

Product	TVS(Transient Voltage Suppressor)	Package	Wafer level chip size package
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1. Life Test

Test Item	Test Method/Standard	Test Condition	n [pcs]	Pn [pcs]
Steady state operation life1	Ta=25°C、Pd=PdMax、VR=VR Max EIAJ ED-4701/100-101	1000h	77	0
Steady state operation life2	Ta=Tstg Max.、VR≤VR Max.※ EIAJ ED-4701/100-101	1000h	77	0
Temperature humidity bias	Ta=85°C、Rh=85%、VR≤VR Max.※ EIAJ ED-4701/100-102	1000h	77	0
Temperature cycle	Tstg Min.(30min)~Tstg Max.(30min) EIAJ ED-4701/100-105	100cycle	77	0
Pressure cooker	Ta=121°C、2atm、Rh=100% JESD22-A102C	48h	77	0
High Temperature storage	Ta=Tstg Max. EIAJ ED-4701/200-201	1000h	77	0
Low Temperature storage	Ta=Tstg Min. EIAJ ED-4701/200-202	1000h	77	0

※ Conducted under the VR in which thermal runaway doesn't occur.

2. Stress Test

Test Item	Test Method/Standard	Test Condition	n [pcs]	Pn [pcs]
Resistance to solder heat1	Reflow at 245±5°C(peak temperature). EIAJ ED-4701/300-301	3times	77	0
Resistance to solder heat2	Dipping into solder bath at 260±5°C. EIAJ ED-4701/300-302	10sec	77	0
Resistance to solder heat3	Dipping leads into solder bath at 350±10°C. EIAJ ED-4701/300-302	3.5sec	77	0
Solderability	Dipping into solder bath at 245±5°C. EIAJ ED-4701/300-303	5sec	77	0
Thermal shock	0 +5 °C(5min) ~ 100 +0 -5 °C(5min) EIAJ ED-4701/300-307	100cycle	77	0
Terminal strength (Push)	Push force on mounted PCB; 2.94N	5sec	77	0
Terminal strength (PCB Bend)	Mounted PCB bending depth ; 1mm	5times	77	0

3. Measurement Item & Criteria

Item	Condition	Criteria
Breakdown Voltage(VBR)	Per specification	Variation within ±20% from Initial value
Reverse Current(IR)	Per specification	Less than x2 of Initial value
Appearance	Visual inspection with Microscope(15X)	No mechanical damage
Solderability (Reflow)	Visual inspection with Microscope(15X)	Fillet is formed by the side except terminal tip cut side.
For solderability test only (Solder Bath)	Visual inspection with Microscope(15X)	The solder shall adhere to 95% or more of dipped terminal area except terminal tip cut side.

※ Failure criteria : According to the electrical characteristics specified by the specification.

※ Sample standard:[Reliability level:90%][Failure reliability level(λ1):3%][C=0 decision]is adopted.
And the number of samples is being made 77 in accordance with single sampling inspection plan with exponential distribution type by attribute of MIL-STD-19500.

Notes

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