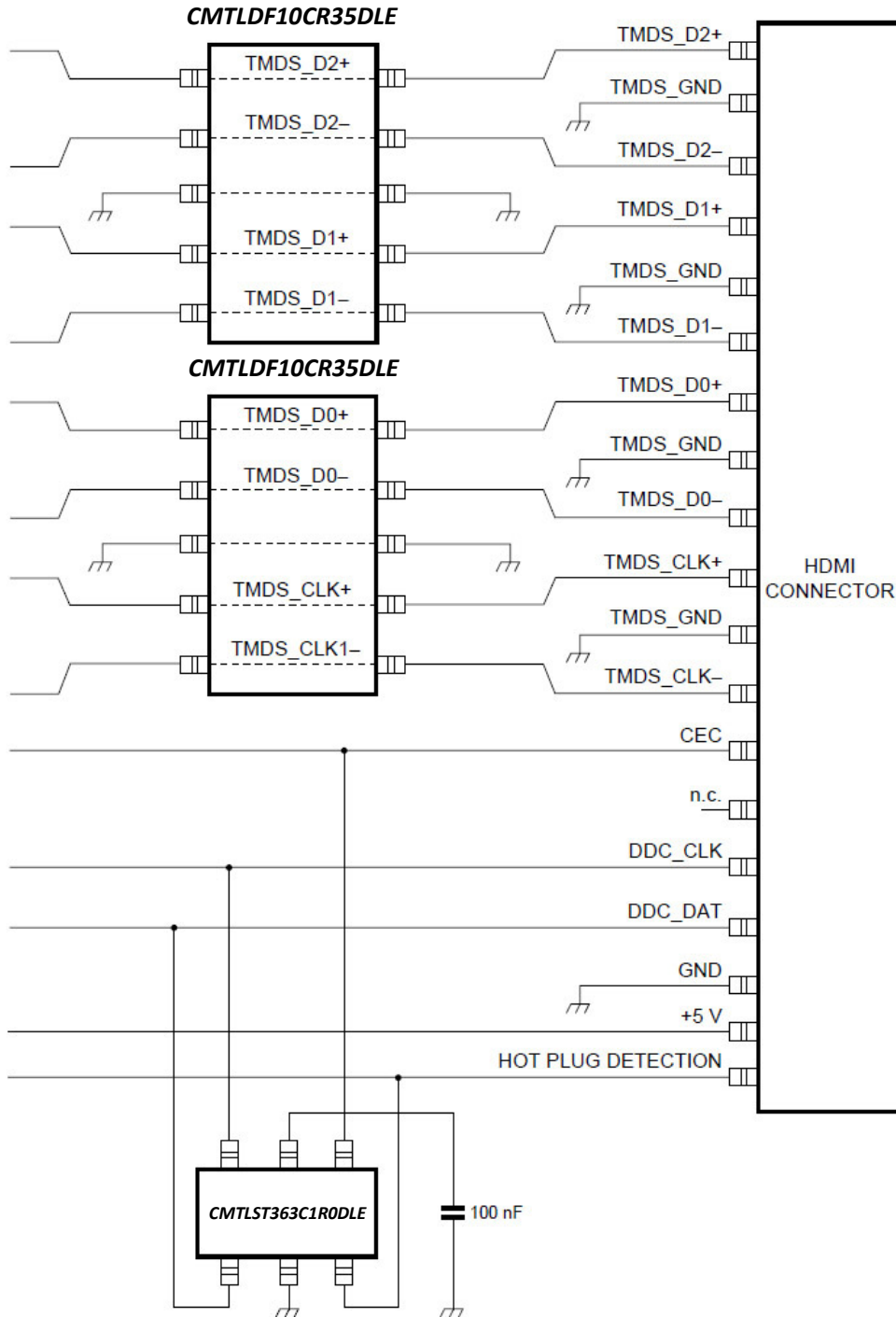


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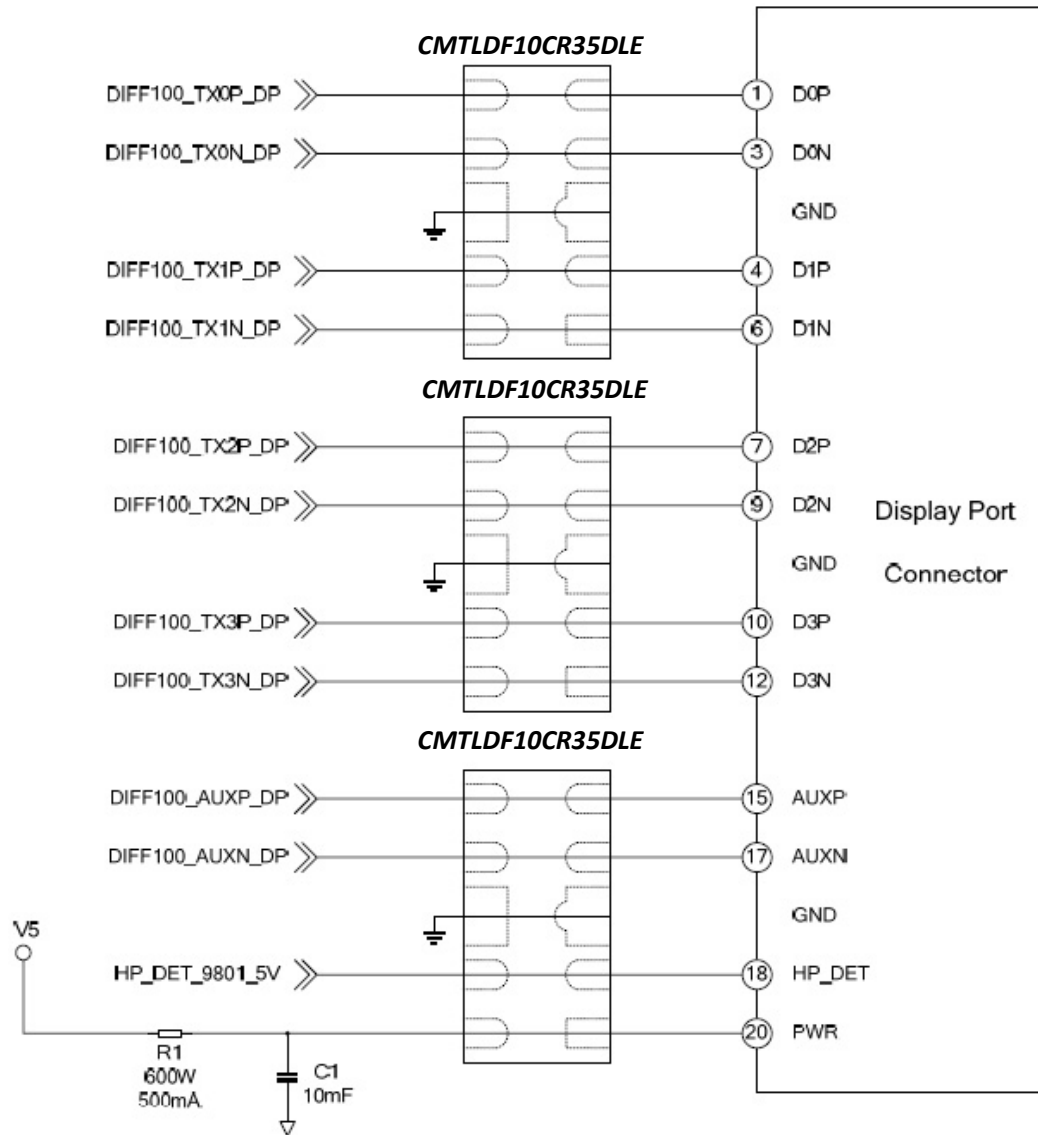


◆ **TYPICAL APPLICATIONS**

1、**HDMI Port Application**



2、*Display Port Application*



◆ PACKAGE OUTLINE

DFN-10-2.5X1.0X0.6-0.5

