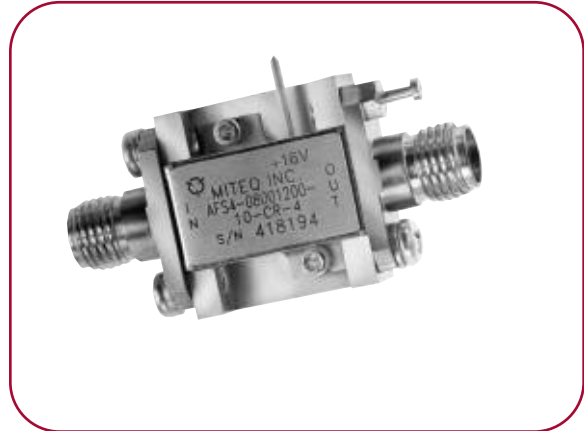


# CRYOGENIC AMPLIFIERS

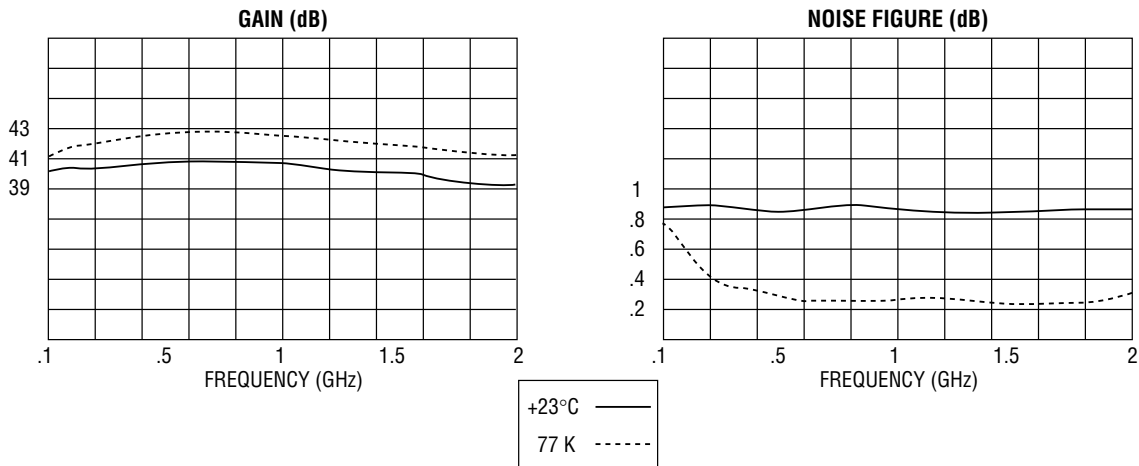
## AFS SERIES

In addition to our standard low-noise amplifiers, MITEQ can support your needs for amplifiers that operate in cryogenic environments. MITEQ has supplied units cooled to liquid nitrogen temperatures (77 K), as well as units operating at helium (4 K) temperatures. These units utilize our extremely low-noise amplifier designs, which are packaged in hermetically sealed kovar housings.

Due to the fact that silicon-based products do not work well under cryogenic conditions, we have removed the internal voltage regulator and reverse protect diode. As such, the amplifiers can operate at much lower voltages, thus significantly reducing the total power dissipated by the devices within the amplifier.



### AFS3-00100200-09-CR-4 TYPICAL DATA



MODEL NUMBER	FREQUENCY RANGE (GHz)	GAIN (dB, Min.)	GAIN FLATNESS (±dB, Max.)	NOISE FIGURE (dB, Max.)	VSWR IN/OUT (Max.)	OUTPUT POWER @ 1 dB COMP. (dBm, Min.)	NOM. DC POWER (+6 V, mA)	OUTLINE DRAWING
AFS3-00100200-09-CR-4 (Nominal specs. @ 77 K)	0.1–2	38	1	0.9	2:1	5	100	4
	0.1–2	42	0.75	0.25	1.5:1/1.8:1	5	100	4
AFS3-01000200-06-CR-6 (Nominal specs. @ 77 K)	1–2	38	1	0.6	2:1	5	100	6
	1–2	40	1	0.20	1.8:1	5	100	6
AFS3-02000400-08-CR-4 (Nominal specs. @ 77 K)	2–4	28	1	0.8	2:1	5	75	4
	2–4	33	0.5	0.25	1.8:1/1.5:1	5	75	4
AFS3-04000800-09-CR-4 (Nominal specs. @ 77 K)	4–8	31	0.5	0.8	2:1	5	100	4
	4–8	33	0.5	0.2	1.5:1	5	100	4
AFS4-08001200-10-CR-4 (Nominal specs. @ 77 K)	8–12	32	1	0.9	2:1	5	100	4
	8–12	34	0.75	0.35	1.5:1	5	100	4
AFS4-12001800-16-CR-4 (Nominal specs. @ 77 K)	12–18	30	1.5	1.8	2:1	5	75	4
	12–18	35	1.5	1.3	2:1	10	75	4

NOTES: The above specifications listed at 77 K were taken on several typical amplifiers. Please contact the factory for actual temperature data. Lower gain and other bands also available. See page 59 for outline.



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