

SMA OVERVIEW

Features and Dimensions

- Subminiature
- Threaded coupling
- DC to 27 GHz

Molex SMA connectors are high performance subminiature connectors for microwave frequencies. These connectors are typically specified to operate up to 18GHz but will function mode free to 25GHz and some SMA connectors have been designed to operate to 27 GHz.

The screw-threaded coupling insures uniform contact of the outer conductors, which enables the SMA to minimize reflections and attenuation at higher frequencies while providing a high degree of mechanical strength and durability. In addition, when combined with the screw-threaded coupling, the SMA interface is designed to keep reactances to a minimum, which allows the SMA to be used beyond the frequencies associated with snap on subminiature connectors.

Typical applications for SMA connectors include microwave active and passive components, instrumentation, avionics, and other high-end radio electronics.

Engineering

	Nominal Impedance	Frequency Range	Voltage Rating - Sea Level	Temperature
Cabled	50Ω	dc-18 GHz	335 Vrms	-65 to +165°C
Non-Cabled	50Ω	dc-18 GHz	335 Vrms	-65 to +165°C

Mechanical

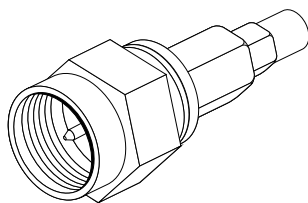
	Recommended Mating Torque	Force to Engage and Disengage - Radial	Coupling Nut Retention Force	Coupling Proof Torque	Mating Characteristics	Connector Durability	Center Contact Retention	Cable Retention
							Axial Force	Axial Force
Cabled	31N to 44.4N (7 to 10 in.-lb)	8.9N (2 in.-lb)	Plugs-266.6N (60 lb)	Plugs-1.7N-m (15 in.-lb)	See MIL-STD-348 Fig. 310-2 for Jacks Fig. 310-1 for Plugs	500 cycles	26.7N (6 lb)	133.3N (30 lb)
Non-Cabled	31N to 44.4N (7 to 10 in.-lb)	8.9N (2 in.-lb)	Plugs-266.6N (60 lb)	Plugs-1.7N-m (15 in.-lb)	See MIL-STD-348 Fig. 310-2 for Jacks Fig. 310-1 for Plugs	500 cycles	26.7N (6 lb)	N/A

Electrical

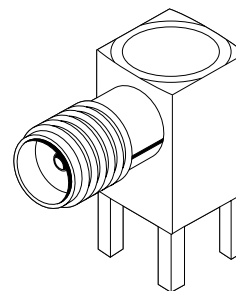
	Insulation Resistance	Dielectric Withstanding Voltage	RF High Potential Withstanding	Contact Resistance				Voltage Standing Wave Ratio	RF Leakage	RF Insertion loss - dB max.
				Center Contact Initial	Center Contact After Environment	Outer Contact	Outer Conductor to Body			
Cabled	5000 MΩ	750 Vrms	500 Vrms @ 5 MHz to 7.5 MHz	3.0mΩ	4.0mΩ	2.0mΩ	5mΩ	1.15 + .01fGHz	-60 dB min. 2 to 3 GHz	.06 $\sqrt{f(GHz)}$
Non-Cabled	5000 MΩ	750 Vrms	670 Vrms @ 5 MHz	3.0mΩ	4.0mΩ	2.0mΩ	N/A	1.04 + .01fGHz	-100 dBmin. 2 to 3 GHz	.03 $\sqrt{f(GHz)}$

Environmental

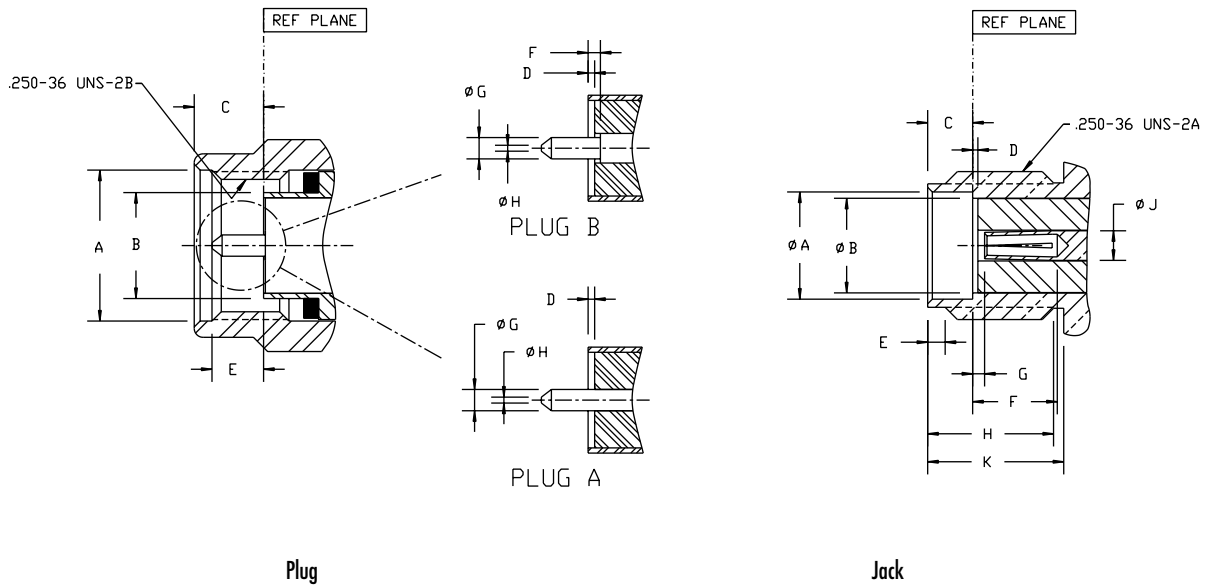
	Vibration: MIL-STD-202, Method 204	Shock: MIL-STD-202, Method 213	Thermal Shock - MIL-STD-202, Method 1071	Corrosion (Salt Spray) - MIL-STD-202, Method 101	Moisture Resistance - MIL-STD-202, Method 106 - 5 min. after removal	Corona Level - 70,000 Feet
Cabled	Test Condition D	Test Condition I	Test Condition B	Test Condition B	200 MΩ	250 Vrms
Non-Cabled	Test Condition D	Test Condition I	Test Condition B	Test Condition B	200 MΩ	250 Vrms



Straight Crimp/Crimp Plug



Right Angle PCB Jack Receptacle

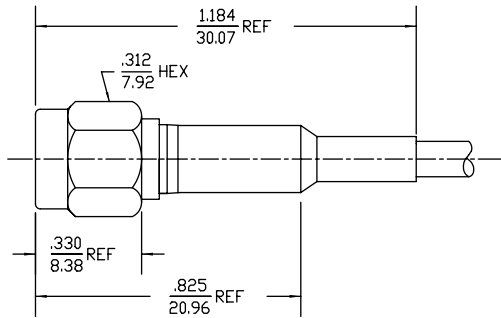


INTERFACE MATING DIMENSIONS

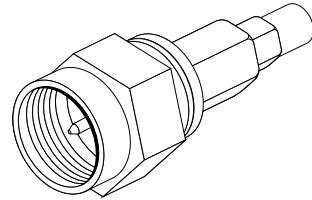
	Dimension			
	Plug		Jack	
	min.	max.	min.	max.
A (dia.)	6.35 (.250)		5.28 (.208)	5.49 (.216)
B (dia.)		4.59 (.1808)	4.60 (.181)	
C		3.43 (.135)	1.91 (.075)	1.98 (.078)
D	0.00 (.000)	0.18 (.007)	0.00 (.000)	0.18 (.007)
E		2.54 (.100)	0.38 (.015)	1.14 (.045)
F	0.00 (.000)	0.25 (.010)	2.92 (.115)	
G (dia.)	0.90 (.0355)	0.94 (.037)	0.00 (.000)	0.25 (.010)
H (dia.)	0.00 (.000)	0.38 (0.015)	4.32 (.170)	
I			1.24 (.049)	1.30 (.051)
K			5.54 (.218)	

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Stainless Steel, passivated
- Center contact crimp or solder termination
- Crimp braid termination
- Packaging: Individual



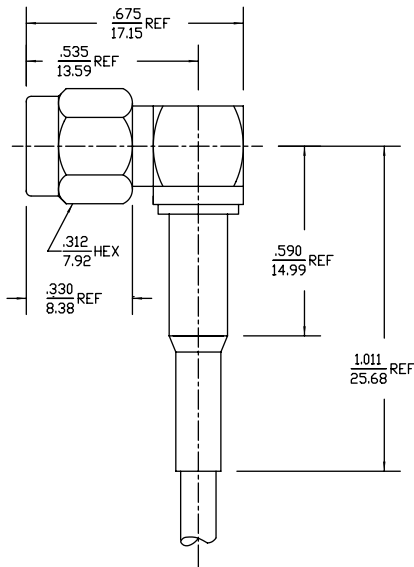
**Plug
Straight
Crimp/Crimp
Cable**



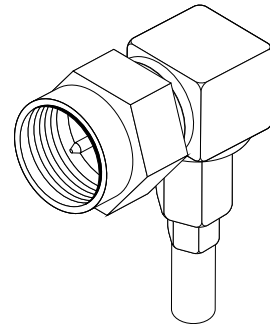
Order No.	Cable Group	Assembly Instructions
73251-0151	RG174, 179, 187, 188, 316	ES-89675-1580
73251-0131	RG58, 141, 303	ES-89675-1570

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Stainless Steel, passivated
- Center contact solder termination
- Crimp braid termination
- Packaging: Individual



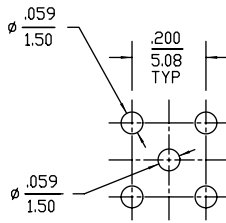
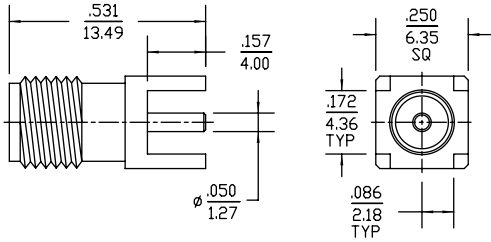
**Plug
Right Angle
Solder/Crimp
Cable**



Order No.	Cable Group	Assembly Instructions
73251-0211	RG174, 179, 187, 188, 316	ES-89675-1600
73251-0191	RG58, 141, 303	ES-89675-1590

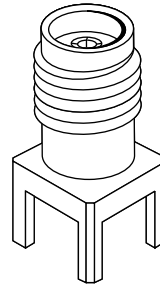
CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Gold
- Body: Brass
- Packaging: Tray



Recommended PCB Hole Configuration

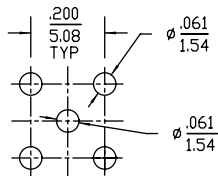
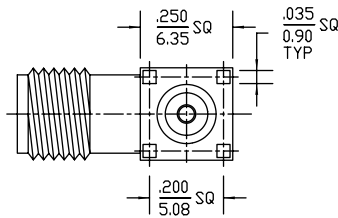
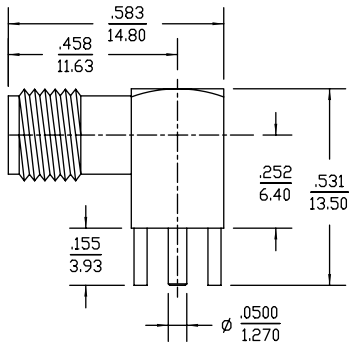
**Jack Receptacle
Vertical
PCB**



Order No. 73391-0060

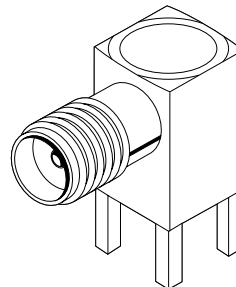
CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Gold or Nickel
- Body: Brass
- Packaging: Tray



Recommended PCB Hole Configuration

**Jack Receptacle
Right Angle
PCB**

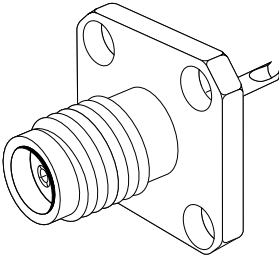
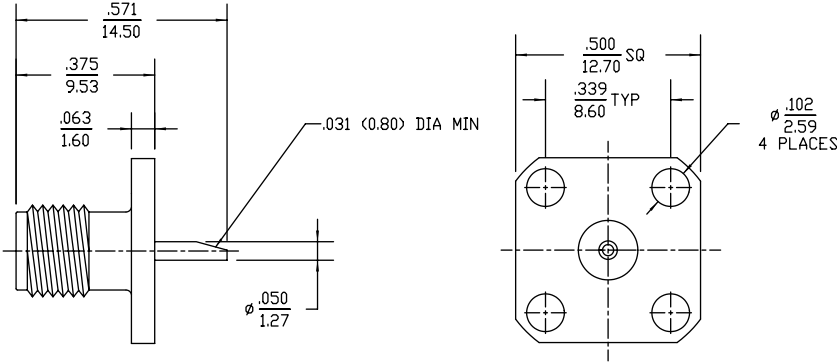


Order No.	Finish
73100-0114	Gold
73100-0115	Nickel

CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Gold
- Body: Brass

**Jack Receptacle
4 Hole Flange Mount
Solder Pot**

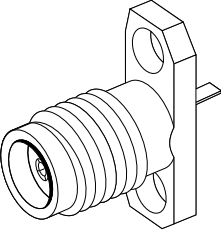
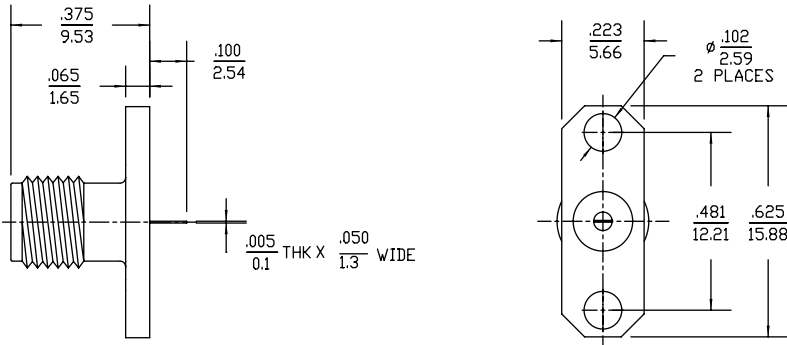


Order No.
73391-0040

CATALOG DRAWING (FOR REFERENCE ONLY)

- Body: Stainless Steel, passivated

**Jack Receptacle
2 Hole Flange Mount
Tab Terminal**

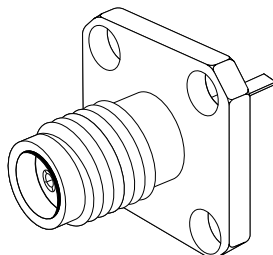
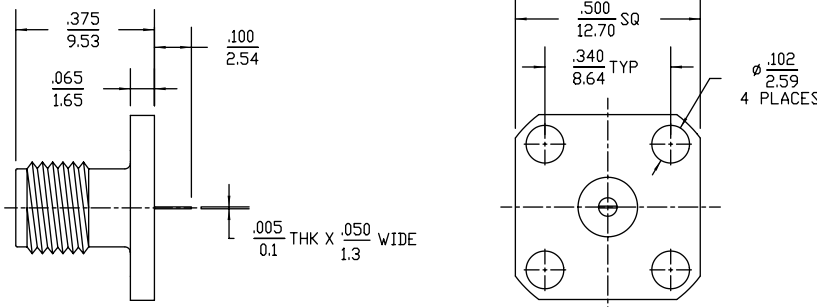


Order No.
73251-0280

CATALOG DRAWING (FOR REFERENCE ONLY)

■ Body: Stainless Steel, passivated

**Jack Receptacle
4 Hole Flange Mount
Tab Terminal**



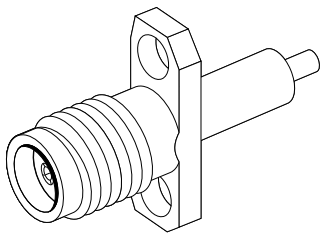
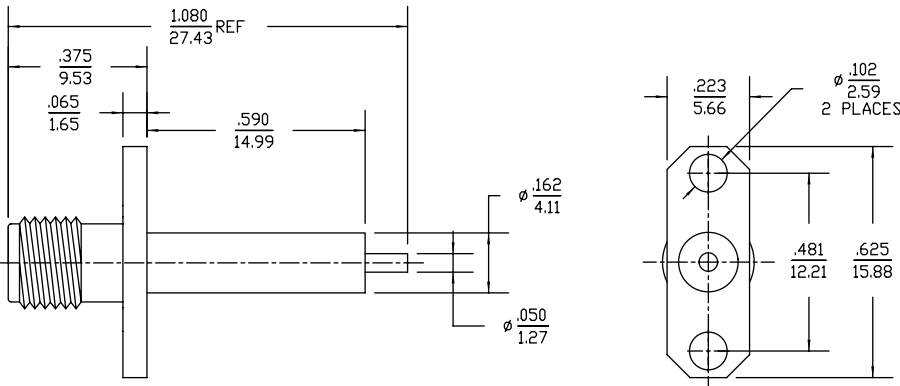
Order No.
73251-0270

RF Coaxial Connectors

CATALOG DRAWING (FOR REFERENCE ONLY)

■ Body: Stainless Steel, passivated

**Jack Receptacle
2 Hole Flange Mount
Extended Dielectric
Post Terminal**

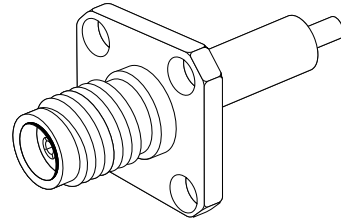
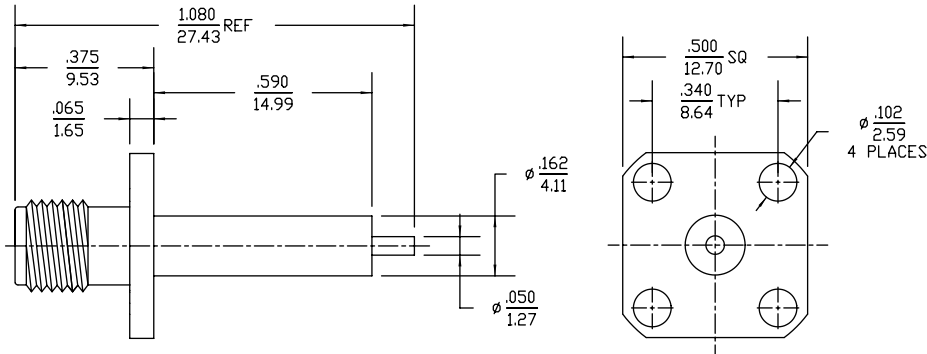


Order No.
73251-0420

CATALOG DRAWING (FOR REFERENCE ONLY)

■ Body: Stainless Steel, passivated

**Jack Receptacle
4 Hole Flange Mount
Extended Dielectric
Post Terminal**

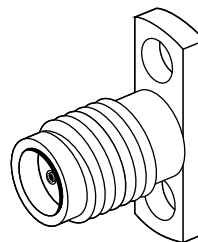
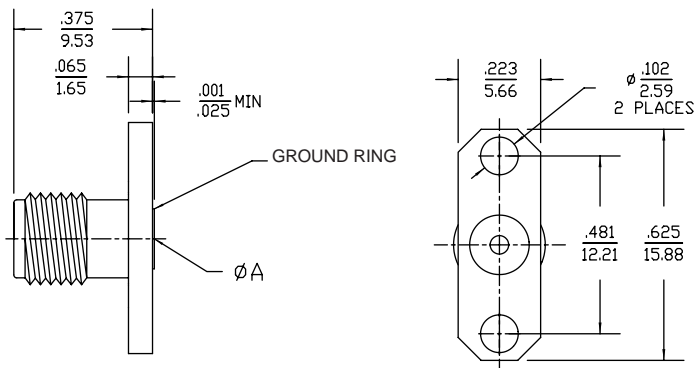


Order No.
73251-0410

CATALOG DRAWING (FOR REFERENCE ONLY)

■ Body: Stainless Steel, passivated

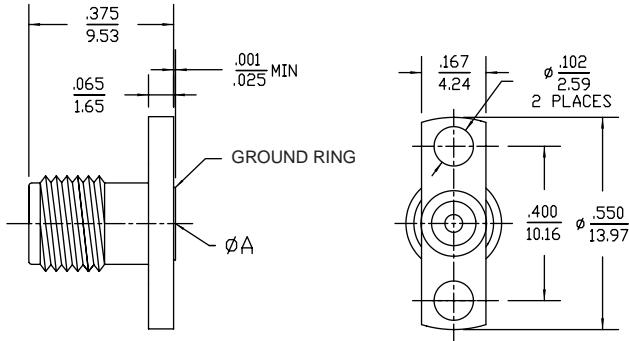
**Jack Receptacle
Field Replaceable
2 Hole Flange Mount
27 GHz**



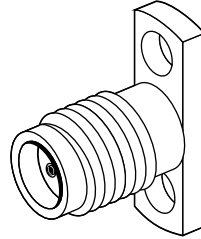
Order No.	Accepts Pin Diameter
	A
73251-0200	.305 (0.012)
73251-0940	.381 (0.015)
73251-0920	.457 (0.018)
73251-0180	.508 (0.020)

CATALOG DRAWING (FOR REFERENCE ONLY)

■ Body: Stainless Steel, passivated



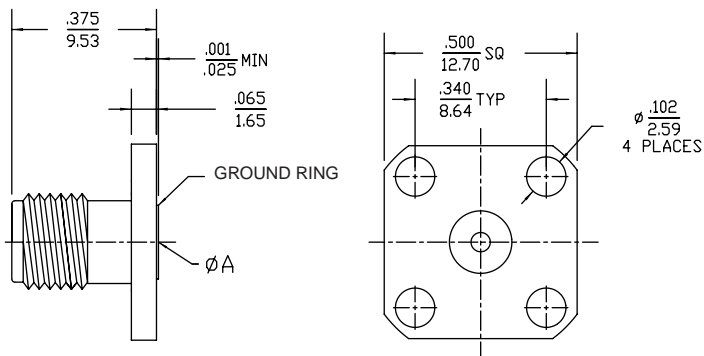
**Jack Receptacle
Field Replaceable
2 Hole Flange Mount
27 GHz**



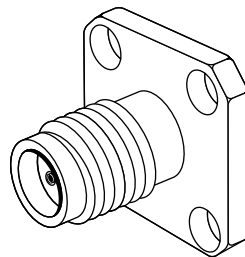
Order No.	Accepts Pin Diameter
	A
73251-1020	.305 (0.012)
73251-1000	.381 (0.015)
73251-0980	.457 (0.018)
73251-0960	.508 (0.020)

CATALOG DRAWING (FOR REFERENCE ONLY)

■ Body: Stainless Steel, passivated



**Jack Receptacle
Field Replaceable
4 Hole Flange Mount
27 GHz**

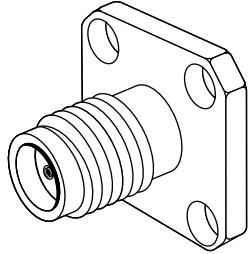
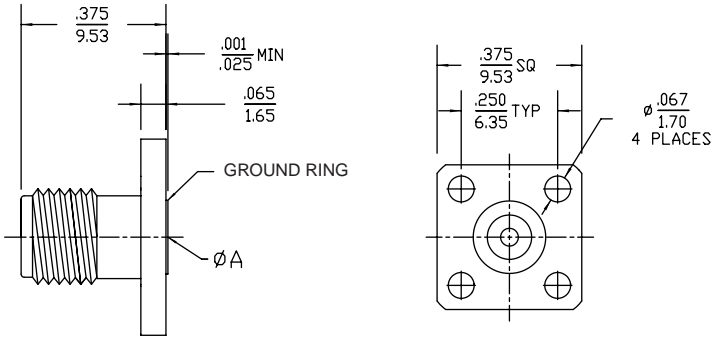


Order No.	Accepts Pin Diameter
	A
73251-0160	.305 (0.012)
73251-0820	.381 (0.015)
73251-0800	.457 (0.018)
73251-0140	.508 (0.020)

CATALOG DRAWING (FOR REFERENCE ONLY)

■ Body: Stainless Steel, passivated

**Jack Receptacle
Field Replaceable
4 Hole Flange Mount
27 GHz**



Order No.	Accepts Pin Diameter
	A
73251-0900	.305 (0.012)
73251-0880	.381 (0.015)
73251-0860	.457 (0.018)
73251-0840	.508 (0.020)