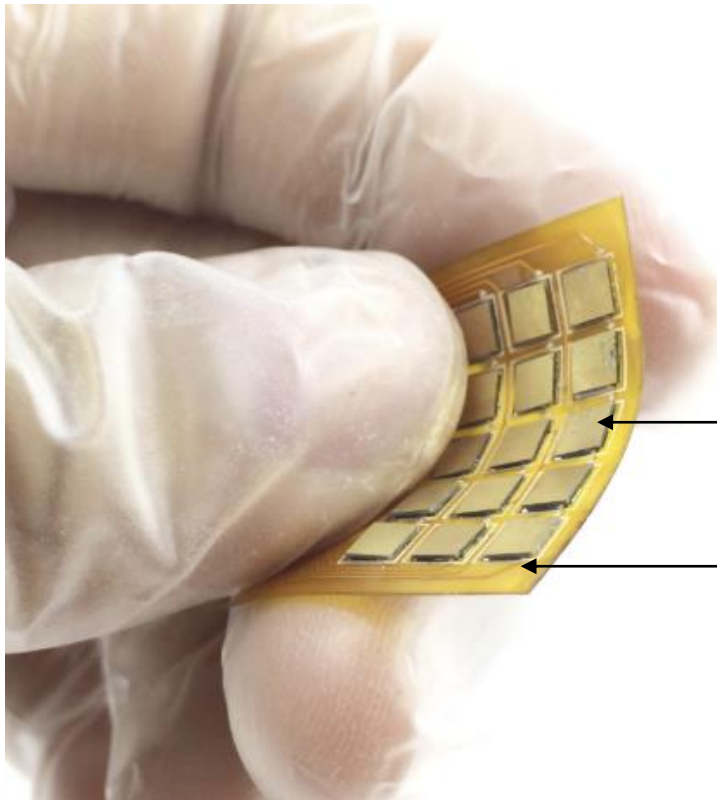


Flexible Thermoelectric Generator Array

Designed by
THESIS



Pixel thermoelectric elements

Flexible polyamide substrate

What is it?

Thermoelectric generators (TEGs) are semiconductor devices that convert heat (temperature differences) directly into electrical energy through the Seebeck effect.

As an energy harvester, mini-TEGs could be used to power small wearable smart devices and tracking Internet-of-Things (IoT) devices. Unfortunately, many heat sources such as the human body have arbitrary and curved shapes rather than flat surfaces, therefore making it difficult to capture the heat efficiently with the conventional flat and inflexible TEG devices.

THESIS has designed an ultra-thin (0.62mm profile) and high-output mini flexible TEG that could be used to power small wearable smart devices such as next generation smart watches, thermal management of sensors, photonics, thermal cycling applications and health metric trackers enabling longer device operation as well as augmenting battery lifespans. Contact us contact@onethesis.com for licencing options today!

Preliminary Specifications

	$\Delta T = 5^{\circ}\text{C}$	$\Delta T = 25^{\circ}\text{C}$	$\Delta T = 85^{\circ}\text{C}$
$Q_{\max} / \text{Area (W/cm}^2\text{)}$	9	75	95
V_{\max}	10	120	150
$R_{\text{electric}}(\Omega)$	60	120	138