

Product Name: TLP293-4

Package Name: SO16

### 1. Thermal tests

Test Item	Test Condition	Failure Size / Sample Size
Heat resistance (Reflow)	Peak : 260 deg.C Reflow zone : 255 deg.C 30 to 40 s, 217 deg.C 60 to 150 s Preheat : 150 to 200 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 = 25 deg.C, IF = 50mA, PC = 100mW ,1000 h	0 / 30
High temp. bias	Ta = 125 deg.C, VCE = 80V ,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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The information contained in Reliability Test Report represents the result of our internal reliability tests conducted in accordance with JEITA ED-4701 test standards, and is provided for your reference only.  
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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
TLP293-4	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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## Moisture Absorption Control Level (Moisture Sensitivity Level)

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Always store the Product under moisture sensitivity level equivalent to level 1 (JEDEC J-STD-020 Moisture Sensitivity Level). In the event the Product is stored otherwise, the applicable warranty, if any, is void.

Always perform reflow soldering in accordance with methods and conditions as specified in applicable engineering documents or specifications provided by Toshiba, or as instructed in writing by your TOSHIBA sales representative.  
In the event the Product is soldered otherwise, the applicable product warranty, if any, is void.

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