

## RELIABILITY TEST DATA

### Product Name : FA-238A

The Company evaluation condition

We evaluate environmental and mechanical characteristics by the following test condition .

No. DTA-1314-1

No.	ITEM	TEST CONDITIONS	VALUE *1 *2	TEST	FAIL
			$\Delta f / f$ [1 × 10 <sup>-6</sup> ]	Qty [ n ]	Qty [ n ]
1	Drop	100g dummy Jig (Epson Standard) drop from 1500 mm height on the Concrete 3 directions 10 times	*3 ± 5	22	0
2	Vibration	10 Hz to 55 Hz amplitude 0.75 mm 55 Hz to 500 Hz acceleration 98 m/s <sup>2</sup> 10 Hz 500 Hz 10 Hz 15 min./cycle 6 h (2 hours , 3 directions)	*3 ± 5	22	0
3	High temperature storage	+125 °C × 1 000 h	*3 ± 10	22	0
4	Low temperature storage	-40 °C × 1 000 h	*3 ± 5	22	0
5	Temperature cycle	-40 °C + 125 °C 30 min at each temp. 1000 cycles	*3 ± 10	22	0
6	Temperature humidity storage	+85 °C × 85 %RH × 1 000 h	*3 ± 5	22	0
7	Resistance to soldering heat	For convention reflow soldering furnace (3 times)	± 5	22	0
8	Substrate bending	Bend width reaches 3.0 mm and hold for 20 s ± 1 s × 1 time Ref. IEC 60068-2-21	No peeling-off at a soldered part	11	0
9	Shear	10 N press for 10 s ± 1 s Ref. IEC 60068-2-21	No peeling-off at a soldered part	11	0
10	Pull – off	10 N press for 10 s ± 1 s Ref. IEC 60068-2-21	No peeling-off at a soldered part	11	0
11	Solderability	Dip termination into solder bath at +230°C ± 10 °C for 5 s (Using Rosin Flux)	Termination must be 95 % covered with fresh solder	11	0

#### Notes

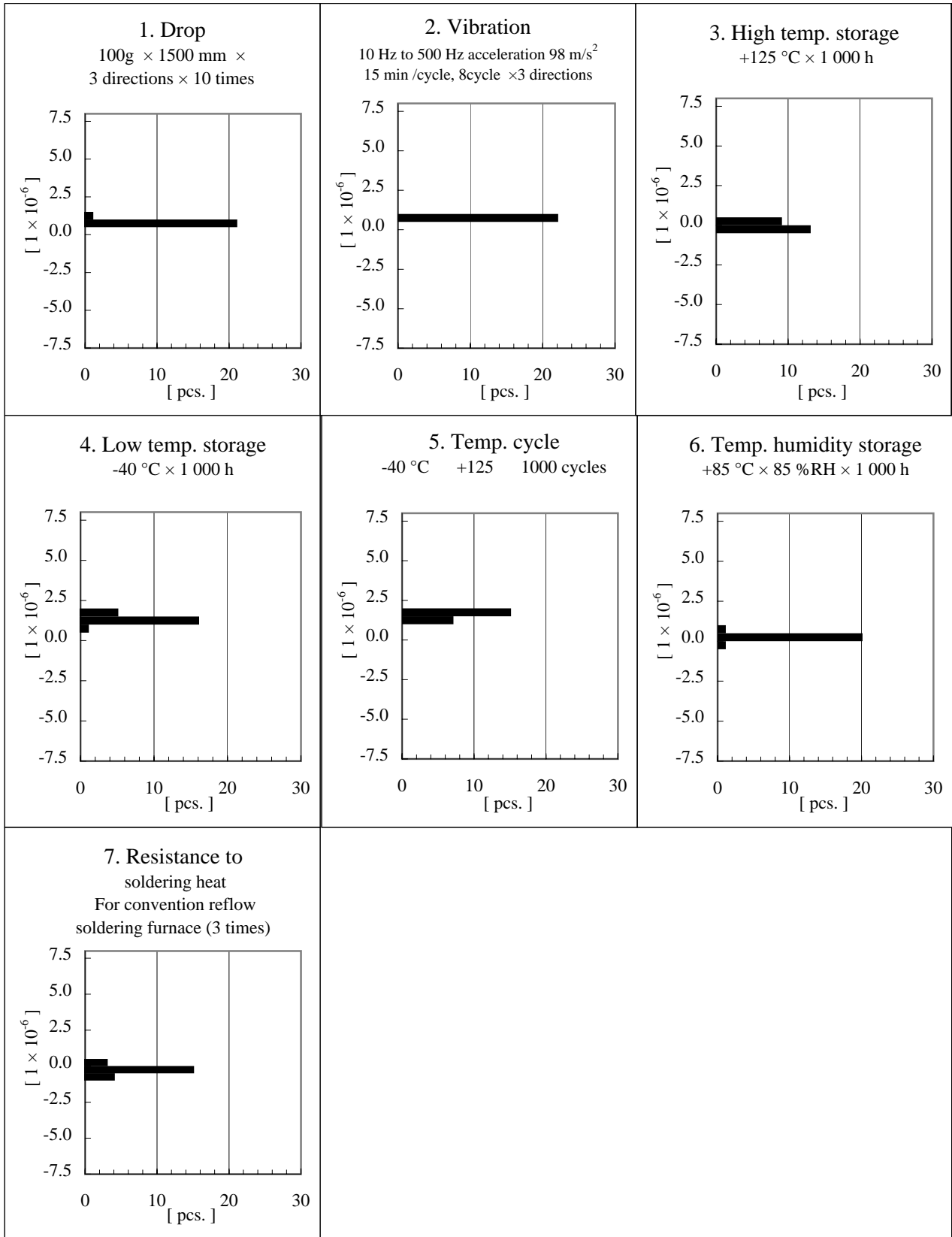
- \*1 Each test done independently.
- \*2 measuring 24 h later leaving in room temperature after each test.
- \*3 Item No.1 to No.6 shall be tested after following pre conditioning.  
Measuring 24 h later leaving in room temperature after Pre conditioning.  
Pre conditioning : Reflow 3 times.
- Item No.1 to No.7, Shift motional resistance at after above tests should be less than 20 % or less than 10 .

## Qualification Data

**Product Name : FA-238A**

$\Delta f / f$

**No. DTA-1314-2**



**Product Name : FA-238A**

$\Delta CI$

**No. DTA-1314-3**

