

Product Change Notification

PCN number: 2011121202

Issue date: Nov. 2011

Subject:

LITEON would like to re-design side emitting surface mount LED LTST-S270, LTST-S271 and LTST-S272 series for solderability improvement.

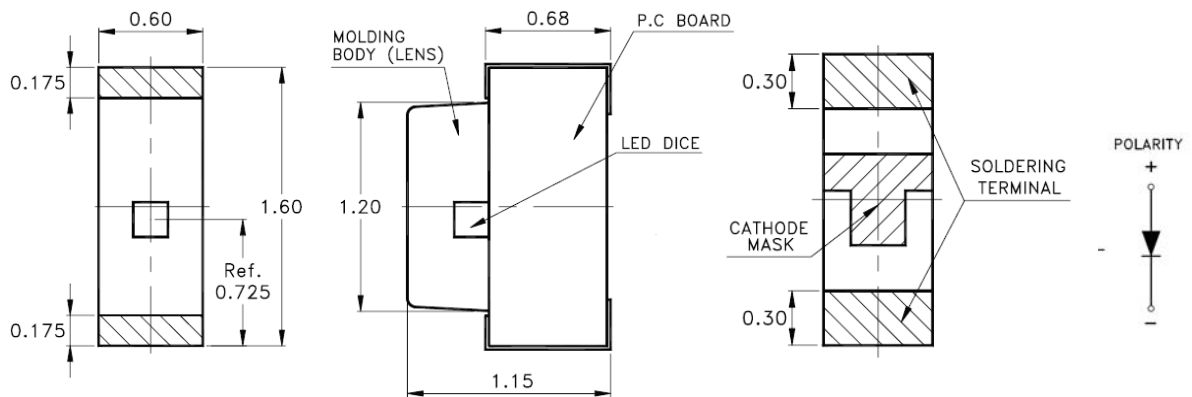
Description of change:

For environmental protection, more and more customers choose Pb-free tin paste under low temperature soldering process, in order to enhance solderability under low temperature soldering process, LITEON would like to re-design PCB type to increase soldering area and add tin-plating process.

Descriptive detail and test result

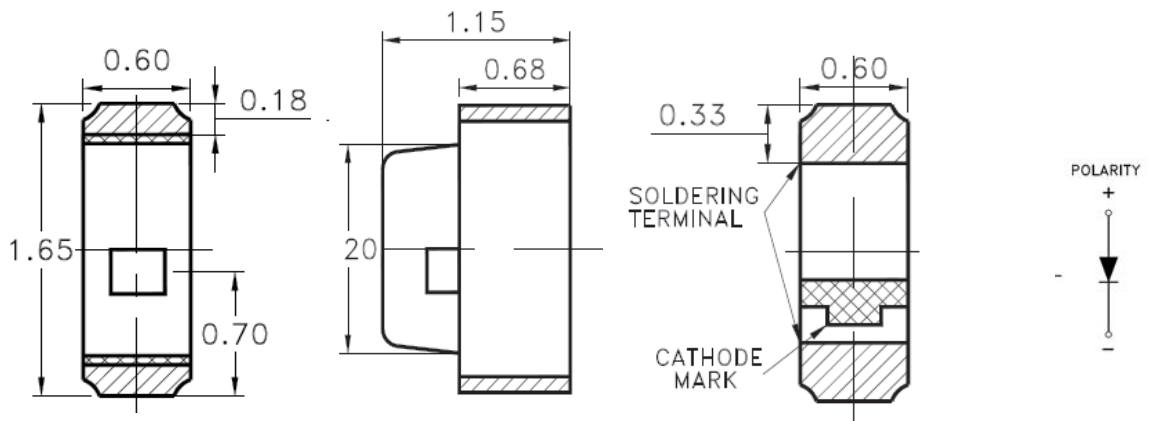
1. Outlines

Original LTST- S270 / S272 series outlines:



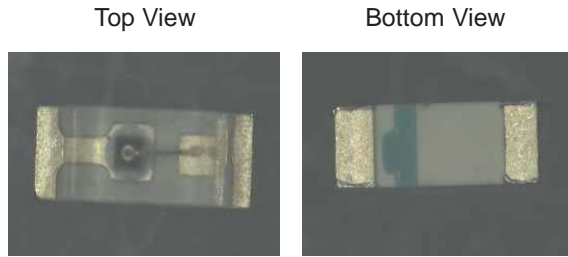
New LTST-S270 / S271 / S272 series outlines

(New LTST-S271 outlines is the same as original LTST-S271.)

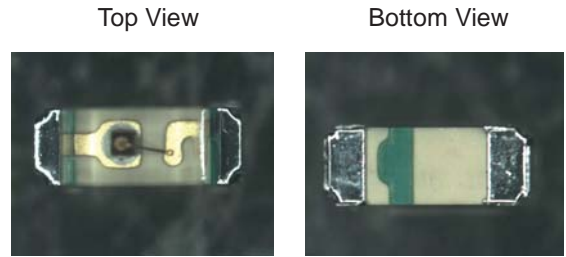


2. Visual

Original LTST-S270 series visual



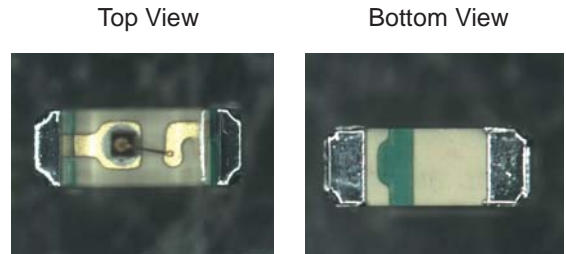
New LTST-S270 series visual



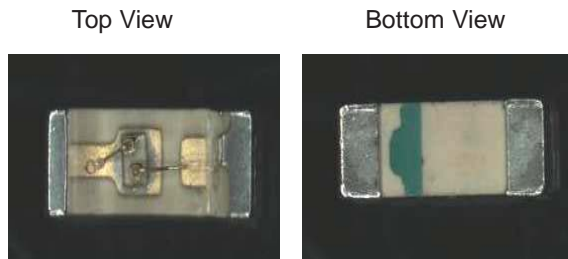
Original LTST-S271 series visual



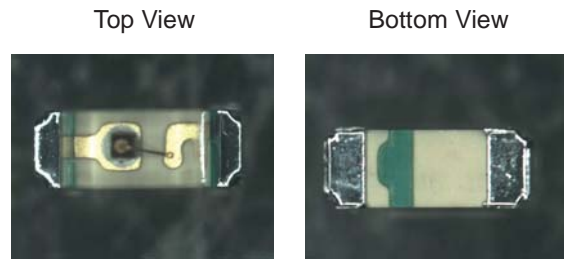
New LTST-S271 series visual



Original LTST-S272 series visual



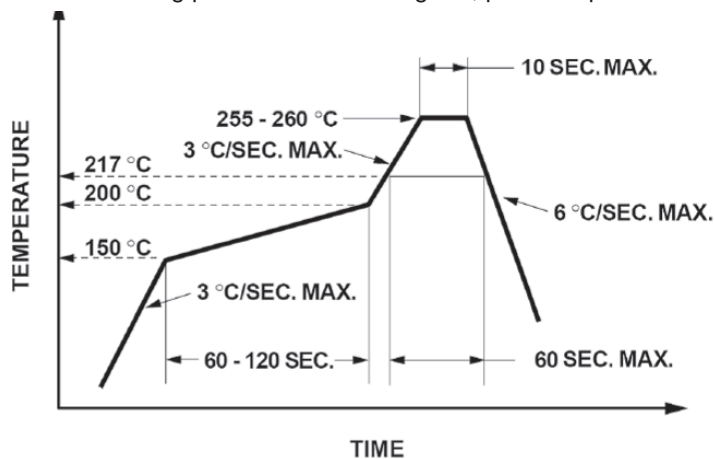
New LTST-S272 series visual



3. Solderability test comparison

I. Standard soldering condition (Lite-On datasheet recommended)

- ◆ Soldering profile: as below diagram, peak temperature is 255 ~ 260 °C



- ◆ Tin paste: Pb-free type Henkel NF-166 (96Sn/3.5Ag/0.5Cu).
- ◆ Test result: as below photograph, following standard soldering condition as

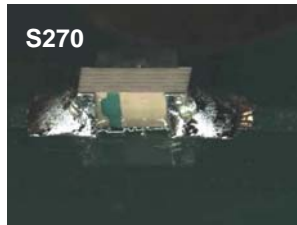
Lite-On datasheet recommends:

The poor soldering rate of original LTST-S270/ S271/ S272 series is 0%.

The poor soldering rate of new LTST-S270/ S271 / S272 series is 0%.

The photographs as below:

Original LTST-S270 /S271/S272 series



Pin-pad soldering good



Pin-pad soldering good

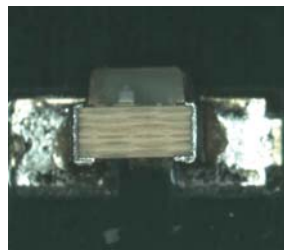


Pin-pad soldering good

New LTST-S270 / S271 /S272



Pin-pad soldering good



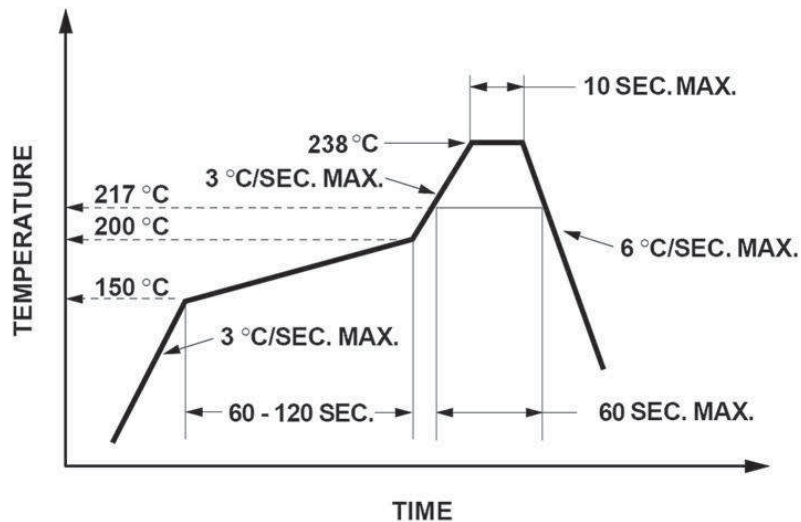
Pin-pad soldering good



Pin-pad soldering good

II. Low temperature soldering condition (Pb-free tin paste under low temperature soldering process)

- ◆ Soldering profile: as below diagram, the experiment peak temperature is 238 °C .
(Lite-On recommended low temperature soldering condition is 245 °C.)



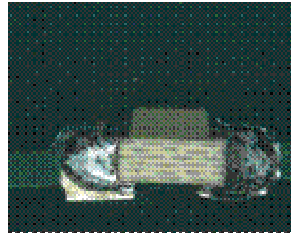
- ◆ Tin paste: Pb-free type Henkel NF-166 (96Sn/3.5Ag/0.5Cu).
- ◆ Test result:
The poor soldering rate of original LTST-S270 series is 2%.

The poor soldering rate of original LTST-S271 series is 1%
 The poor soldering rate of original LTST-S272 series is 0%
 The poor soldering rate of new LTST-S270/ S271/ S272 series is 0%
 The photographs as below:

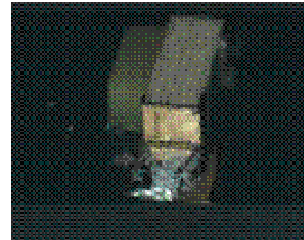
Original LTST-S270 series



Pin-pad soldering bad



Pin-pad soldering bad

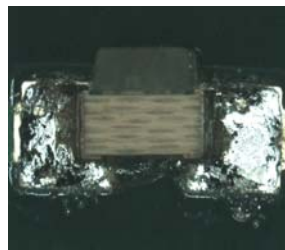


Pin-pad soldering bad

Original LTST-S271 series



Pin-pad soldering bad



Pin-pad soldering bad

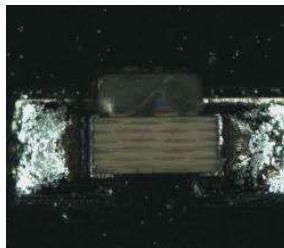


Pin-pad soldering bad

New LTST-S270/S271/S272 series



Pin-pad soldering good



Pin-pad soldering good



Pin-pad soldering good

Affected part numbers/ series/ families:

LTST-S270 series part number

LTST-S270AKT	LTST-S270KGKT-LT	LTST-S270KFKT-5A
LTST-S270CKT	LTST-S270KGKT-LT1	LTST-S270KGKT
LTST-S270EKT	LTST-S270KRKT	LTST-S270KGKT-5A
LTST-S270GKT	LTST-S270KRKT-2F	LTST-S270YKT
LTST-S270JBKT	LTST-S270KRKT-M	LTST-S270TBKT-5A
LTST-S270JBKT-5A	LTST-S270KSKT	LTST-S270TGKT
LTST-S270KFKT	LTST-S270TBKT	LTST-S270TGKT-VT

LTST-S271 series part number:

LTST-S271KFWT
LTST-S271KGWT
LTST-S271KRWT
LTST-S271KRWT-5A
LTST-S271KSWT

LTST-S272 series part number

LTST-S272KFKT
LTST-S272KFKT-PE
LTST-S272KRKT-PE
LTST-S272TBKT-5A
LTST-S272TBKT-PE

Expected influence on quality/ reliability/ performance:

The dimension and electric characters remain the same as before.

No effect on product quality and reliability level, reliability test report as attached files.

Effective Date of Change:

The effective date will start from 1st Apr. 2012.

Sample availability:

3 weeks after receiving request.

Response date:

This PCN is considered approved, without further notification, unless we receive specific customer concerns within 3 months after the PCN issuance date.

Issued by:

LITEON Visible SBU

SMD LOB / Product Design Team

2011/12/12