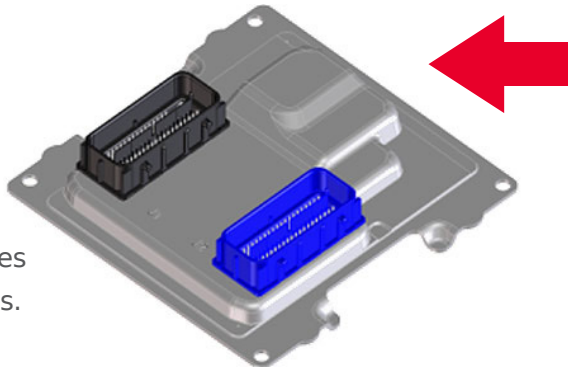
STAMPED CASE TECHNOLOGY › FROM MOLEX

With the electronics industry moving continuously toward product miniaturization, the demand for integrated modules is exploding. Integrated modules are comprised of interconnect products with additional components, such as a module case, stamped circuit, heat sink, antenna, etc.

Molex has more than two decades of experience in module design and using stamped case technology to design module cases is one capability that has had a significant impact on our modules' weight, cost, life and performance.

ADVANTAGES OF STAMPED CASE TECHNOLOGY



Molex started module case designing with die-cast technology and then moved to stamped case technology due to its technological advantages. A few of them are mentioned below.

Cost-effectiveness

Metal stamping processes involve several highly adaptable, powerful presses that can combine numerous stages of production into a streamlined process. With progressive, high-speed stamping presses and in-die tooling, today's precision metal stamping reduces wasted scrap and the time, energy and labor needed for production.

Volume efficiency

With unmatched accuracy in part design and operations, precision metal stamping offers cost-effective options for bulk parts manufacturing.

Versatile

With intelligent data processing, in-die tooling capabilities, and complex presses and tooling, metal stamping operations are well-equipped to produce complex, finely made parts.

Improved quality

Metal stamping overcomes many die-cast concerns, such as cold flow, lamination and porosity to provide better-quality products.

Flexibility and strength

Casting a metal part allows for limited flexibility in molecular structure, but when stamping is done correctly, the force of the operation moves the molecules in the metal blank into alignment. This, combined with various methods of heat treatment and tempering, improves the strength and flexibility of a stamped part, providing it better durability.

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DESIGNING AT MOLEX

In addition to the mentioned stamping advantages, here are some more Molex designing advantages:

- The consistent practice of advanced finite element analysis to find the correct combination for a multi-piece stamped case, which can give up to 20% better thermal performance than a die-cast case.
- The incorporation of premium alloys like aluminum for in-house manufacturing reduces the cost and weight and improves salt spray and corrosion performance.
- Significant experience in thermal simulation and use of advanced software which enables us to provide an optimized model and precise thermal evaluation.

APPLICATIONS

Stamped case technology has been employed extensively for integrated module cases used in commercial vehicles or automobiles on the Engine Control Units (ECUs) and Transmission Control Units (TCUs). Molex has provided ECU/TCU solutions to major OEMs across the world for a decade, earning supplier of the year awards for those solutions. With our dedicated project groups for vehicle systems like body electronics, powertrain, safety, and infotainment, customers can rest assured that partnering with Molex means adding real expertise and know-how to a team. Collaborating with Molex means bringing your designs to life.

Automotive and Commercial Vehicles

Engine Control Units (ECUs)
Transmission Control Units (TCUs)
Powertrain Control Unit

Commercial Vehicles - Engine Control Units (ECUs)

Commercial Vehicles - Transmission Control Units (TCUs)

Automotive (ECUs & TCUs)

THE MOLEX ADVANTAGE ›

Our two decades of experience in designing integrated modules and unparalleled expertise in advanced thermal testing in stamped case technology make Molex a trusted brand. Using the most advanced software/technologies Molex works with OEMs' design teams to develop custom solutions.

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www.molex.com/capabilities/sct.html

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