



USB Series are designed to protect the high speed data lines against ESD transients. They have very low capacitance and fast turn on times that makes this series ideal for data and transmission lines with high data rates. The unique design enables these devices to meet the rigorous testing criteria of the IEC61000-4 standards.

Features

- Bi-directional device, similar to back-to-back Zener diodes plus an EMC capacitor in parallel.
- Low capacitance for high speed datalines.
- Protects against ESD to meet IEC61000-4-2 15kV (air) and 8kV (Contact).
- Available in EIA 0402/0603 (Single), 0405 (Dual), 0508 (Triple) and 0612 (Quad) cases.

Applications

- USB BUS Lines/Firewire Data BUS Lines
- I/O BUS Lines
- 10/100/1000 Ethernet Transmission Lines
- Video card Data Lines

How to Order

USB 0001 R Q
① ② ③ ④

① Series

② Type

0001	0603(Single)	0002	0405(Dual)
0003	0508(Triple)	0004	0612(Quad)
0005	0402(Single, 3pF)	0006	0402(Single, 6pF)

③ Packaging

D	7" Reel(1000pcs)
R	7" Reel(4000pcs)
T	13" Reel(10000pcs)

④ Termination

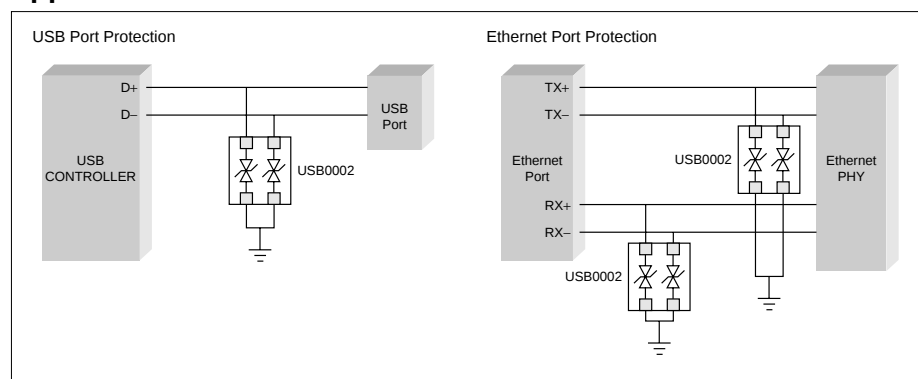
P	Ni/Sn	Q	Sn100
X	Pt/Pd/Ag		

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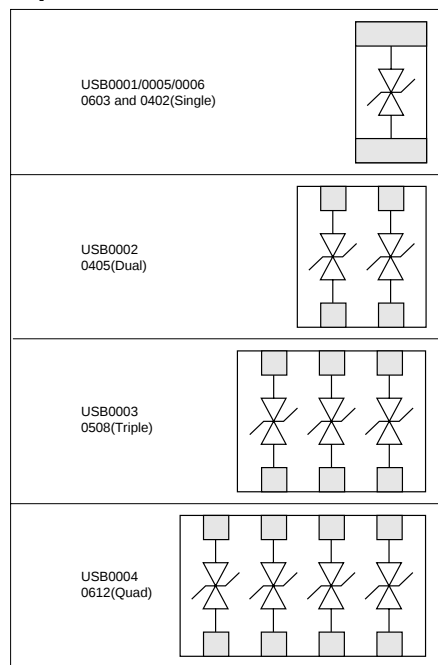
Specifications

Type	Working Voltage (V)	Breakdown Voltage (V) (Typical)	Transient Energy (mJ) (Max., 10×1000μs)	Capacitance (pF) (Typical @1MHz)	Peak Current (A) (Max., 8×20μs)
USB0001	<18	65	15	10	4
USB0002	<18	70	15	10	4
USB0003	<18	180	15	10	4
USB0004	<18	90	15	10	4
USB0005	<18	250	15	3	2
USB0006	<18	70	15	6	4

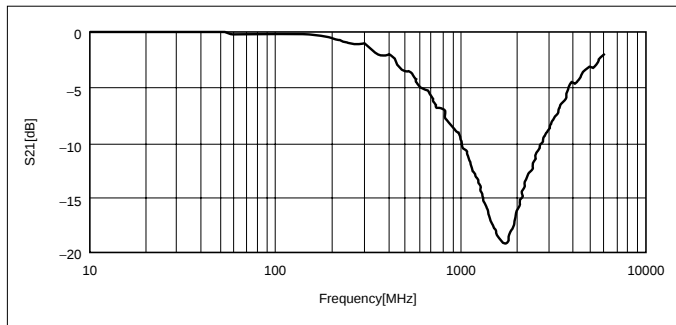
Applications



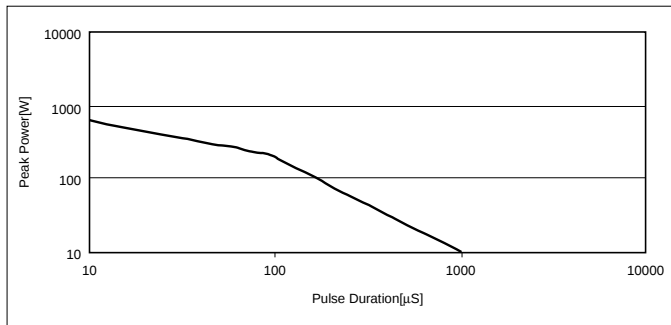
Equivalent Circuit



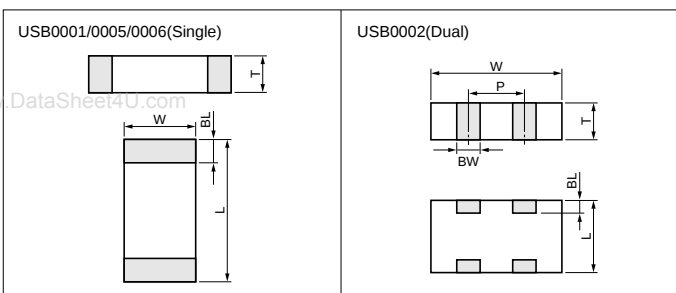
S21 Characteristics



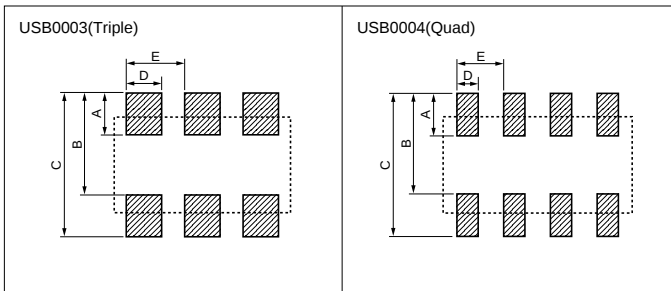
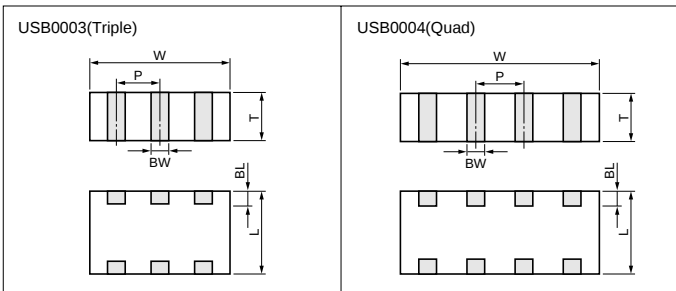
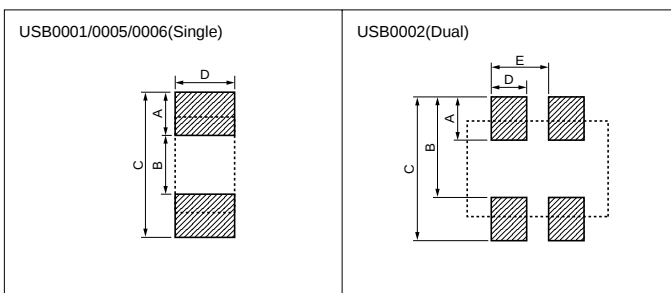
Pulse Rating



Dimensions



Recommended Land Pattern



Dimensions

(Unit : mm)

Type	L	W	T	BW	BL	P
USB0001	1.6±0.15	0.8±0.15	0.9max.	—	0.35±0.15	—
USB0002	1.00±0.15	1.37±0.15	0.66max.	0.36±0.10	0.20±0.10	0.64REF
USB0003	1.27±0.20	2.03±0.20	0.965max.	0.254±0.100	0.18 ^{+0.25} _{-0.08}	0.64REF
USB0004	1.60±0.20	3.20±0.20	1.22max.	0.41±0.10	0.18 ^{+0.25} _{-0.08}	0.76REF
USB0005	1.0±0.1	0.5±0.1	0.6max.	—	0.25±0.15	—
USB0006						

Land Dimensions

(Unit : mm)

Type	A	B	C	D	E
USB0001	0.89	0.76	2.54	0.76	—
USB0002	0.46	0.74	1.20	0.30	0.64
USB0003	0.64	1.27	1.91	0.28	0.51
USB0004	0.89	1.65	2.54	0.46	0.76
USB0005	0.61	0.51	1.70	0.51	—
USB0006					