

1 Characteristics

Table 1. Absolute maximum ratings ($T_{amb} = 25\text{ }^{\circ}\text{C}$)

Symbol	Parameter		Value	Unit
V _{PP}	ESD discharge IEC 61000-4-2, level 4 contact discharge		8	kV
P _{PP}	Peak pulse power dissipation (8/20 μs)	T _j initial = T _{amb}	50	W
I _{PP}	Peak pulse current (8/20 μs)		2.5	A
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

Figure 2. Electrical characteristics (definitions)

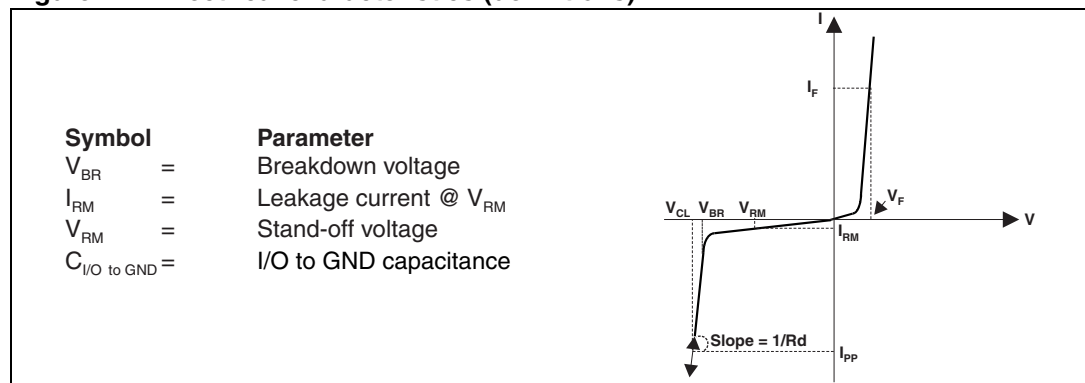


Table 2. Electrical characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$)

Symbol	Test conditions	Min.	Typ.	Max.	Unit
V_{BR}	$I_R = 1\text{ mA}$	6	-	-	V
I_{RM}	$V_{RM} = 3\text{ V}$	-	-	100	nA
$C_{I/O \text{ to GND}}$	Data (A1 and B1 bumps): $V_R = 0\text{ V DC}$, $F = 1\text{ MHz}$, $V_{OSC} = 30\text{ mV}$	-	0.85	1.2	pF
	ID (B2 bump): $V_R = 0\text{ V DC}$, $F = 1\text{ MHz}$, $V_{OSC} = 30\text{ mV}_{RMS}$	-	-	3	

Figure 3. Relative variation of peak pulse power versus initial junction temperature (typical value)

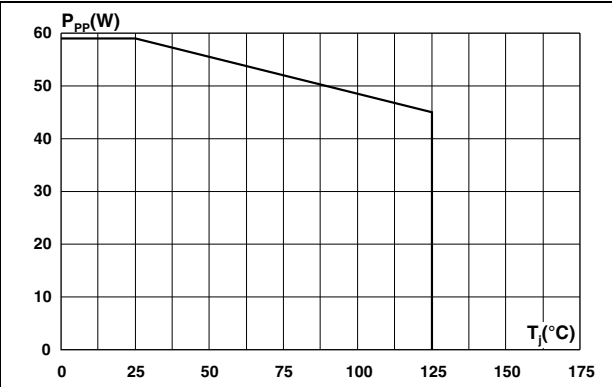


Figure 4. Peak pulse power versus exponential pulse duration (typical)

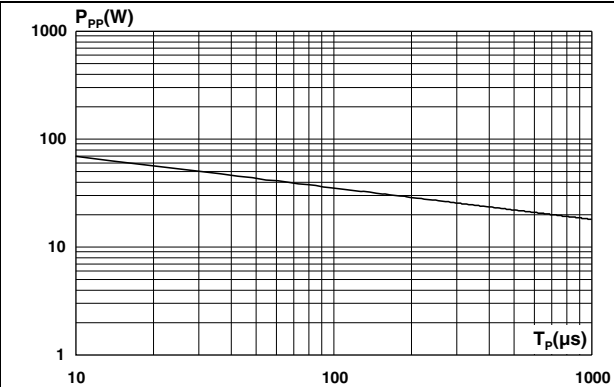


Figure 5. Clamping voltage versus peak pulse current (typical values, exponential waveform)

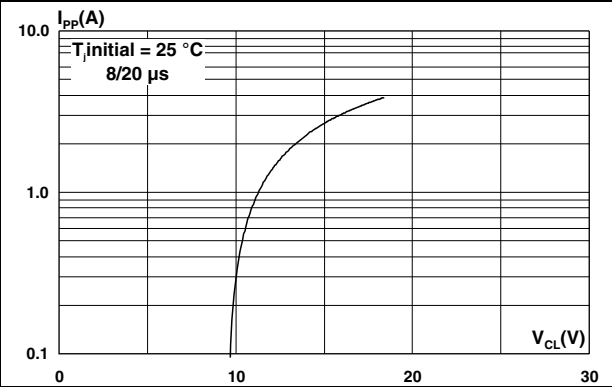


Figure 6. Forward voltage drop versus peak forward current (typical values)

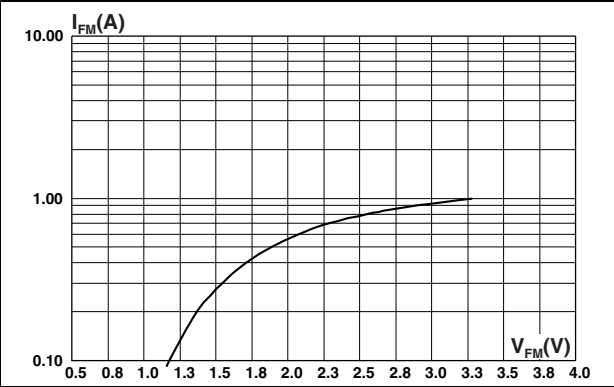


Figure 7. Junction capacitance versus reverse voltage applied (typical values)

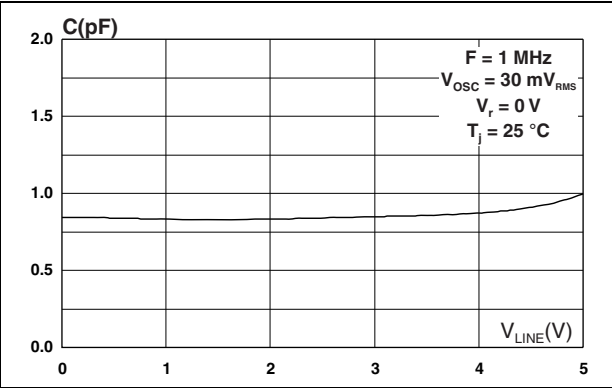


Figure 8. Junction capacitance versus frequency (typical values)

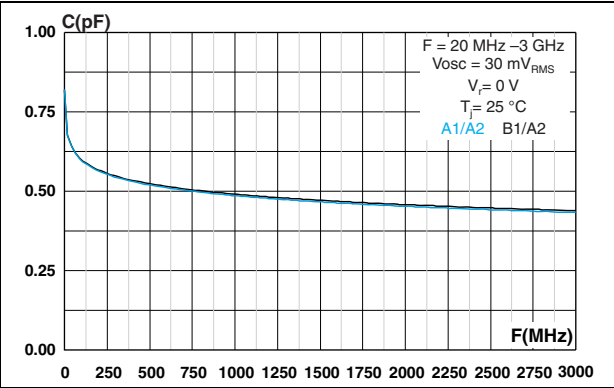


Figure 9. Leakage current versus junction temperature (typical values)

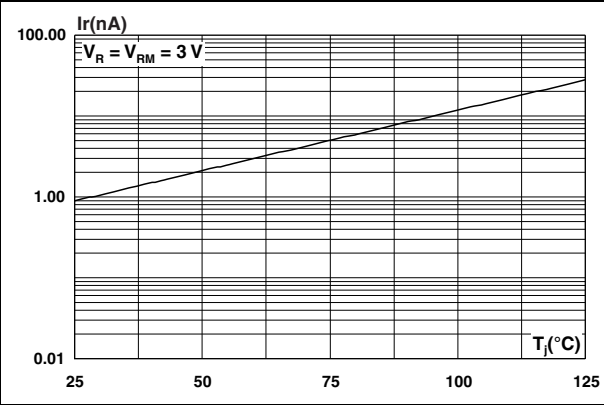


Figure 10. S21 (dB) attenuation

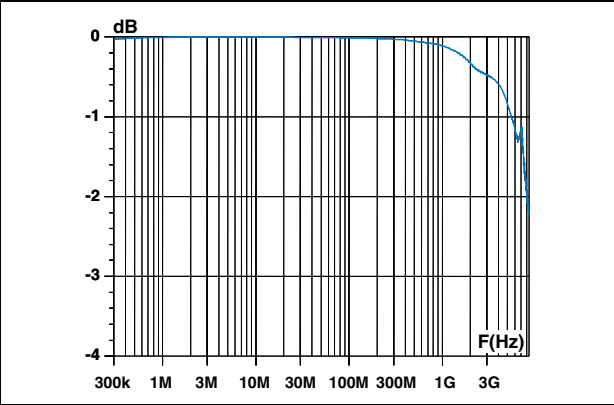


Figure 11. ESD response to IEC 61000-4-2 (+8 kV contact discharge)

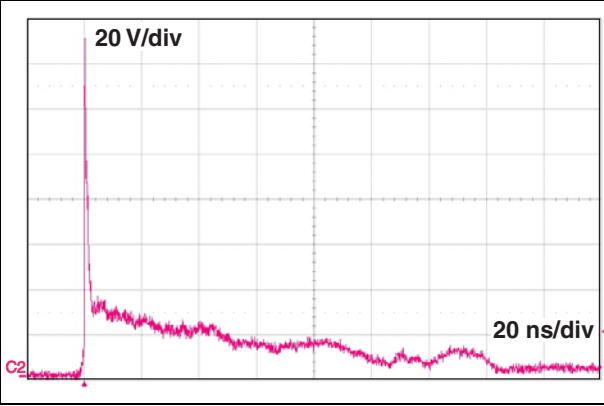


Figure 12. ESD response to IEC 61000-4-2 (-8 kV contact discharge)

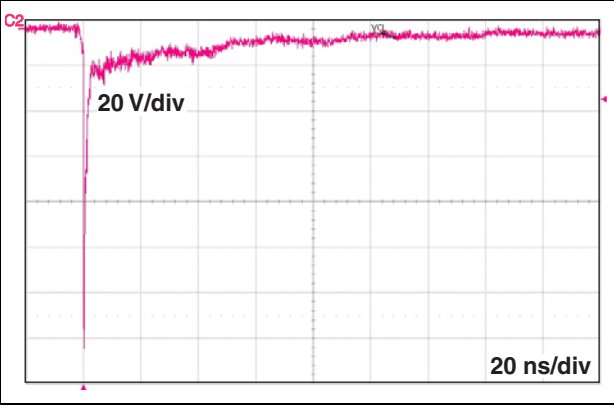


Figure 13. Eye diagram PCB only, 400 mV amplitude, F = 480 Mbps

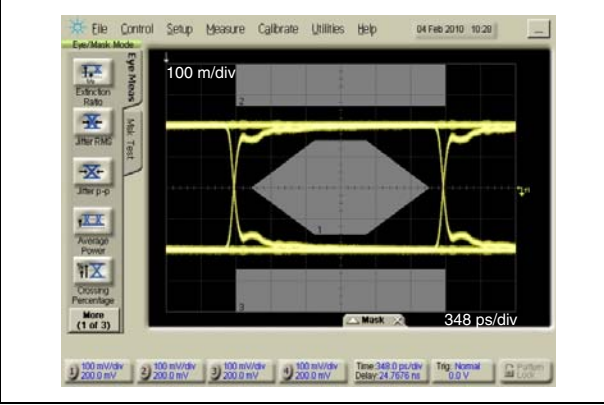
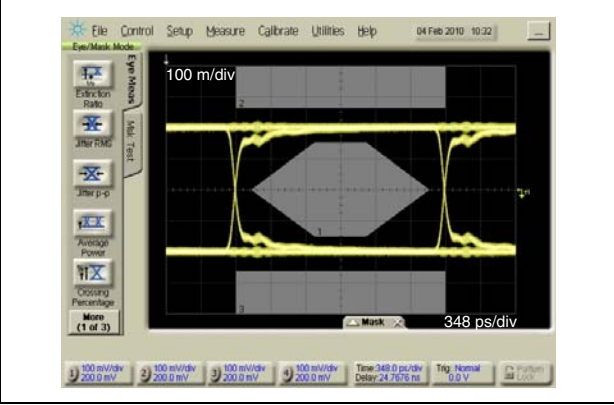
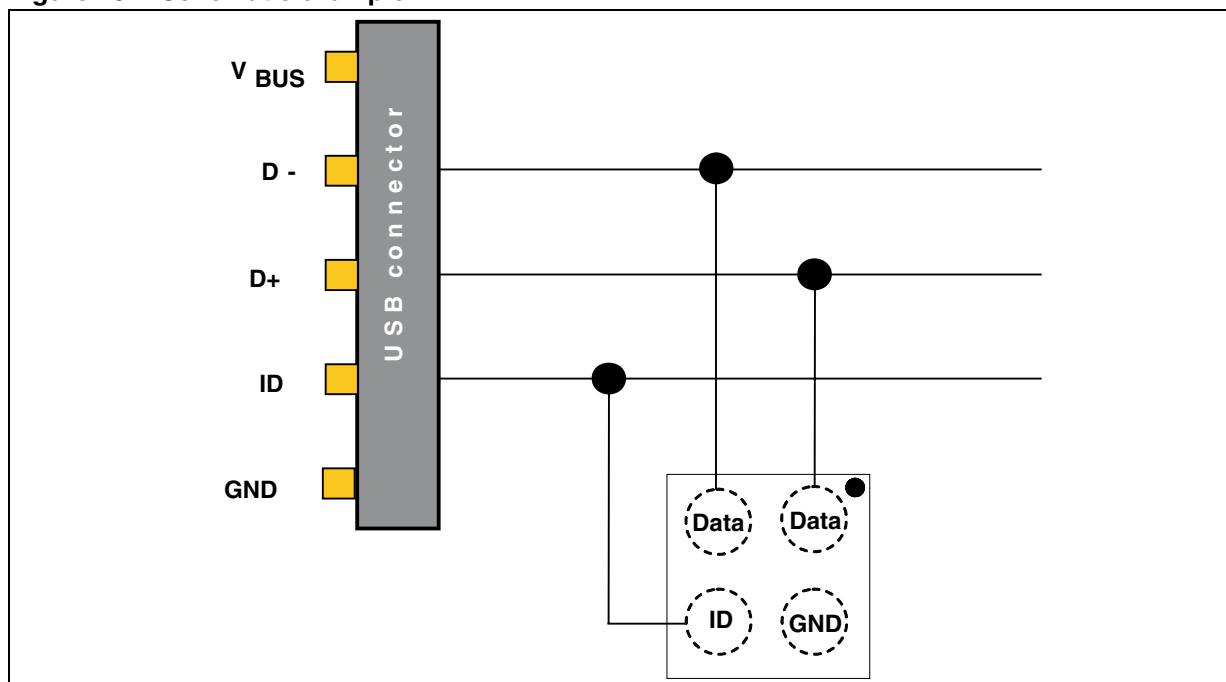


Figure 14. Eye diagram PCB + USBULC6-3F3 400 mV amplitude, F = 480 Mbps



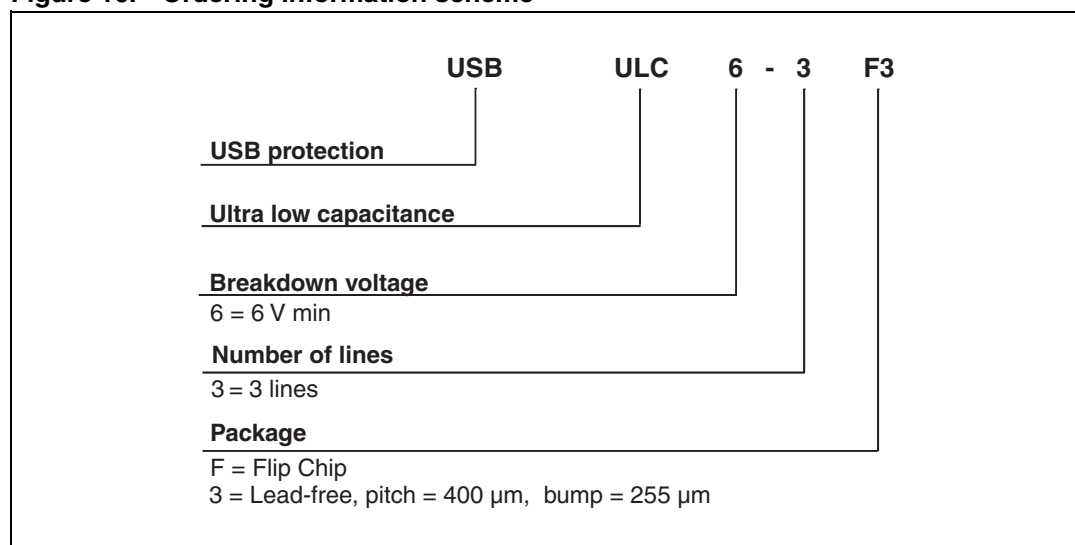
2 Application schematic example

Figure 15. Schematic example



3 Ordering information scheme

Figure 16. Ordering information scheme



4 Package information

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK® is an ST trademark.

Figure 17. Package dimensions

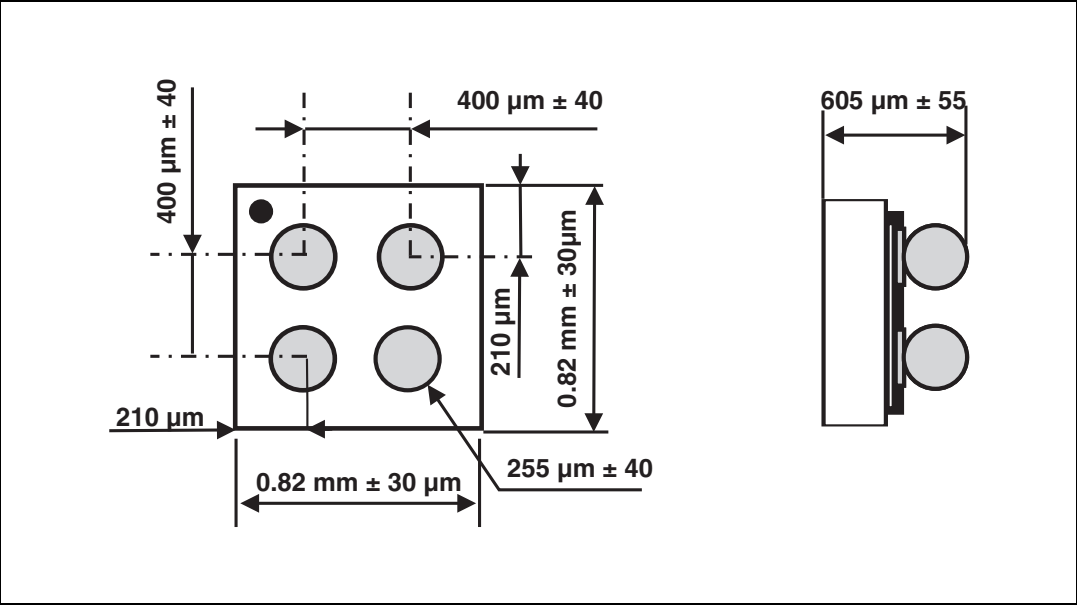
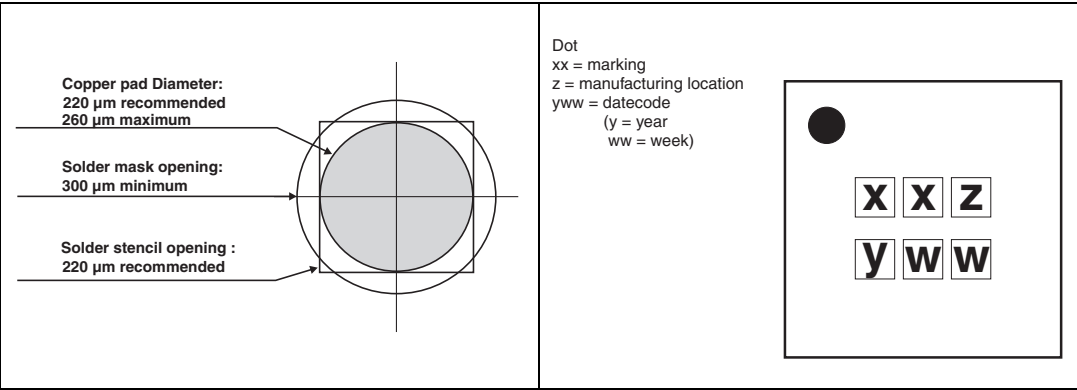
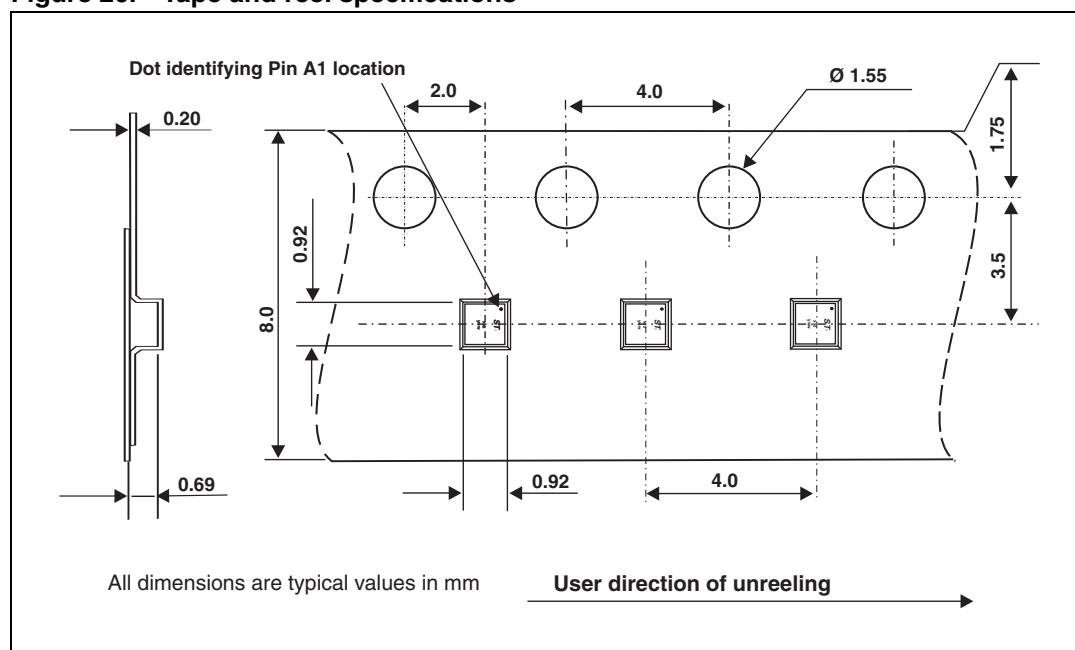


Figure 18. Footprint recommendations Figure 19. Marking



5 Tape and reel specification

Figure 20. Tape and reel specifications



6 Ordering information

Table 3. Ordering information

Order code	Marking	Package	Weight	Base qty	Delivery mode
USBULC6-3F3	EV	Flip Chip	0.86 mg	5000	Tape and reel

7 Revision history

Table 4. Document revision history

Date	Revision	Changes
01-Jul-2010	1	Initial release.
28-Mar-2012	2	Updated pin references in Table 2 . Corrected units for I_{pp} in Table 1 . Updated Figure 20 for device pitch.

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