Junkosha
Enabling Technology Innovators

Junkosha Microwave/mmWave Coaxial Cable Assembly

7 Series - Phase Stability Multi Purpose Applications

E Type

Up to 67.0 GHz

7 series Assemblies offer phase stability in multi purpose applications delivering reliable electrical performance, especially in phase & amplitude stability against temperature, to support repeatable measurement results.

Genuine Flexibility

7 Series Assemblies provide stress free implementation and exhibits no “spring-back” for both operator and devices.

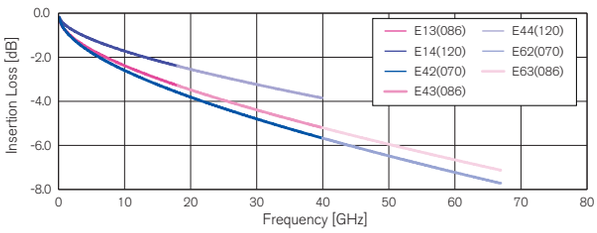
Phase & Amplitude Stability

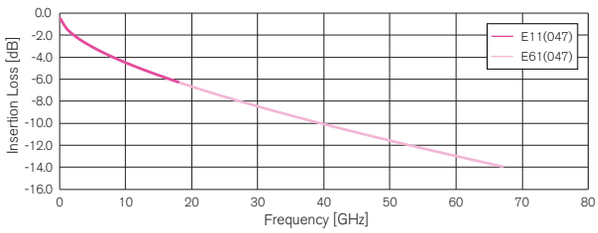
7 Series Assemblies have proven Phase & Amplitude Stability in both Flexure and Temperature changes, thanks to Junkosha Engineered ePTFE tape wrapping technology.

Specifications

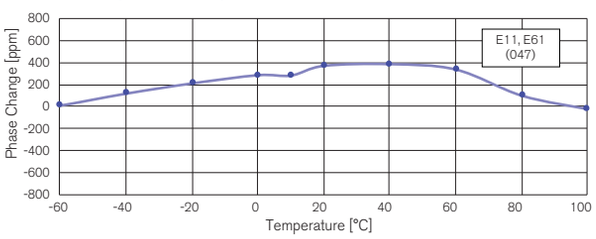
	Cable Type	E11 (047)	E13 (086)	E14 (120)	E42 (070)	E43 (086)	E44 (120)	E61 (047)	E62 (070)	E63 (086)
Electrical Properties	Maximum Operating Frequency [GHz]	18	18	18	40	40	40	67	67	67
	Characteristic Impedance [Ω]	50								
	Typical Capacitance [pF]	84	87	85	83	87	85	84	83	87
	Nominal Velocity of Propagation [%]	79	78	80	80	78	80	79	80	78
	Typical Insertion loss [dB/ft (dB/m)]	1.9 (6.3)	1.0 (3.3)	0.7 (2.4)	1.7 (5.7)	1.6 (5.2)	1.2 (3.9)	4.2 (13.9)	2.4 (7.7)	2.2 (7.2)
	Maximum Insertion loss [dB/ft (dB/m)]	2.1 (7.0)	1.1 (3.67)	0.78 (2.6)	1.9 (6.3)	1.8 (5.9)	1.3 (4.4)	4.8 (15.6)	2.7 (8.7)	2.4 (8.0)
	Typical VSWR	1.43	1.4	1.4	1.43	1.43	1.44	1.43	1.43	1.4
	Shielding Effectiveness to 18GHz (dB)	90								
Mechanical Properties	Cable Outer Diameter [in (mm)]	0.047 (1.2)	0.086 (2.2)	0.120 (3.0)	0.070 (1.8)	0.086 (2.2)	0.120 (3.0)	0.047 (1.2)	0.070 (1.8)	0.086 (2.2)
	Minimum Bending Radius [in (mm)]	0.39 (10)	0.39 (10)	0.59 (15)	0.39 (10)	0.39 (10)	0.59 (15)	0.39 (10)	0.39 (10)	0.39 (10)
	Typical Cable Mass [oz/ft (g/m)]	0.06 (5.1)	0.13 (12)	0.27 (25)	0.11 (10)	0.13 (12)	0.27 (25)	0.06 (5.1)	0.11 (10)	0.13 (12)
	Operating Temperature Range [°C]	-65 ~ +125								

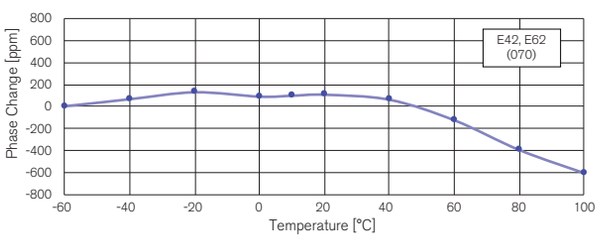
Cable Typical Insertion Loss

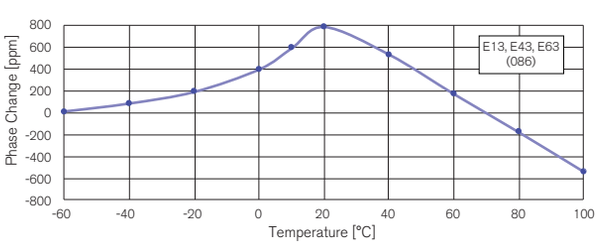


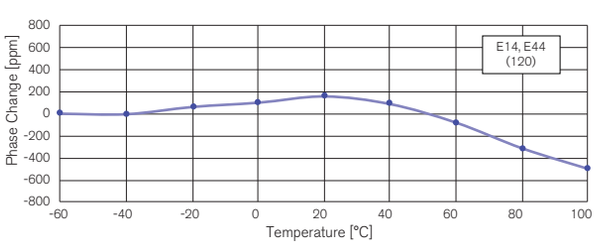


Phase Stability vs Temperature @18.5GHz









Connectors

Connector Type	Frequency [GHz]	Cable Type								
		E11 [18.0 GHz]	E13 [18.0 GHz]	E14 [18.0 GHz]	E42 [40.0 GHz]	E43 [40.0 GHz]	E44 [40.0 GHz]	E61 [67.0 GHz]	E62 [67.0 GHz]	E63 [67.0 GHz]
SMA (m) Straight	18.0	AMS	AMS	AMS	AMS					
SMA (m) Right Angle	12.0	AMR	AMR							
SMA (f) Straight	18.0		AFS							
SMP (f) Straight	18.0	S1FS	S1FS		S1FS					
SMP (f) Right Angle	12.0		S1FR							
2.92mm (m) Straight	40.0		KMS	KMS	KMS	KMS	KMS			
1.85mm (m) Straight	67.0	VMS	VMS		VMS	VMS		VMS	VMS	VMS
SMPM (f) Straight	65.0	S2FS	S2FS		S2FS	S2FS		S2FS	S2FS	S2FS
SMPS (f) Straight	67.0 (100)	S3FS						S3FS		
1.0mm (m) Straight	67.0 (110)	WMS						WMS		

Additional Customized Option

Phase Matching (Skew Matching)

- Relative Matching
  Set assemblies (2 or more) are made within specified electrical length. The electrical length variation in the set is controlled.
- Absolute Matching
  Assembly(s) is made within specified electrical length tolerance which is set as a standard. This helps when ordering replacement cable(s).

Inter – Intra Lot Phase Behavior Control

- When using multiple cables in Radar or Phase critical applications, the behavior control vs emperature helps reliability over times over time within rapidly changing environments.

Junkosha Inc.
Tokyo Business Center
15F Ochanomizu Kyoun Bldg.
2-2 Kanda-Surugadai, Chiyoda-ku
Tokyo 101-0062
Japan
P +81 3 3518 6520

Junkosha USA Inc.
West Coast Office
2415 Campus Drive
Suite 140
Irvine, CA 92612
USA
P +1 949 825 6177

Junkosha USA Inc.
European Office
113 The Promenade
Cheltenham
GL50 1NW
UK
P +44 1242 248 703

Junkosha ATC Inc.
Bldg. 33 Export Processing Zone
Supporting Industrial Park
No. 666 Jianlin Road
Suzhou High-New District, Suzhou
Jiangsu P. R. China
P +86 512 6920 0218

www.junkosha.com

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