

# Passive Component Manufacturers and Electronic Raw Material Vendors Affected By Japan Earthquake of March 2011

## Passive Component Factories In Affected Area

Nippon Chemi-Con Miyagi (Aluminum Capacitors)  
 Nippon Chemi-Con Fukushima (Aluminum Capacitors)  
 Kyocera Sendai (Ceramic Capacitor)  
 TDK Kitakami (Ceramic Capacitor)  
 Susumu-YDS Niigata (Thin Film Resistor)  
 Hitachi AIC Fukushima (Tantalum Capacitor)  
 Fukushima Futaba (Axial Resistors)  
 Maruwa KCK Niigata Joetsu (Ceramic Capacitor/Resistor Substrates)

**Analysis I:** The associated lead time data shows how many of the capacitor, resistor and inductive components reacted on the day of the quake, extending out by two weeks-only to relax down on March 23 when workers returned to the factories. However by March 28 it was apparent that some supply chains were affected more than others. As visibility on raw material usage and supply in Japan became improved it became apparent that the loss of some of the engineered raw materials had a much deeper impact than the loss of component production. The impact to the passive component supply chain was both horizontal and lateral.



## Raw Material Vendors In Affected Area

HC Starck MITO Plant Ibaraki- (Tantalum Powder)  
 Tomiyama Pure Chemical Industries (Electrolytes)  
 Nippon Chemical Industrial Fukushima (Barium Compounds)  
 Nippon Chemi-Con Takahagi (Aluminum Foil)  
 Sakai Chemical Fukushima-(Titanium Dioxide)  
 Shin-Etsu- (Ethylene)  
 Toho Titanium Ibaraki (Titanium Dioxide)

Area of earthquake and tsunami

**Analysis II:** The loss of Tomiyama will have a minor impact on the supply chain for aluminum electrolytic capacitors. Nichicon has already noted that the loss of this factory is hampering their production efforts. The loss of Tomiyama factory coupled with the loss of the NCC foil factory is significant. The two ceramic dielectric plants - Sakai and JCI were very important to the entire ceramic capacitor industry worldwide. The HC Starck plant in Japan produced Ta205 powder, but it is small production compared to Starck's Thailand factory. The closing of Shin-etsu ethylene cracker may impact polyethylene terephthalate production which is needed for DC film capacitors.

## Bottom Line Estimates:

The damage to the Tohoku region factories supplying the passive component industry was surprisingly very limited. Of all the factories surveyed we note no loss of personnel and no loss of buildings- which is amazing given the magnitude of the disaster. The primary disruption to business in the affected region according to primary sources is lack of power and lack of water; coupled with the lack of transportation. The chemical processing plants- especially Tomiyama, JCI and Sakai- taken collectively, seem to be the most concerning for the worldwide capacitor industry; but we feel that the major passive component vendors will work together to overcome this problem and rebuild. We know that many of these vendors had made deliveries before the earthquake so many vendors have ample supplies in stocks. Still, we note panic buying in the market for capacitors and resistors at the distribution level as vendors "do a land grab for components" as fast as they can.

## Primary and Secondary Data Resources:

Primary Resources Contributing to This Slide: Nippon Chemi-Con Corporate Statements regarding damage to three capacitor plants and one foil plant; Kyocera Corporation; corporate statements; TDK Corporation corporate statements; Direct requests to Susumu's Yokohama Denshi affiliate in Niigata have gone unanswered; Hitachi AIC Tantalum factory update through Holystone in Taiwan- factory damage was minimal; Fukushima Futaba resistor factory (no response to requests); Maruwa KCK- company reports no problems to factory, noted only problem with transportation logistics. HC Starck Goslar (Mito factory will be operational by first full week of April); Tomiyama Pure Chemical Industries; Nippon Chemical Industrial (JCI) and Sakai Chemical future of plants uncertain at this time because of location; Shin-etsu 80% of capacity off line for ethylene used in PET production; Toho Titanium; no response to requests.

## Secondary Research: Plant Locations, Market Shares and Capacities:

Aluminum Capacitors: World Markets, Technologies & Opportunities: 2010-2015 ISBN # 0-929717-47-3 (8/2010); Tantalum Capacitors: World Markets, Technologies & Opportunities: 2010-2015 ISBN # 1-893211-11-8 (© April 2010); Ceramic Capacitors: World Markets, Technologies & Opportunities: 2009-2014 ISBN # 1-893211-25-8 (December 2009); Capacitors: Costs To Produce: 2010 (ISBN # 1-893211-00-2); CAPACITOR FOIL: Global Market Outlook: 2008- 2013 ISBN # 0-929717-85-6 (2008); Ceramic Dielectric Materials: World Markets, Technologies & Opportunities: 2008-2013 ISBN # 0-929717-76-7 (2008)

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