



industrial data rf cable series

LS1S50MU / LS1S50MUS / LS1SMU

MIL-DTL-24643 LS1S50MU Low-Smoke

MIL-DTL-24643/29 50 Ω low-smoke zero-halogen US Navy shipboard RF coaxial cable



MIL-DTL-24643/29 · NAVSEA

50 $\Omega \pm 2 \Omega$ · Double Cu Braid

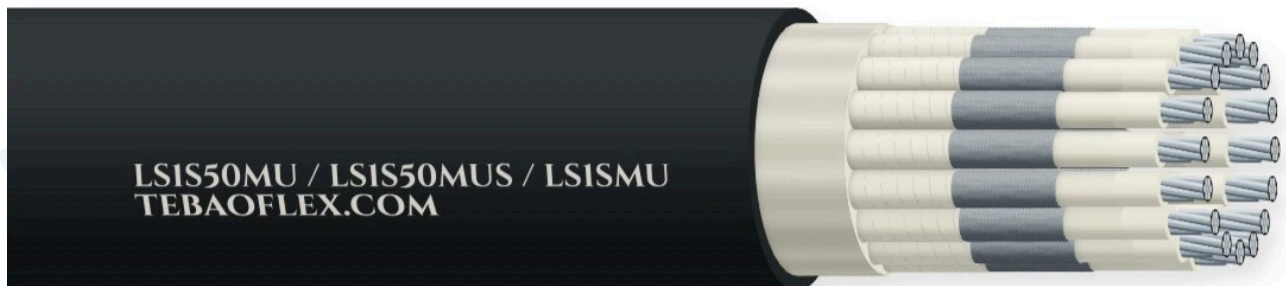
LSZH XLPO · -30 to +105 °C

Application

US Navy 50 Ω LSZH shipboard RF coaxial cable (LS1S50MU / LS1S50MUS / LS1SMU) per MIL-DTL-24643/28 with a bare or silver-plated copper core, cross-linked polyolefin dielectric, double tinned/silver copper braids (> 90 dB screening), and naval LSZH jacket.

Typical uses: US Navy & Allied Surface Combatants, Submarine C4ISR & Radio Rooms, Shipboard Radar & EW Mast Trunks, Coast Guard & Patrol Vessels, Offshore Platform Telecom Shelters

Construction



Cross-section, not to scale

- 1 Stranded bare or silver-plated copper conductor
- 2 Solid polyethylene (PE) RF dielectric
- 3 Double copper wire braid RF shields
- 4 Cross-linked low-smoke zero-halogen (LSZH XLPO) jacket

Technical data

Typical values

Characteristic impedance	50 $\Omega \pm 2 \Omega$	Nominal capacitance	101.0 pF/m (30.8 pF/ft)
Velocity of propagation	66 % nominal (solid PE dielectric)	Max. operating voltage	3,700 V RMS (5,000 V RMS dielectric test)
Attenuation @ 100 / 400 / 1000 MHz	7.5 / 15.7 / 29.5 dB/100m	Operating temperature	-30 °C to +105 °C (XLPO jacket rating)
RF core thermal limit	+85 °C continuous PE dielectric	Smoke index & acid gas	MIL-DTL-24643 low-smoke & < 0.2 % halogen
Center conductor	7×0.75 mm (13 AWG, Ø 2.26 mm) stranded Cu	Overall diameter	10.80 mm (LS1S50MU) · 12.45 mm (LS1S50MUS)
Min. bending radius	8 × OD (unarmored) · 10 × OD (armored)	Flame propagation	MIL-DTL-24643 / IEEE 1202 vertical tray flame
Oil, fuel & salt water	Resists NATO F-76 fuel, lube oil & salt fog	Watertightness class	Non-watertight (dry/damp interior compartments)
Standards	MIL-DTL-24643/29 (M24643/29-01UO & -01AU)		

Sizes

8 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Impedance / size	Conductor & dielectric	Wall ≈ mm	Outer Ø ≈ mm	Metal kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard LS1S50MU / LS1S50MUS / LS1SMU configurations 8 sizes							
☐ M24643/29-01UO (LS1S50MU)	50 Ω · 13 AWG Unarmored	7×0.75 Cu + PE + 2×Braid	1.15	10.80	96.0	178.0	86
☐ M24643/29-01AU (LS1S50MUS)	50 Ω · 13 AWG Al-Armored	7×0.75 Cu + 2×Braid + Al	1.15	12.45	124.0	225.0	125
☐ LS1SMU Compact 50 Ω	50 Ω · 20 AWG Unarmored	19×0.18 Cu + PE + 2×Braid	0.85	5.50	28.0	52.0	44
☐ LS1SMUS Compact Armored	50 Ω · 20 AWG Al-Armored	19×0.18 Cu + 2×Braid + Al	0.85	7.10	42.0	78.0	71
☐ LS1S50MU-F Foam 50 Ω	50 Ω · Ø 2.74 Foam PE	Cu Ø 2.74 + Foam PE + LSZH	1.15	10.60	88.0	155.0	85
☐ LS1S50MUS-F Foam Armored	50 Ω · Ø 2.74 Al-Armored	Cu Ø 2.74 + Foam + Al Braid	1.15	12.25	115.0	202.0	123
☐ LS2S50MU Twin 50 Ω	2 × 50 Ω · 13 AWG	Dual 50 Ω Coax Assembly	1.40	21.80	192.0	385.0	175
☐ LS1S50MWU Watertight	50 Ω · 13 AWG Watertight	Water-Blocked 50 Ω Coax	1.25	11.20	98.0	190.0	90

– Outer diameters and weights are nominal engineering values for LS1S50MU / LS1S50MUS / LS1SMU subject to standard manufacturing tolerances per MIL-DTL-24643/29 (US Navy Shipboard 50 Ω Low-Smoke Coaxial Cable).

RF & electrical data

8 sizes

Configuration	Max. DC R @ 20 °C Ω /km	Char. Z0 Ω	Velocity VoP / L (% or nH/m)	Dielectric test V/AC rms
M24643/29-01UO (LS1S50MU) (50 Ω · 13 AWG Unarmored)	5.60	50.0	66.0	5,000
M24643/29-01AU (LS1S50MUS) (50 Ω · 13 AWG Al-Armored)	5.60	50.0	66.0	5,000
LS1SMU Compact 50 Ω (50 Ω · 20 AWG Unarmored)	32.50	50.0	66.0	2,000
LS1SMUS Compact Armored (50 Ω · 20 AWG Al-Armored)	32.50	50.0	66.0	2,000
LS1S50MU-F Foam 50 Ω (50 Ω · Ø 2.74 Foam PE)	4.50	50.0	82.0	3,500
LS1S50MUS-F Foam Armored (50 Ω · Ø 2.74 Al-Armored)	4.50	50.0	82.0	3,500
LS2S50MU Twin 50 Ω (2 × 50 Ω · 13 AWG)	5.60	50.0	66.0	5,000
LS1S50MWU Watertight (50 Ω · 13 AWG Watertight)	5.60	50.0	66.0	5,000

– Characteristic impedance, propagation velocity, DC resistance at +20 °C, and dielectric withstand voltages verified per MIL-DTL-24643/29 (US Navy Shipboard 50 Ω Low-Smoke Coaxial Cable).

Standards and approvals

- ✓ MIL-DTL-24643/29 (US Navy Shipboard 50 Ω Low-Smoke Coaxial Cable)
- ✓ CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- ✓ REACH SVHC Compliance Verified

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/mil-dtl-24643-ls1s50mu-low-smoke-zero-halogen-shipboard-coaxial-cable



Typical values for this cable type, based on MIL-DTL-24643/29 (US Navy Shipboard 50 Ω Low-Smoke Coaxial Cable). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.