

## TeraSpike THz 近场探针 微区探针(TeraSpike microprobe series)

品牌：Protemics

型号：TeraSpike TD-800-X(横向场微探针)

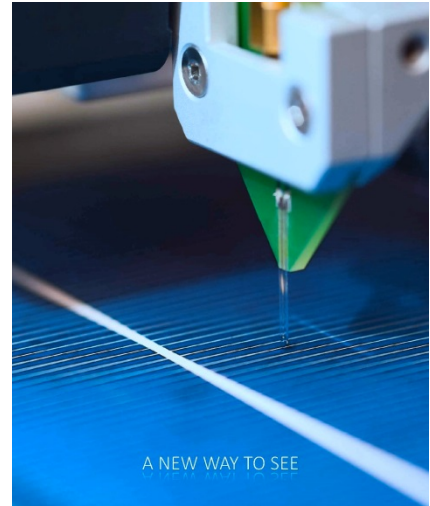
TeraSpike 是新一代的微探针，用于太赫兹频率范围内电场的光电导检测。基于客户的反馈和不断增长的应用驱动的需求，我们对近场探针进行了彻底的重新设计并且开发成功。新的探针是一款多用途表面近场电场探测器，适用于太赫兹波长范围内，具有前所未有的性能，可靠并且可适应。它可以完美地集成到太赫兹时域系统，在 860 nm 以下光激发，这是最高性价比的解决方案，将您的系统变成功能强大的高分辨率近场太赫兹系统。

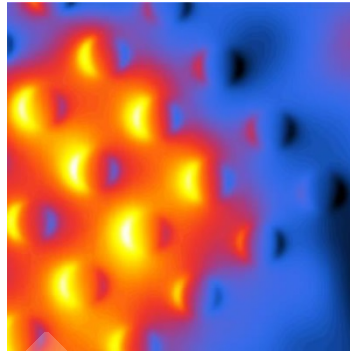
### 产品特点：

- 市场上最小的 THz 探针
- 专利设计
- 空间分辨率可达 3 $\mu$ m
- 探测频率范围：0-4THz
- 适用于所有基于激光的 THz 系统
- 安装可兼容标准的光机械组建
- 典型激发光强度 1-15mW ( 1-5 $\mu$ J/cm<sup>2</sup> )
- 集成过载保护电路

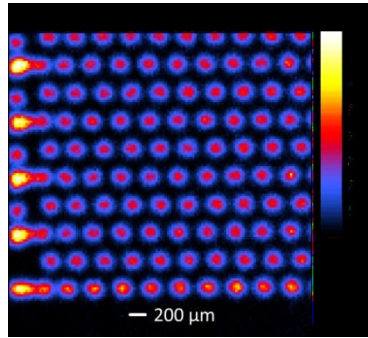
### 应用：

- 太赫兹研究：超材料，等离子体，石墨烯，波导
- 高分辨率太赫兹近场成像
- 非接触式薄膜电阻半导体成像
- MMIC器件特性分析
- 无损检测芯片
- 时域反射计（TDR）



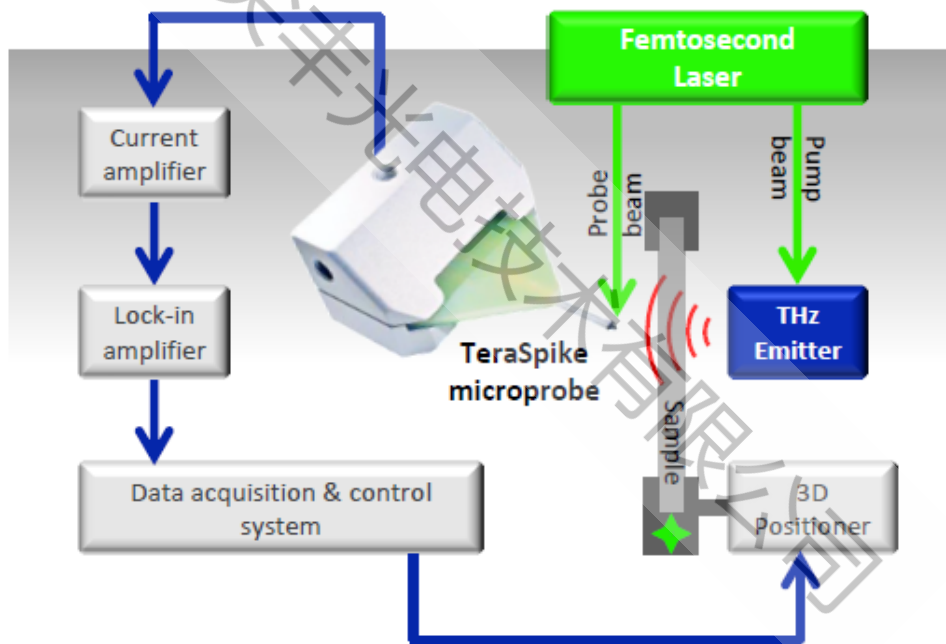


测量脉冲激发的 THz 超物质表面的近场图像



测量激光刻蚀多晶硅晶圆的薄层导电率图像

## 基于飞秒激光的 THz 系统

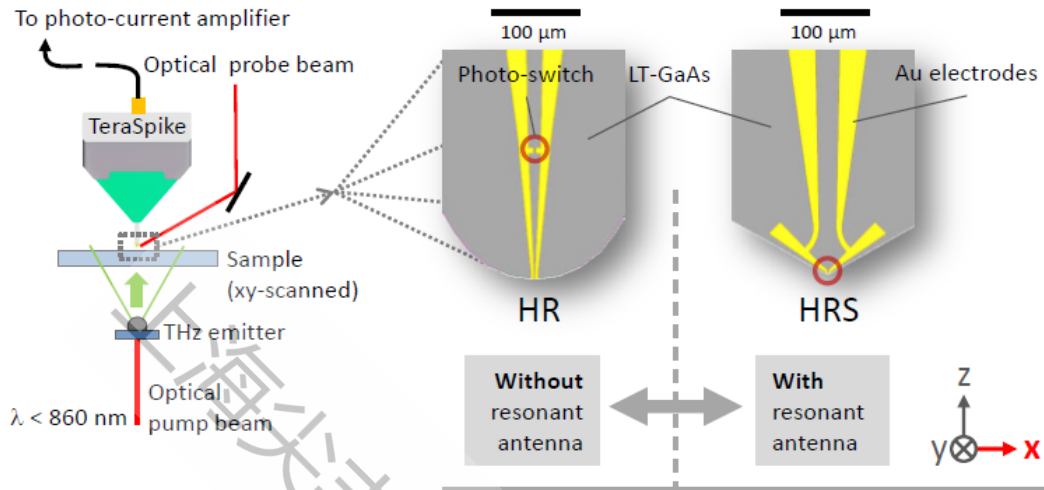


*Simplified exemplary scheme of a TeraSpike-enabled THz near-field imaging system.*

## THz 探针典型参数

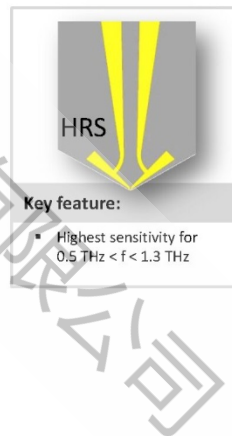
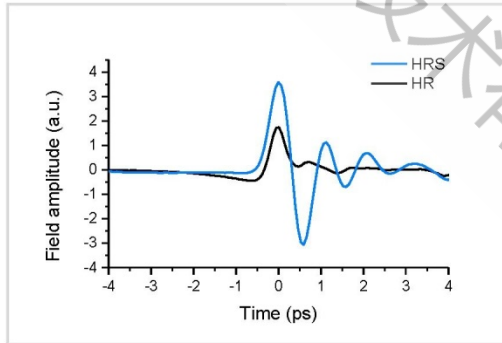
TeraSpike TD-800-X-	HR	HRS
Max. spatial resolution	3 $\mu\text{m}$	20 $\mu\text{m}$
PC gap size	1.5 $\mu\text{m}$	2 $\mu\text{m}$
Dark current @ 1 V Bias	< 0.5 nA	< 0.5 nA
Photocurrent (*)	> 1 $\mu\text{A}$	> 0.6 $\mu\text{A}$
Excitation wavelength	700 .. 860 nm	
Avg. excitation power	0.1 .. 4 mW	
Connection type	SMP	

## Set-up (exemplary for near-field transmission measurements)

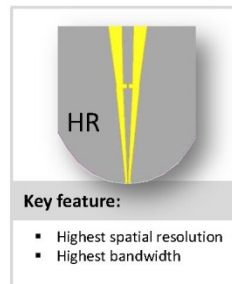
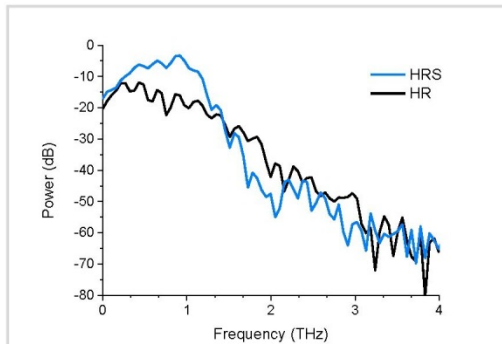


All TD-800-X probes are sensitive to **x-oriented** field components

### Time-domain measurement data



### Frequency-domain measurement data



## TeraSpike THz 近场探针 微区探针(TeraSpike microprobe series)

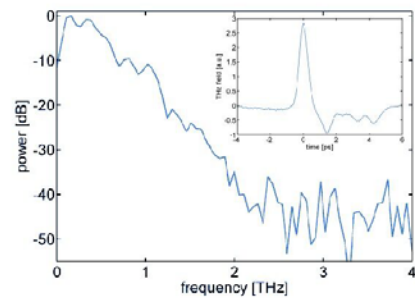
品牌：Protemics

型号：TeraSpike TD-800-Z (纵向场微探针)

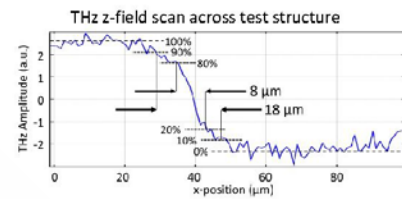
技术参数

<b>TeraSpike TD-800-Z-</b>	<b>A-500G</b>
Max. spatial resolution	8 $\mu\text{m}$
PC gap size	5 $\mu\text{m}$
Dark current @ 1 V	< 0.4 nA
Bias	
Photocurrent (*)	> 0.5 $\mu\text{A}$
Excitation wavelength	700 .. 860 nm
Avg. excitation power	0.1 .. 4 mW
Connection type	SMP

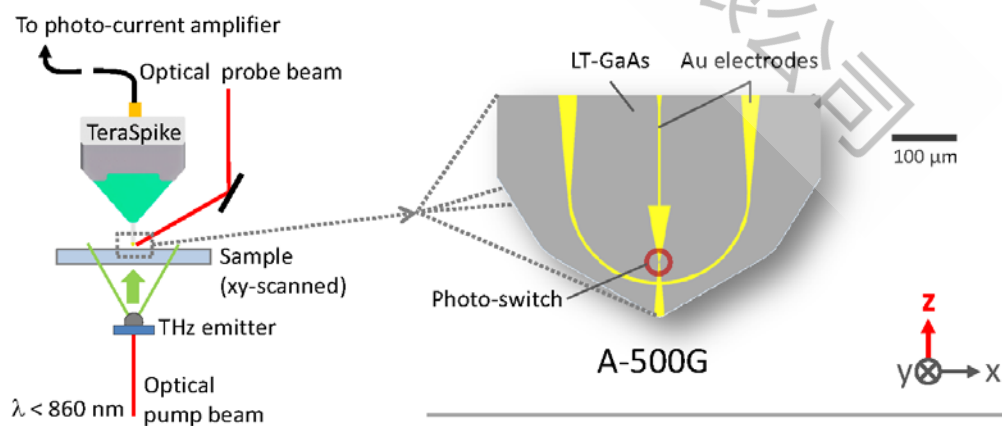
### Time-domain (FFT) data



### Spatial resolution



### Set-up (exemplary for near-field transmission measurements)



All TD-800-Z probes are sensitive to **z-oriented** field components

## TeraSpike THz 近场探针 无偏置太赫兹脉冲产生探针(Bias-free THz pulse generation probe)

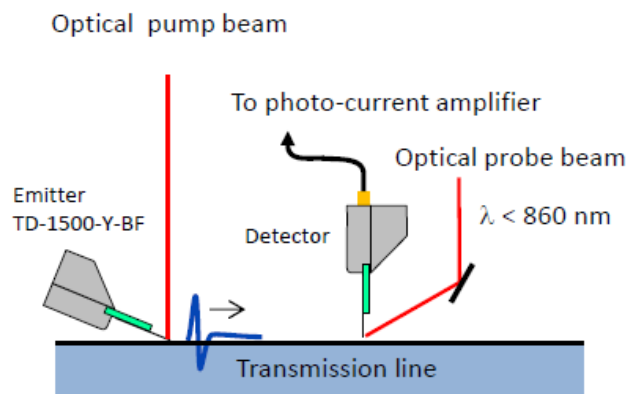
品牌：Protemics

型号：TeraSpike TD-1550-Y-BF(无偏置太赫兹脉冲产生探针)

规格参数：

<b>TeraSpike</b>	<b>-BF</b>
<b>TD-1550-Y</b>	
Pulse rise time	<1 ps (down to 0.4 ps)
Bandwidth*	0.01 .. 2.5 THz
Excitation wavelength	700 .. 1600 nm (<860nm recommended)
Avg. excitation power	0.1 .. 4 mW
Cantilever material	InGaAs (n-type)
Lateral tip radius	8 .. 12 $\mu\text{m}$
Cantilever length	570 .. 600 $\mu\text{m}$

### Set-up (example for TDR)



### Emitter scheme

