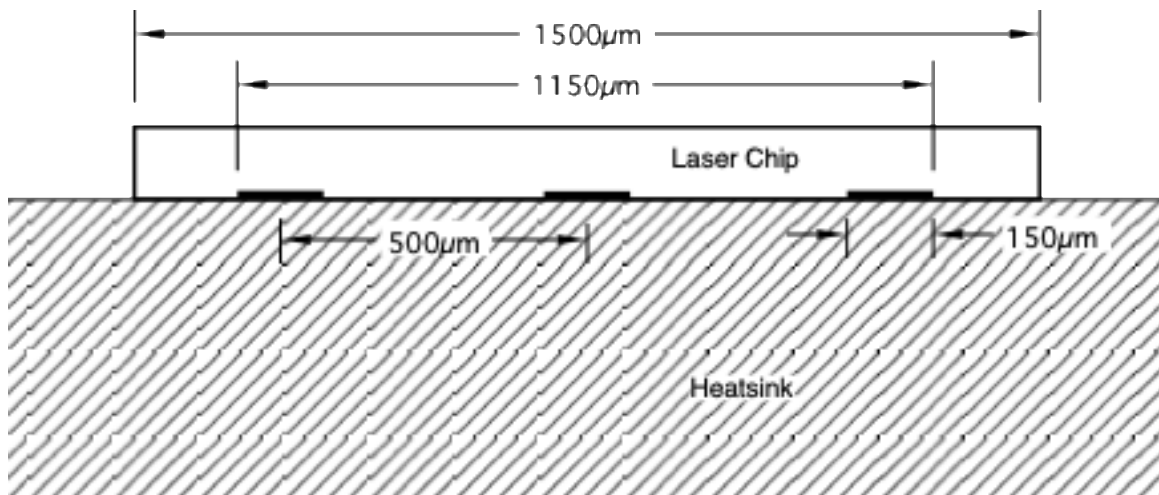


## AN-17 CUSTOMIZED EMITTER CONFIGURATIONS



LDX Optronics can package multiple emitters on a single chip to achieve higher output power. All of the products on our standard products list are single-stripe products, consisting of a single wide-emitting region (width 50µm~300µm).

In many cases, we can offer customized multi-stripe versions of our standard products that are capable of higher output power. We can produce devices with multiple emitting regions on a single laser chip. Devices with 2 or 3 emission stripes can be packaged onto a single C-mount. In some cases, 10-20W from a single C-mount is possible.

These multi-stripe devices can not always offer 2 or 3 times the output power of a single emitter. With a multi-stripe device, more waste heat will be generated, and the devices will run at higher temperatures. Depending on the chip's temperature sensitivity, the output power per stripe may need to be de-rated from the single-emitter rating. In some cases, with very temperature-sensitive laser material, a multi-stripe device may not even be practical.

A proposed multi-emitter product will generally require testing and evaluation of the configuration to determine the output power capabilities. Some life testing may also be required to verify reliability.

The sketch above shows a sample multi-emitter part. In this case, there are 3 emitters in the grouping, each 150µm wide. The emitters are spaced on 500µm centerlines. Thus, the total aperture (width) of the emitting region is 500µm + 500µm + 150µm, or 1150µm.

The options for the number of stripes, stripe width, and stripe spacing will vary depending on the availability of suitable material at LDX. Typical stripe spacing would be between 200µm and 600µm, and the individual stripe width would be 50µm to 300µm.