



Molex Mini50 Updated design for USCAR Customer Notification

October 31, 2012

Dear Molex Customer,

The purpose of this letter is to inform you that Molex will be updating the design of our Mini50 4, 8, and 12-way headers and receptacle connectors. Molex was chosen as the USCAR interface for 0.5mm connection systems, with some design improvements from our current model to improve the anti-scooping features. These changes will improve performance of the connection system.

The attached presentation shows all changes to each circuit size. The changes will specifically affect the interface of the 8-way and 12-way connectors. The older versions will be obsolete and will not be able to be used with the UPDATED versions.

We are in process of updating the tooling and kicking off new tools that will adapt these changes. All new updated and new tooling will be produced and shipped from our plant in Chengdu, China.

We are keeping the same part numbers for 4 and 8way headers and connectors. For the 12-way we have pulled new part numbers and will OBSOLETE the old part numbers, per below.

The changes will follow the basic below timeline –

First Off Tool – 3/15/13
PV testing complete – 7/15/13
PPAP – 7/31/13

Below part numbers adapt the new changes.

4-way - Receptacles 34791-0040, 0041, 0042, 0043, 0140, 0141, 0142, 0143
Headers 34792-0040, 0041, 0042, 0043
34793-0040, 0041, 0042, 0043

8-way - Receptacles 34791-0080, 0081, 0082, 0180, 0181, 0182
Headers 34792-0080, 0081, 0082
34793-0080, 0081, 0082
34912-8080, 8081, 8082, 9080, 9081, 9082

NEW PART # 12-way - Receptacles 34824-0124, 0125, 0126, 1124, 1125, 1126
Headers 34825-0124, 0125, 0126
34826-0124, 0125, 0126
34897-8120, 8121, 8122, 9120, 9121, 9122

OBSOLETE 12-way - Receptacles 34824-0120, 0121, 0122, 1120, 1121, 1122
Headers 34825-0120, 0121, 0122
34826-0120, 0121, 0122

Jeremy Stout
Global Product Manager

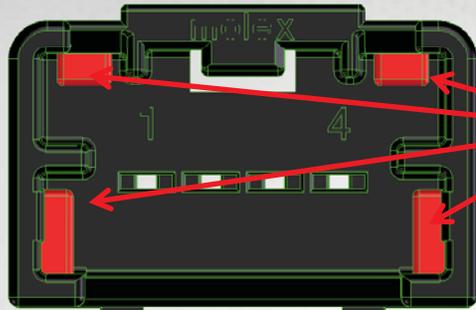


4ckt Mini 50 Forced Mating USCAR updates

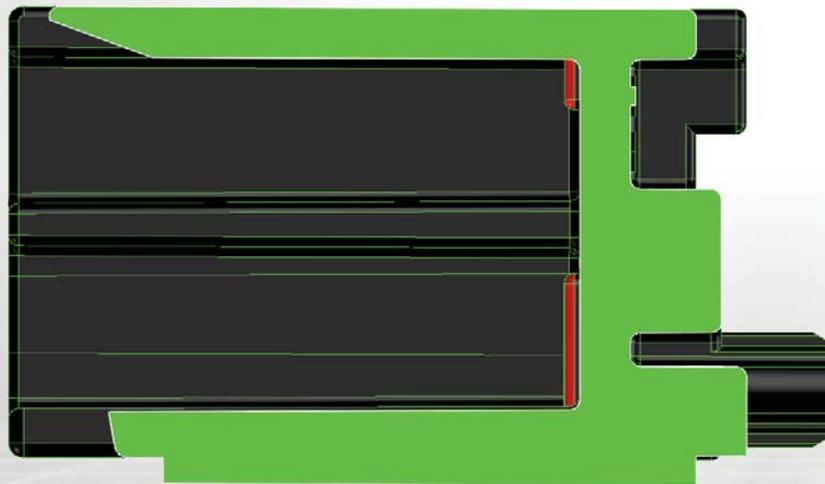
Trevor Machuga

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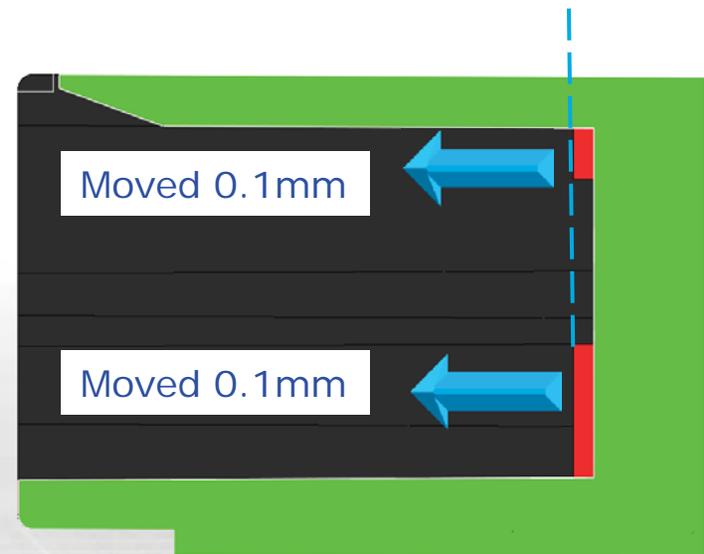
Datum Pads Moved Out 0.1mm



4 Corner
Datum Pads



Existing Design

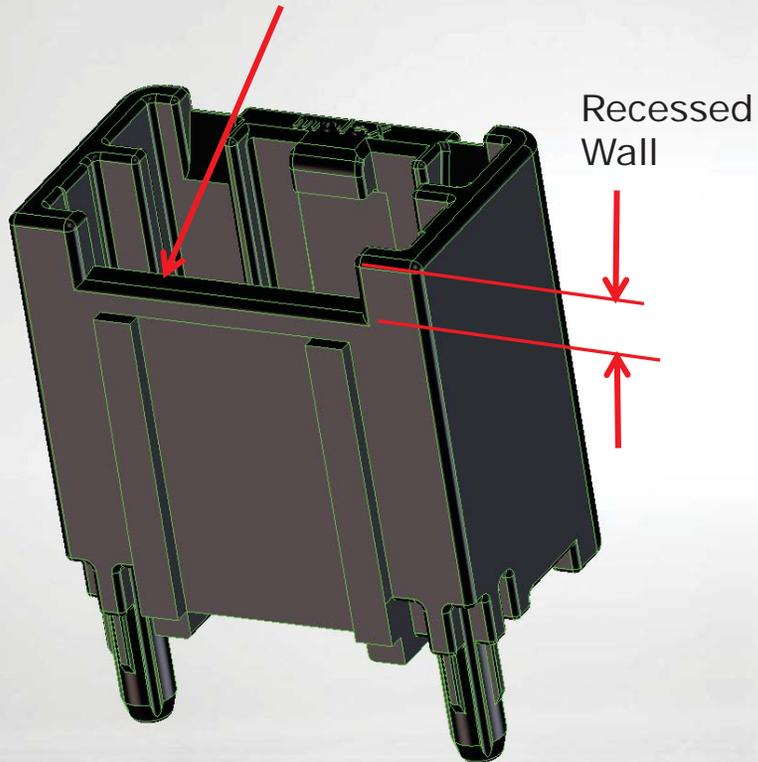


USCAR update

- Upper and Lower Datum Pads moved outward 0.1mm.
- Allows Compatibility with other OEM terminal types.

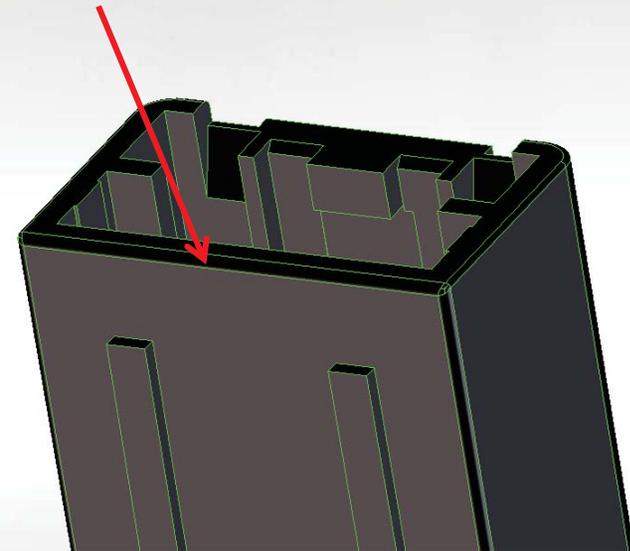
Removed Bottom Wall Recess

Bottom Wall Recess



Existing Design

Removed Recess

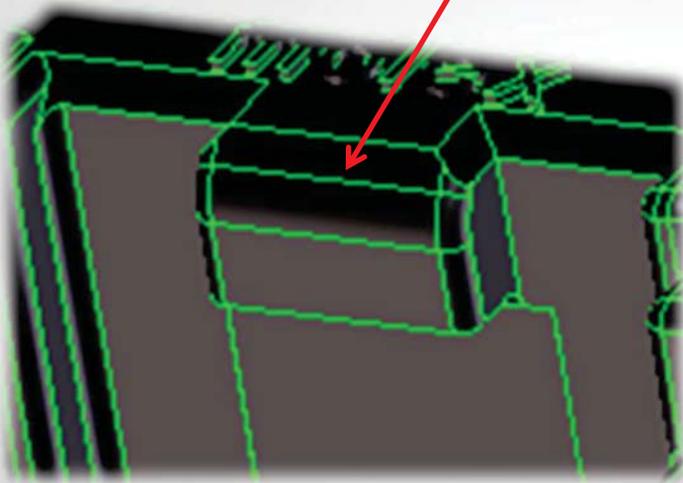


USCAR update

- Removed recess from bottom wall of header

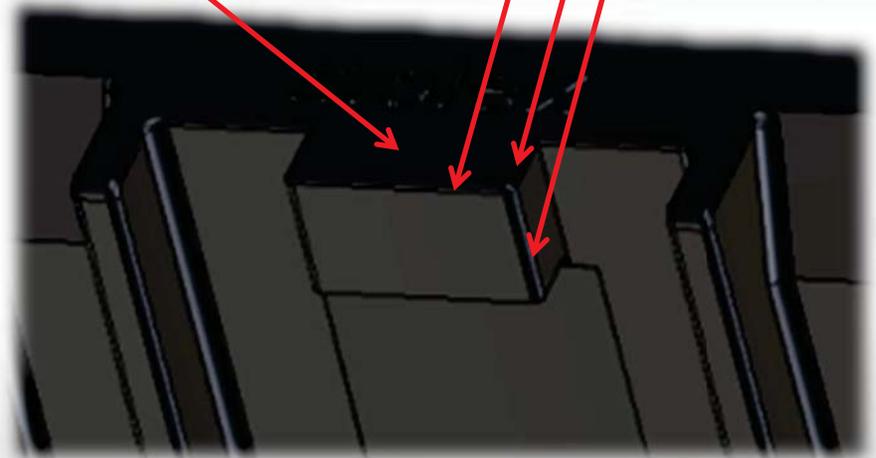
Header Latch

Flat Latch – removed large radius and lead in



Existing Design

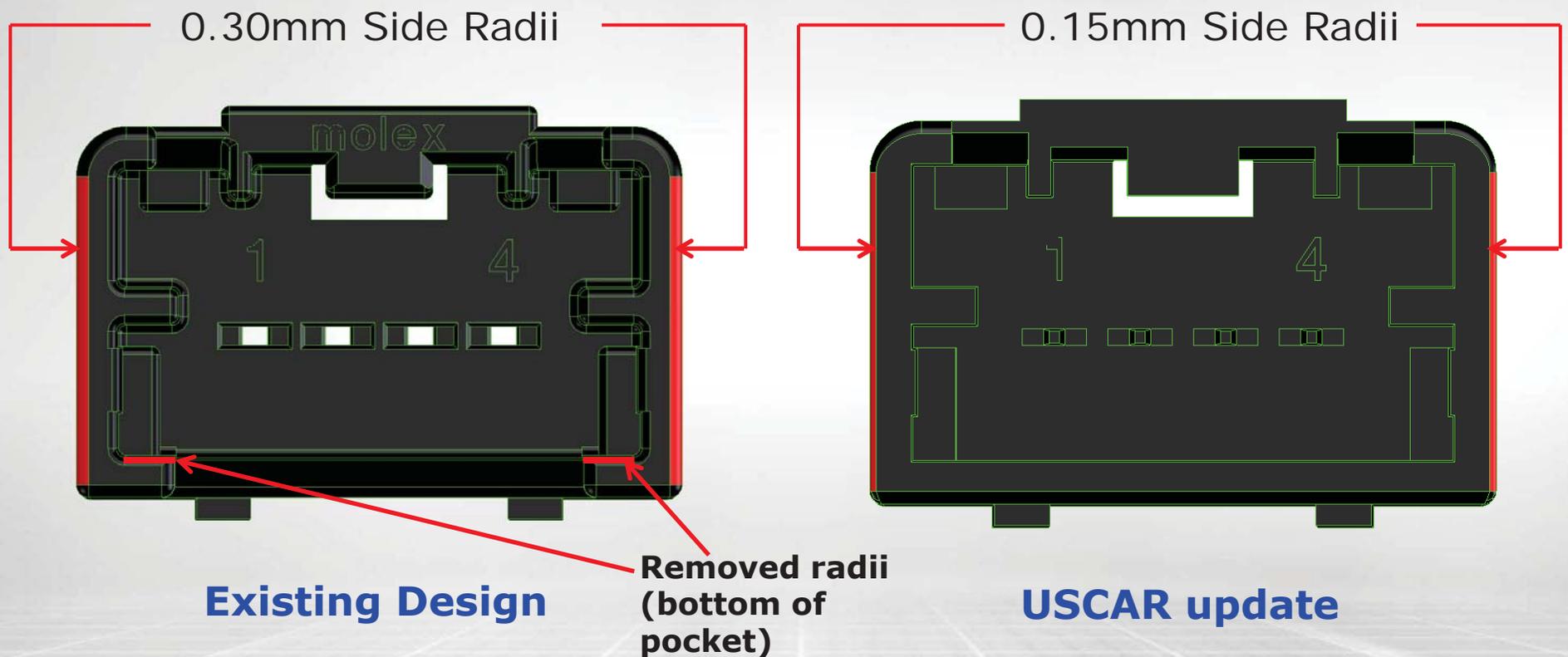
0.1 mm radii
(symmetric about center)



USCAR update

- Removed large radius and lead in on header latch (shark fin)
- Added 0.1 mm radius to sides and front of header latch (shark fin)

Changed radii on sides and bottom of pocket



- Changed side radii from 0.3mm to 0.15mm.
- Allows for more robust 0.5mm ejector pin.
- Removed radii on outer bottom of header pocket.

4 ckt USCAR header family

SMT



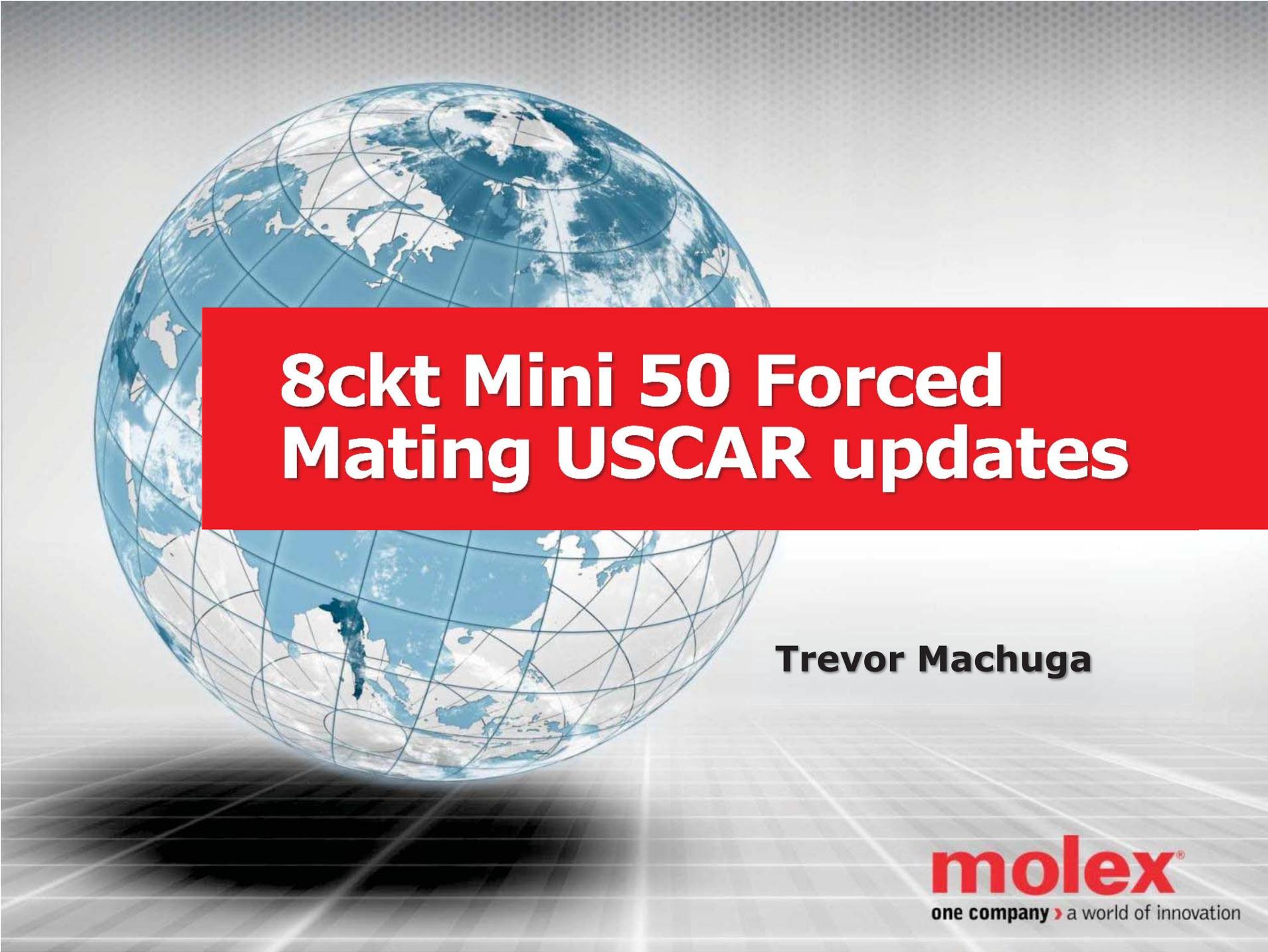
Vertical



Right Angle



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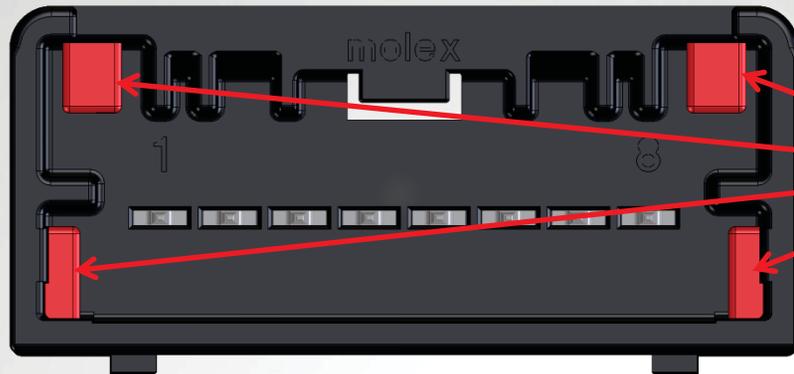


8ckt Mini 50 Forced Mating USCAR updates

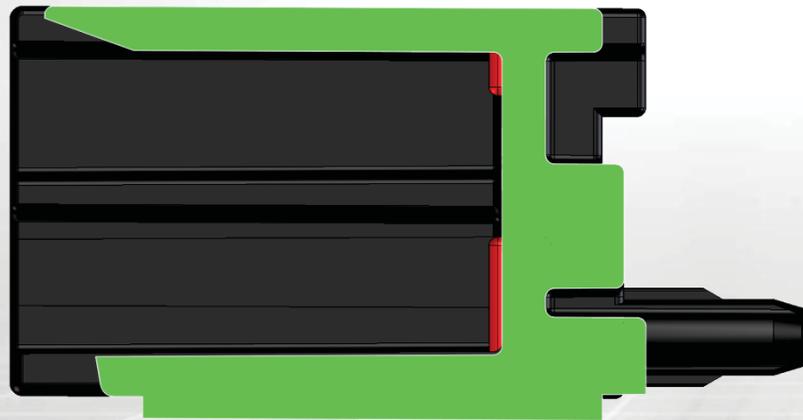
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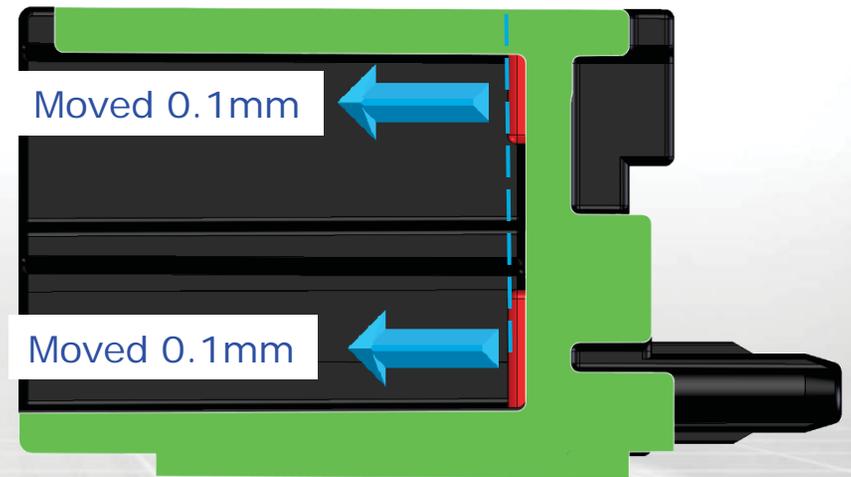
Datum Pads Moved Out 0.1 mm



4 Corner Datum Pads



Existing Design

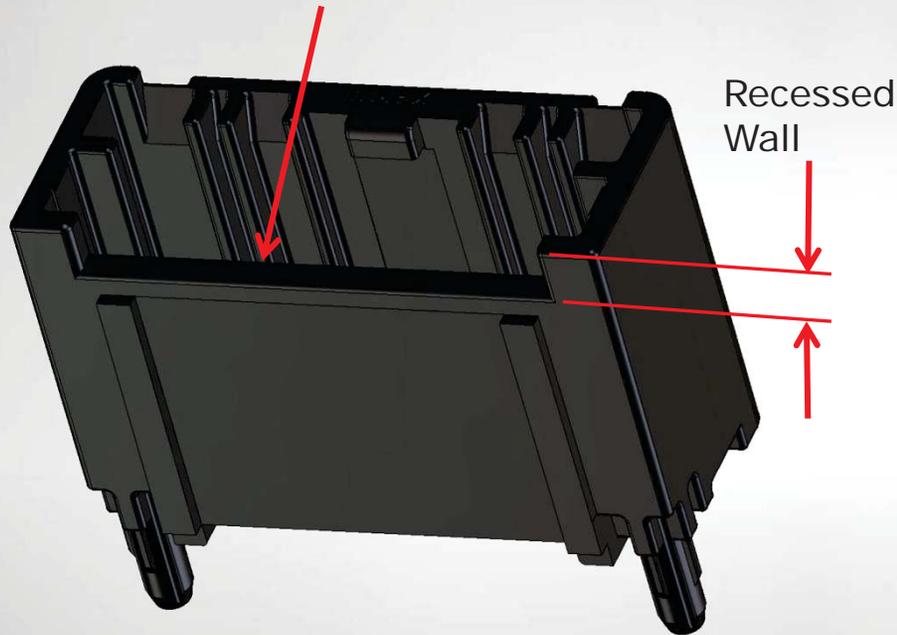


USCAR update

- Upper and Lower Datum Pads moved outward 0.1mm.
- Allows Compatibility with other OEM terminal types.

Removed Bottom Wall Recess

Bottom Wall Recess



Existing Design

Removed Recess



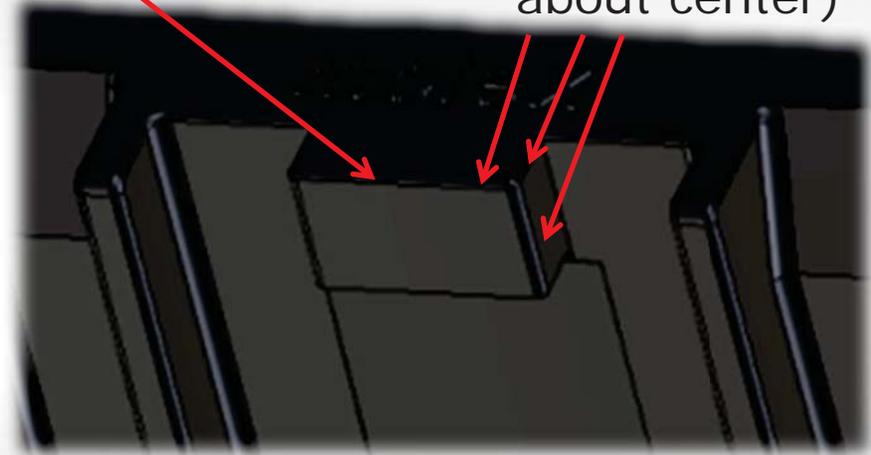
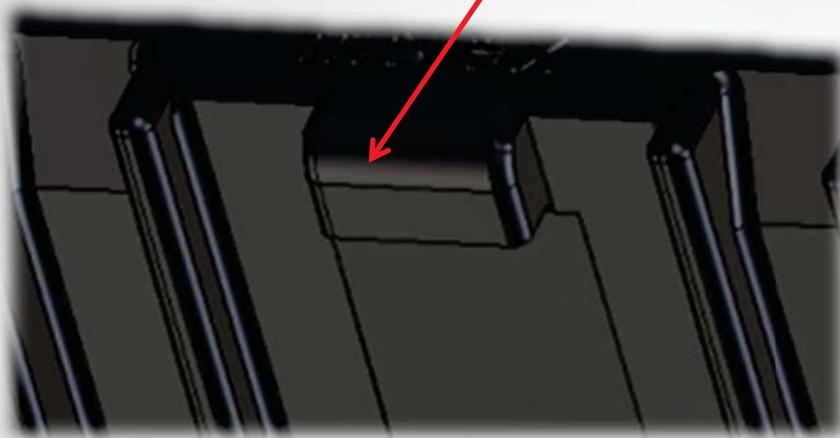
USCAR update

- Removed recess from bottom wall of header

Header Latch

Flat Latch – removed large radius and lead in

0.1 mm radii (symmetric about center)



Existing Design

USCAR update

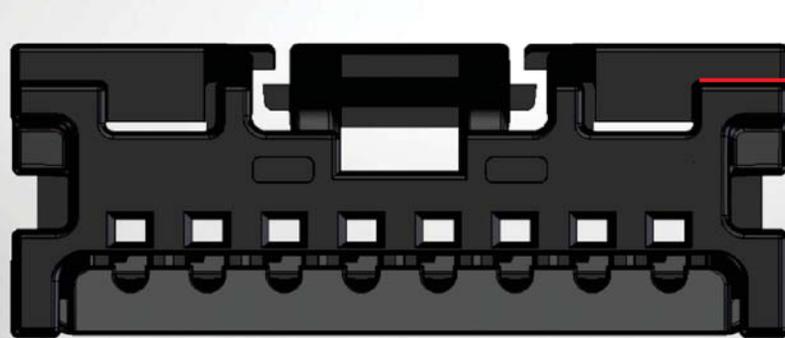
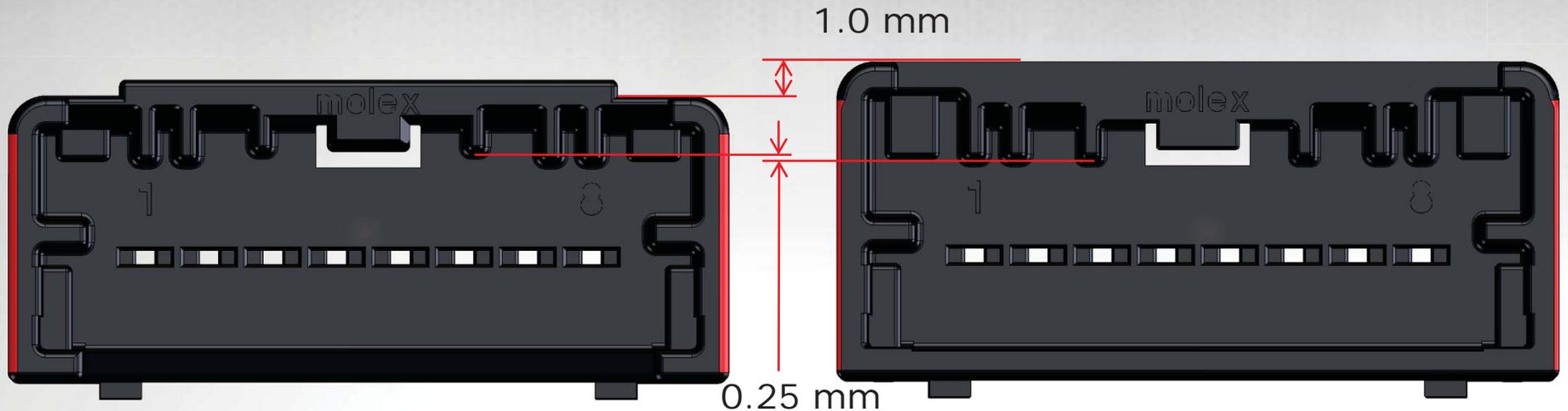
- Removed radius and lead in on header latch (shark fin).

Changed radii on sides and bottom of pocket

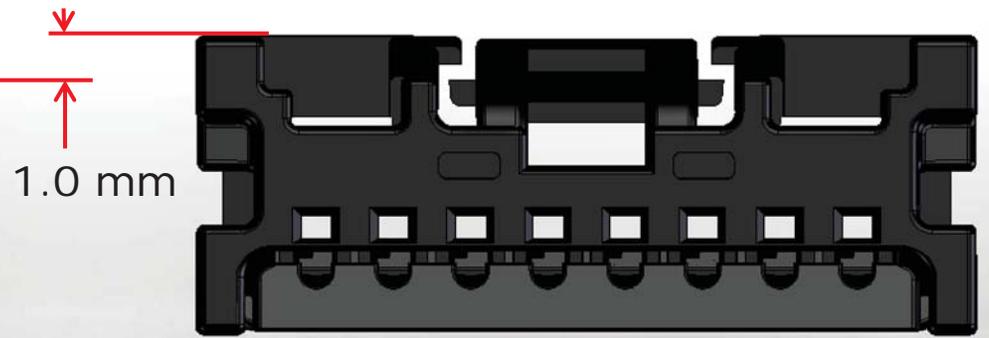


- Changed side radii from 0.3mm to 0.15mm.
- Allows for more robust 0.5mm ejector pin.
- Removed radii on outer bottom of header pocket.

8 ckt Anti-Scooping Features



Existing Design



USCAR update

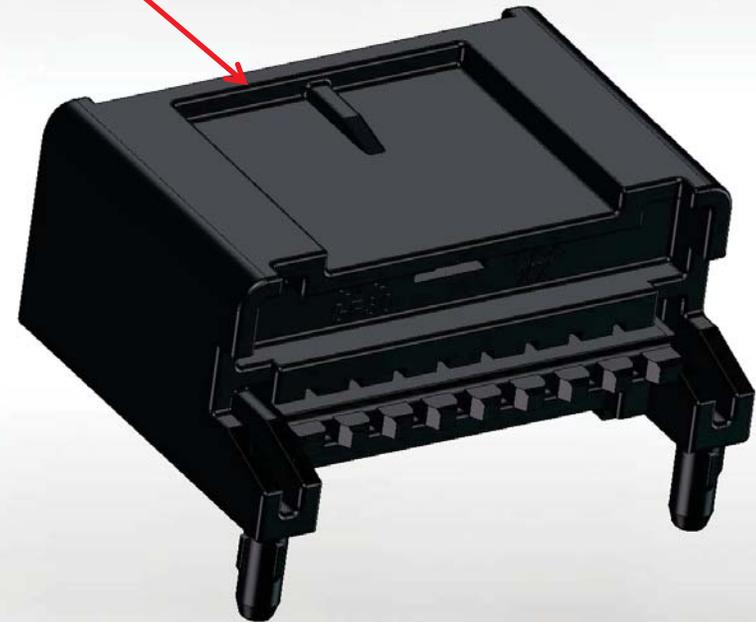
- Sides of header raised by 1.0 mm
- Rib extended down by 0.25 mm
- Upper feature of receptacle raised by 1.0 mm
- Forced mating prevention will be more robust

Changes to top of 8 ckt header

Support Rib



Existing Design

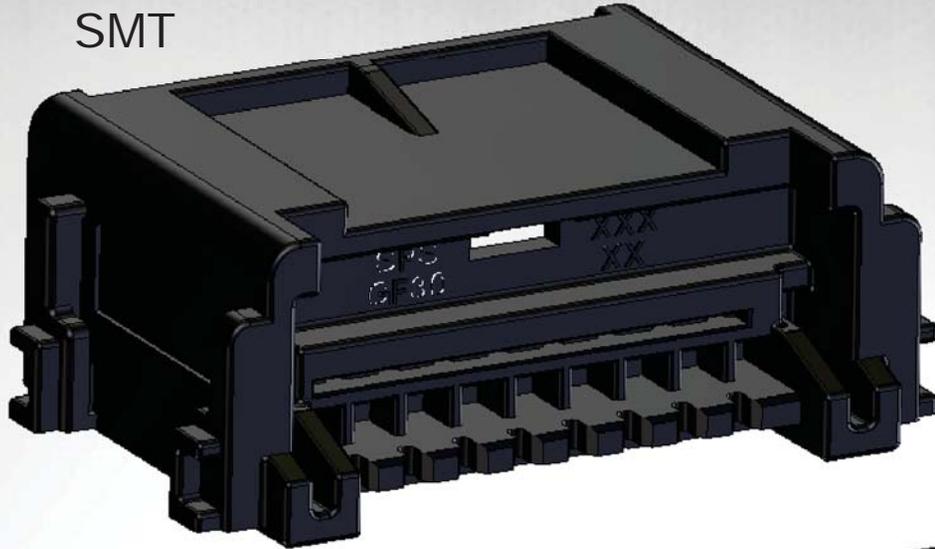


USCAR update

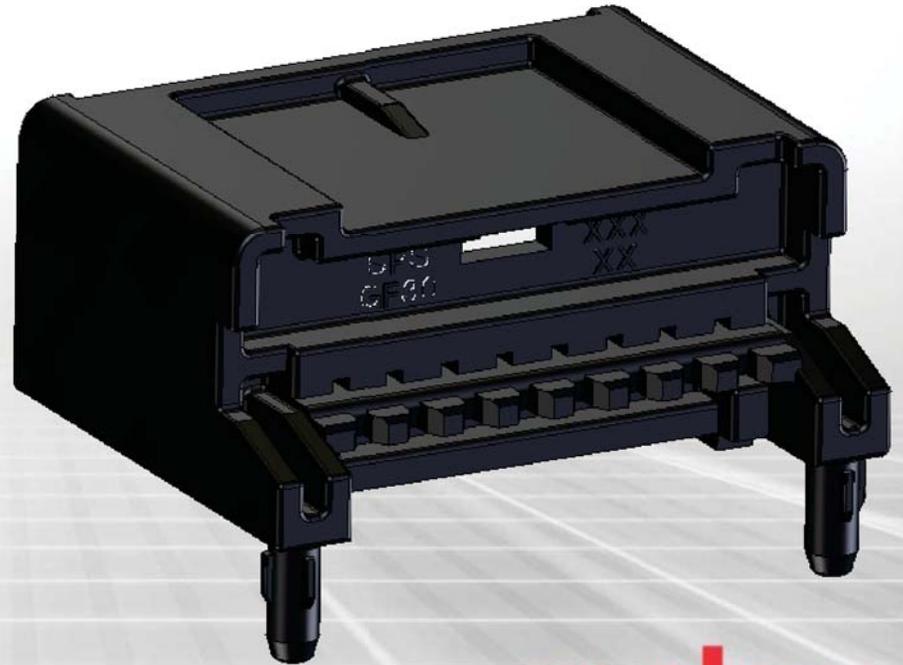
- Support Rib now connects the raised features of the new USCAR model 8 ckt header

8 ckt USCAR header family

SMT



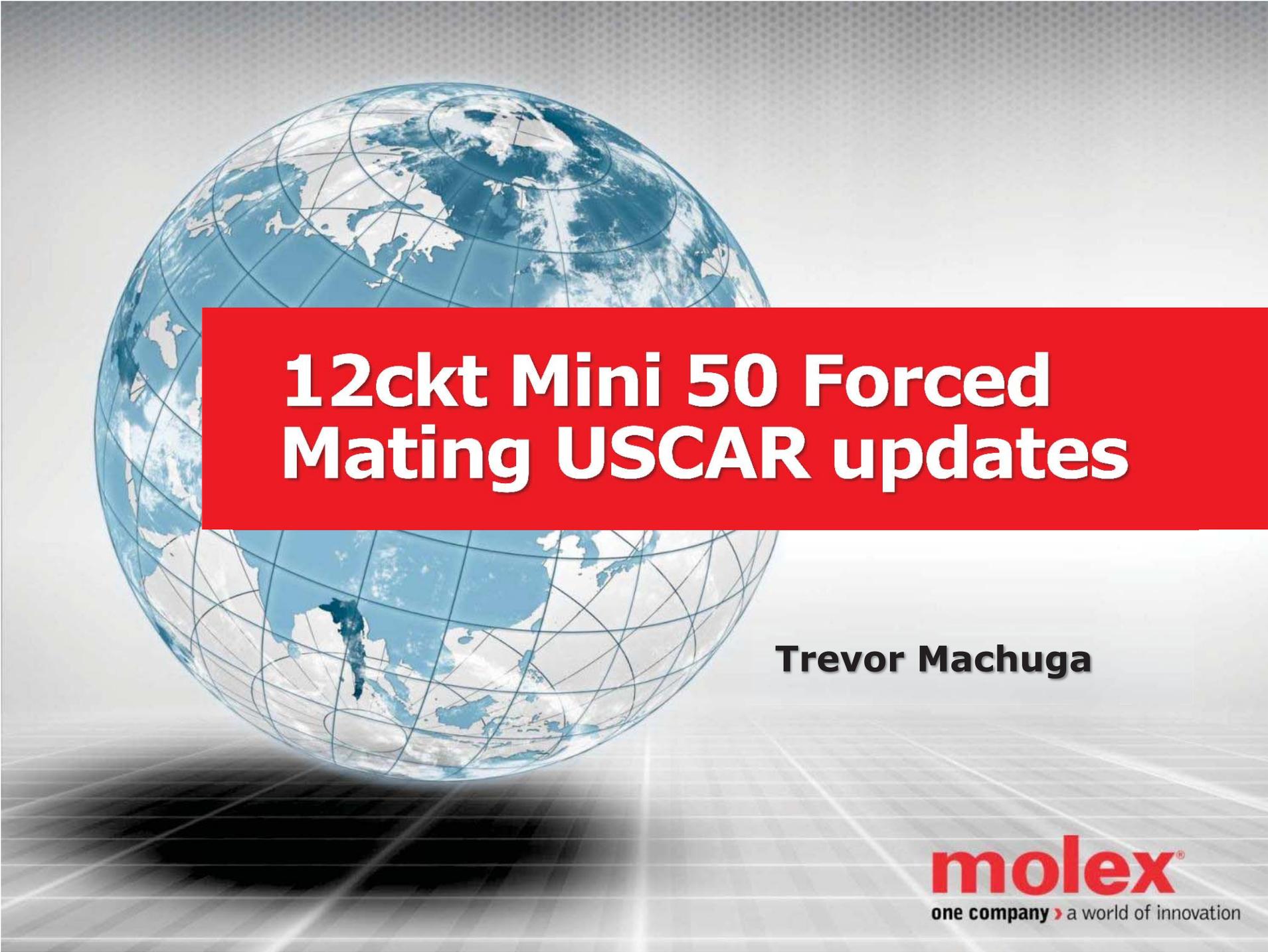
Right Angle



Vertical



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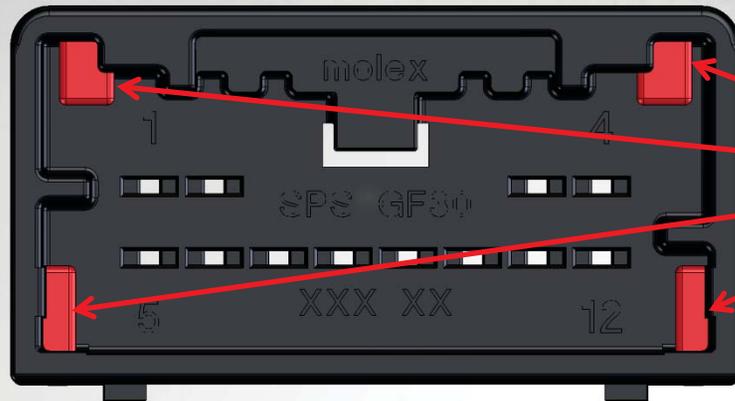


12ckt Mini 50 Forced Mating USCAR updates

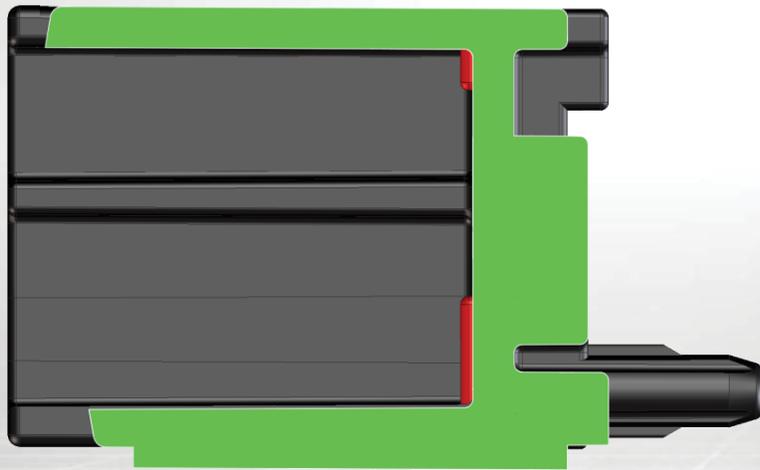
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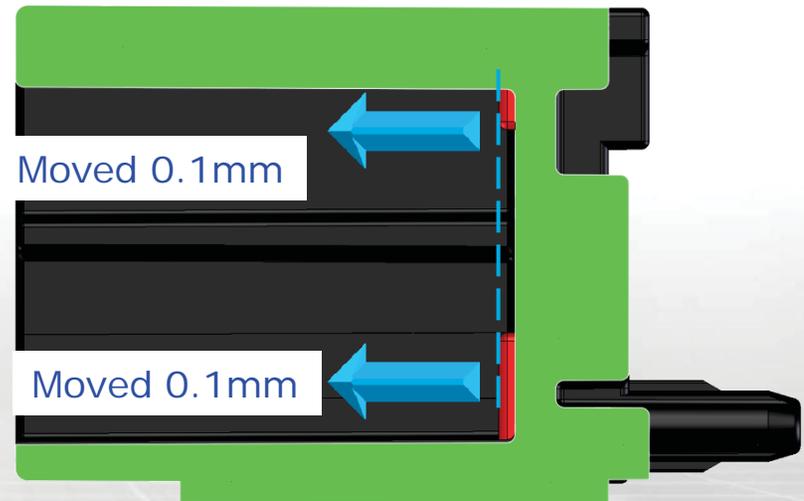
Datum Pads Moved Out 0.1 mm



4 Corner
Datum Pads



Existing Design

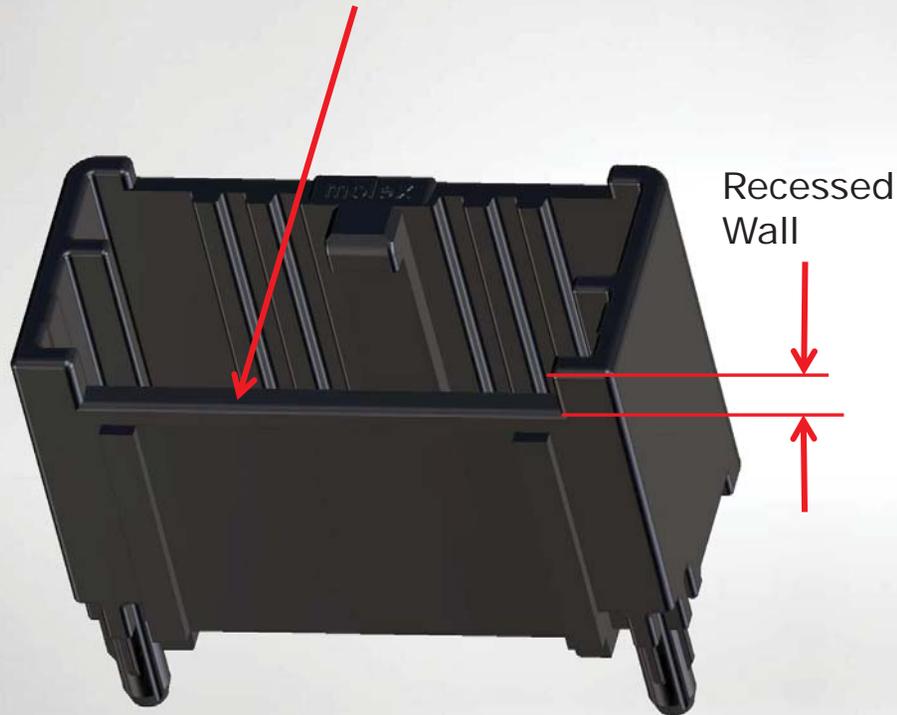


USCAR update

- Upper and Lower Datum Pads moved outward 0.1mm.
- Allows Compatibility with other OEM terminal types.

Removed Bottom Wall Recess

Bottom Wall Recess



Existing Design

Removed Recess

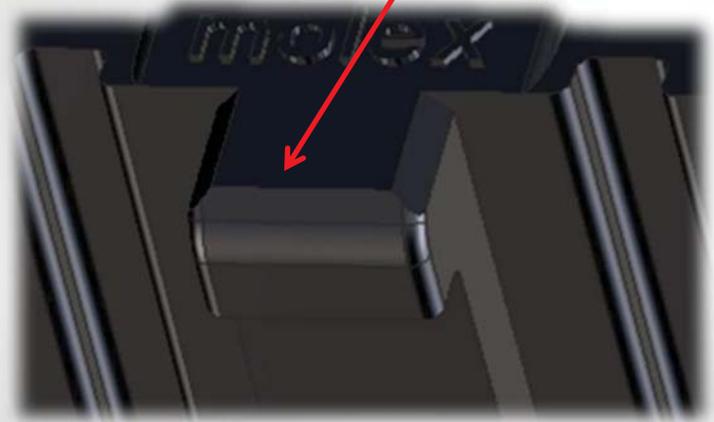


USCAR update

- Removed recess from bottom wall of header

Header Latch

Flat Latch – removed large radius and lead in



Existing Design

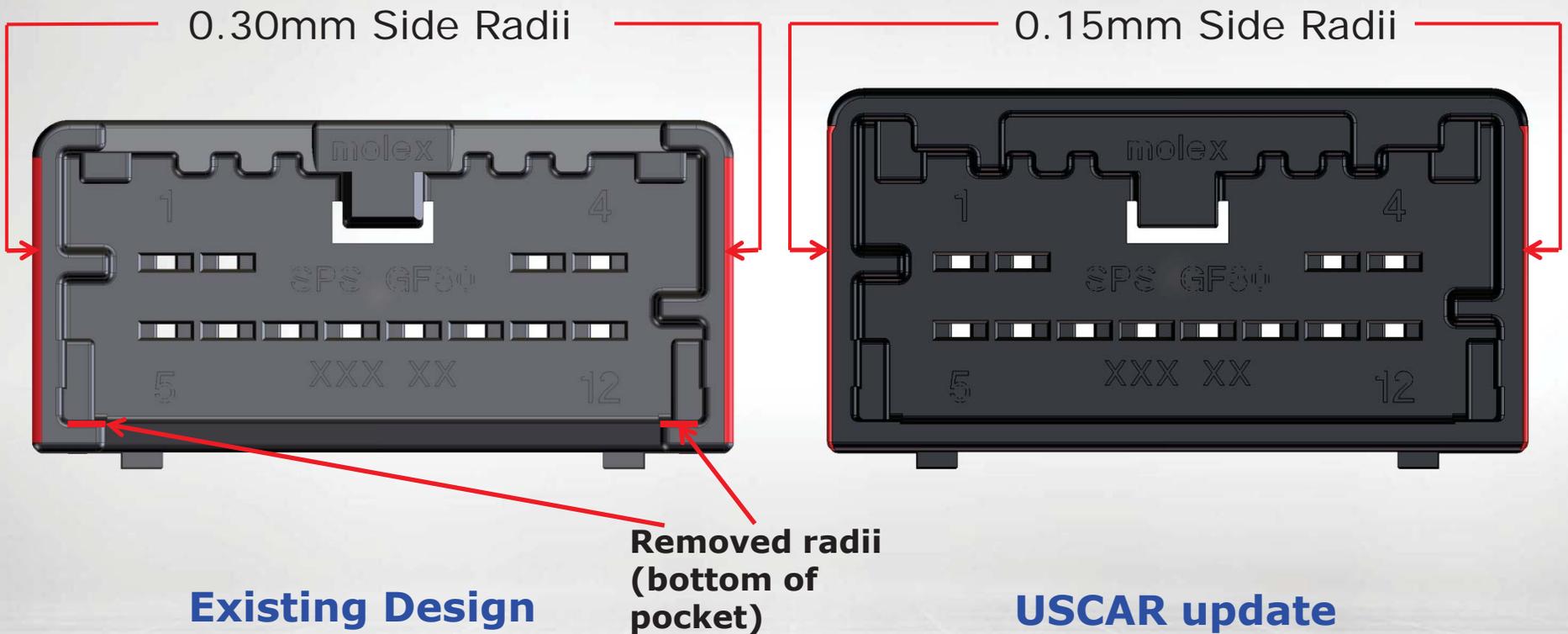
0.1 mm radii (symmetric about center)



USCAR update

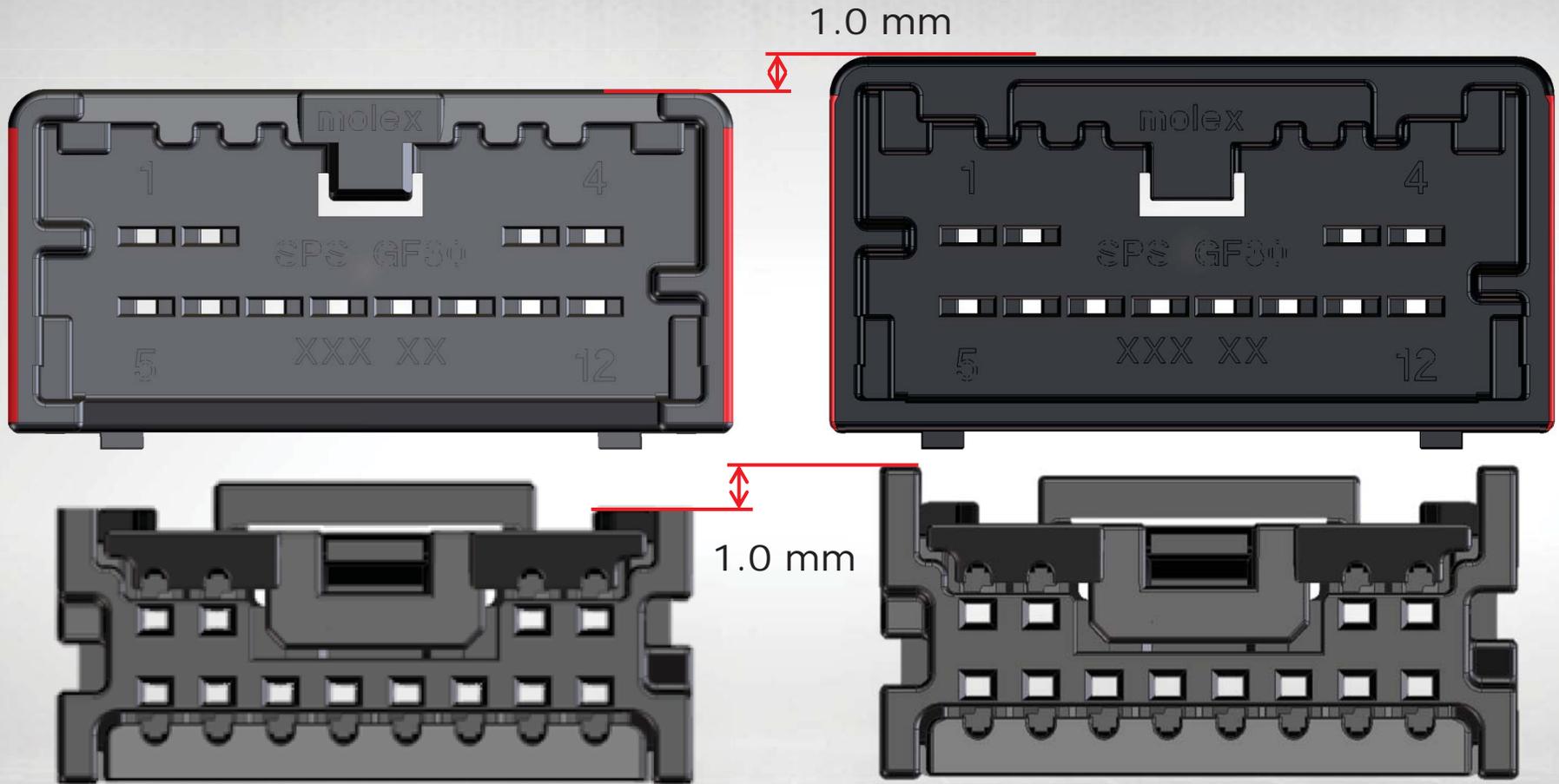
- Removed radius and lead in on header latch (shark fin).

Changed radii on sides and bottom of pocket



- Changed side radii from 0.3mm to 0.15mm.
- Allows for more robust 0.5mm ejector pin.
- Removed radii on outer bottom of header pocket.

12 ckt Anti-Scooping Features

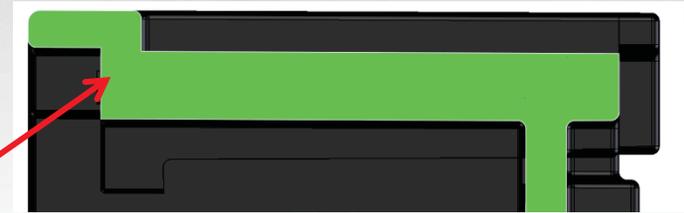


Existing Design

USCAR update

- Sides of header raised by 1.0 mm
- Upper features of receptacle raised by 1.0 mm
- Forced mating prevention will be more robust

12 ckt Anti-Scooping Features cont'd



Recess for
Receptacle Lock
Bridge

Upper faces extended outwards



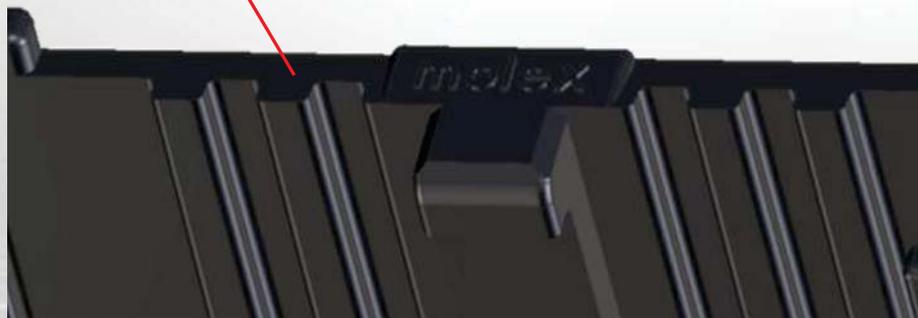
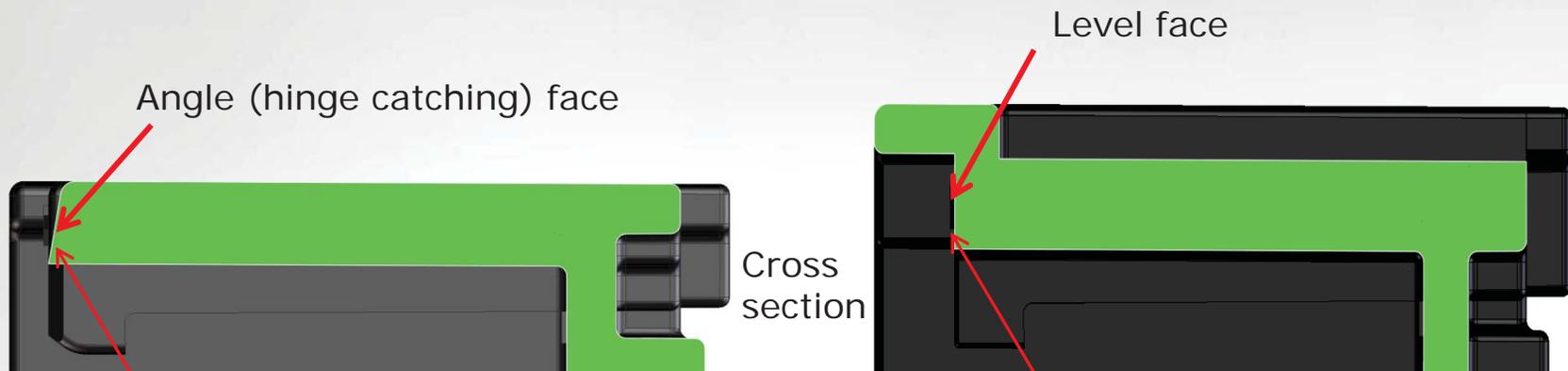
Existing Design



USCAR update

- Upper sides of top are extended around receptacle lock bridge when connector is mated to header.

12 ckt Anti-Scooping Features cont'd



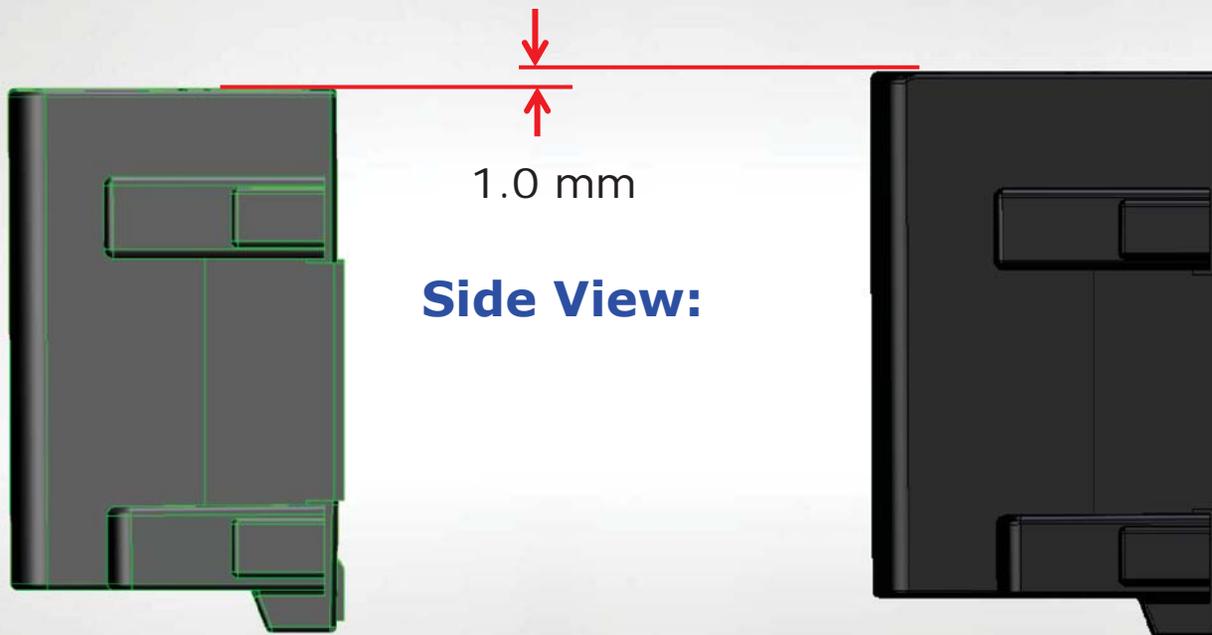
Existing Design



USCAR update

- Angled (hinge catching) face in original design was brought out to level of header latch (shark fin)

12 ckt Anti-Scooping Features cont'd



1.0 mm

Side View:

Existing Design

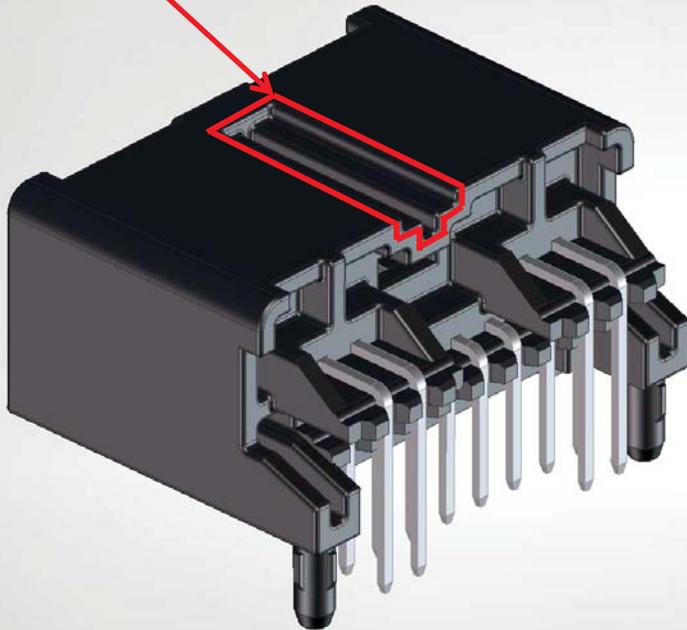
USCAR update

- Front Face extended by 1.0mm to create gap between receptacle raised features and header pins.
- No contact between pins and receptacle connector.

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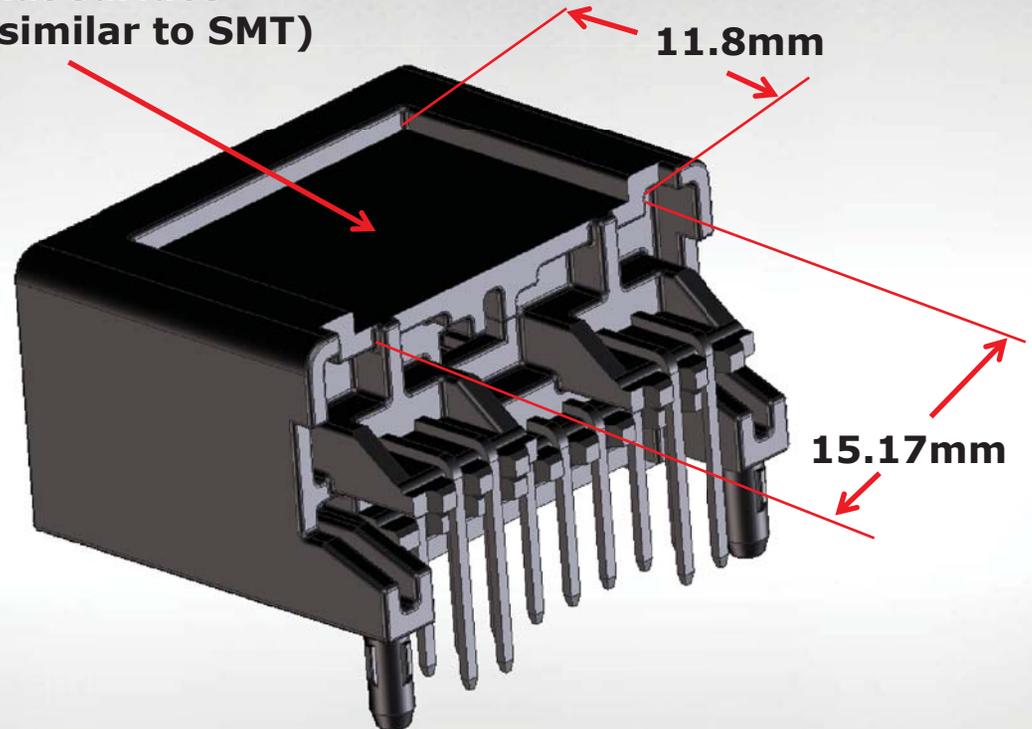
12ckt Through Hole Header - Flat Surface

Existing feature



Existing Design

Flat surface
(similar to SMT)

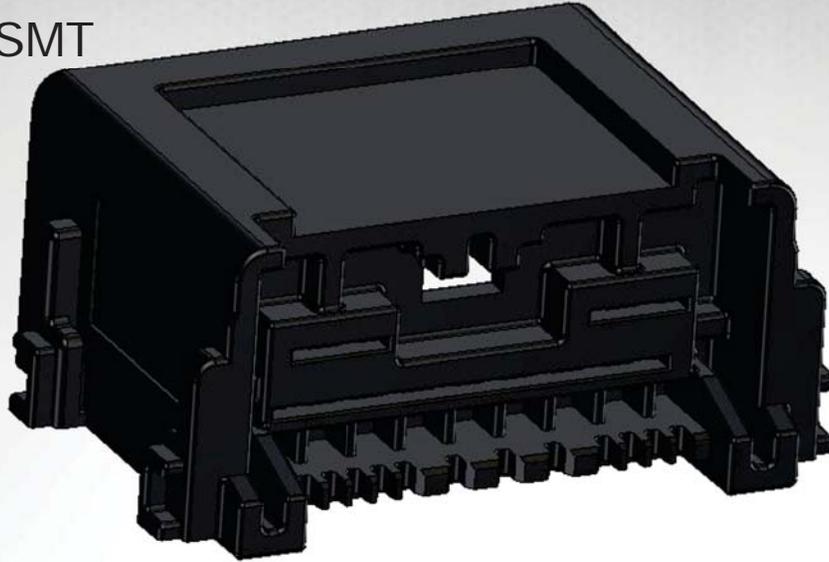


USCAR update

- Flat surface would commonize interface for SMT and Through-Hole parts.

12 ckt USCAR header family

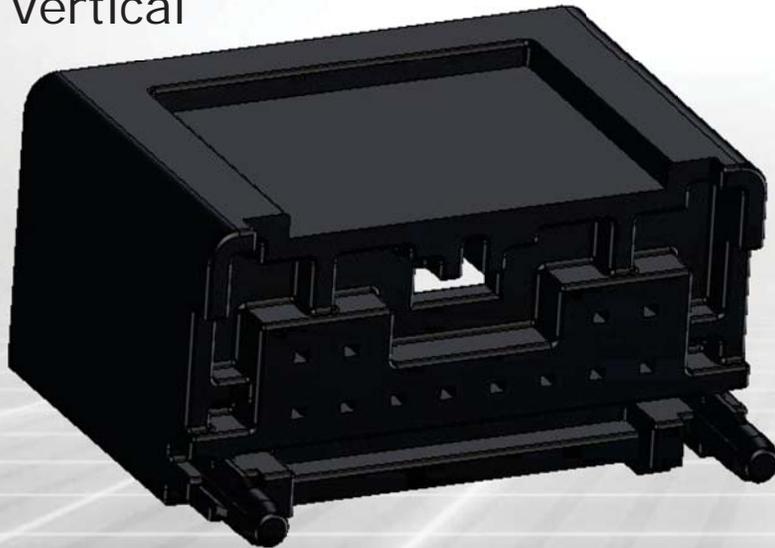
SMT



Right Angle



Vertical



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Notes:

- › All changes shown are common to all variants of the Mini 50 headers (SMT, Vertical, Right Angle) for the specific circuit size unless otherwise specified.