

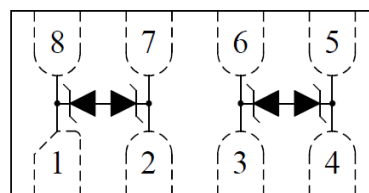
Description

The RL20108Q252C is a low capacitance high power TVS, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The RL20108Q252C complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into a 8-pin DFN2010-8 lead-free package. Each device will protect two line pairs high-speed lines. The combination of small size, low capacitance, and high surge capability makes them ideal for use in applications such as Gigabit Ethernet, telecommunication lines, and LVDS interfaces.

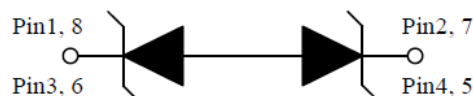
Features

- I Stand-off voltage: 2.5V Max.
- I Ultra low leakage: nA level
- I Operating voltage: 2.5V
- I Ultra low clamping voltage
- I Protects up to eight lines
- I Complies with following standards:
IEC 61000-4-2 (ESD) immunity test Air
discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
IEC61000-4-5 (Lightning) 20A (8/20 μs)
- I RoHS Compliant

Pin Configuration



Circuit Diagram



Applications

- I 10/100/1000 Ethernet
- I Notebooks, Desktops, Servers
- I Networking Equipment
- I Switching Systems
- I Audio/Video Inputs

Absolute Maximum Rating

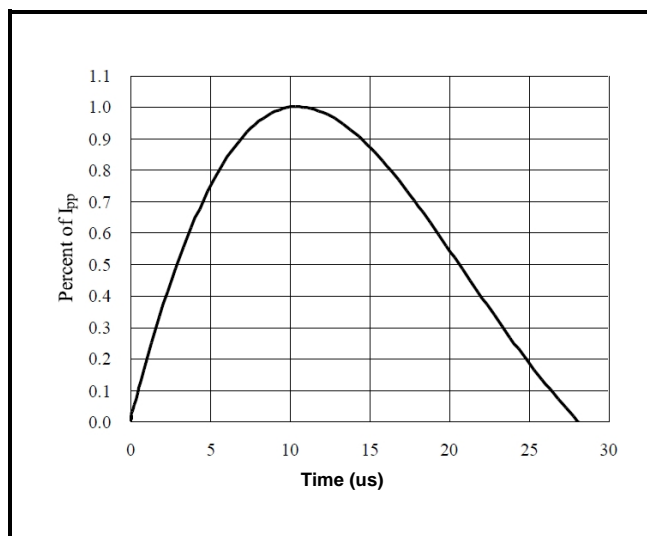
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	200	W
ESD Voltage (Air) ESD Voltage (Contact)	V_{ESD}	± 30 ± 30	kV
Operating Temperature	T_{OPT}	-45 to +85	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics (@ 25 $^{\circ}\text{C}$ Unless Otherwise Specified)

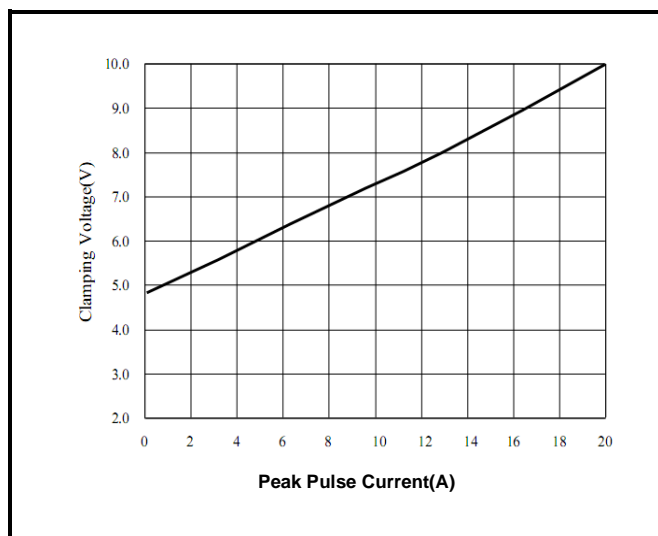
Type Number	Reverse Stand-Off Voltage	Minimum Breakdown Voltage	Peak Pulse Voltage @8/20 μs	V_C @8/20 μs		Reverse Leakage @ V_{RWM}	Typ. Capacitance
	V_{RWM}	V_{BR} @1mA	V_C @1A	(max.)	@ I_{PP}	I_R @ V_{RWM}	C_J @ $V_R=0\text{V}$, $f=1\text{MHz}$
	V	V	V	V	A	μA	pF
RL20108Q252C	2.5	3.0	5.0	10	20	0.05	3.5

Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

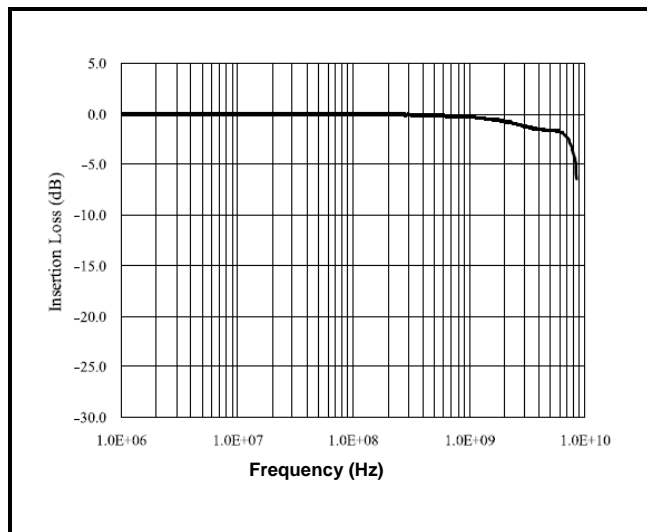
8/20 s Pulse Waveform



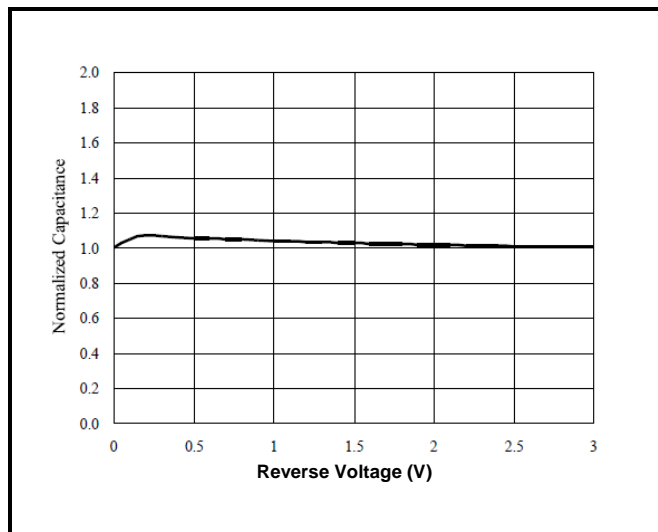
Clamping Voltage V_C vs. Current I_{PP}



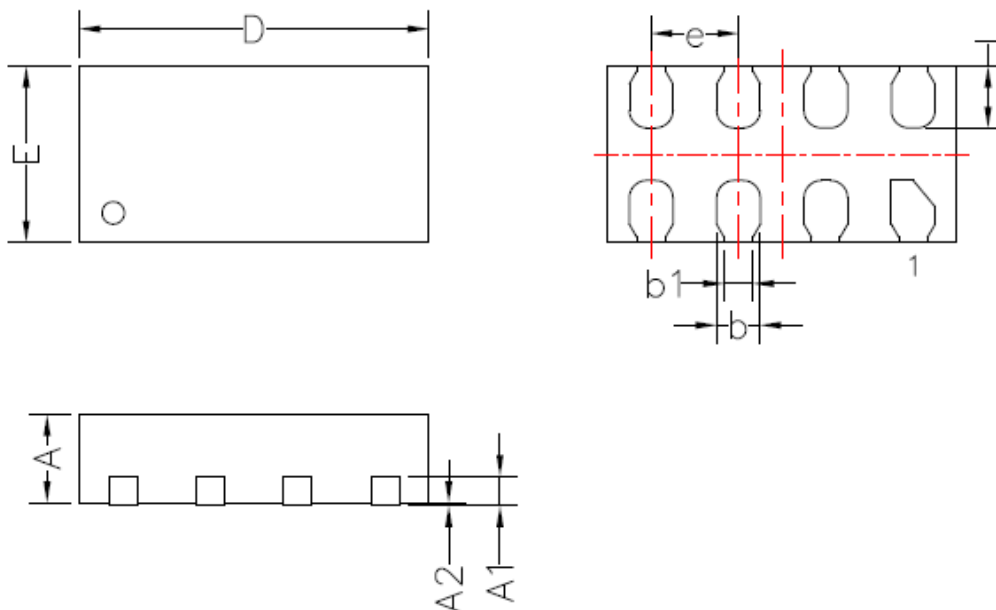
Insertion Loss S21



Normalized Capacitance vs. Voltage



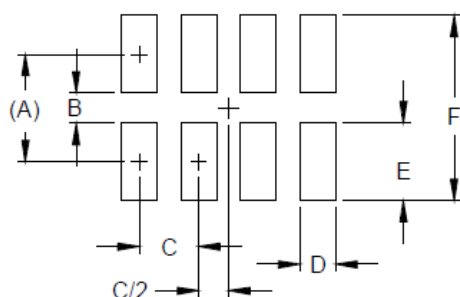
Dimensions



Unit: mm

Package Dimensions			
Symbols		Nom	Max
A	0.45	0.50	0.55
A1	0.15REF		
A2	00	0.02	0.05
D	1.95	2.00	2.05
E	0.95	1.00	1.05
L	0.30	0.35	0.40
b	0.20	0.25	0.30
b1	0.15REF		
e	0.50BSC		

Footprint



DIM	Millimeters
A	0.90
B	0.25
C	0.50
D	0.30
E	0.65
F	1.55