



LoRaWAN LPWAN 433MHz COMBINATION FPC ANTENNA

Part Number: L000925-XX
L000926-XX

(see page 07 for details)

FEATURES & BENEFITS

- Low-power, wide-area (LPWA) applications – LoRaWAN®, ITU-T Y.4480
- Internet of Things (IoT) devices
- Smart Home networking, Remote control, monitoring and sensing
- 410 MHz LTE cellular bands 87 and 88, 450 MHz LTE cellular bands 31, 72 and 73
- Different cable length and connector options available

SPECIFICATIONS (Shown as L000925-10 : Others can vary with different cable lengths.)

Frequency Range (MHz)	410 - 430	430 - 435	450 - 470
VSWR (center frequency)	< 1.6 :1	< 1.5 : 1	< 2.0 : 1
Average Efficiency	26.4 %	25.5 %	25.4 %
Peak Gain	-2.73dBi	-3.05 dBi	-3.16 dBi
Average Gain	-5.78 dB	-5.94 dB	-5.96 dB
Power Handling	5 Watt cw		
Feed Point Impedance	50 ohms		
Polarization	Linear		
Size	47.0 mm x 17.0 mm x 0.2 mm (FPCB + adhesive)		
Weight	< 2.0 g		
Mounting	Acrylic PSA Adhesive		
Mating Connectors	MHF1 and MHF4L type, Refer to page 11		
Cable	1.13mm Dia., Refer to page 11		
Operating Temperature	-40 to +85°C		
Storage Temperature	-40 to +85°C		
Hazardous Materials	A certificate of conformance is available from the product page on TE website.		

Antenna RF Specifications with different cable assemblies

P/N Cable Length/ Connector/Cable OD	RF DATA	Frequency Range (MHz)		
		410 - 430	430 - 435	450 - 470
L000925-05 50 mm MHF 1.13 mm	VSWR	< 2.3:1	< 1.7:1	< 1.3:1
	Avg. Efficiency	16.2 %	17.9 %	19.0 %
	Peak Gain (Max)	-5.04 dBi	-4.49 dBi	-4.33 dBi
	Average Gain	-7.92 dB	-7.47 dB	-7.22 dB
L000925-10 100 mm MHF 1.13 mm	VSWR	< 1.6 :1	< 1.5 :1	< 2.0 :1
	Avg. Efficiency	26.4 %	25.5 %	25.4 %
	Peak Gain (Max)	-2.73dBi	-3.05 dBi	-3.16 dBi
	Average Gain	-5.78 dB	-5.94 dB	-5.96 dB
L000925-15 150 mm MHF 1.13 mm	VSWR	< 2.4 :1	< 2.3 :1	< 2.1 :1
	Avg. Efficiency	25.3 %	24.6 %	27.1 %
	Peak Gain (Max)	-2.88 dBi	-3.02 dBi	-2.50 dBi
	Average Gain	-5.98 dB	-6.09 dB	-5.68 dB
L000925-20 200 mm MHF 1.13 mm	VSWR	< 3.3 :1	< 2.9 :1	< 2.1 :1
	Avg. Efficiency	19.1 %	19.4 %	22.3 %
	Peak Gain (Max)	-4.05 dBi	-4.24 dBi	-3.64 dBi
	Average Gain	-7.19 dB	-7.12 dB	-6.52 dB
L000925-25 250 mm MHF 1.13 mm	VSWR	< 4.0 :1	< 3.4 :1	< 2.0 :1
	Avg. Efficiency	14.8 %	15.5 %	18.2 %
	Peak Gain (Max)	-4.76 dBi	-4.71 dBi	-3.64 dBi
	Average Gain	-8.31 dB	-8.10 dB	-7.41 dB

CABLE LOSS

OD 1.13mm (P/N: 3-2108921)							
Freq. Range (MHz)	400-500	617-960	1427-1517	1690-2400	2496-2690	3300-3800	4400-5000
Cable attenuation (dB/m)	< 2.0	< 2.2	<2.9	< 3.69	< 4.0	<4.5	< 5.0

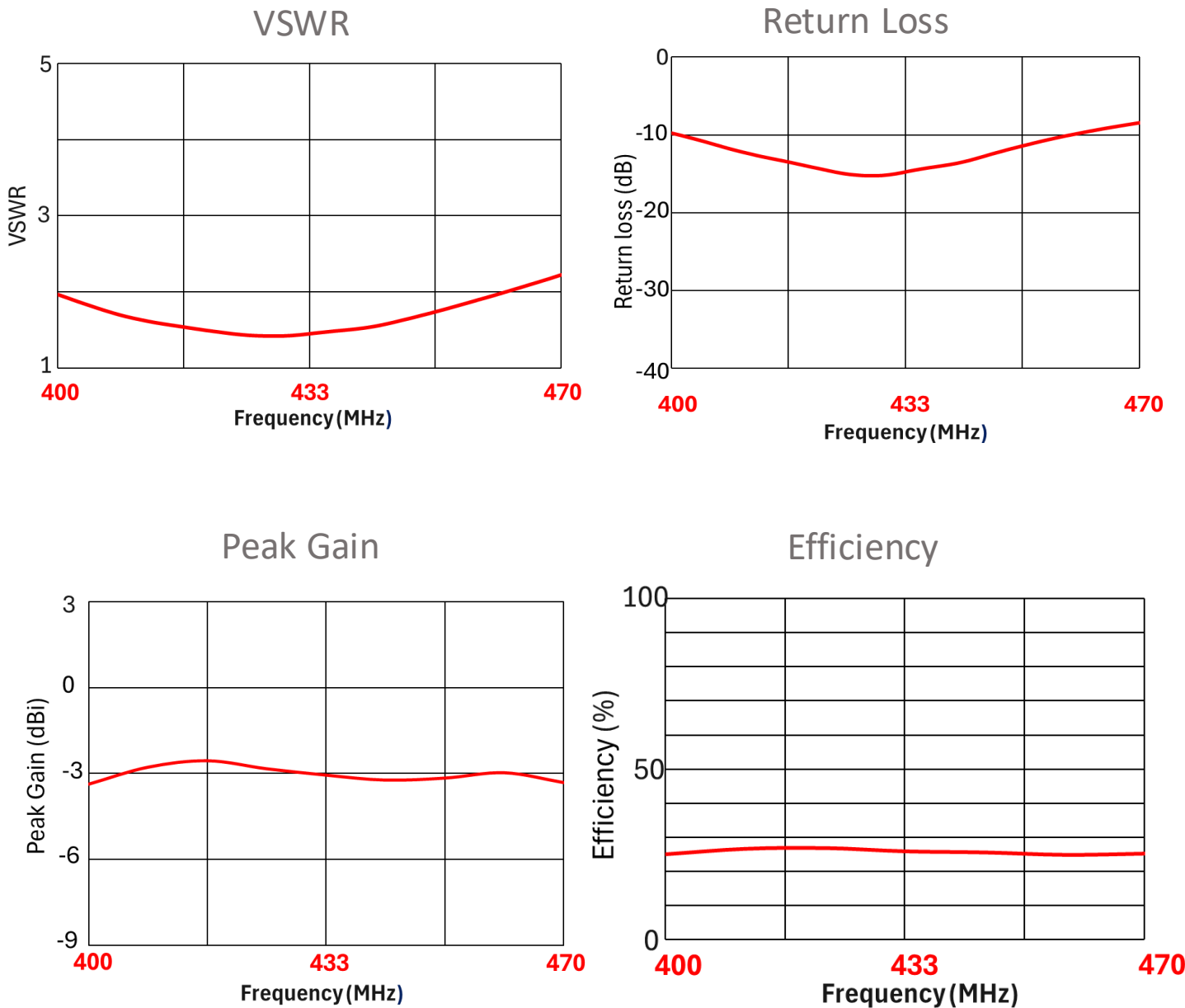
Antenna RF Specifications with different cable assemblies

P/N Cable Length/ Connector/Cable OD	RF DATA	Frequency Range (MHz)		
		410 - 430	430 - 435	450 - 470
L000926-05 50 mm MHF4L 1.13 mm	VSWR	< 1.8:1	< 1.4:1	< 1.6:1
	Avg. Efficiency	16.3 %	18.1 %	19.1 %
	Peak Gain (Max)	-5.02 dBi	-4.47 dBi	-4.30 dBi
	Average Gain	-7.90 dB	-7.45 dB	-7.20 dB
L000926-10 100 mm MHF4L 1.13 mm	VSWR	< 1.7 :1	< 1.8 :1	< 2.3 :1
	Avg. Efficiency	26.2 %	25.3 %	25.1 %
	Peak Gain (Max)	-2.75 dBi	-3.07 dBi	-3.18 dBi
	Average Gain	-5.80 dB	-5.96 dB	-5.99 dB
L000926-15 150 mm MHF4L 1.13 mm	VSWR	< 3.1 :1	< 3.1 :1	< 2.9 :1
	Avg. Efficiency	24.9 %	24.1 %	26.8 %
	Peak Gain (Max)	-2.91 dBi	-3.05 dBi	-2.54 dBi
	Average Gain	-6.01 dB	-6.12 dB	-5.71 dB
L000926-20 200 mm MHF4L 1.13 mm	VSWR	< 4.3 :1	< 4.0 :1	< 3.1 :1
	Avg. Efficiency	18.7 %	19.8 %	22.8 %
	Peak Gain (Max)	-4.09 dBi	-4.28 dBi	-3.69 dBi
	Average Gain	-7.24 dB	-7.17 dB	-6.56 dB
L000926-25 250 mm MHF4L 1.13 mm	VSWR	< 4.4 :1	< 3.7 :1	< 2.1 :1
	Avg. Efficiency	14.6 %	15.7 %	18.4 %
	Peak Gain (Max)	-4.78 dBi	-4.73 dBi	-3.66 dBi
	Average Gain	-8.34 dB	-8.13 dB	-7.44 dB

CABLE LOSS

OD 1.13mm (P/N: 3-2108921)							
Freq. Range (MHz)	400-500	617-960	1427-1517	1690-2400	2496-2690	3300-3800	4400-5000
Cable attenuation (dB/m)	< 2.0	< 2.2	<2.9	< 3.69	< 4.0	<4.5	< 5.0

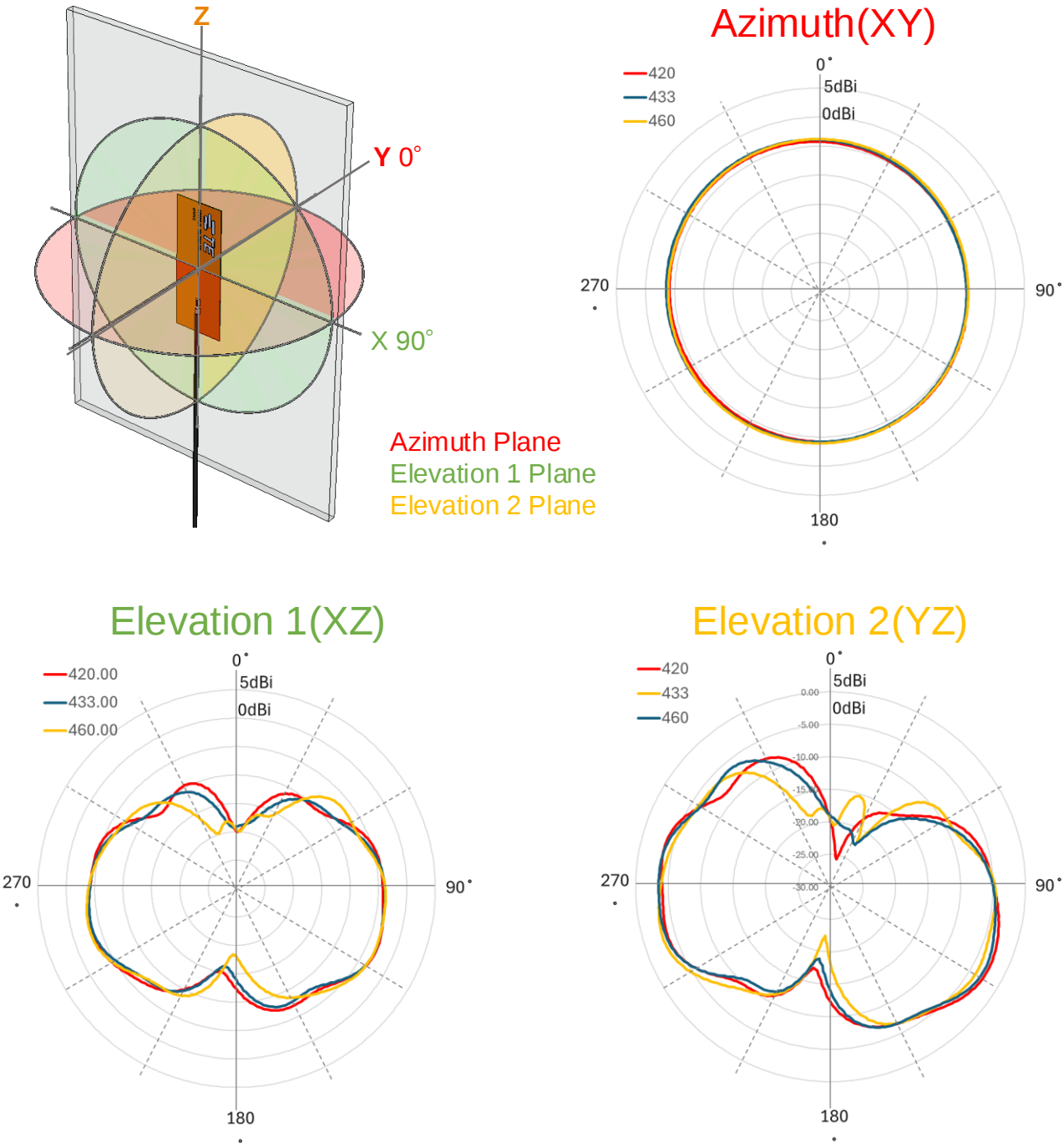
RF DATA (Shown as L000925-10 : Others can vary with different cable lengths.)



Data measured in free space and on 150 x 150 x 2.0 mm PC plastic

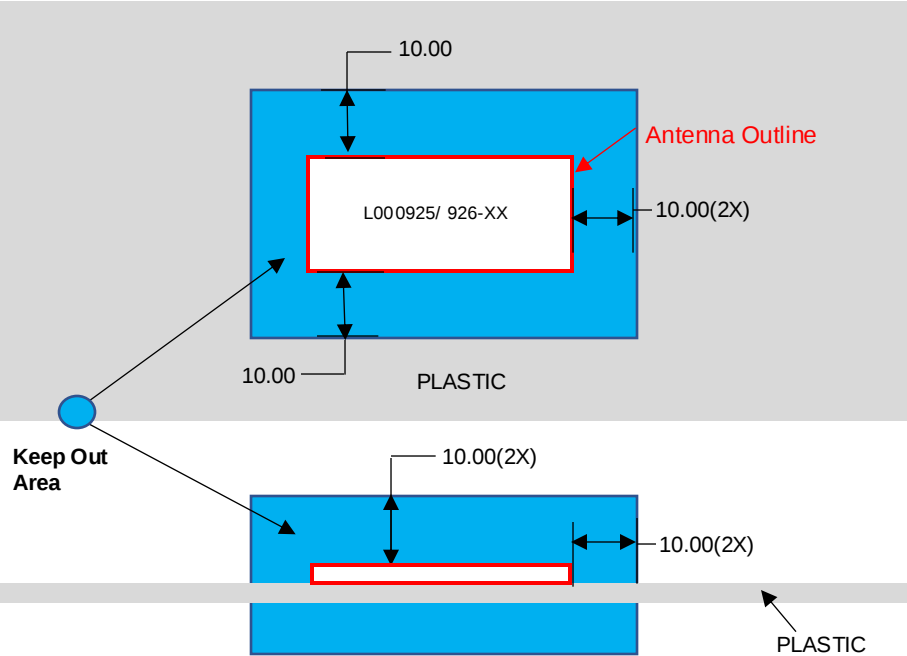
RADIATION PATTERN

(Shown as L000925-10 : Others can vary with different cable lengths.)



Data measured in free space and on 150 x 150 x 2.0 mm PC plastic

KEEP OUT AREA

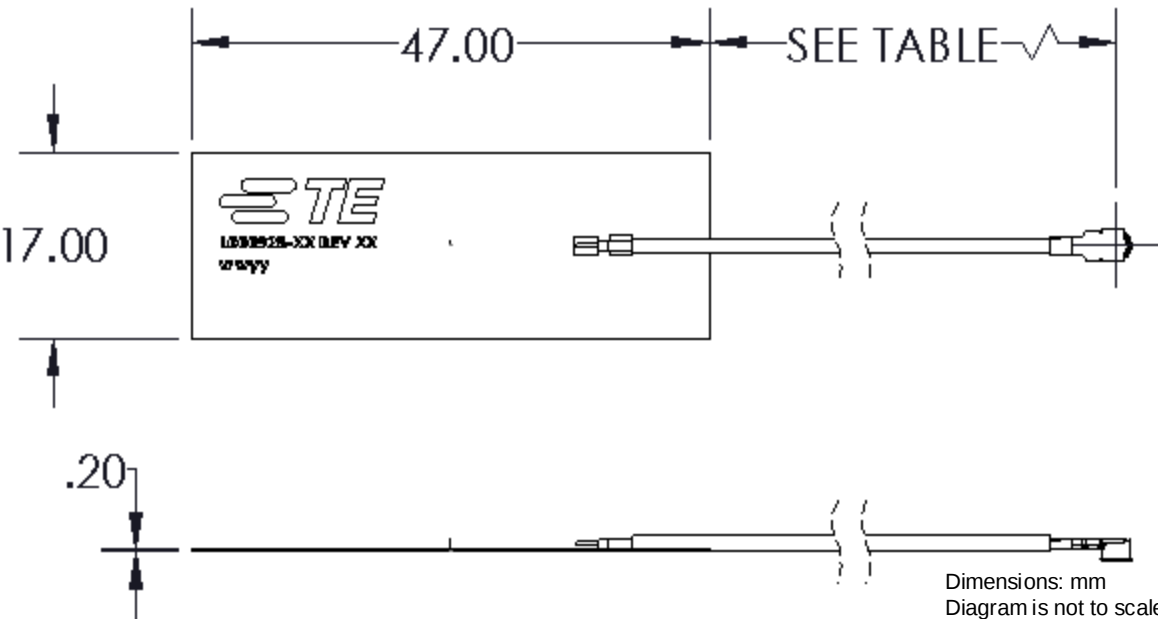


NOTES:1. Antenna designed to be mounted on plastic cover.
2. Area in blue above indicates Keep Out Area.
3. For more information, please call TE.

Dimensions: mm
Diagram is not to scale

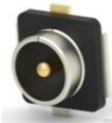
DIMENSIONS

(Refer to Page07 for dimension “A”)

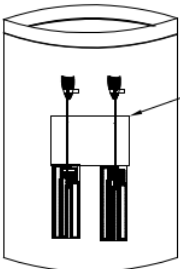


Dimensions: mm
Diagram is not to scale

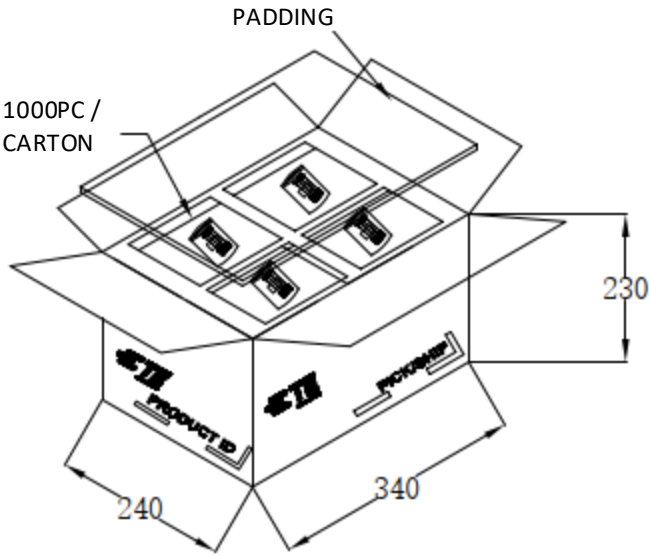
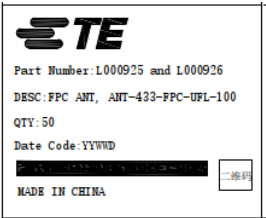
MATING COMPONENTS TO PART NUMBERS AND DIMENSIONS

L000925-05	50.0	1.968	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000925-10	100.0	3.937	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000925-15	150.0	5.905	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000925-20	200.0	7.874	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000925-25	250.0	9.842	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000926-05	50.0	1.968	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000926-10	100.0	3.937	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000926-15	150.0	5.905	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000926-20	200.0	7.874	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000926-25	250.0	9.842	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
PART	MM	INCH	CABLE O.D (B)	CONNECTOR TYPE	PART NUMBER	IMAGE
NUMBER	CABLE LENGTH (A)			(ON CABLE)	MATING COMPONENTS	

PACKAGING



50pcs (2扎)



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