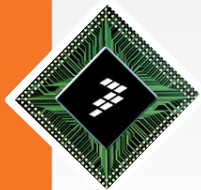




# Tray Pocket Design Change Proposal for 7x7x1.0 mm QFN packages (from ITW 40707- 15-1026-9 or PEAK TX QFN0707 1.0 1026 6 Rev D to Peak TXQFN0707 1.0 1026 6 Rev H)

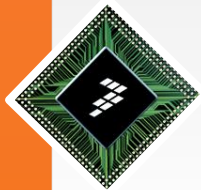
**Freescale Semiconductor**  
**August 2013**





# Summary of Change

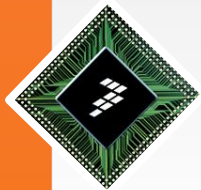
- Freescale has qualified an improved shipment tray design for 7x7x1.0 mm QFN packages.
- The new tray has an improved pocket design which minimizes the rotational free play for the device whilst in the tray.
- **Only one Critical Dimension Change:**
  - Small dimensional change to Z-height seating plane
    - ITW to Peak Rev H: 0.20mm deeper
    - Peak Rev D to Peak Rev H: 0.15mm deeper
- Non-Critical Changes:
  - Tray Pocket Fence design
  - End-Tab markings
  - Color strip removal (for Peak Rev D tray)
  - Anti-reverse/interlock design & location
- Note: NO CHANGE to pocket pitch and matrix



## Tray Qualification Testing Results - PASSED

- *Dimensional qualification (Tray's length, width, thickness, pocket pitch)*
- *Stacked Tray Alignment*
- *Surface Resistivity*
- *3-Point Bending*
- *Bake / Warpage*
- *Strapping*
- *Drop*
- *Functional Line*

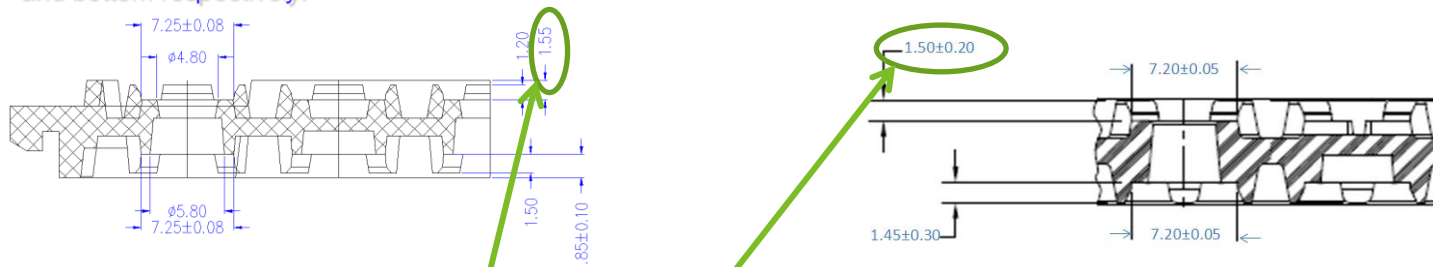




# Pocket Cavity Dimensions (Pocket Dimensions & Tolerances)

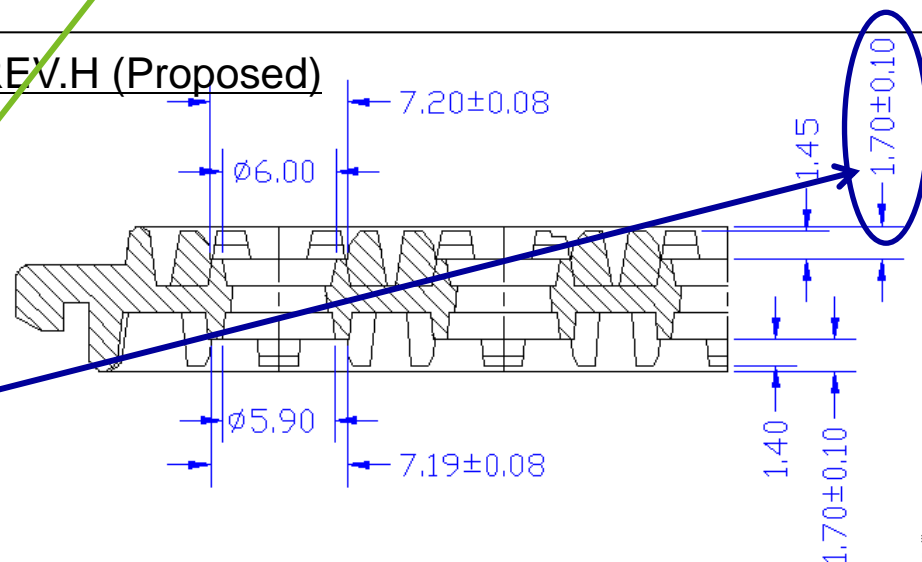
- Peak TX QFN0707 1.0 1026 6 REV.D (Current) ITW 40707-15-1026-9 (Current)

- Pocket openings on top and bottom is at  $7.25 \pm 0.08$ mm.
- Pocket depths of 1.55mm and 1.85mm on top and bottom respectively.

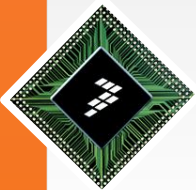


- Peak TX QFN0707 1.0 1026 6 REV.H (Proposed)

- Optimized pocket openings on top and bottom as per PODs given by most customers.
- Balance design with pocket depths of 1.70mm on top and bottom.

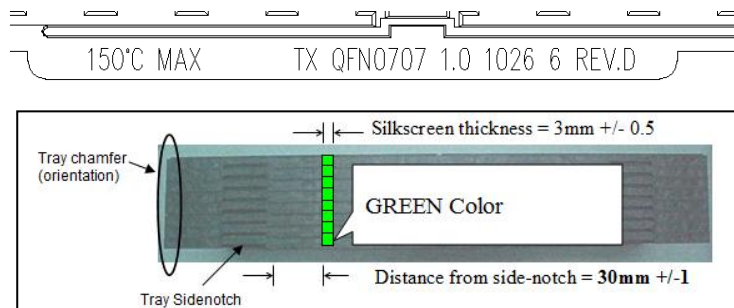


**Only one critical dimension change:** Z-seating height is deeper by 0.15mm( from TX QFN0707 1.0 1026 6 REV.D) and 0.20mm( from 40707-15-1026-9)

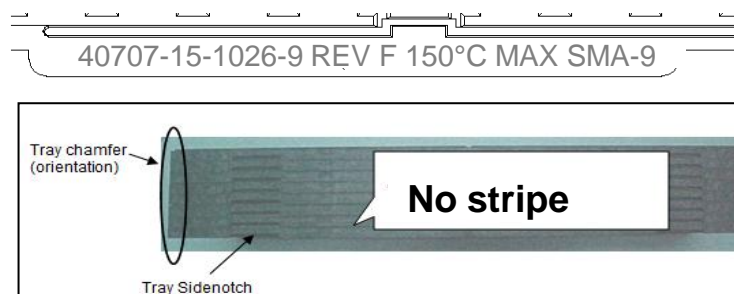


# Non-Critical Features (End Tab Marking, Stripe Color, etc)

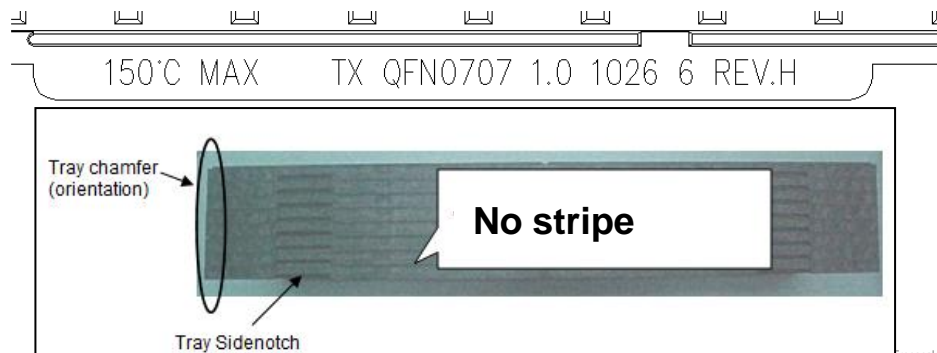
- Peak TX QFN0707 1.0 1026 6 REV.D (Current)



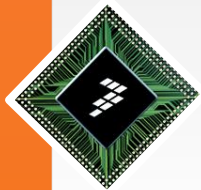
- ITW 40707-15-1026-9 (Current)



- Peak TX QFN0707 1.0 1026 6 REV.H (Proposed)





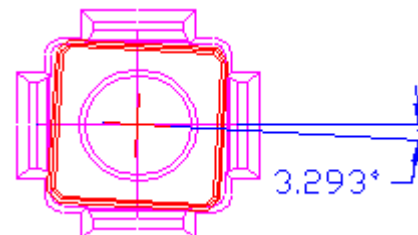
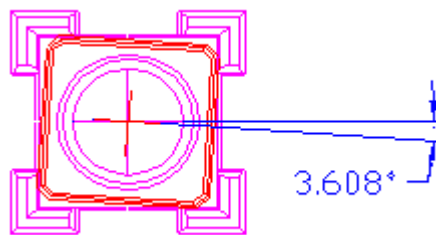


# Benefit – Minimize rotational free-play

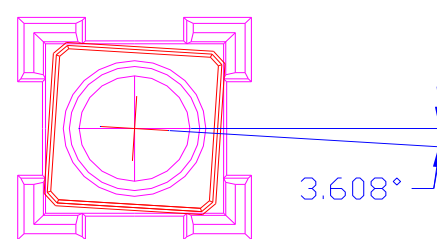
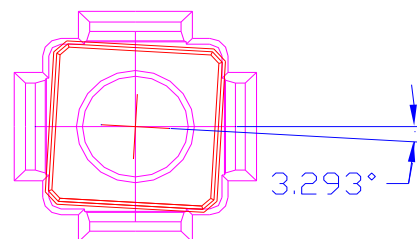
## Top Pocket

## Bottom Pocket

**Current:**  
**ITW 40707-15-**  
**1026-9**



**Current:**  
**Peak TX**  
**QFN0707 1.0**  
**1026 6 REV.D**



**Proposed:**  
**Peak TX**  
**QFN0707 1.0**  
**1026 6 REV.H**

