NXP NFC antenna protection diodes PESD18VF1BL and PESD18VF1BSF

High-performance, small form-factor devices protect the NFC antenna

The best ESD protection for NFC systems - from the global leader in ESD protection and Near-Field Communication (NFC).

Features

- Bidirectional configuration, allowing operating voltages up to 18 V
- Very low capacitance, enabling easy design of the antenna matching circuit
- Very small voltage dependency of the diode capacitance, avoiding intermodulation distortion
- Small form-factor packages of 1006 (0402 inch) and 0603 (0201 inch) standard size

General description

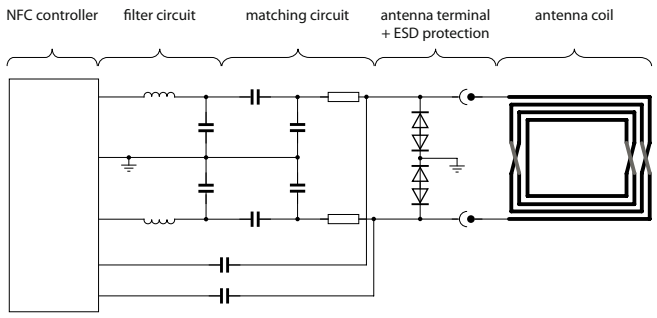
NFC is the breakthrough technology that allows tags in posters, check-in signs, and contactless payment terminals to interact with mobile phones. The NFC antenna is often integrated into the battery cover or the battery itself and is connected to the NFC ICs via small contacts on the phone – an entry point for ESD strikes which are potentially hazardous to the NFC IC. These new NXP devices are optimized for the requirements of the NFC system and ensure the best-possible protection of the NFC IC.

Selection guide

Type number	Protected lines	VRWM (V)	Cline typ (pF)	Cline max (pF)	ESD rating max (kV)	Configuration	Package	Size (mm)
PESD18VF1BL	1	18	0.35	0.5	10	Bidirectional	DFN1006-2	1 x 0.6 x 0.48
PESD18VF1BSF*	1	18	0.30	0.45	10	Bidirectional	DSN0603-2	0.6 x 0.3 x 0.3

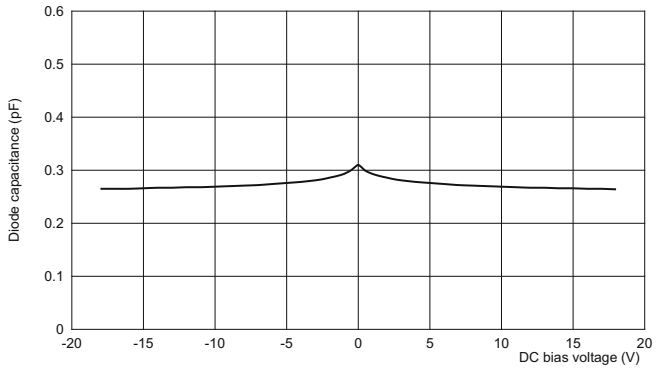
* in development

Circuit diagram



Using tiny packages makes PCB design more flexible.

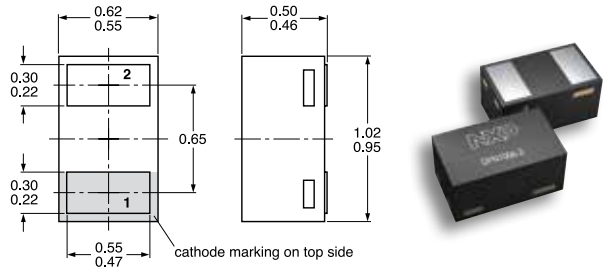
Diode capacitance versus bias voltage



The highly linear diode capacitance, with very small variation, minimizes signal degradation.

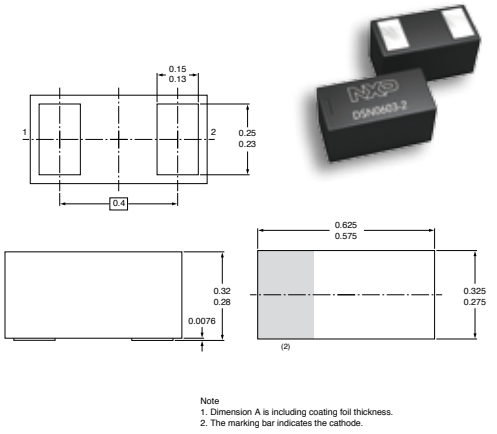
DFN1006 and DSN0603 packages

DFN1006-2 Outline



These small packages are ideally suited for use in slim, compact mobile devices.

DSN0603-2 Outline



Note
1. Dimension A is including coating foil thickness.
2. The marking bar indicates the cathode.

More information about NXP antenna protection

www.nxp.com/products/esd_emi_and_signal_conditioning/application_specific_esd_and_esd_emi_solutions/nfc_antenna_protection/

www.nxp.com

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