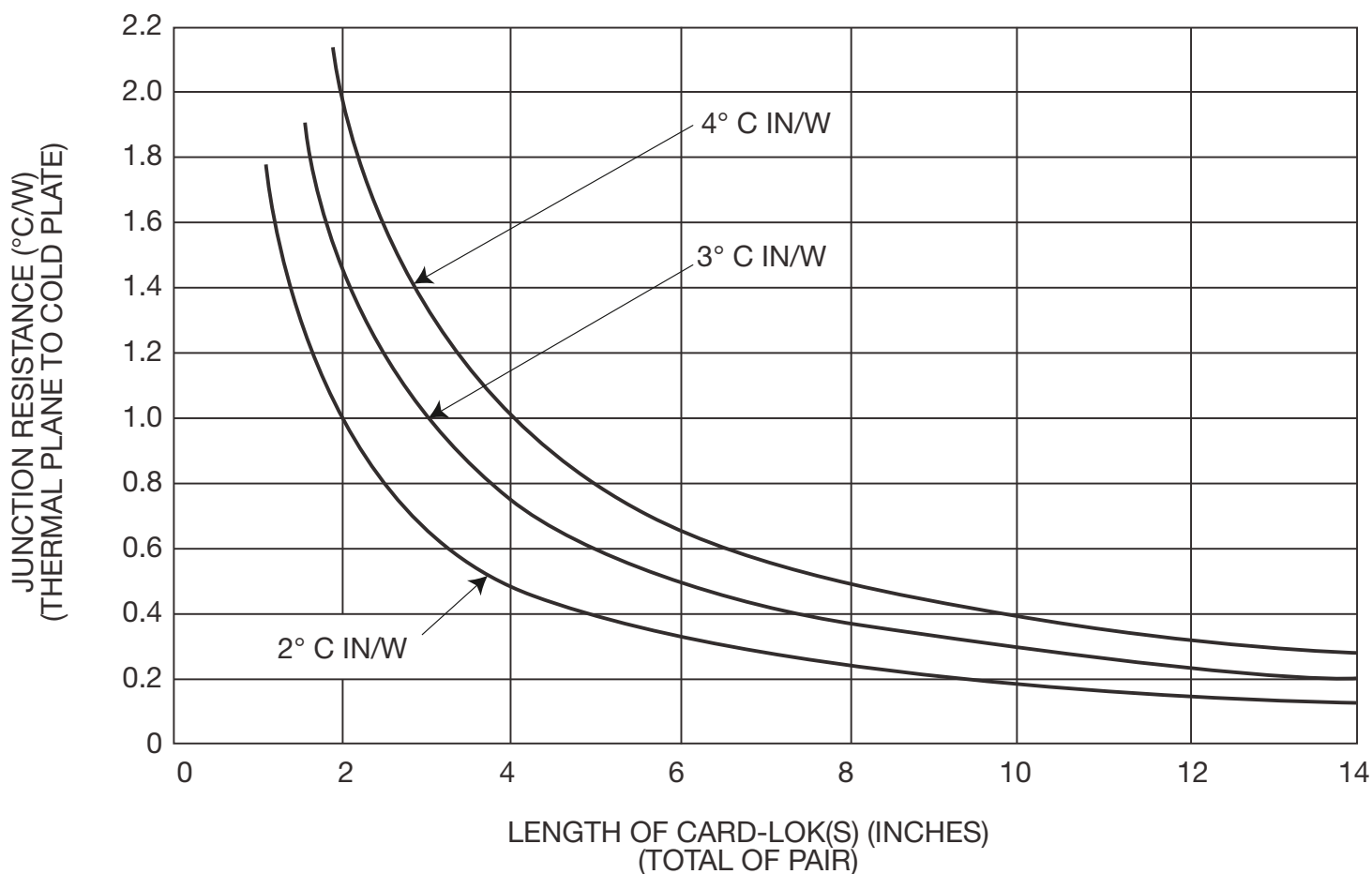


Testing performed by numerous users of Calmark's Series 225 and similar size Card-Loks (approx. 6.35 [.25] high) has shown that the thermal resistance across the interface of a card which is clamped to a cold plate will usually fall within the range of 2° to 4°C inch/watt. Three piece Card-Loks of shorter lengths will usually provide results close to the 2, while longer Card-Loks (over 6 inches) may fall closer to the 4.

These thermal resistance numbers apply when testing is performed at or near sea level. When the same testing is performed at high altitude or near vacuum conditions the results can be significantly affected. Increases of from 10 to 40 percent would not be unusual, especially with the longer three piece Card-Loks.

Five piece Card-Loks, such as the Series 260 or 265, with their greater and more evenly distributed clamping force, will greatly reduce these potential gradients.

The following chart provides an easy method of estimating the temperature rise across the interface (junction) of the card and cold plate when thermal conductivity is the only means of heat transfer considered (heat loss due to radiation and convection minimized).



Example: A card using a pair of 127mm (5.00 inch) long Card-Loks is clamped to a pair of cold plates and is dissipating 50 watts of power:

Total length of Card-Loks is 254 (10), [127 (5) x 2]

Junction resistance is shown as between 0.2° and 0.4°C/W

Therefore, at their junction, card temperature will rise between 10° and 20°C above the cold plate. [0.2°C/W x 50(W) = 10°C]