

Product Name: TK18A50D

Package Name: TO-220SIS

1. Thermal tests

| Test Item | Test Condition | Failure Size / Sample Size |
|------------------------|--|----------------------------|
| Heat resistance (Flow) | Peak : 260 deg.C Immersion time : 10 s (Up to 1.5mm from the Root shall be immersed) Once | 0 / 32 |
| Heat resistance (Iron) | Temperature of the iron tip : 400 deg.C Time : 3 s Once | 0 / 32 |
| Temperature cycling | - 55 deg.C(30 min) to 150 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 |
| Lead integrity | Weight = 10 N 0 deg. to 90 deg. to 0 deg. Bend , 3times | 0 / 11 |
| - | - | - |
| - | - | - |
| - | - | - |

3. Life tests

| Test Item | Test Condition | Failure Size / Sample Size |
|----------------------------------|---|----------------------------|
| Steady state operation | Ta = 25 deg.C, PD = 2.0W ,1000 h | 0 / 30 |
| High temp. reverse bias | Ta = 150 deg.C, VGS = 30V ,1000 h | 0 / 30 |
| High temp. storage | Ta = 150 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 |
| - | - | - |

Estimated Failure Rate

| Product Name | Estimated failure rate |
|--------------|------------------------|
| TK18A50D | 0.41 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.

The Estimated Failure Rate contained herein represents the result of our internal product reliability tests, and is provided for your reference only.
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For detailed reliability test information, please contact your Toshiba sales representative.

Product Name: TK18A50D
Package Name: TO-220SIS

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 more far from the body of device.

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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