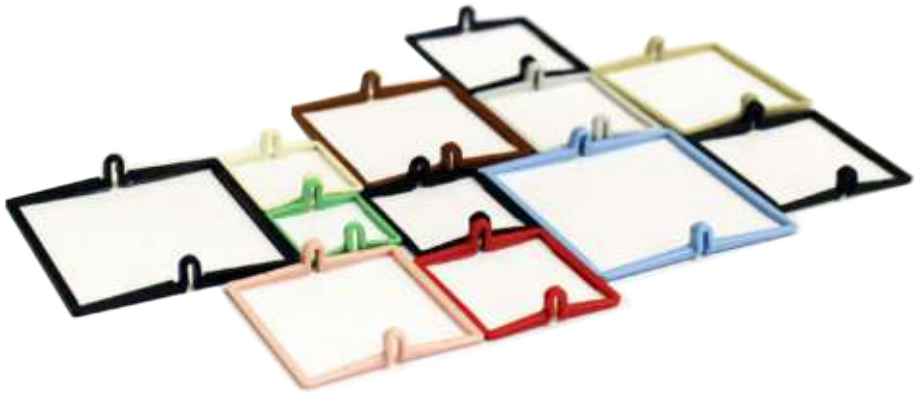
RoHS COMPLIANT

clipKIT™

THE BEST HEAT SINK ATTACHMENT TECHNOLOGY ON THE MARKET

- Patented superGRIP™ and maxiGRIP™ technology available for straight fin, slant fin, cross cut and pin fin heat sinks
- To be used with heat sinks that have a 1.75 to 4mm base thickness
- Plastic frame and stainless steel spring clips available for 15mm to 45mm components
- Secure heat sink attachment system passes Telcordia Shock & Vibration standards
- Attachment force improves TIM performance by up to 20%
- Eliminates the need to drill holes in a PCB & allows the heat sink to be detached and reattached without damaging the component

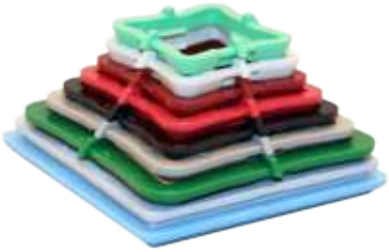


Advanced Thermal Solutions, Inc., has introduced clipKIT™ the ultimate heat sink attachment system that can be used with straight fin, pin fin, cross cut or slant fin heat sinks. clipKIT™ is a line of patented, reliable heat sink attachment assemblies featuring the widely used maxiGRIP™ and superGRIP™ frame clip and spring clip. clipKIT™ is available for 15 – 45mm component packages and is designed for standard heat sinks that have a base thickness of 1.75 to 4mm.

Instead of relying on thermal tape or epoxy, which can damage the board or component during rework, the reliable clip attachment system provides a secure hold without the risk of damaging the component or PCB, saving time and cost. The ultra-thin plastic frame clip and stainless steel spring clip are corrosion-resistant, flame retardant and pass Telcordia shock and vibration standards, ensuring the heat sink will securely stay in place on the component in harsh conditions. clipKIT™ attachments eliminate the need to drill holes in a PCB, saving additional board and rework costs. The thin frame clip occupies minimal space around the components perimeter, compared to push pin attachments or stand-off hardware which leaves little space on already overcrowded PCBs. The two-part attachment system provides a uniform force which enhancing heat transfer and improves TIM performance by up to 20%.

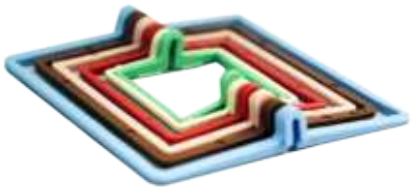


maxiGRIP™ Spring (above) & Frame Clips (below)



COMPONENT SIZES

15 mm x 15 mm
17 mm x 17 mm
19 mm x 19 mm
21 mm x 21 mm
23 mm x 23 mm
25 mm x 25 mm
27 mm x 27 mm
29 mm x 29 mm
30 mm x 30 mm
31 mm x 31 mm
32.5 mm x 32.5 mm
33 mm x 33 mm
35 mm x 35 mm
37.5 mm x 37.5 mm
40 mm x 40 mm
42.5 mm x 42.5 mm
45 mm x 45 mm

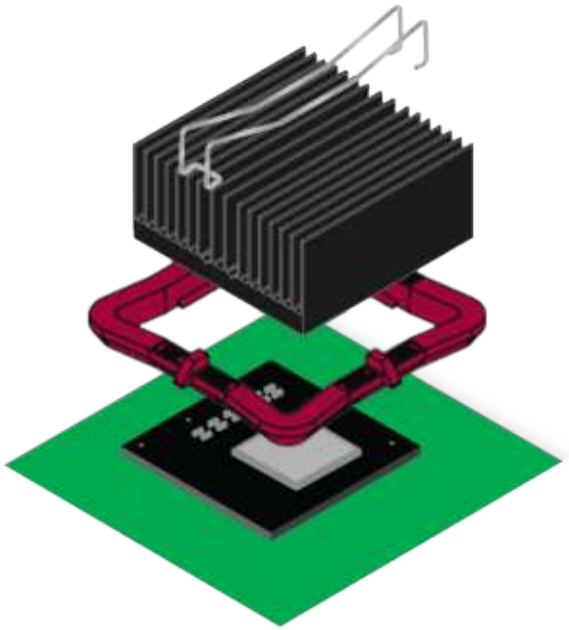


superGRIP™ Frame (above) & Spring Clips (below)



maxiGRIP™

ASSEMBLY





FRAME CLIP

- High-strength, high-performance plastic meets stringent UL-94V-0 fire rating which has exceptional thermal stability
- Frame geometry has been optimized for strength and minimal space requirements
- Tapered wall provides clearance for adjacent components
- Hour glass shape provides additional room for metal spring clip
- Uniformity in design allows for omnidirectional frame clip orientation

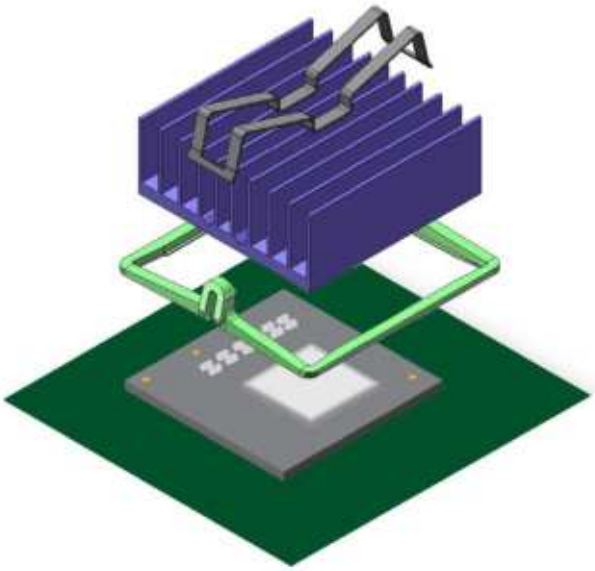


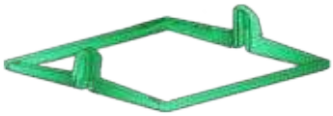
SPRING CLIP

- Metal spring clip, placed through the heat sink's fin field, locks securely to both ends to the plastic frame
- Double "M" shape provides steady, even pressure to the component, improving thermal performance and long-term reliability
- Spring clip is quickly installed with the maxiGRIP™ Installation Tool
- Specifically designed for different component heights.
- Imposes minimal restriction to air flow
- Accommodates varied fin-to-fin spacing

superGRIP™

ASSEMBLY





FRAME CLIP

- Thin, yet strong plastic Frame Clip occupies minimal area around chip, allowing its use in densely populated PCBs
- No custom installation tooling required– mounts easily by hand.
- Interior frame profile locks securely around bottom edge and sides of component package
- Integral horseshoe tabs in clip lock in Spring Clip edges for tight, movement-free heat sink retention
- Frame Clip is easily and safely removed with a common hand tool



SPRING CLIP

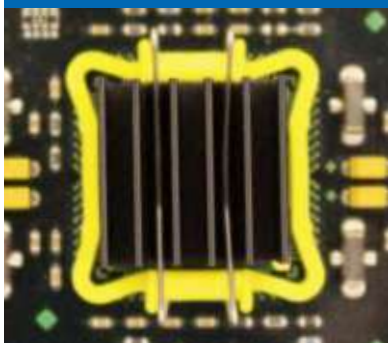
- Metal spring clip, placed through the heat sink's fin field, locks securely to both ends of the plastic frame
- Applies a steady, even pressure to the component, improving thermal performance and long-term reliability
- Spring Clip design is quickly installed or released using a common hand tool, such as a flat blade screwdriver
- Flat, twin-channel clip provides stronger retention forces and minimizes spring clip movement

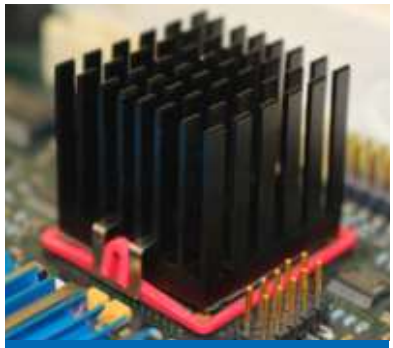
clipKIT™ Packages

COMPONENT SIZE	ASSEMBLY	PART NUMBER
15x15mm	superGRIP™	ATS-SG150-R0
17x17mm	maxiGRIP™	ATS-MG170-R0
17x17mm	superGRIP™	ATS-SG170-R0
19x19mm	maxiGRIP™	ATS-MG190-R0
19x19mm	superGRIP™	ATS-SG190-R0
21x21mm	maxiGRIP™	ATS-MG210-R0
21x21mm	superGRIP™	ATS-SG210-R0
23x23mm	maxiGRIP™	ATS-MG230-R0
23x23mm	superGRIP™	ATS-SG230-R0
25x25mm	maxiGRIP™	ATS-MG250-R0
25x25mm	superGRIP™	ATS-SG250-R0
27x27mm	maxiGRIP™	ATS-MG270-R0
27x27mm	superGRIP™	ATS-SG270-R0
29x29mm	maxiGRIP™	ATS-MG290-R0
29x29mm	superGRIP™	ATS-SG290-R0
30x30mm	maxiGRIP™	ATS-MG300-R0
30x30mm	superGRIP™	ATS-SG300-R0
31x31mm	maxiGRIP™	ATS-MG310-R0
31x31mm	superGRIP™	ATS-SG310-R0
32.5x32.5mm	maxiGRIP™	ATS-MG325-R0
32.5x32.5mm	superGRIP™	ATS-SG325-R0
33x33mm	maxiGRIP™	ATS-MG330-R0
33x33mm	superGRIP™	ATS-SG330-R0
35x35mm	maxiGRIP™	ATS-MG350-R0
35x35mm	superGRIP™	ATS-SG350-R0
37.5x37.5mm	maxiGRIP™	ATS-MG375-R0
37.5x37.5mm	superGRIP™	ATS-SG375-R0
40x40mm	maxiGRIP™	ATS-MG400-R0
40x40mm	superGRIP™	ATS-SG400-R0
42.5x42.5mm	maxiGRIP™	ATS-MG425-R0
42.5x42.5mm	superGRIP™	ATS-SG425-R0
45x45mm	maxiGRIP™	ATS-MG450-R0
45x45mm	superGRIP™	ATS-SG450-R0

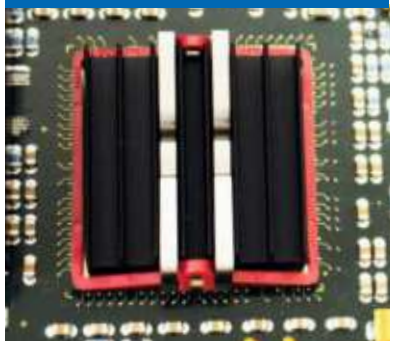


maxiGRIP™ Assembly

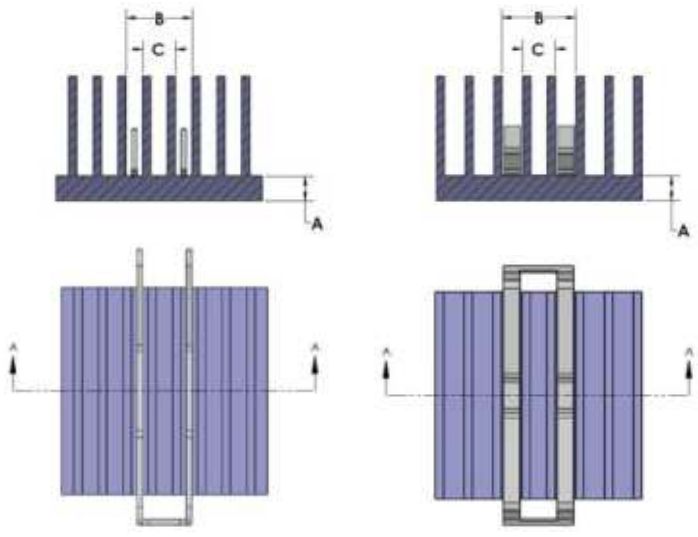




superGRIP™ Assembly



GUIDELINES FOR DETERMINING HEAT SINK COMPATIBILITY WITH clipKIT™



A >= 1.8mm
A<= 4mm

C<=4.8mm
B<=7.3mm

ATS ADVANCED THERMAL SOLUTIONS, INC.
Innovations in Thermal Management®

We Have Your PCB Covered



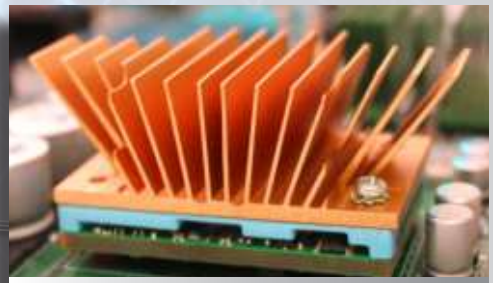
CPU Cooler



maxiFLOW™ w/ superGRIP™ Attachment



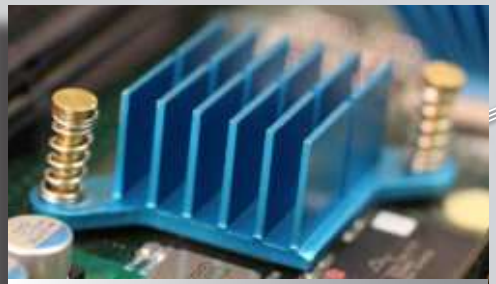
fanSINK™ w/ maxiGRIP™ Attachment



Power Brick Heat Sink



Ultra Low Profile w/ Push Pin Attachment



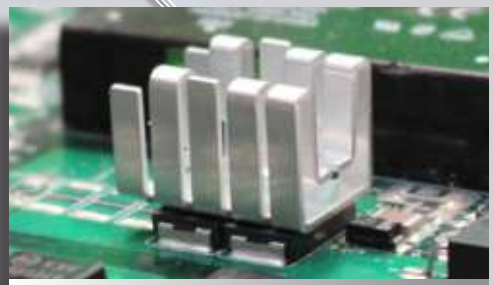
pushPIN™ Heat Sinks



Cross Cut Heat Sink



Extrusion Profile Heat Sink



Standard Board Level Heat Sink