Amphe-Lite™ D38999 Series III Derivative

LIGHT-WEIGHT COMMERCIAL 38999 DERIVATIVE PERFECT FOR COMMUNICATIONS EQUIPMENT IN HARSH ENVIRONMENTS

Amphenol's Amphe-Lite™ connectors are light-weight commercial D38999s that offer the highest performance capabilities for harsh environments, including communication towers and equipment, manufacturing process control and medical equipment.

APPLICATIONS

- Medical equipment
- Process control
- Communications equipment
- Industrial

FEATURES

HIGH-RELIABILITY

Amphe-Lite connectors perform flawlessly under wide temperature ranges and in high vibrations and are resistant to a vast array of contaminants. Visual confirmation of mating is accomplished by the plug coupling nut covering a red band on the mating shell.

OUTSTANDING EMI-SHIELDING PROTECTION

These connectors provide excellent signal integrity due to the shielded mating system that utilizes 360-degree shell grounding fingers, providing protection of up to 50 dB minimum - 100Mhz to 10GHz.

OPERATES AT EXTREME TEMPERATURES

These connectors will operate in temperatures from -67°F up to 248°F (-55°C up to +125°C).

HIGH-DENSITY CONNECTORS

If space is at a premium, Amphe-Lite offers up to 128 contacts per connector. Ideally suited for digital electronics used on fly-by wire aircraft, advanced robotics, and critical industrial equipment.

SELF-LOCKING CONNECTOR SYSTEMS

Self-locking coupling nuts and self-locking endbell accessory hardware provide the best performance for threaded connectors in high-vibration applications.

CONTACT PROTECTION

Amphe-Lite connectors are designed to be scoop-proof. Pin contacts are recessed to prevent contact damage and contact shorting when connector halves are mated.

APPROVALS

Amphe-Lite is UL-recognized, File E115497

RoHS Compliant

TECHNICAL SPECIFICATIONS

MATERIALS AND FINISHES

Shell & Plating	Composite, electroless nickel-plated and unplated (RoHS)
Contacts	Copper alloy
Plating	Gold-plated, 50 microinches per MIL-G-45204 type II, grade C, class I
Insulator	Hard dielectric wafer which contains tines for high-reliability retention of crimp contacts
Grommet & Seals	Fluorinated is standard or dimethyl silicone rubber elastomer
Grounding Springs	Beryllium copper (grounded plug only)

ELECTRICAL DATA

Contact Sizes: 22D, 20, 16, 12, 10 and 8

Operating Voltage & Test Voltage

	SERVICE RATING			
TEST VOLTAGES	N	M	I	II
Sea Level	1000	1300	1800	2300
100,000 Feet	200	200	200	200

Current Rating by Contact Size & Wire Accommodation (Test Amps)

WIRE SIZE	22D	20	16	12	10	8
28	1.5	-	-	-	-	-
26	2.0	-	-	-	-	-
24	3.0	3.0	-	-	-	-
22	5.0	5.0	-	-	-	-
20	-	7.5	7.5	-	-	-
18	-	-	10.0	-	-	-
16	-	-	13.0	-	-	-
14	-	-	-	17.0	-	-
12	-	-	-	23.0	-	-
10	-	-	-	-	33.0	-
8	-	-	-	-	-	46.0

Contact Resistance of Mated Contacts End-to-End

CONTACT SIZE	MAXIMUM MILLIVOLT DROP
22D	73
20	55
16	49
12	42
10 (power)	33
8 (power)	26

Insulation Resistance: 5,000 megohms minimum

MECHANICAL

Operating Temperature: -55°C to +125°C (-67°F to +248°F)

Sealing: Against sand, dust per MIL-STD-202 & ice resistance

Wire Sealing Range

CONTACT SIZE	MINIMUM INCHES	MAXIMUM INCHES	MINIMUM MM	MAXIMUM MM
22D	0.030	0.054	0.76	1.37
20	0.040	0.083	1.02	2.11
16	0.065	0.109	1.65	2.77
12	0.097	0.142	2.46	3.61
10	0.135	0.162	3.42	4.12
8 (power)	0.135	0.155	3.43	3.94
8 (coax)	0.135	0.155	3.43	3.94
8 (twinax)	0.124	0.134	3.15	3.40

TECHNICAL SPECIFICATIONS

Insulation Strip Length

CONTACT SIZE	STRIP LENGTH
22D	.125 (3.18)
20	.188 (4.77)
16	.188 (4.77)
12	.188 (4.77)
10	.335 (8.51)
8 (power)	.470 (11.94)

Mating Life	500 cycles minimum
Salt Spray	Electroless nickel only: 2000 hours min.
Temp. Durability	Unplated and electroless nickel: UL RTI rating is 105°C (221°F)
EMI-Shielding Effectiveness	100 MHz to 10 GHz - minimum attenuation of 50dB
Contact Type	Crimp, fibre optic, coax, twinax, or printed circuit
Number of Circuits	2 to 128
Contact Insertion	Rear-insertion/rear-extraction with simple plastic or high-quality metal hand tools.

Contact Retention

CONTACT	AXIAL LOAD NEWTONS ±10%	AXIAL LOAD POUNDS ±10%
22D	44	10
20	67	15
16	111	25
12	111	25
10	111	25
8	111	25

Polarization	Five keyways with optional master keyway rotations (Note: insert and main keyways remain fixed)
Approvals	UL E115497

All dimensions in inches (millimeters in parenthesis)

CROSS-SECTION