


# FAKRA / ISO 20860-1 Standard and USCAR 17 & 18

Coding	A	B	C	D	E	F	G
							
Coding	H	I	K	L	M	N	Z
							
							

Neutral coding developed by  
Radiall for measurement

# FAKRA / ISO 20860-1 Standard and USCAR 17 & 18

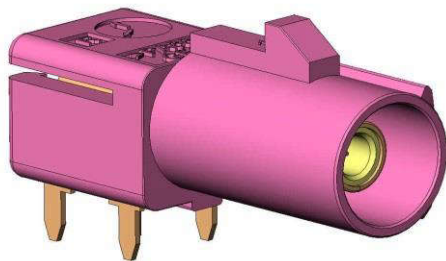
	Code	Colour	RAL code	Application in Europe	Application in USA
<b>S I N G L E W A Y</b>	A	Black	Ral 9005	Radio with phantom supply	Radio with phantom supply
	B	White	Ral 9001	Radio without phantom supply	Radio without phantom supply
	C	Blue	Ral 5005	GPS telematics or navigation	GPS
	D	Bordeaux Violet	Ral 4004	GSM	GSM
	E	Green	Ral 6002	TV1	TV (UHF) / SDARS terrestrial (XM)
	F	Brown	Ral 8011	TV2	TV (VHF) / SDARS terrestrial (Sirius)
	G	Grey	Ral 7031	Remote control keyless entry	SDARS terrestrial (interoperable)
	H	Violet	Ral 4003	GPS telematics AND navigation	GPS and navigation
	I	Beige	Ral 1001	Radio controlled parking heating	Bluetooth
	K	Curry	Ral 1027	Diversity radio	SDARS satellite
	L	Carmin red	Ral 3002	Open	Open
	M	Pastel orange	Ral 2003	Open	Keyless entry / tire pressure monitoring
	N	Pastel green	Ral 6019	Open	Open
	Z	Waterblue	Ral 5021	Neutral (fits all)	Neutral (fits all)
<b>M U L T I W A Y</b>	A	Black	Ral 9005	NA	Open
	B	White	Ral 9001	NA	Open
	C	Blue	Ral 5005	NA	GPS / GSM
	D	Bordeaux Violet	Ral 4004	NA	Open
	E	Green	Ral 6002	NA	TV1 (UHF) / TV2
	F	Brown	Ral 8011	NA	TV1 (VHF) / TV2
	G	Grey	Ral 7031	NA	SDARS satellite / Terrestrial
	H	Violet	Ral 4003	NA	Open
	I	Beige	Ral 1001	NA	Open

# FAKRA/ISO 20860-1 & USCAR 17& 18

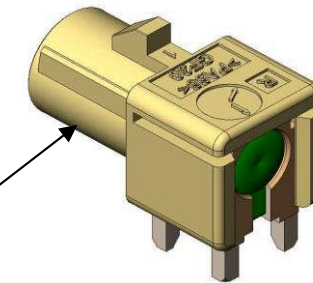
## Our range of connectors for equipment manufacturers

### ◆ Right angle receptacles for wave soldering process

Usual rule for solder wave connectors : the length of the soldering pins must be 0.9mm more than the PCB thickness ( PCB thickness 1.6mm -> soldering pins 2.5mm mini ) , the connectors are delivered in bulk ( for machined receptacles ) or tray ( for stamped and formed receptacles )



**Right angle R197.166.\_20**  
receptacle made with a stamped and rolled body and a molded insulator



**Right angle R197.160.I21**  
receptacle made with machined parts for high mechanical constraints



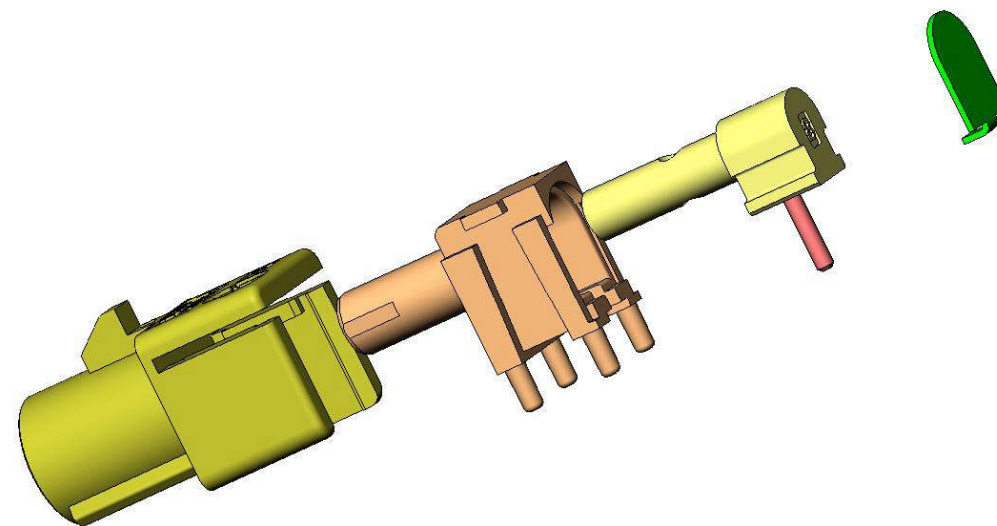
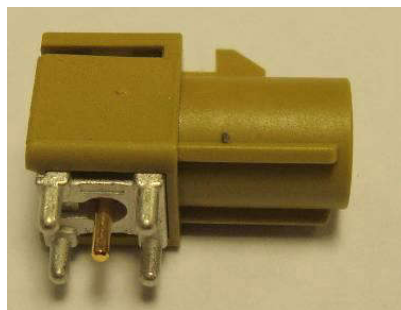
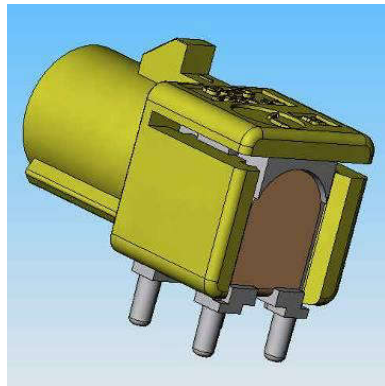
Example of **right angle R197.166.B30** customized receptacle for a Radio application



**Customized Right angle Female** receptacle designed for high mechanical constraints

**Right angle Pin in Paste PCB receptacle for wave soldering  
Zamak Version (in production since 2006) - Packaging in tray**

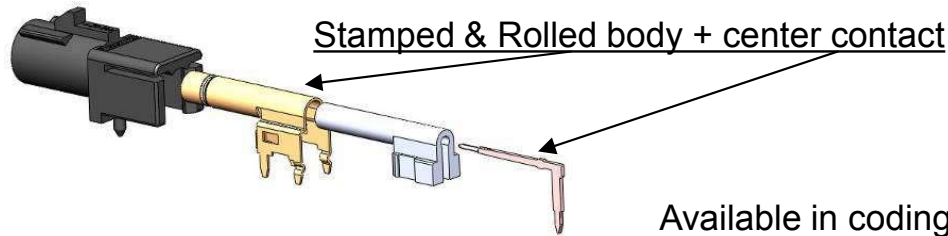
**Right angle receptacle**  
**R197.160.K13** : die casted  
body + overmolded  
insulator + plastic housing



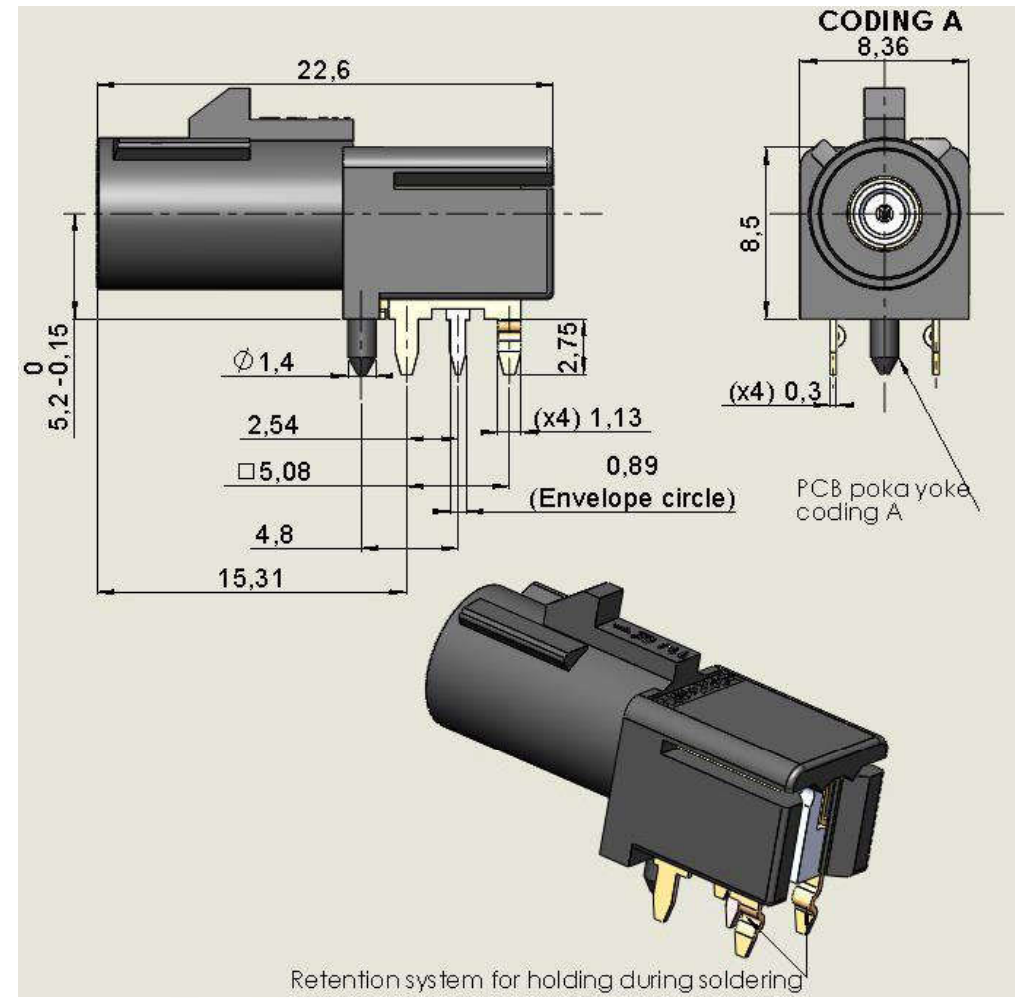
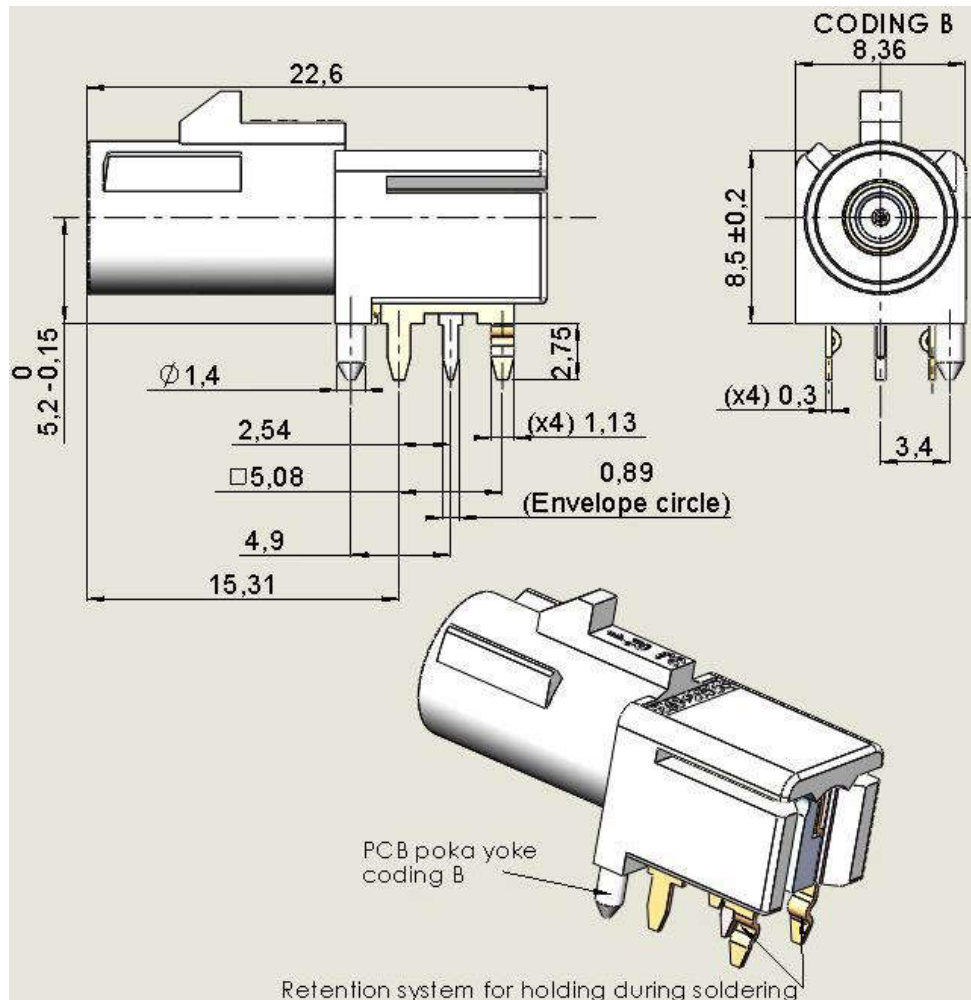
# Right angle PCB receptacle for wave soldering

## Stamped and Rolled Version (In production since Q3 2012)

Hand placed with pin for PCB poka yoke - Packaging in tray

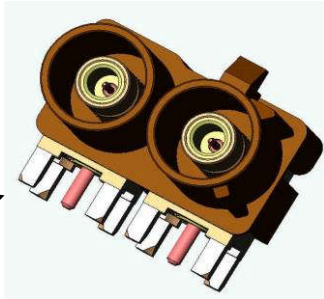


Available in coding A & B (additional coding on request)

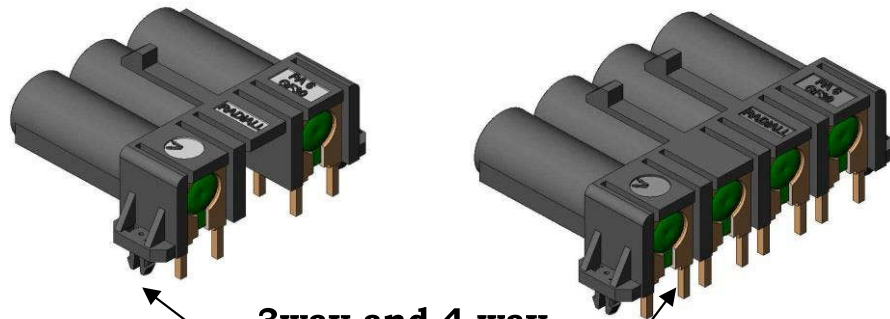
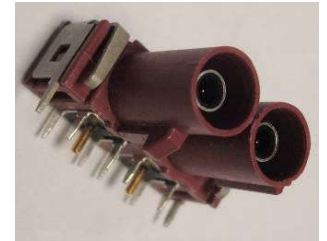
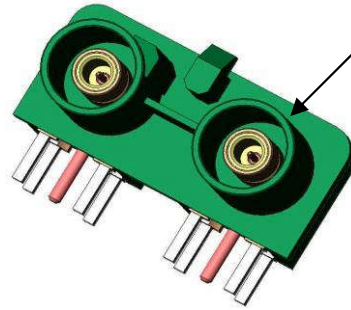


# MULTI WAY PCB RECEPTACLES

**Example of 2way right angle receptacle 8mm pitch**

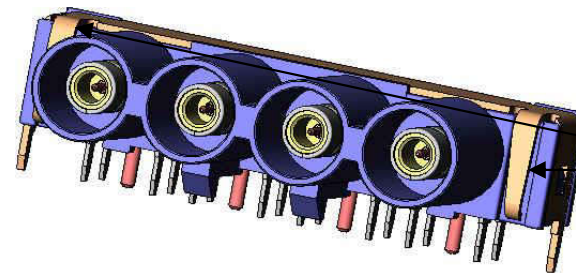
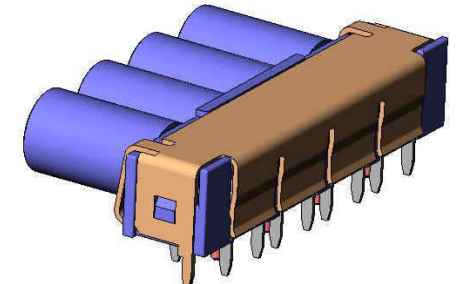
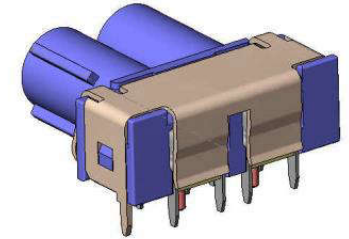
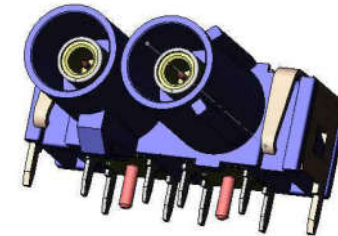


**Example of 2way right angle receptacle 12.7mm pitch**



**3way and 4 way R197.362.A30 & R197.462.A30 right angle receptacle 8mm pitch**

**2 way and 4 way right angle custom designed receptacle 8mm pitch with panel grounding**

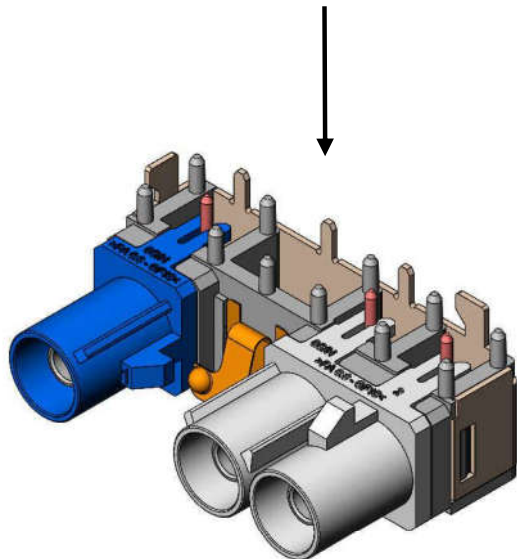


**Panel grounding**

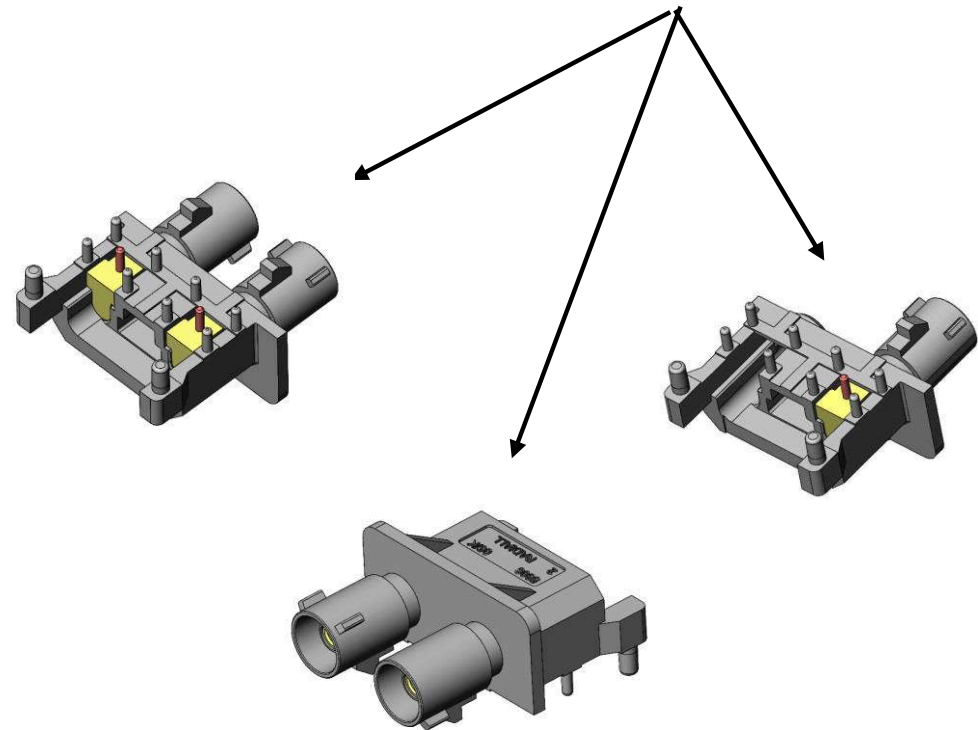
# Multi way R/A PCB receptacles

◆ for wave soldering process

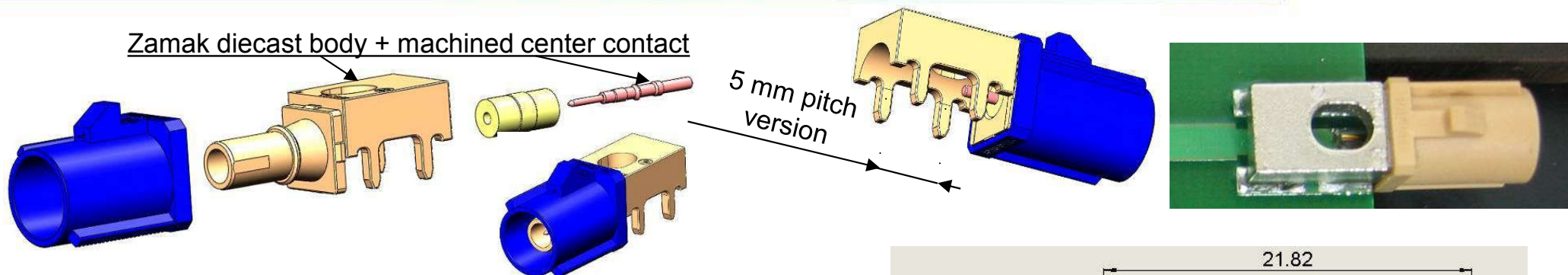
**3 way Custom designed  
receptacle R299.197.860**



**2 or 1 way Custom designed receptacle  
R299.197.850 & R197.162.B11**



# Right angle Pin in Paste PCB receptacle for Reflow soldering Zamak body version (in production since 2006) Delivered in reel for automatic placement (Pick& place)



Available in 4 locking nose orientations

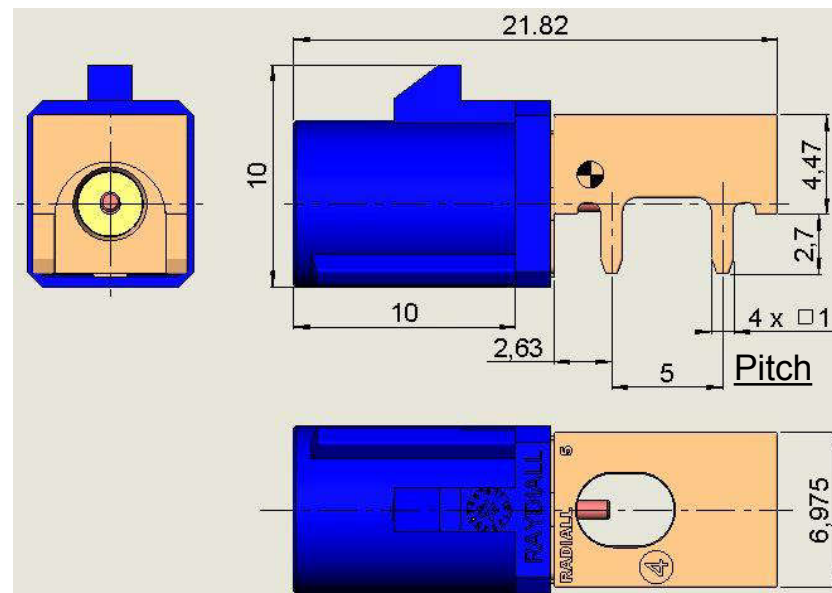
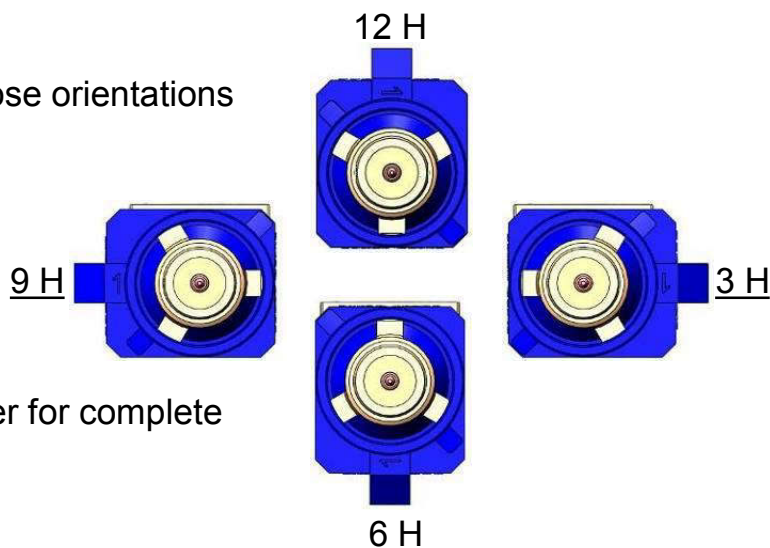
12H->R197.160.-28

3H->R197.160.-35

6H->R197.160.-34

9H->R197.160.-32

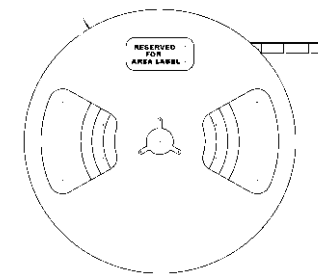
Replace - by coding letter for complete part number



9 codings for 4 locking nose orientations available : coding A B C D E G H I K  
(additional coding on request)



Tape & reel packaging: 350 pcs





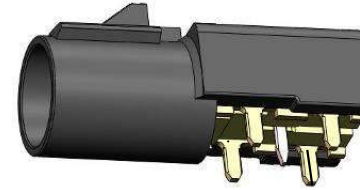
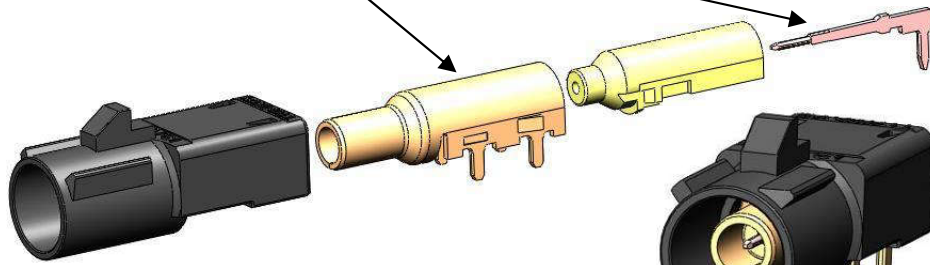
# Right angle Pin in Paste PCB receptacle for Reflow soldering

## Stamped and Rolled Version ( available in Q2 2013)

Delivered in reel of 400 pcs for automatic placement (Pick& place)



Stamped & Rolled body + center contact



5 mm pitch version



Available in 4 locking nose orientations

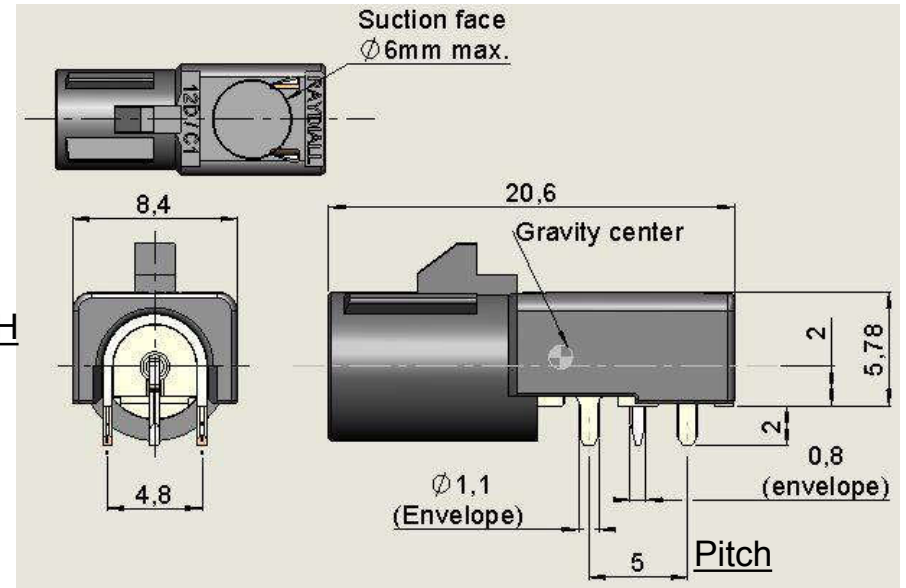
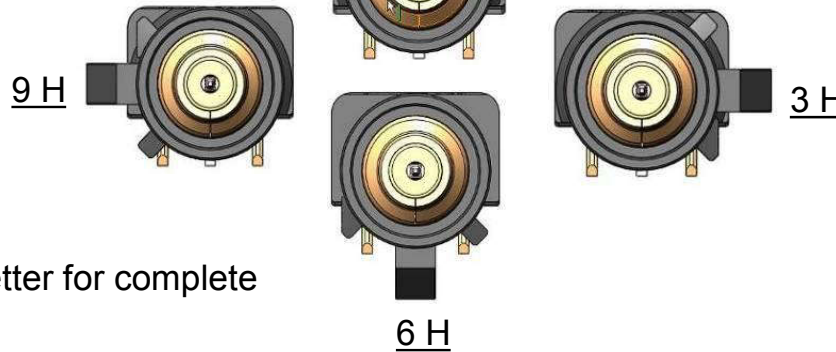
12H->R197.166.-28

3H->R197.166.-25

6H->R197.166.-24

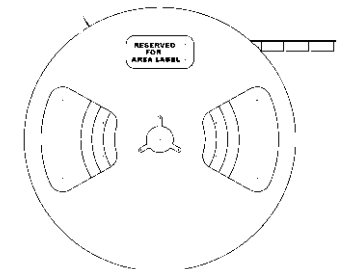
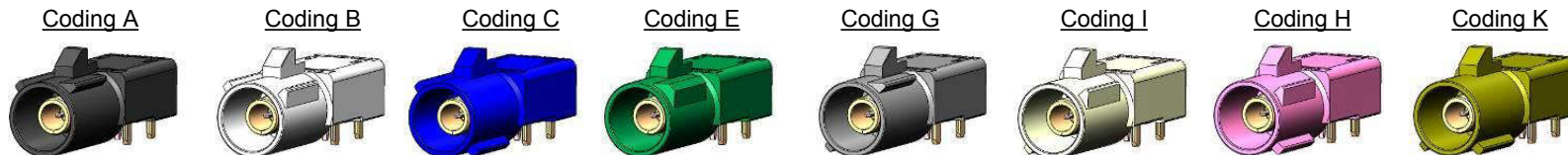
9H->R197.166.-22

Replace - by coding letter for complete part number



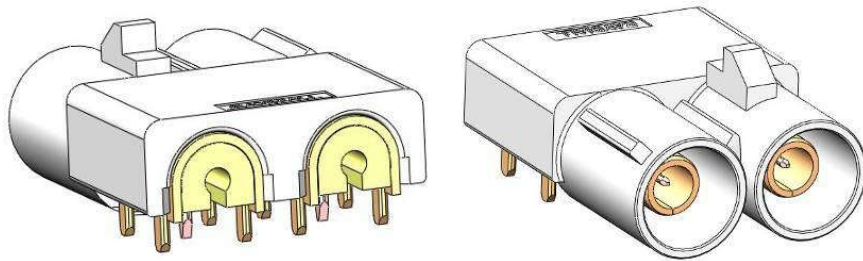
Tape & reel packaging: 400 pcs

8 codings for 4 locking nose orientations (additional coding on request)

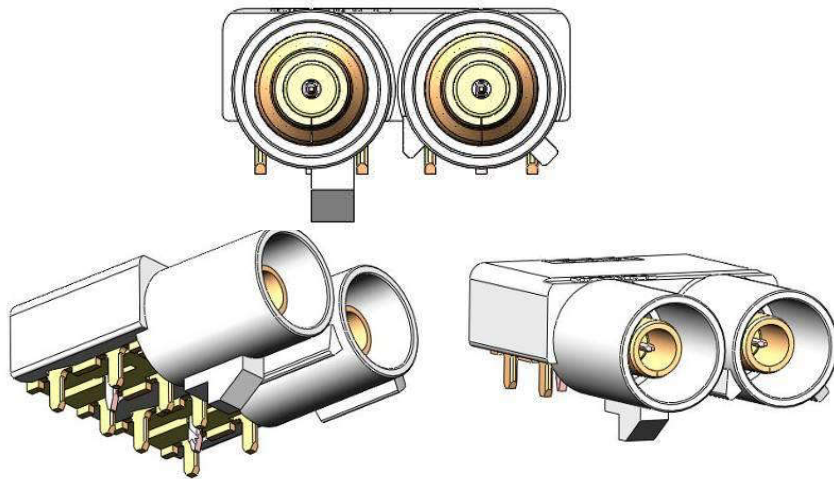


# Right angle Pin in Paste PCB receptacle for Reflow soldering Stamped and Rolled Version 8mm Duplex version - 12 or 6 O'clock orientation

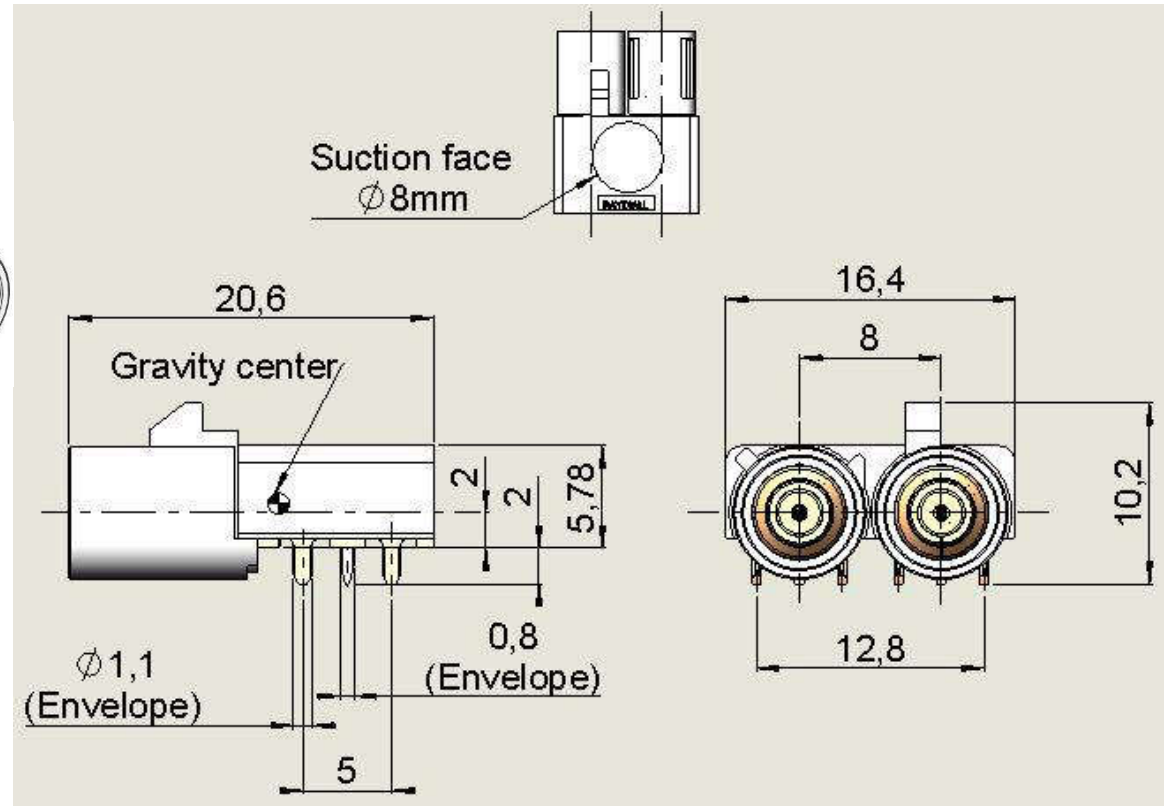
12 O'Clock orientation- R197.266.-28



6 O'Clock orientation- R197.266.-34



Prototype available in 2013- serial part will be develop on customer firm order



Tape & reel packaging: 250 pcs

