

1 Characteristics

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

Symbol	Parameter	Value	Unit
T_j	Junction temperature	125	$^{\circ}\text{C}$
T_{op}	Operating temperature range	-40 to +85	$^{\circ}\text{C}$
T_{stg}	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

Figure 3. Electrical characteristics - definitions

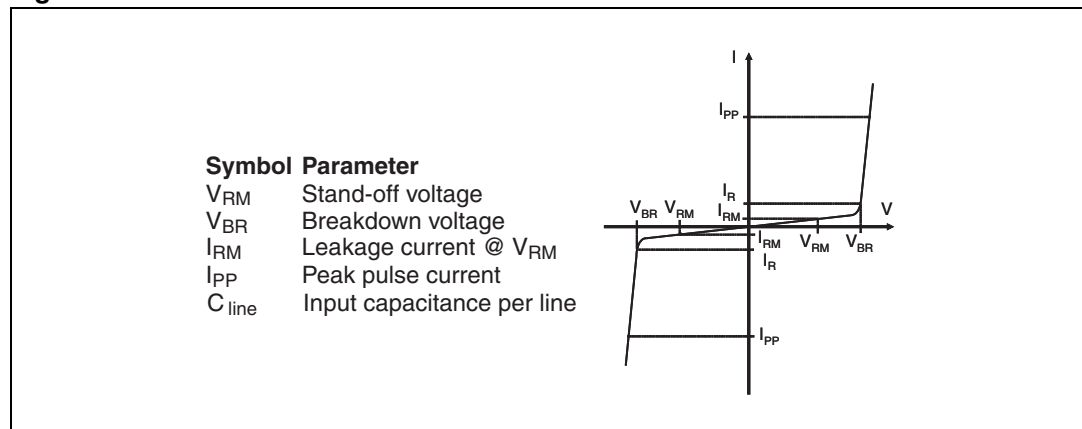


Table 2. Electrical characteristics - values ($T_{amb} = 25\text{ }^{\circ}\text{C}$)

Symbol	Test conditions	Min.	Typ.	Max.	Unit
V_{BR}	$I_R = 1\text{ mA}$	6	-	-	V
I_{RM}	$V_{RM} = 3\text{ V}$	-	-	0.5	μA
C_{line}	@ 0 V	-	40	45	pF
R_1, R_2	Tolerance $\pm 5\%$	-	33	-	Ω
R_3	Tolerance $\pm 5\%$	-	1.30	-	k Ω

Figure 4. S21 (dB) attenuation measurement Figure 5. Analog crosstalk measurements

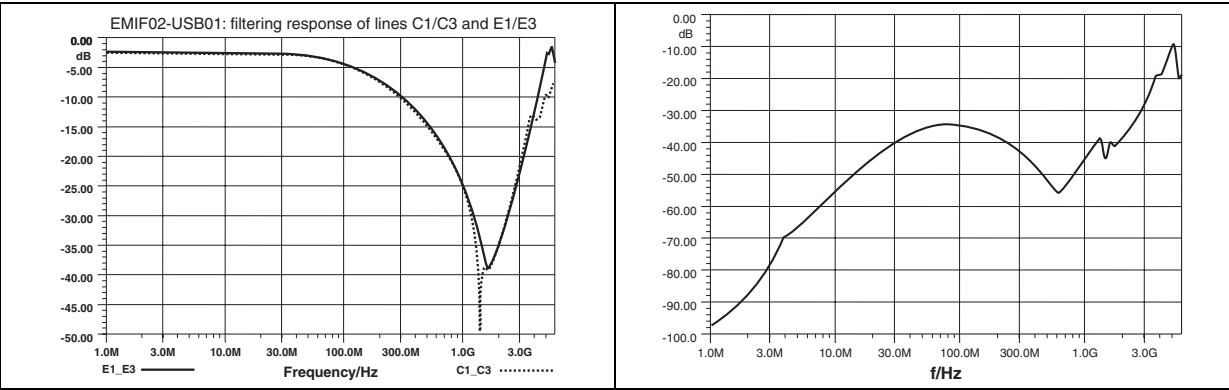


Figure 6. ESD response to IEC 61000-4-2 (+15 kV air discharge) on one input (Vin) and one output (Vout) Figure 7. ESD response to IEC 61000-4-2 (-15 kV air discharge) on one input (Vin) and on one output (Vout)

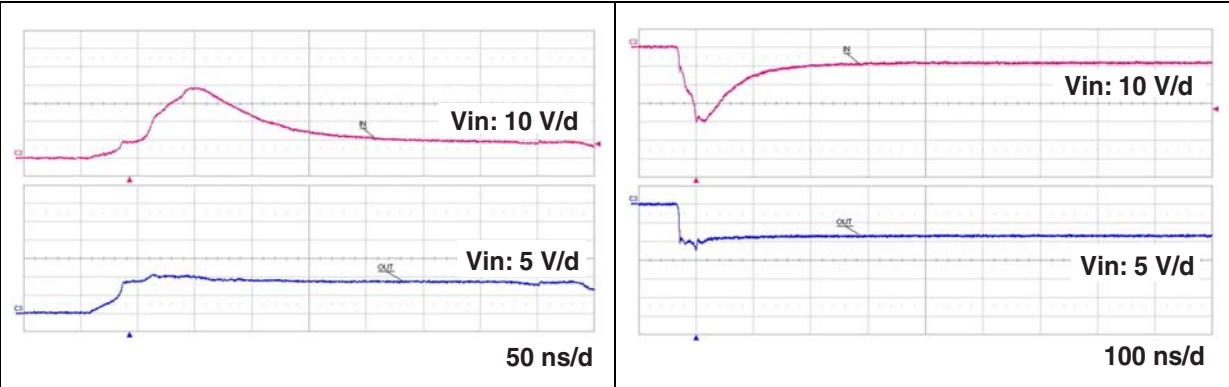
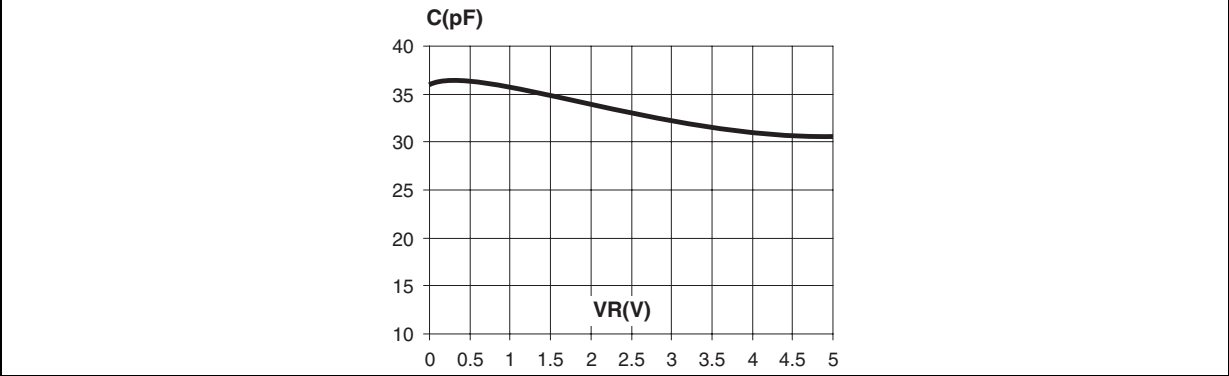


Figure 8. Capacitance versus reverse applied voltage (typical)



2 Application information

Figure 9. Aplac model (resistors, diodes and bumps and ground connections)

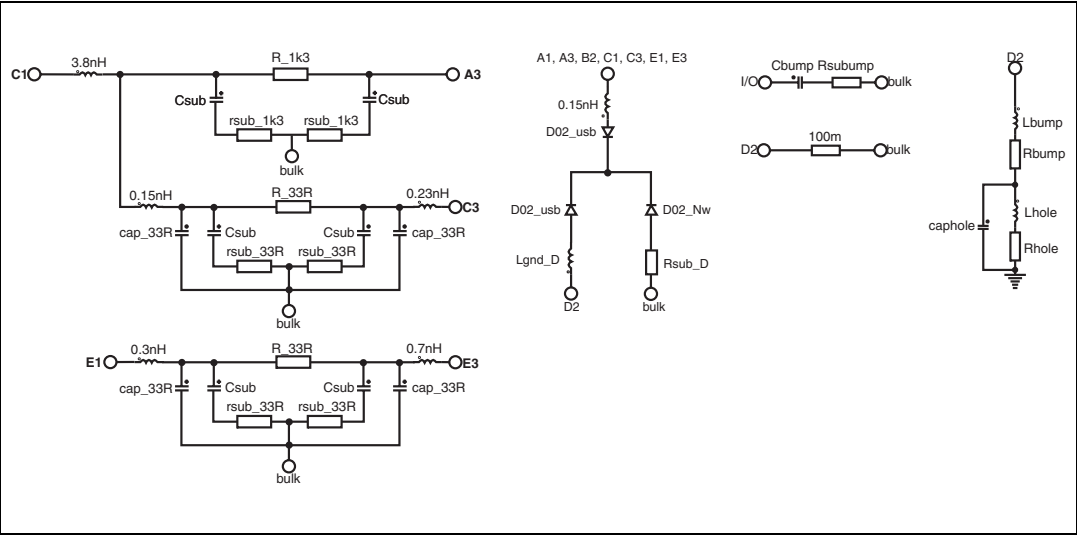
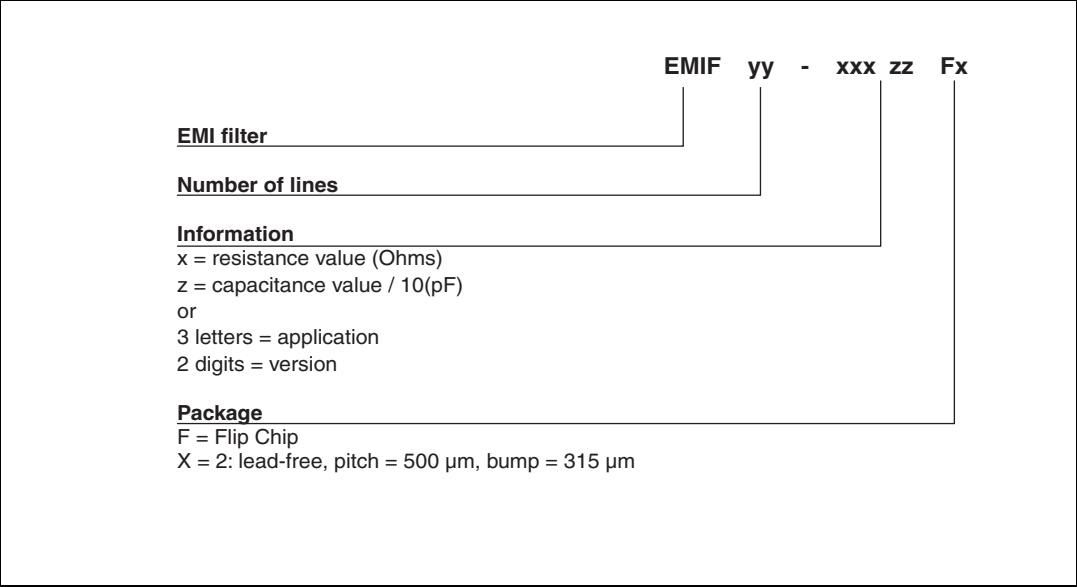


Figure 10. Aplac model parameters

R_33R 33.9	Model D02_Nw	Model D02_usb
cap_33R 1.2pF	BV=100	BV=16
	IBV=1m	IBV=1m
R_1k3 1.3k	CJO=6.8p	CJO=Cz
Cz29pF	M=0.3333	M=0.3333
Rsub_D 100	RS=2	RS=2
	VJ=0.6	VJ=0.6
	TT=100n	TT=100n
Csub0.3pF		
Rsub_33R 15		
Rsub_1k3 50		
Ihole10pH		
Rhole400m		
Caphole0.4pF		
Lgnd_D 150pH		
Lbump50pH		
Rbump50m		
Cbump1.5pF		
Rsubump150		

3 Ordering information scheme

Figure 11. 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 12. Package dimensions

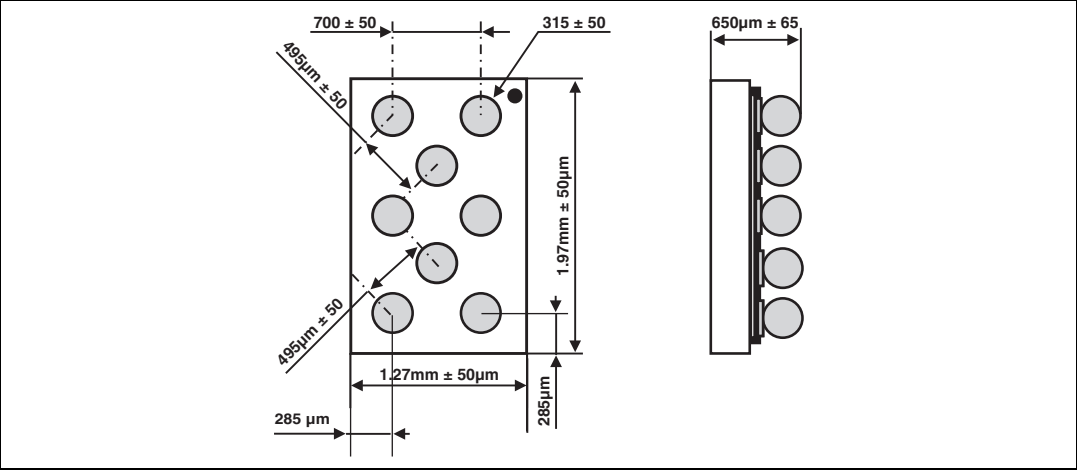


Figure 13. Footprint

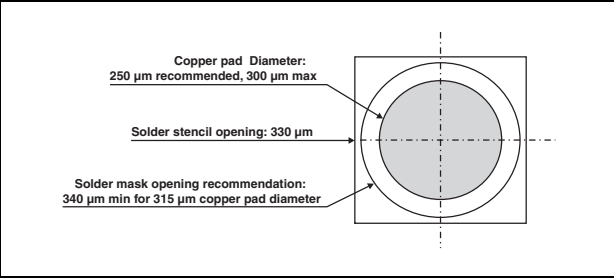


Figure 14. Marking

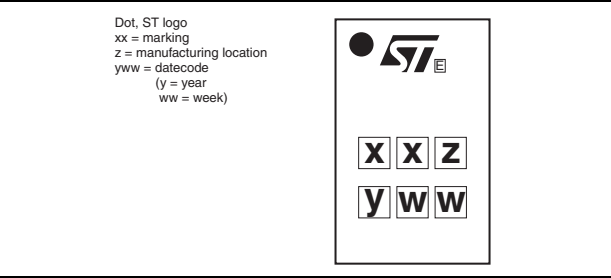
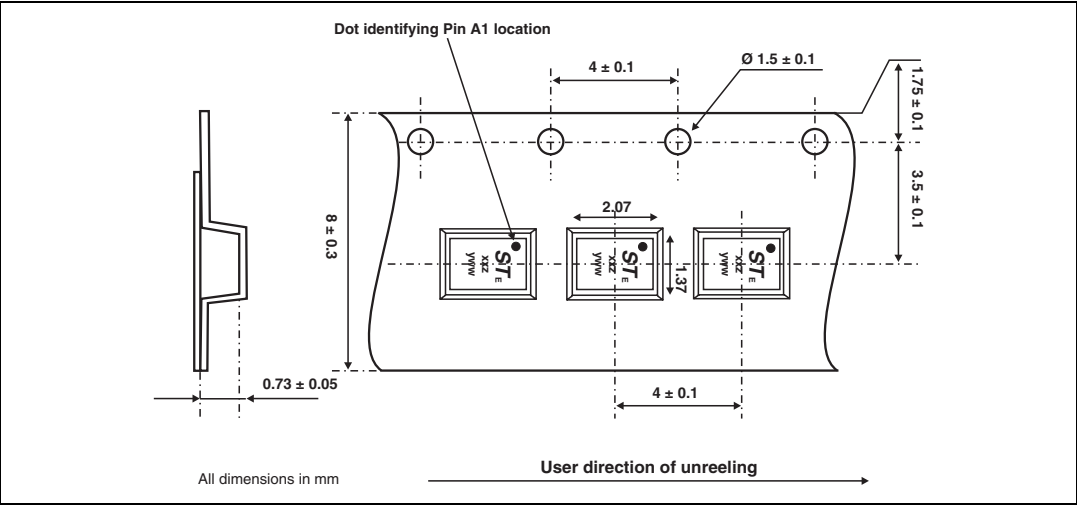


Figure 15. Flip Chip tape and reel specification



5 Ordering information

Table 3. Ordering information

Order code	Marking	Package	Weight	Base qty	Delivery mode
EMIF02-USB01F2	FF	Flip Chip	3.35 mg	5000	Tape and reel 7"

Note: More information is available in the application notes:
AN1235: "Flip Chip: Package description and recommendations for use"
AN1751: "EMI filters: Recommendations and measurements"

6 Revision history

Table 4. Document revision history

Date	Revision	Changes
26-Oct-2004	1	Initial release.
16-Apr-2007	2	Updated ECOPACK statement. Updated Figure 11 , Figure 12 and Figure 15 . Reformatted to current standards.
29-Apr-2008	3	Typographical errors corrected.
18-Sep-2009	4	Updated ESD graphic in Figure 6 and Figure 7 .

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