



## Silicon Carbide (SiC) Performance –Temperature & Power

### TEMPERATURE

What effect does temperature have on performance?

IFW measured a  $T_k$  of  $<-0.06\%/K$  for peak response at 270nm. This value varies a little from lot to lot of SiC-wafer.  $T_k$  is wavelength depended too. It will be higher at higher wavelength. If the maximum power output (maximum of power at 300 ... 350nm) is in the longer wavelength range  $T_k$  will become higher (estimate - 0.1%/K). The response decreases with an increase in temperature and increases with a decrease in temperature.

### POWER

Is there any data on the change in responsivity for different UV power levels? How linear is the response as the UV power levels go up?

- a. There is no change in responsivity over 5000 hours at power levels below 1000W/m<sup>2</sup>
- b. Response is linear up to 1000W/m<sup>2</sup>

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