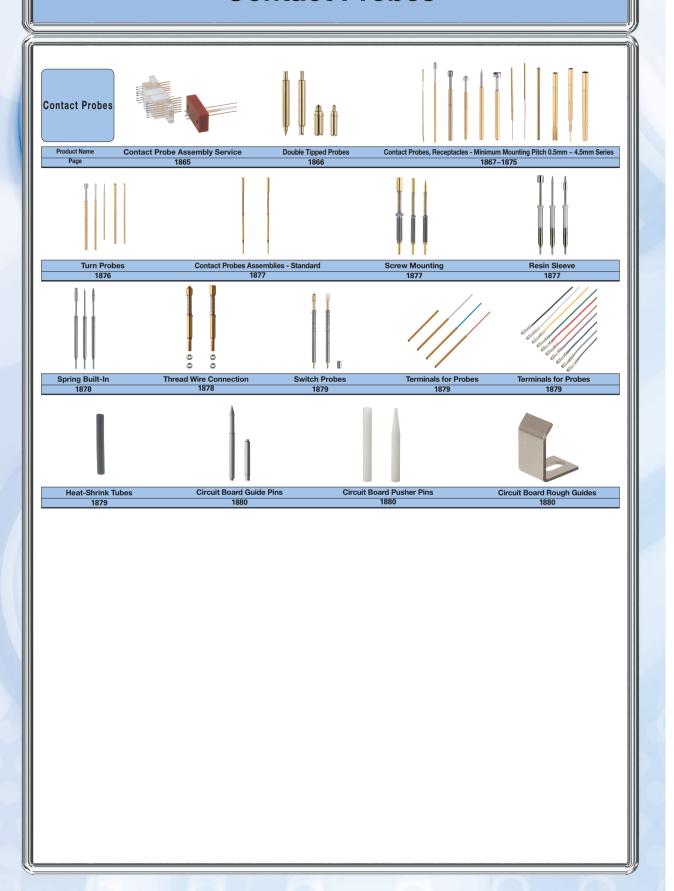
# **Contact Probes**



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### Overview

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Contact Probes can be used in connection tests of all electronic circuits.

### ■How to Use

Press-fit appropriate receptacles in the mating holes drilled in a bakelite or other plastic plate. If the mating holes are loose, use appropriate adhesives (Loctite, etc.) to fill the gap. After press fitting, wire the receptacles. If wires need to be soldered, do not solder past the stopper in the receptacle. After wiring, insert Contact Probes. Pressing plungers too hard may cause damage to the tip or internal components of Contact Probes and result in performance

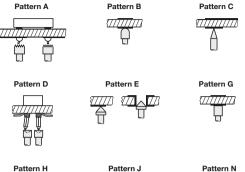
It is recommended to make several tests under operating environment before actual use.

### Major Types and Typical Uses

Туре	Typical Uses		
Contact Probes	Suitable for extensive use in testing printed circuit boards, mounted circuit boards, semiconductors/in-circuit, harnesses, etc.		
Double Tipped Probes	Suitable for narrow pitch mounting since receptacle is not needed.		
Turn Probes	The plunger rotates with stroke movements to destroy flux and oxide film. Proven successful in open/short circuit tests of printed circuit boards.		
Integrated Probes	Contact Probe constructed in end-to-end one continuous piece. Permits stable electrical conduction regardless of the stroke length.		

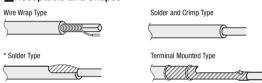
mogra	ica i iobc	stable	electrical condu	ction regardless of th	ne stroke length.		
Sele	ction Ta	able	Prin	ted in Black: Prod	ucts available on ou	r website	
Туре	Mounting Pitch	Full Stroke	Spring Pressure		Number	Page	
Type	. ,		(2/3 Stroke)	Probe	Receptacles	raye	
	0.3	1.3	6	RNP20	-		
Double Tipped Probes	0.5	0.8	15	RNP30 RNP38	-		
		1.0 0.98	15 25	RNP38N	-	-	
		1.0	25	RNP50	-	1	
	0.8	0.98	30	RNP57	-	1	
		1.0	30	RNP64	-	1	
		0.5	25	RNP60ST	-	1	
	1.0	0.98	35	RNP85	-	]	
		0.5	30	RNP80ST	-		
	0.50		16	NP26	NR26		
	0.60	2.0	22	NP31	NR31/NR31S		
	0.80		35	NP31HD NP38	NR38/NR38S	-	
	0.90		50	NP20	NR20K		
	1.00		50	NP58	NR58	1	
			45	NP30			
		2.5	46	NP30HD	NR30K/NR30SH-B		
			50	NP72	NR72K		
	1.27		100	NP72HD	1411/211		
		4.3	50	NP68S3SF	NR68/NR68S		
			90	NP68S3		-	
		6.0	150 50	NP76 NP68SF	NR76		
	1.40	4.3	90	NP68	NR68/NR68S		
			50	NP88		1	
	1.50	2.5	100	NP88HD	NR88		
		3.0	50	NP45S3SF	NR45S	1	
	İ	3.0	100	NP45S3	NH455		
Contact Probe	1.70	5.0	50	NP45SF	NR45/NR45T		
			100	NP45			
			150	NP45HD			
	2.00	6.5	50	NP120	NR120/NR120T		
	2.54	4.0	100	NP120HD TP604	NR604	-	
			110	NP604			
			160	NP604HD			
		6.4	50	NP60SF	NR60		
			100	NP60S			
			150	NP60/NP60H			
			170	NP60HD			
	3.00	0.0	50	NP84SF			
		6.3	126 200	NP84 NP84HD	NR84		
			50	NP84HD NP90SF			
	3.50	3.50		150 NP90		NR90	
			0.4	250	NP90HD		
	4.50	6.4	100	NP89SF		1	
			275	NP89S	NR89		
				450	NP89		
Receptacles	1.90	7.0	170	NP16	_		
Receptacle-less		4.5	50		ND70		
Turn Probe	1.27	4.5 5.5	140	TNP72 TNP10	NR72 NR10	-	
	2.54	6.4	165	TNP60	NR60		
	0.80			GNP6	-		
	1.00	3.4	80	GNP8	-	1	
	1.50	4.0	95	GNP12	-	1	
Integrated Probe	3.00	4.5	105	FNP10	-		
	5.00	4.0	100	FNP13	-		
	3.00	7.0	100	FNP22SF	-		
			150	FNP22	-		
	4.00	8.0	180	FNPS22	-	-	
	4.00 5.00	8.0	200	FNPS35 FNP40SF	-	-	
		5.00	17.0	300	FNP40SF FNP40	-	1
	7.00	7.6	455	MNP50	-		
	7.00	7.0					

### **■**Contact Probe Tip Shapes and Patterns



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\*Solder Types (C Type and NR68S) are slightly bulged on the soldered ends due to the manufacturing method. That will present no problem as long as the probe is pushed in firmly, but the O.D. adjustments are allowed as needed.

### General Environmental Conditions

Operating Temperature: 10 ~ 40°C, Humidity: 30% or Less
Operating Atmosphere: Free of dust, corrosive gases and oil components etc., where the contact

### Stroke Conditions

- Apply load in the axial direction only. Do not apply lateral load.
- Stroking over the specified stroke (2/3 of full stroke) will significantly decrease the lifetime of the

• Stroking over 60 times per min (constant velocity) may decrease the lifetime of the Contact

Current Application Conditions

Apply current only after contact is made at a specified position in a static state.

Applying current while stroking, with irregular strokes, or in open state where the contact subject is not contacted will severely decrease the lifetime of Contact Probes.
 May not meet allowable current shown in the catalog due to contact probe's deterioration. Consider

actual applications carefully in the designing stage

### Voltage Application Conditions

Apply current only after contact is made at a specified position in a static state.
 Do not energize probes in open (not in contact) state. Discharge before contacting will result in

• When applying high voltage to a contact probe, be sure to satisfy Current Application Conditions and Voltage Application Conditions, and be careful of instantaneous large current including discharge.

### Allowable Current

• Allowable current provided in the catalog is the maximum continuous current for 1 min under the conditions as shown above (Normal environment, stroke, current and voltage applied).

### Resistance

Resistance value provided in the catalog is the representative value as shown above (Normal environment, stroke, current and voltage applied), when 10mA current flows where pure silver control to vity read for the order. contacts are used for the measurement

Large current may cause deterioration of contact and inner parts, resulting in resistance value increase.

Stroke cycle repetition may cause deterioration of contacts and inner parts, resulting in resistance increase.

Replacement Cycle (Reference)

- Replacement cycle provided in the catalog is the representative value as shown above (Normal environment, stroke, current and voltage applied), when 10mA current flows.

- Replacement cycle can vary depending on operating environment and conditions including resistance increase and spring pressure decrease. Replace Contact Probes considering actual applications.

### Spring Pressure

· Spring pressure decreases if temperature of contact probe is 80°C or more

• Spring pressure may decrease due to heat generation of a contact probe at larger current.

### Mounting Hole for Press-Fitting Dimension (Reference)

• The values provided are for reference. Appropriate dimensions vary depending on material and thickness of resin plate. Please take the dimensions of receptacle press fit part as a guide for your design.