Technical Data Sheet	IJSR-4000TR71508 Nov. 2016

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UV / Thermal curable (One component) solder resist ink

IJSR-4000TR71508

1. FEATURES

IJSR-4000TR71508 is inkjetable solder resist ink with the following features.

- Excellent adhesion to laminate with dual cure (UV + Thermal) process
- Tack free right after printing due to On-head UV lamp on inkjet head, which provides excellent processability

2. SPECIFICATION

Color	Green
Viscosity	14.0+/-1.5mPa･s (Cone plate type Viscometer, 50deg.C)
Specific gravity	1.1+/-0.1
Surface tension	33+/-1 mN/m
Standard curing conditions	Preliminary cure: 350～1,000mJ/cm^2 @ 385nm LED
	Thermal cure: 150deg.C / 60 min
	UV bump:1,000～2,000mJ/cm^2 @ Mercury lamp
Shelf life (tentative)	Under evaluation

3. PROCESS CONDITION

PROCESS	
Laminate	FR-4 or Cu foil
Pretreatment	Acid cleaning - Buff scrubbing
Inkjet printing	Piezo inkjet printer
Preliminary cure	On-head UV lamp (385nm LED): 1,000mJ/cm^2
Thermal cure	Hot air convection oven: 150deg.C / 60min
UV bump	UV irradiation device (Mercury lamp): 1,000mJ/cm^2

4. ATTENTION ON EACH PROCESS

- For operation environment, desirable to handle the ink under the yellow lamps in the clean room of temp. range 20-25deg.C and 50-60%RH.
- Make ink temperature reach to room temperature, and stir sufficiently before use.
- UV curing conditions depend on the type of UV lamp. Inappropriate UV lamp may cause insufficient curability.

Technical Data Sheet	IJSR-4000TR71508 Nov. 2016

5. CHARACTERISTIC (END PROPERTIES)

Item	Test method	Test result
Adhesion	On FR-4, Internal test method Cross hatch tape peeling	100 / 100
	On Cu foil, Internal test method Cross hatch tape peeling	100 / 100
Pencil hardness	TAIYO Internal Test Method On copper foil, no Cu exposure	3H
Solder heat resistance	Solder float test : Rosin flux, 260deg.C / 10sec (3cycles)	Passed
Electroless Ni/Au	Taiyo internal method Ni 3um, Au 0.03um	Passed
Solvent resistance	PGM-AC dipping, 20deg.C/20min, Tape peeling test	Passed
Acid resistance	10vol % H_2SO_4 dipping, 20deg.C/20min, Tape peeling test	Passed
Alkaline resistance	10wt% NaOH dipping, 20deg.C/20min, Tape peeling test	Passed
Insulation resistance	IPC comb type B pattern Conditioned: 25-65degC(cycle), 90% RH,DC100V, 7 days Measurement: Room temp. DC500V 1-minute value	Initial Value: $3.6 \times 10^{13}\Omega$ Conditioned: $2.4 \times 10^{13}\Omega$
Dielectric ConstantTaiyo	Taiyo internal method, 1MHz Conditioned: 25~65deg.C(Cycle), 90%RH /7days Measurement: at room temperature	Initial: 3.8 Conditioned:3.9
Dissipation Factor	Taiyo internal method, 1MHz Conditioned: 25~65deg.C(Cycle), 90%RH /7days Measurement: at room temperature	Initial:0.039 Conditioned:0.042

Note: The test result is under above-referenced process conditions and test methods. Moreover, content in this technical data sheet is based on our internal experiment, not to be guaranteed. Therefore, please check the required property in advance of use.

Technical Data Sheet	IJSR-4000TR71508 Nov. 2016

6. ATTENTION

Caution and care is required for handling. For the detail, refer to MSDS.
No intentional usage of restricted substances in EU RoHS to this product and its production process; Namely Cadmium, Lead, Mercury, Hexavalent Chromium, PBB and PBDE.