

Product Name: TLPN137  
 Package Name: DIP8 SMD

### 1. Thermal tests

Test Item	Test Condition	Failure Size / Sample Size
Heat resistance (Reflow)	Peak : 260 deg.C(a moment) Reflow zone : 230 deg.C 30 to 50 s Preheat : 180 to 190 deg.C , 60 to 120 s 2 times	0 / 32
Heat resistance (Flow)	Peak : 260 deg.C Immersion time : 10 s Once	0 / 32
Heat resistance (Iron)	Temperature of the iron tip : 350 deg.C Time : 3 s Once	0 / 32
Temperature cycling	- 55 deg.C(30 min) to 125 deg.C(30 min) ,100 cycles	0 / 50

### 2. Mechanical tests

Test Item	Test Condition	Failure Size / Sample Size
Solderability	Solder bath : Sn-Ag-Cu 245 deg.C , 5 s ,once (using Flux) Solder bath : Sn-Pb 230 deg.C , 5 s ,once (using Flux)	0 / 11
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-	-	-
-	-	-
-	-	-

### 3. Life tests

Test Item	Test Condition	Failure Size / Sample Size
Steady state operation	Ta = 85 deg.C, IF = 20mA, IO = 50mA, VCC = 5.5V ,1000 h	0 / 30
High temp. bias	Ta = 85 deg.C, VCC = 5.5V ,1000 h	0 / 30
High temp. storage	Ta = 125 deg.C ,1000 h	0 / 30
High temp. high humidity storage	Ta = 85 deg.C, RH = 85% ,1000 h	0 / 30
Pressure cooker test	Ta = 121 deg.C(203kPa)(Unsaturated) ,96 h	0 / 20
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 For detailed reliability test information, such as test conditions and criteria, please contact your Toshiba sales representative.

## Estimated Failure Rate

Product Name	Estimated failure rate
TLPN137	0.84 Fit or less

Above estimated value is determined with the standard operation under the general environment:\*

\*The general environment here means the conditions of  $T_j = 55$  degree C and no application of surge and so on.

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Product Name: TLPN137  
Package Name: DIP8 THD

### 1.Flow

Number: Only once

Solder temperature : 260 deg.C maximum

Soldering time : Within 10 seconds

Preheat : 150 deg.C , 60 to 120 seconds

NOTE: Apply up to stopper part or point 1.5 mm or 2.0mm more far from the body of device. (It depends on each specifications.)

If the double-wave method is used, keep the total dwell time for a first bath and a second bath within 10 seconds.

Preheating conditions are based on the surface temperature of the PWB by the solder mounting side.

( When the PWB surface by the device side is preheated, its condition should not exceed the maximum storage temperature of a device. )

### 2.Others

We urge you to verify well before mounting to assure enough solder joint strength.

Always solder the Product in accordance with the heat-resistance mounting conditions set forth above. In the event the Product is soldered otherwise, the applicable product warranty, if any, is void.

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