S316 DMD Socket

1. INTRODUCTION

This specification covers the requirements for application of land grid array S316 DMD Socket onto printed circuit board (PC board). The housing is molded from liquid crystal polymer, and the contacts inserted into the housing from nickel copper, which is plated with 3u" min gold over 50u" of nickel. The product typically requires a load of 25 grams per contact to achieve assembly stability. The socket contacts are arrayed about a cavity in the center of the socket with lead-free solder balls for surface mounting on the motherboard. The socket contacts have
1.00×1.00mm pitch (X by Y) with a 45 degrees pattern and are arranged in single base housing as illustrated in Figure 1.

1.1. Parts number and description

Table 1. Part number and description

TE P/N	Final-Assemble	Key Color	Description
2350616-1	S316 DMD SOCKET	BLACK	S316 DMD SOCKET

1.2. Outline

LGA250 socket provides elastic contact on bottom of socket to make contact to PC board. The housing holds an array of the contact. Please refer to figure 1.

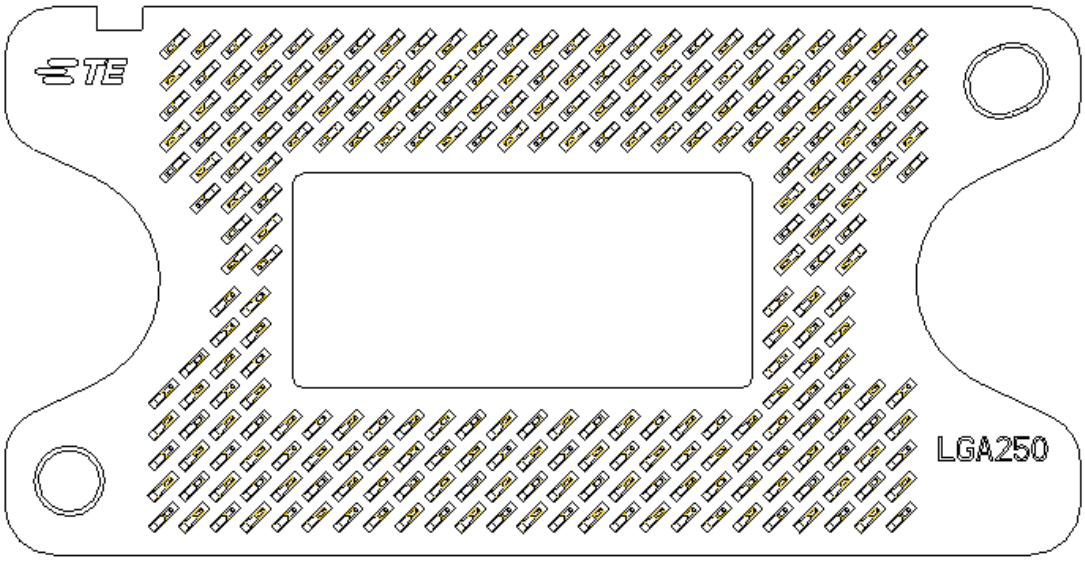

Figure 1

1.3. Notices

The sockets are placed on the PC board by manual application.

1.4. Prohibitions

DMD socket should **ALWAYS** be handled by the outer edges being careful to avoid touching the contacts. Contacts should **NOT** be touched with fingers, tolls wipes, or any other devices.

2. REFERENCE MATERIAL

2.1. Drawings
Customer Drawings for product part numbers are available from service network. If there is a conflict between the information contained in the Customer Drawings and the specification or with any other technical documentation supplied, the Customer Drawings shall take precedence.
Customer drawing numbers: 2350616

2.2. Specification
Reference documents which pertain to this product are:
108-115155 : Product specification
501-115172 : Qualification test report

3. REQUIREMENTS

3.1. LGA package
The socket accept 250-position LGA package provided by TE.

3.2. Storage
A. Preferable condition
The sockets should remain in the shipping containers until ready for use to prevent deformation or oxidation to the solder balls. The sockets should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.
B. Chemical exposure
Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the socket material.
Do not store sockets near any chemical listed below as they may cause stress corrosion cracking in the solder balls.
Alkalies Ammonia Citrates Phosphates Citrates Sulfur Compounds
Amines Carbonates Nitrites Sulfur Nitrites Tartrates

3.3. PC board
A. Material
The PC board material shall be glass epoxy (FR-4).
B. Plating
3u” min of gold plating over 50u”min nickel plating.
C. Thickness
The PC board thickness shall be from 1.6mm to 2.4mm.

D. Warpage
Maximum allowable bow of the PC board after reflow shall be 0.1mm per 25.4mm over the length of the socket grid area

E. Layouts and the volumetric zone for center cavity component
The circuit pads on the PC board must be precisely located to ensure proper placement and optimum performance of the socket.

3.4. Socket placement

A. During storage and handling of devices and circuit boards care should be taken to protect the mating pad array surfaces. Stacked circuit boards should be protected using non-dyed, sulfur free paper sheets between boards in packaging and in assembly staging. For long term storage (greater than one week) boards and flex should be stored in a clean, dry environment between 40 and 80 degrees F, and between 30 and 60 per cent relative humidity.

B. Board and device pad arrays should not be touched with fingers, tools, or any other devices.

C. If soldering operations are required for other board areas, the interposer footprint area must be sealed and protected from flux and solder contamination. Materials used to protect the LGA site must not leave residue or contamination. Solder mask should **NOT** be present within the CLGA area of the board.

D. If board and device pad arrays require cleaning, the array should be cleaned using electronic/reagent grade isopropyl alcohol and a lint free clean room cloth (no chemical residue, polyester/polypropylene/polyolefin type). Subsequent drying of the pad array per section E must be done following cleaning.

E. Immediately following cleaning per section D, or immediately prior to placement of the interposer to the circuit board, the board pad array and interposer contact array should be blown off with clean, oil free dry air or nitrogen to remove loose debris. First start the blowing process by aiming away from the array areas, then sweeping across the pad and contact arrays in a repeated motion to remove loose debris.

F The interposer should be placed onto the board pad array using the locator pins for alignment. Care should be taken to prevent incidental contact of mating device edges with the interposer contact array area.

REV	REV. RECORD	PREPARED		CHECK		APPROVAL	
1	Preliminary	Tony Zhu	11th Jun '19	Bill Lv	11th Jun19	Simon Li	11th Jun '19
A	Released	Tony Zhu	12th Jul '19	Bill Lv	12th Jul19	Simon Li	12th Jul '19