POLYONICS®

High Performance Polymer Technology

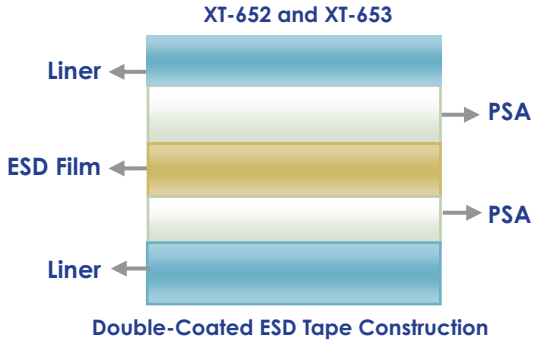
Application Profile: Bonding System for Static Sensitive Devices

Overview:

Polyonics double-coated tapes are ideal for bonding static sensitive devices (SSD) that will be exposed to extremely high temperatures and harsh manufacturing environments. This includes areas where the presence of electrostatic charges must be minimized. The tapes offer additional stiffness compared to transfer adhesives that, when combined with liners, allows die cutting and auto-application.

The double-coated REACH and RoHS tapes are resistant to those chemicals typically found in electronics manufacturing and remain dimensionally stable at elevated temperatures. In addition, they provide excellent electrical properties, including dielectric strength, which provide electrical insulation and isolation. Polyonics double-coated tapes offer exceptional bond strength and provide a thin, conformal bond line to increase the overall integrity of joints.

Double-Coated Polyimide Tapes



Double-Coated ESD Tape Construction

Construction:

The diagram left shows the double-coated ESD composite construction. Both high temperature acrylic (XT-652) and ultra-high temperature silicone (XT-653) pressure sensitive adhesives (PSA) are laminated to both sides of a 1mil low voltage polyimide ESD film. A variety of liners are available that add additional stiffness to help to suit most die cutting processes.

Technology:

The ESD tapes use TriboGard™ technology to produce low peel voltages (<100v) when the liners are removed prior to bonding parts to substrates (chart below). This helps prevent the generation of electrostatic charges during assembly and a spike in current that could damage the component or device.

For temporary applications, where the ESD tapes are used during a portion of the manufacturing process, the tape will again produce a low peel voltage (<100v) when removed from the substrate[1] helping to further prevent an ESD event from occurring.

Peel voltages generated by ESD and non-ESD films

Operation	ESD Tape	Non -ESD Tape
Remove liner	<100 v	>2,500 v
Remove tape - Aluminum	<100 v	>2,500 v
Remove tape - PCB	<100 v	>2,500 v

[1]Depends on temperature and time and must be tested in actual environment