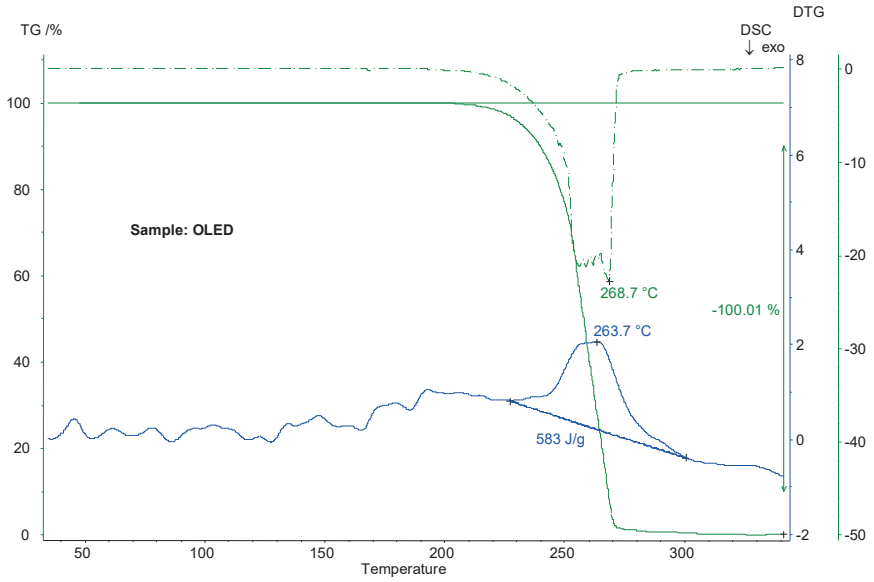
APPLICATION**SHEET**

Organics · Electronics
STA 449 ***F1*** *Jupiter®*

OLEDS (Organic Light Emitting Diodes)

Introduction

An organic light emitting diode (OLED) is a thin film light emitting diode (LED) in which the emissive layer is an organic compound. OLED technology is intended primarily as picture elements in practical display devices. These devices promise to be much less costly to fabricate than traditional LCD displays. When the emissive electroluminiscent layer is polymeric, varying amounts of OLEDs can be deposited in rows and columns on a screen, computer displays, portable system screens, and in advertising and information board applications. OLED may also be used in lighting devices. OLEDs are available as distributes sources while inorganic LEDs are point sources of light. One of the great benefits of an OLED display over the traditional LCD displays is that OLEDs do not require a backlight to function. This means that they draw far less power and, when performed from a battery, can operate longer from the same charge. Derivates of PPV, poly(p-phenylene vinylene) and poly(fluorine), are ommonly used as polymer luminophores in OLEDs. Indium tin oxide is a common transparent



Test Conditions

Temperature range:	RT ... 350°C
Heating/cooling rates:	5 K/min
Atmosphere:	High vacuum (10^{-5} mbar)
Sample mass:	7.32 mg
Crucible:	Al
Sensor:	TGA-DSC type S

Test Results

An OLED material was studied in high vacuum using the STA technique (simultaneous TGA and true DSC). In the temperature range between 220°C and 270°C, the sample completely evaporates as can be seen from the TGA and DTG curves. The DSC signal exhibits an endothermal effect in the same temperature interval with an enthalpy of 580 J/g which reflects the vaporization energy. For this measurement under high vacuum, the vacuum-tight design of the STA apparatus as well as a good stability of the thermobalance are prerequisites.

NGB · Application Sheet 058 · E · 0621 · Technical specifications are subject to change.

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