

Features

- Ultra low diode capacitance (< 1.2 pF max)
- Two data lines (D+ and D-) protected against 15 kV ESD
- Breakdown voltage $V_{BR} = 6.0 \text{ V min}$
- Flip Chip 400 μm pitch, lead-free
- Very low leakage current
- Very small PCB area
- RoHS compliant

Mechanical Characteristics

- Package: CSP-4
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0



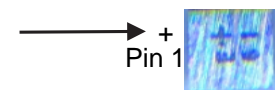
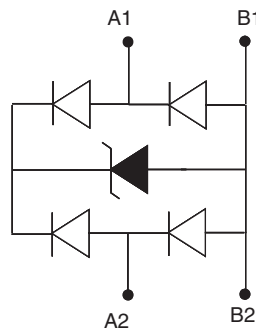
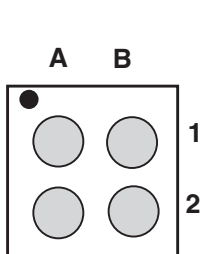
Applications

- High speed USB port in wireless handsets (up to 480 Mb/s according to USB 2.0 high speed specification)

Ordering Information

Part Number	Qty per Reel	Reel Size
TP4369CX4	3000	7"

Pin Configuration and Circuit Diagram

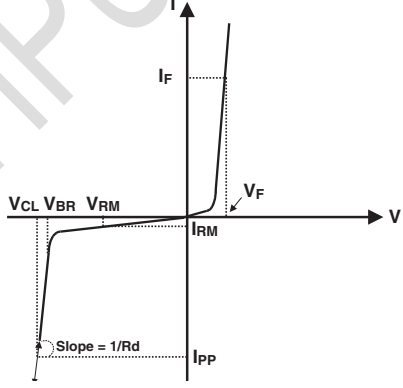


Marking E

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit
V _{PP}	ESD discharge IEC 61000-4-2, air discharge	15	kV
	ESD discharge IEC 61000-4-2, contact discharge	8	
P _{PP}	Peak pulse power dissipation (8/20 μs)	60	W
T _j	Maximum junction temperature	125	°C
T _{op}	Operating temperature range	-30 to +85	°C
T _{stg}	Storage temperature range	-55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Symbol	Parameter				
V _{BR}	Breakdown voltage				
I _{RM}	Leakage current @ V _{RM}				
V _{RM}	Stand-off voltage				
V _{CL}	Clamping voltage				
R _d	Dynamic impedance				
I _{PP}	Peak pulse current				
αT	Voltage temperature coefficient				
V _F	Forward voltage drop				
Symbol	Test conditions	Min.	Typ.	Max.	Unit
V _{BR}	I _R = 1 mA	6		9	V
I _{RM}	V _{RM} = 3 V			1	uA
R _d	Exponential wave form 8/20 μs, I _{pp} = 1 to 5 A		1.6		Ω
αT	I _R = 1 mA			5	10 ⁻⁴ /°C
C _{line}	V _{LINE} = 0 V, V _{OSC} = 30 mV, F = 1 MHz			1.2	pF

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

Fig1. 8/20 μs Pulse Waveform

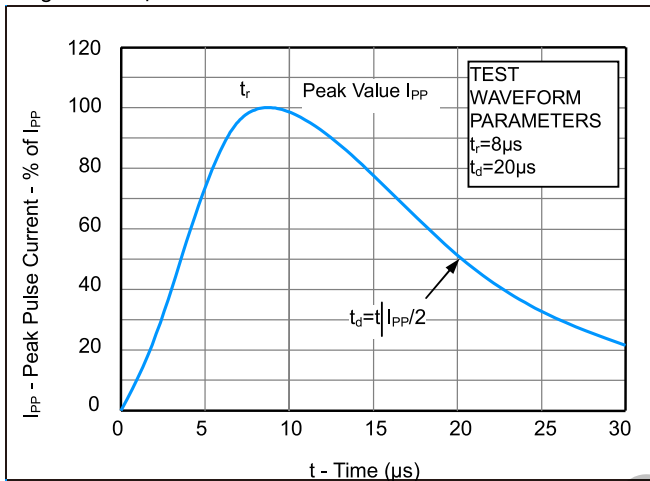


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

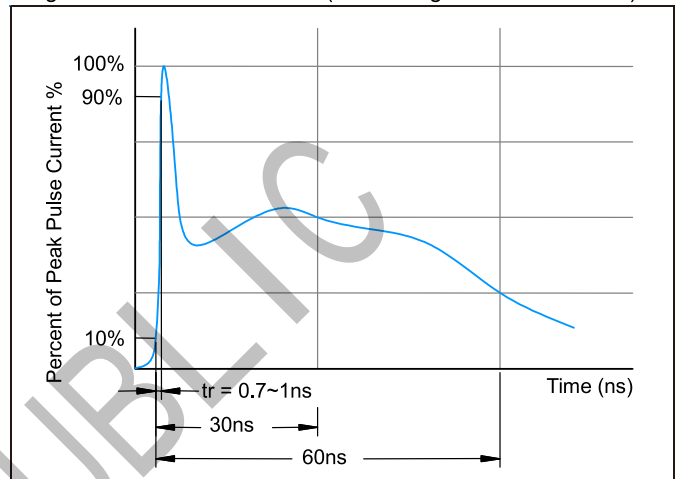


Fig3. Power Derating Curve

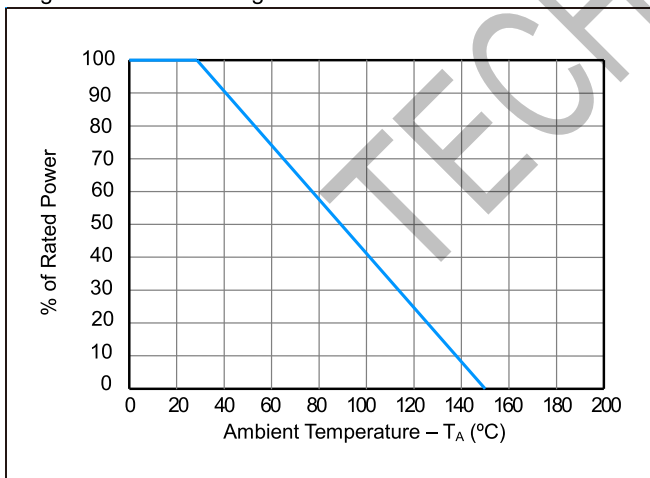
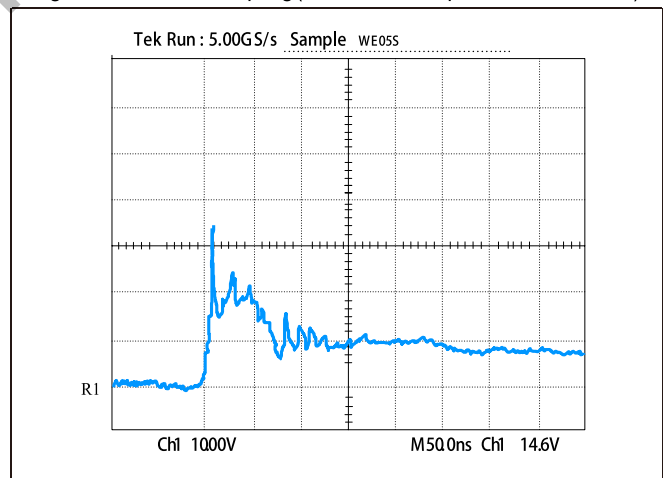
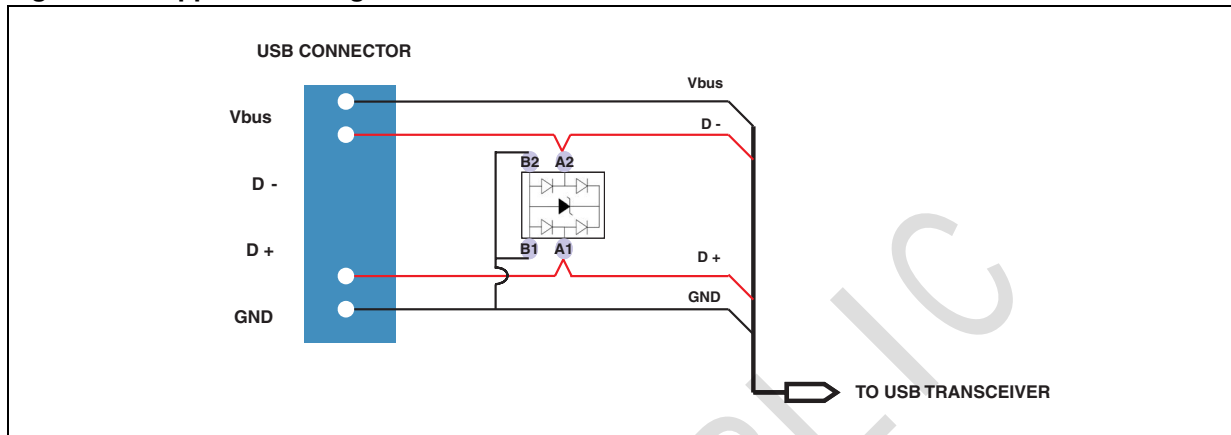


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)

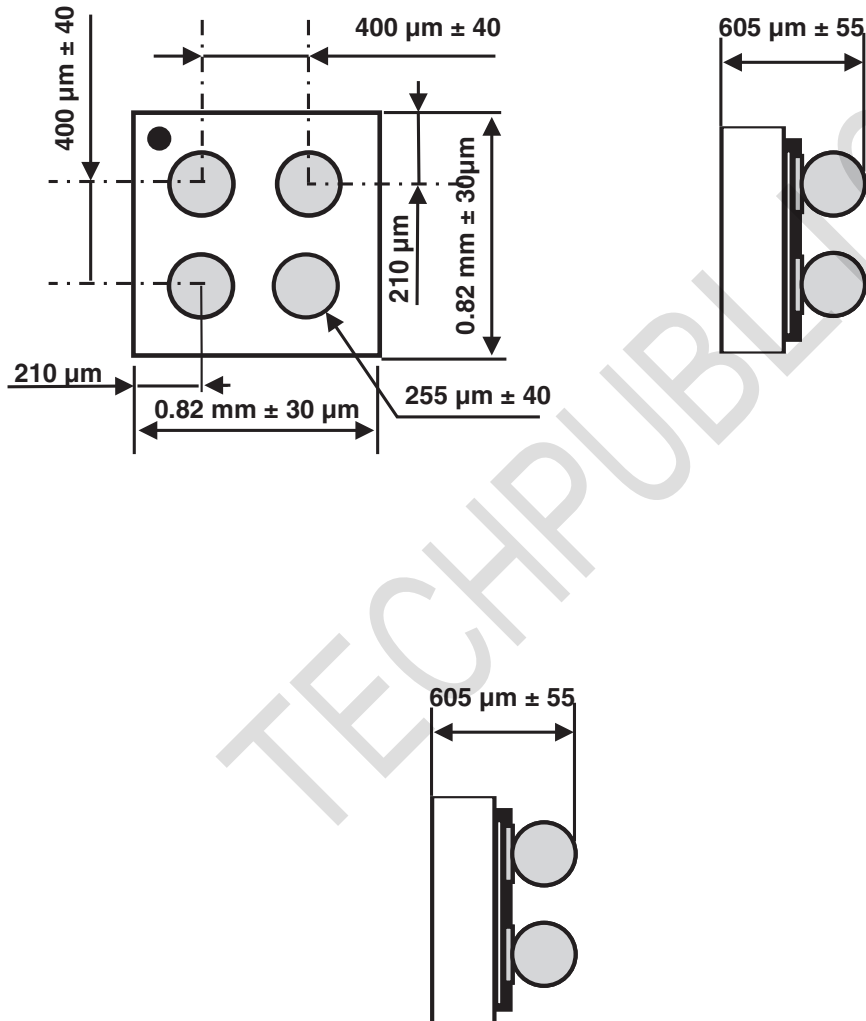


Application information

Figure 15. Application diagram



Outline Drawing - CSP-4



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