

## RELIABILITY TEST DATA

**Product Name : FA-128 (40 MHz < fo ≤ 54 MHz)**

The Company evaluation condition

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

No.	ITEM	TEST CONDITIONS	VALUE *1 *2	TEST	FAIL
			$\Delta f / f$ [1 × 10 <sup>-6</sup> ]	Qty [ n ]	Qty [ n ]
1	Drop	150g dummy Jig (Epsontoyocom Standard) drop from 1500 mm height on the Concrete 6 directions 10 times	*3 ± 3	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 h × 3 directions )	*3 ± 3	22	0
3	High temperature storage	+85 °C × 1 000 h	*3 ± 3	22	0
4	Low temperature storage	-40 °C × 1 000 h	*3 ± 3	22	0
5	Temperature cycle	-40 °C ⇔ + 85 °C 30 min at each temp. 100 cycles	*3 ± 3	22	0
6	Temperature humidity storage	+85 °C × 85 %RH × 1 000 h	*3 ± 3	22	0
7	Resistance to soldering heat	For convention reflow soldering furnace (3 times)	± 2	22	0
8	Substrate bending	Bend width reaches 3.0 mm and hold for 5 s ± 1 s × 1 time Ref. IEC 60068-2-21	No peeling - off at a solder part	11	0
9	Shear	10 N press for 10 s ± 1 s Ref. IEC 60068-2-21	No peeling - off at a solder part	11	0
10	Pull - off	10 N press for 10 s ± 1 s Ref. IEC 60068-2-21	No peeling - off at a solder part	11	0
11	Solderability	Dip termination into solder bath at +235°C ± 10 °C for 5 s (Using Rosin Flux)	Termination must be 95 % covered with fresh solder	11	0

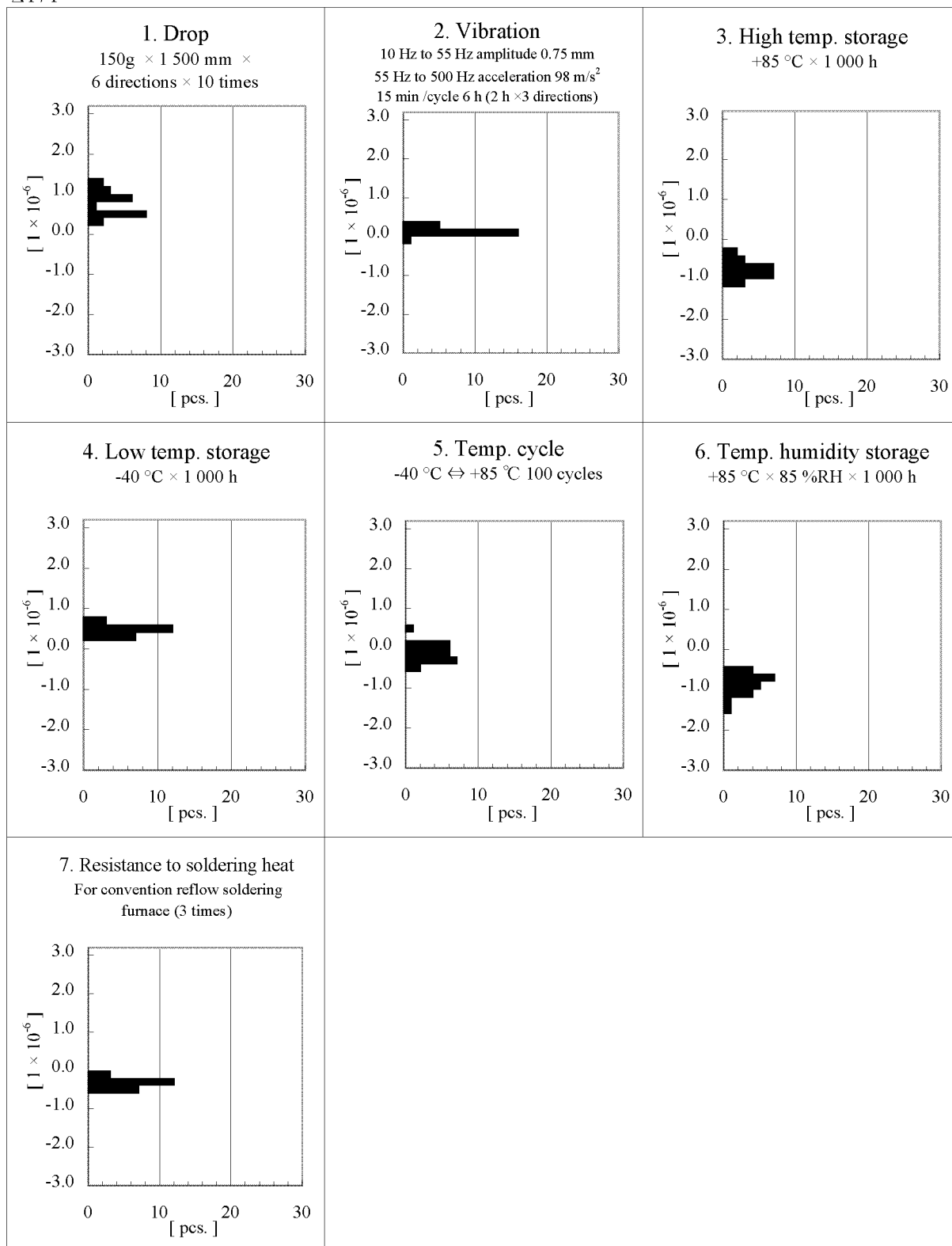
### Notes

1. \*1 Each test done independently.
2. \*2 Measuring 2 h to 24 h later leaving in room temperature after each test.
3. \*3 Measuring 24 h later leaving in room temperature after each test.
  1. Reflow 3 times
  2. Initial value shall be after 24h at room temperature.
4. Shift series resistance at before above tests should be less than ±20 % or less than ±10 Ω.

### Qualification Data

## Product Name : FA-128

$\Delta f/f$



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# Product Name : FA-128

$\Delta CI$

