

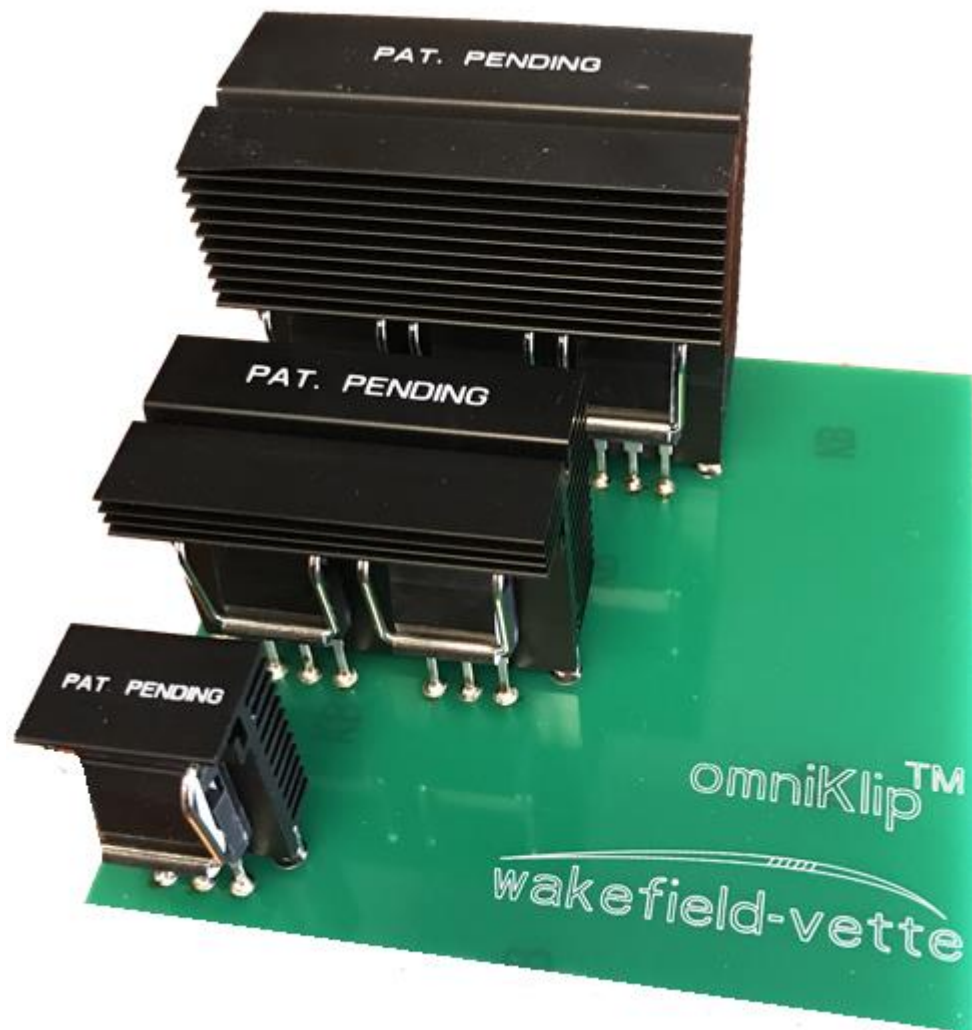
# omniKlip™

wakefield-vette

## TO-Device Heat Sink with *Universal Clipping Method*



Contact:  
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## omniKlip Series Heat Sink w/ Clip (s) for TO-Devices

The Wakefield- Vette omniKlip heat sink series are a configurable and patented (Pat. Pending) high performance, low cost and compact solutions for TO-220, TO-247 and TO-264 , or similar packages. This powerful heat sink provides tool and fixture free assembly operation, largest surface areas and smallest space occupation. It is the ideal type of heat sink for high power density and small size (1U or 2U) electronic packaging with forced convention cooling.

### Features & Benefits

- **Minimum assembly cost and labor**

Spring Clips make the mounting holes, fasteners, tools and fixtures obsolete in assembly operations & reduce costs.

- **Maximum Repeatability**

Constant spring force over repeated assembly/disassembly

- **Maximum Reliability**

Resilient spring action locks electronic component in place. Fewer parts in assembly and no fasteners and washers required. Prevent short circuit by eliminating metal particles generated from hardware or thread tapping

- **Design Flexibility**

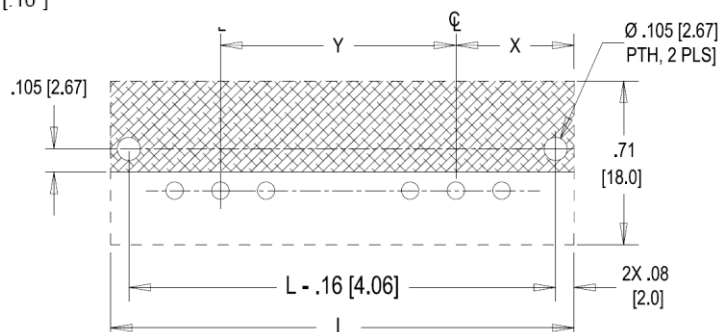
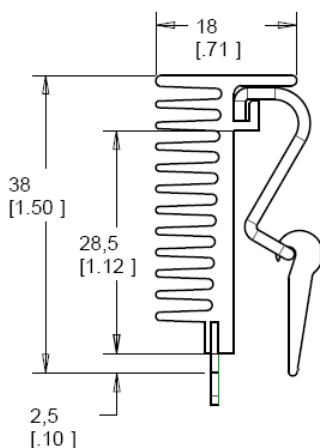
Maximum flexibility for dynamic device locations and power up grading. **"Configure-to-Fit"** gives designers total freedom to configure heat sink needed to fit their dynamic design environments.

### Specifications

- **Heat Sink:** Aluminum Alloy 6063-T5 or Equivalent with black anodized finish.
- **Spring Clip:** Music Wire, Per ASTM A228 with bright nickel plating
- **Solder Foot:** Cold-rolled Steel, Per ASTM A-366 with pure tin over copper strike. RoHS compliant.

# omniKlip™

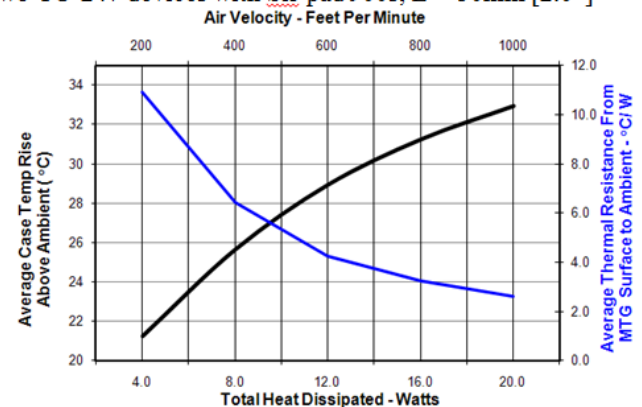
### OMNI-CLIP-18-L Series Heat Sink

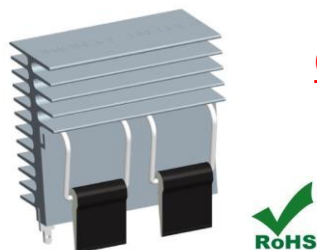


WkV Part Number	Description	Related Clip	Package Cooled	Length	Width	Height Off Base (Height of Fin)
OMNI-UNI-18-25	OmniKlip Heat Sink , 18mm wide, 25mm long, black anodized for TO-247 & TO-264	OMNI-UC	TO-247, TO-264	0.984" (25.00mm)	1.500" (38.10mm)	0.710" (18.03mm)
OMNI-UNI-18-50	OmniKlip Heat Sink , 18mm wide, 50mm long, black anodized for TO-247 & TO-264	OMNI-UC	TO-247, TO-264	1.969" (50.00mm)	1.500" (38.10mm)	0.710" (18.03mm)
OMNI-UNI-18-75	OmniKlip Heat Sink, 18mm wide, 75mm long, black anodized for TO-247 & TO-264	OMNI-UC	TO-247, TO-264	2.95" (75.00mm)	1.500" (38.10mm)	0.710" (18.03mm)
OMNI-220-18-25-1C	OmniKlip Heat Sink w/1 clip, 18mm wide, 25mm long, black anodized for TO-220		TO-220	0.984" (25.00mm)	1.500" (38.10mm)	0.710" (18.03mm)
OMNI-220-18-50-2C	OmniKlip Heat Sink w/2 clips, 18mm wide, 50mm long, black anodized for TO-220		TO-220	1.969" (50.00mm)	1.500" (38.10mm)	0.710" (18.03mm)
OMNI-220-18-75-3C	OmniKlip Heat Sink w/3 clips, 18mm wide, 75mm long, black anodized for TO-220		TO-220	2.95" (75.00mm)	1.500" (38.10mm)	0.710" (18.03mm)

### THERMAL PERFORMANCE (OMNI-UNI-18)

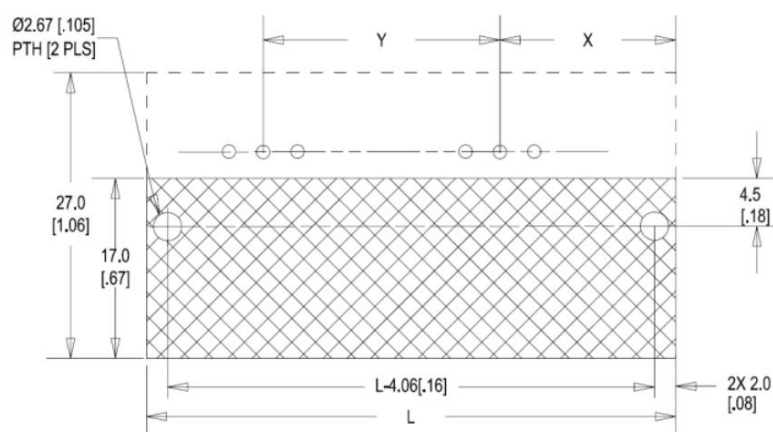
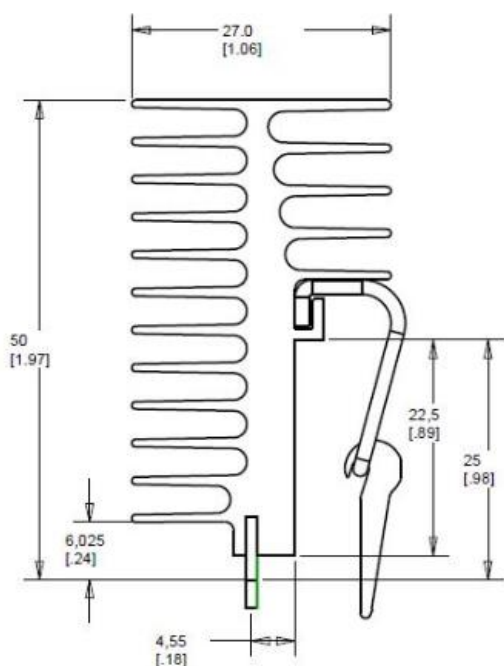
Two TO-247 devices with Sil-pad 900s, L = 50mm [2.0"]





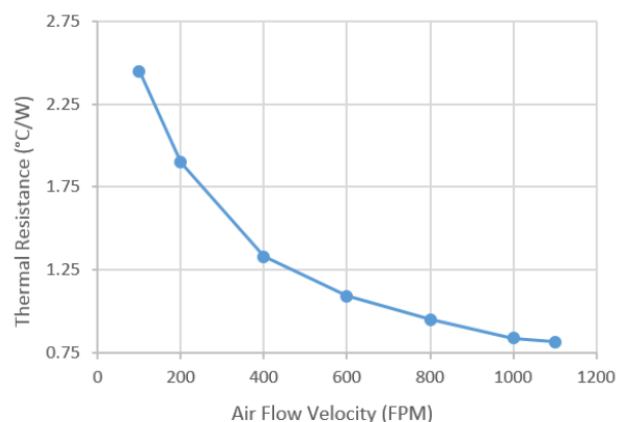
## OMNI-UNI-27-L Series Heat Sink

WkV Part Number	Description	Related Cross Sell Part	Package Cooled	Length (mm)	Width (mm)	Height (mm)
OMNI-UNI-27-25	omniKlip-Heatsink for TOs, 27mm wide, 25mm long, single sided, black anodized	OMNI-UC, OMNI-220C	TO-247, TO-264, TO-220	25	27	50
OMNI-UNI-27-50	omniKlip-Heatsink for TOs, 27mm wide, 50mm long, single sided, black anodized	OMNI-UC, OMNI-220C	TO-247, TO-264, TO-220	50	27	50
OMNI-UNI-27-75	omniKlip-Heatsink for TOs, 27mm wide, 75mm long, single sided, black anodized	OMNI-UC, OMNI-220C	TO-247, TO-264, TO-220	75	27	50

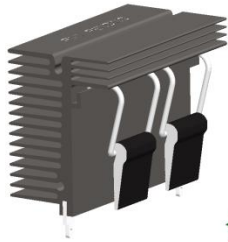


### THERMAL PERFORMANCE (OMNI-UNI-27-50)

Two TO-247 heat sources uniformly spaced on the heat Sink, L= 1.97" [50mm] and total of 10W Power Dissipation

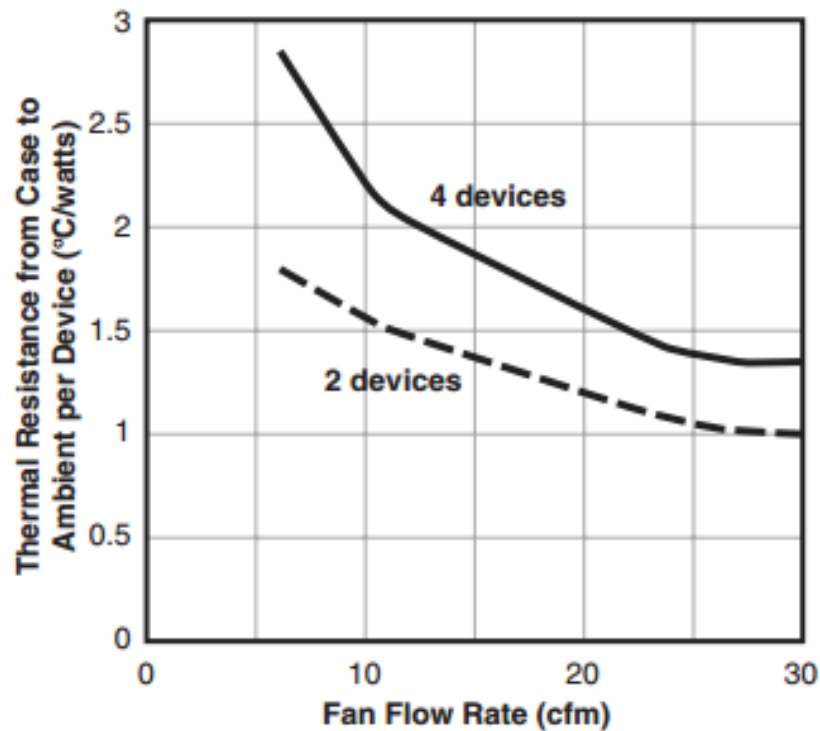
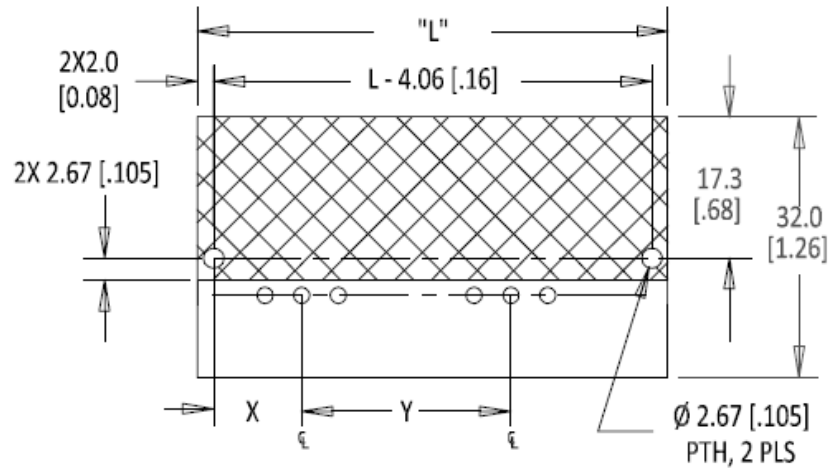
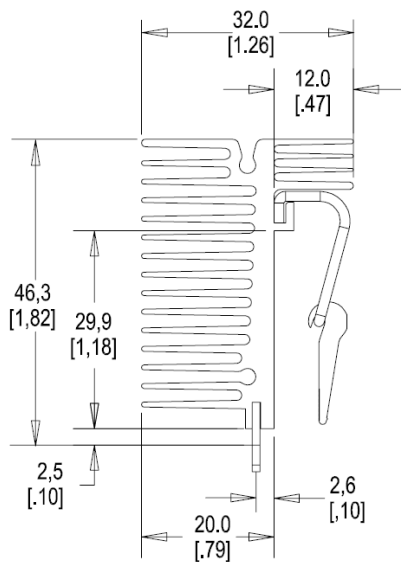


NOTE: Natural Convection Thermal resistance 3.94 °C/W based on 70 °C Temp rise about ambient.



## OMNI-UNI-32-L Series Heat Sink

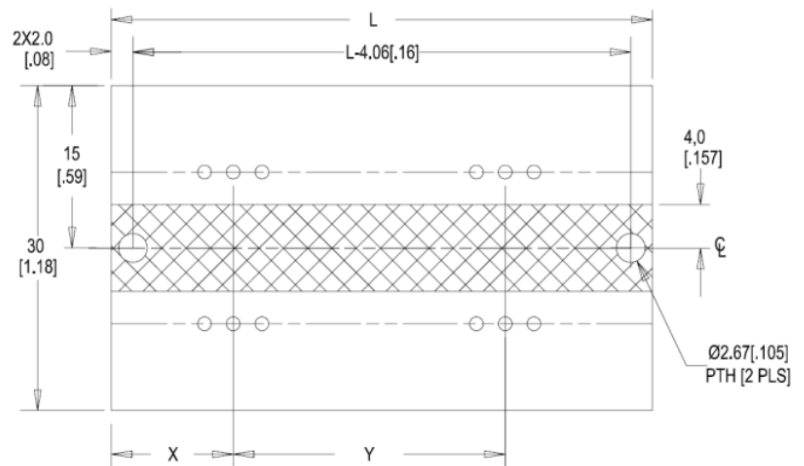
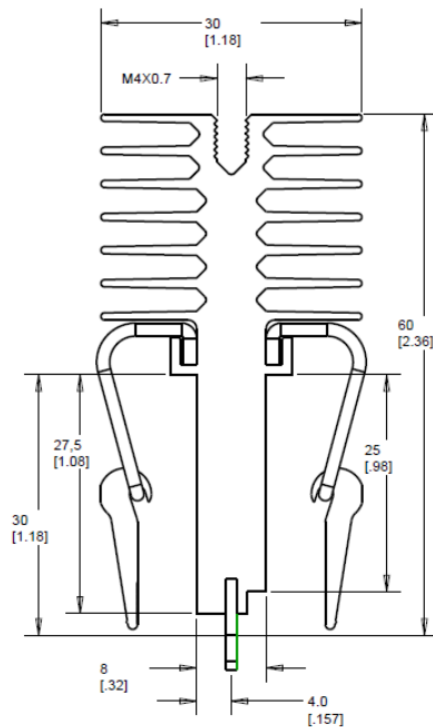
WkV Part Number	Description	Related Cross Sell Part	Package Cooled	Shape	Length	Width	Height Off Base (Height of Fin)
OMNI-UNI-32-58	OmniKlip Heat Sink for 2 universal 2 clips, 32mm wide, 58mm long, black anodized for any TO except TO220	OMNI-UC, OMNI-220C	TO-247, TO-264	Rectangular, Fins	2.28" (58mm)	1.25" (32mm)	1.62 (46.3mm)





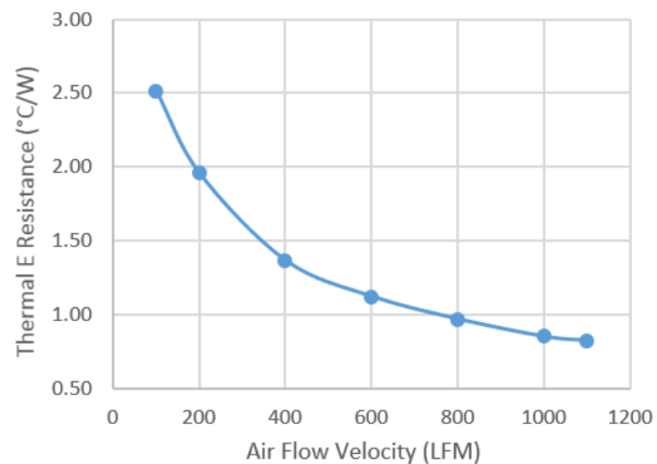
## OMNI-UNI-30-L Double Sided Series Heat Sink

WkV Part Number	Description	Package Cooled	Length (mm)	Width (mm)	Height (mm)
OMNI-UNI-30-25-D	omniKlip-Heatsink for TOs, 30mm wide, 25mm long, double sided, black anodized	TO-247, TO-264, TO-220	25	30	60
OMNI-UNI-30-50-D	omniKlip-Heatsink for TOs, 30mm wide, 50mm long, double sided, black anodized	TO-247, TO-264, TO-220	50	30	60
OMNI-UNI-30-75-D	omniKlip-Heatsink for TOs, 30mm wide, 75mm long, double sided, black anodized	TO-247, TO-264, TO-220	75	30	60



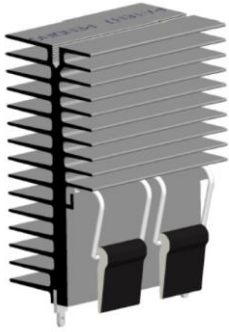
### THERMAL PERFORMANCE(OMNI-UNI-30-50)

Two TO-247 heat sources uniformly spaced on the heat Sink, L=1.97" [50mm] & total of 10W Power Dissipation



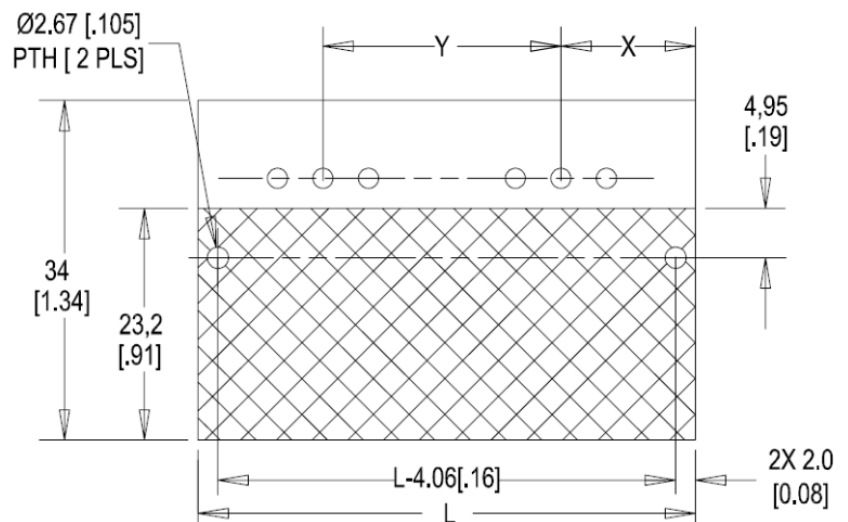
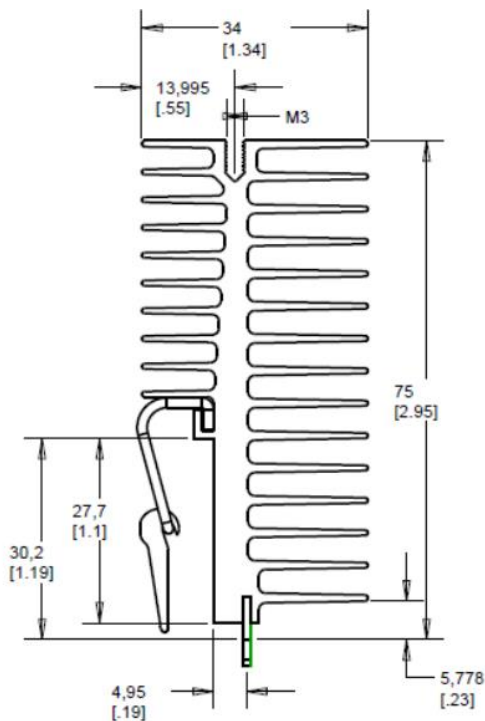
NOTE: Natural Convection Thermal resistance 4.06 °C/W based on 70 °C Temp rise about ambient.





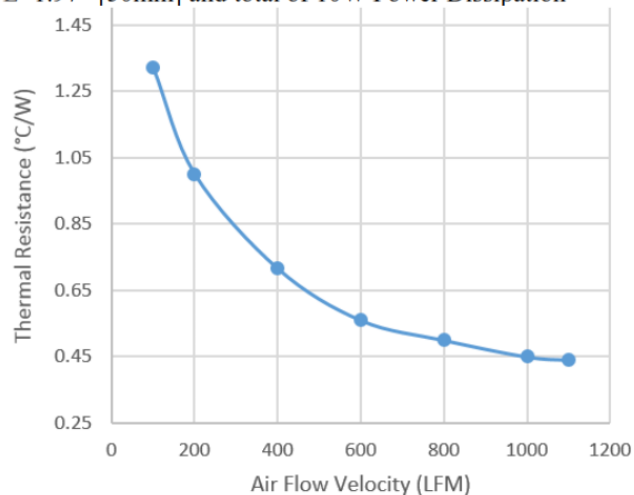
## OMNI-UNI-34-L Series Heat Sink

WkV Part Number	Description	Related Cross Sell Part	Package Cooled	Length (mm)	Width (mm)	Height (mm)
OMNI-UNI-34-25	omniKlip-Heatsink for TOs, 34mm wide, 25mm long, single sided, black anodized	OMNI-UC, OMNI-220C	TO-247, TO-264, TO-220	25	34	75
OMNI-UNI-34-50	omniKlip-Heatsink for TOs, 34mm wide, 50mm long, single sided, black anodized	OMNI-UC, OMNI-220C	TO-247, TO-264, TO-220	50	34	75
OMNI-UNI-34-75	omniKlip-Heatsink for TOs, 34mm wide, 75mm long, single sided, black anodized	OMNI-UC, OMNI-220C	TO-247, TO-264, TO-220	75	34	75



### THERMAL PERFORMANCE(OMNI-UNI-34-50)

Two TO-247 heat sources uniformly spaced on the heat Sink,  
L=1.97" [50mm] and total of 10W Power Dissipation

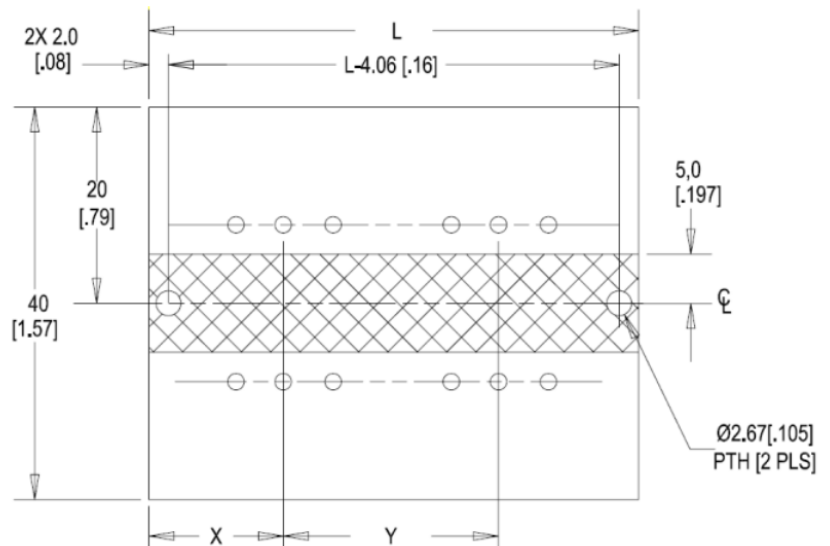
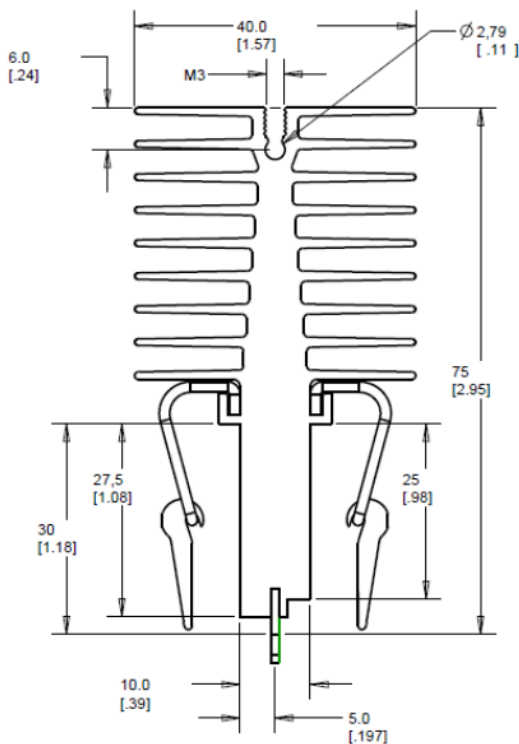


NOTE: Natural Convection Thermal resistance 2.10 °C/W based on  
70 °C Temp rise about ambient.



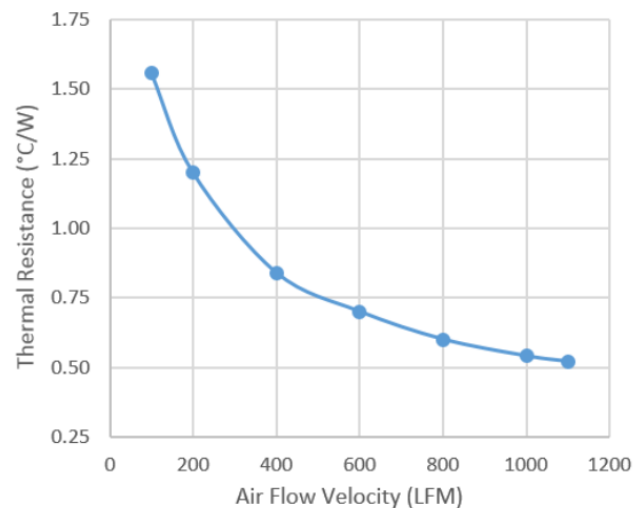
## OMNI-UNI-40-L Double Sided Series Heat Sink

WkV Part Number	Description	Package Cooled	Length (mm)	Width (mm)	Height (mm)
OMNI-UNI-40-25-D	omniKlip-Heatsink for TOs, 40mm wide, 25mm long, double sided, black anodized	TO-247, TO-264, TO-220	25	40	75
OMNI-UNI-40-50-D	omniKlip-Heatsink for TOs, 40mm wide, 50mm long, double sided, black anodized	TO-247, TO-264, TO-220	50	40	75
OMNI-UNI-40-75-D	omniKlip-Heatsink for TOs, 40mm wide, 75mm long, double sided, black anodized	TO-247, TO-264, TO-220	75	40	75

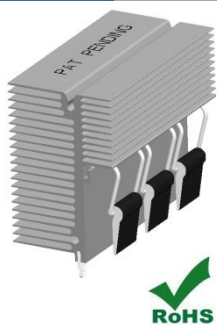


### THERMAL PERFORMANCE(OMNI-UNI-40-50)

Two TO-247 heat sources uniformly spaced on the heat Sink, L=1.97" [50mm] & total of 10W Power Dissipation

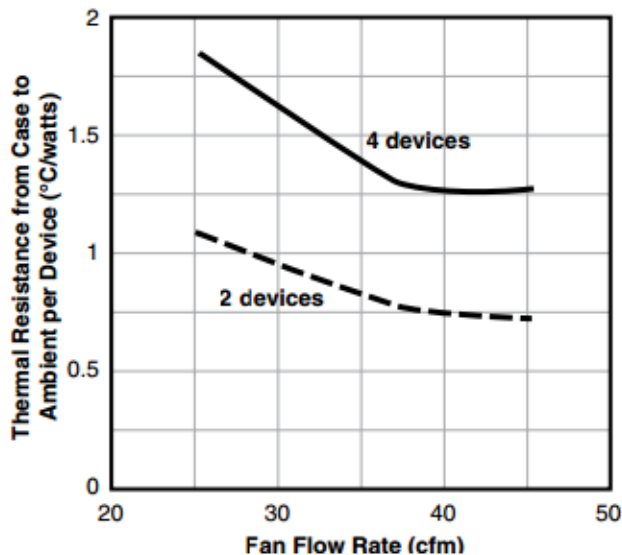
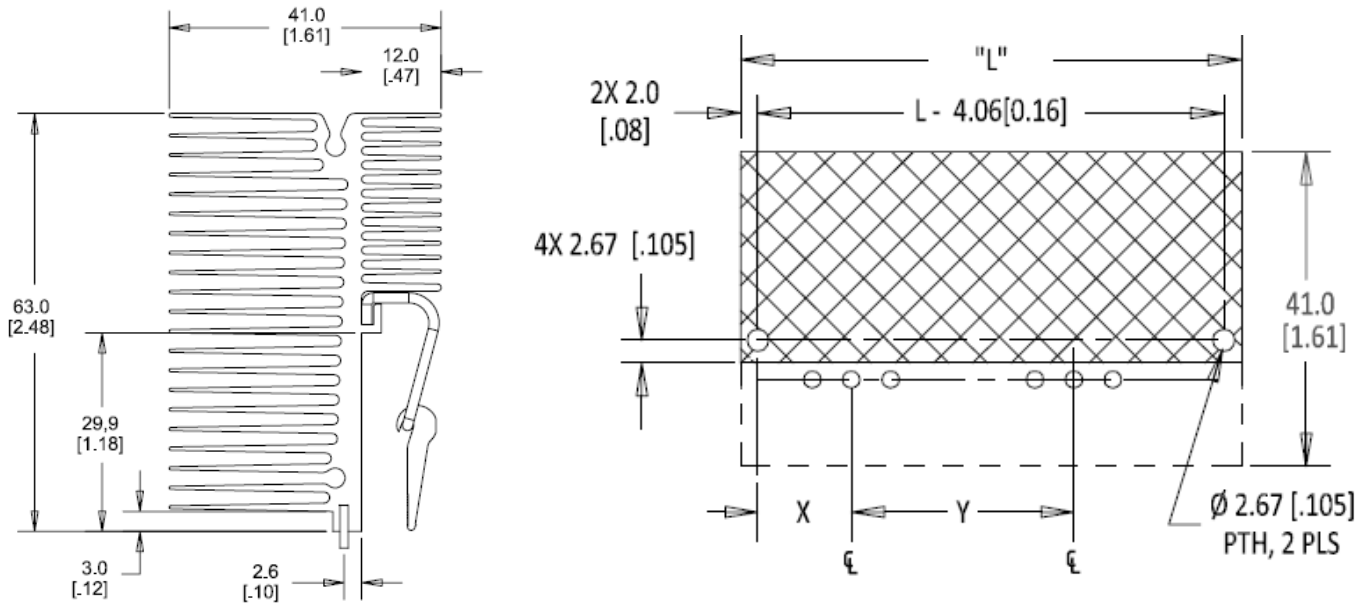


NOTE: Natural Convection Thermal resistance 2.50 °C/W based on 70 °C Temp rise about ambient.

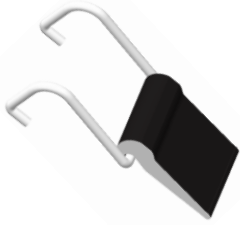


**OMNI-UNI-41-L Series Heat Sink**

WkV Part Number	Description	Related Cross Sell Part	Package Cooled	Shape	Length	Width	Height Off Base (Height of Fin)
OMNI-UNI-41-75	OmniKlip Heat Sink for 2 universal clips, 41mm wide, 75mm long, black anodized for any TO except TO220	OMNI-UC, OMNI-220C	TO-247, TO-264	Rectangular, Fins	2.95" (75mm)	1.61" (41mm)	1.62 (46.3mm)



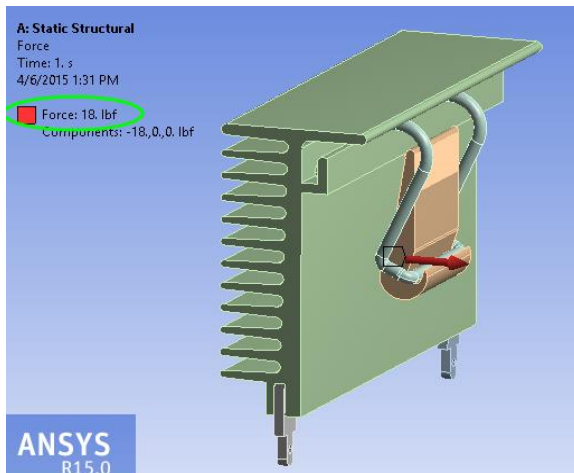
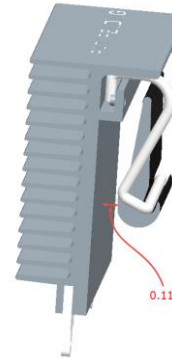
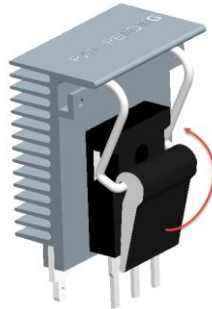
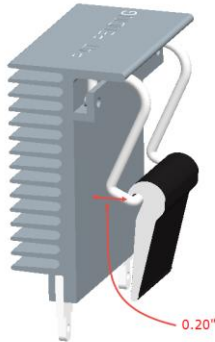




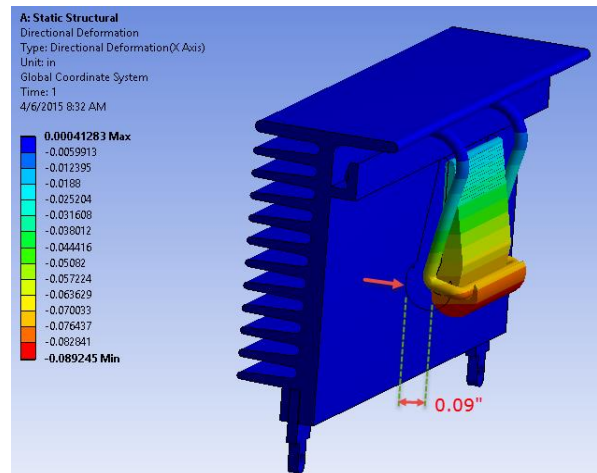
## Clips

Part Number	Description
OMNI-UC	Universal Clip for OmniKlip Heat Sink for any TO except T0220
OMNI-220C	Clip for OmniKlip Heat Sink for TO 220

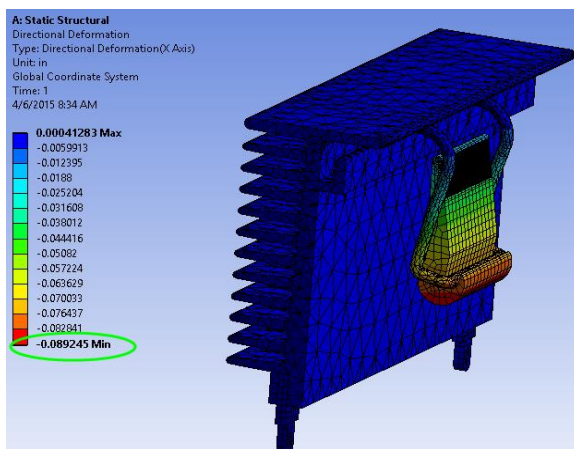
Universal Clip mechanism is rotating the bar by 180°. The eccentric circle will raise 0.09". This deformation will exert the force on the components.



omniKlip assembly model in ANSYS, with 18 lbf load applied to the clip



Under the 18 lbf, the clip deformed 0.09" from its original position to the final

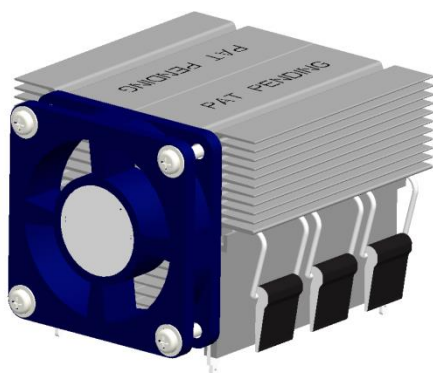


Directional deformation plot as shown

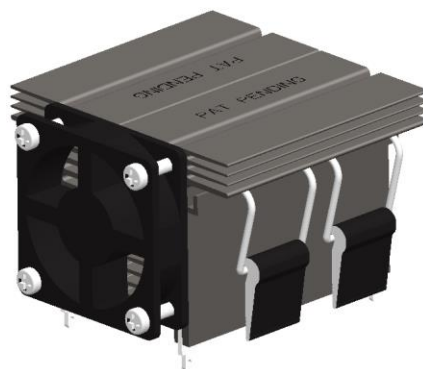
With the FEA analysis and simulation, the force applied to the TO-series components will be at least 18 lbs.

**Additional Configurations**

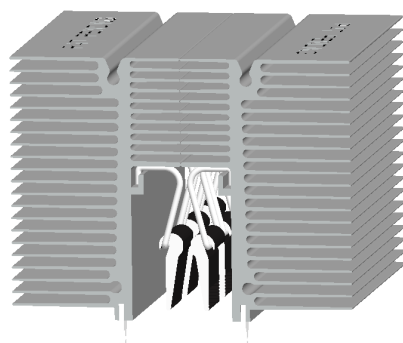
**Contact Wakefield-Vette for more information or visit [www.wakefield-vette.com](http://www.wakefield-vette.com)**



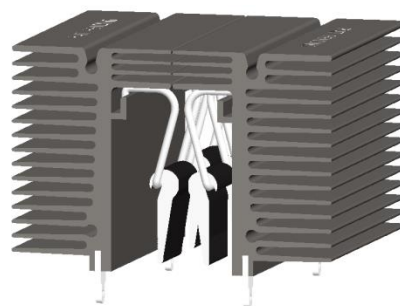
Back to Back Mounting with 60mm Fan  
(OMNI-UNI-41-L Series Heat Sink)



Back to Back Mounting with 40mm Fan  
(OMNI-UNI-32-L Series Heat Sink)



Face to Face Mounting (Space Saver)  
(OMNI-UNI-41-L Series Heat Sink)



Face to Face Mounting (Space Saver)  
(OMNI-UNI-32-L Series Heat Sink)

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