

1/2 INCH SEPARATION NUT

P/N ME0027

Hold down and Release Mechanism designed and qualified for use on satellites

SPECIFICATIONS

- **Application:** To maintain a preload bolt that attaches separate components, and release it on electrical command
- **Nut size:** 1/2"-20UNJF-3A
- **Bolt tension (pure tensile load):** 10 to 50 kN (Safety factor >2)
- **Operating time:** ≤ 10 ms
- **Leak rate:** 10⁻⁴ scc/sec
- **Redundancy:** 2 initiators
- **Reliability:** > 0.9999 with 95% confidence level
- **Initiator:** 2 redundant NSI



MECHANICAL CHARACTERISTICS

- **Mass:** ≤ 330 g
- **Housing material:** Aluminum alloy
- **Nut material:** Steel (15-5-PH)
- **Fixing mode:** 2 holes Ø 5,2 mm

ELECTRICAL CHARACTERISTICS

- **Bridgewire number:** 1 + 1
- **Bridgewire resistance:** 1.05 ± 0.1 Ω
- **Insulation resistance:** ≥ 100 MΩ / 250 VDC

CURRENT RATINGS

- **Nominal firing current:** 3.5 A / 10 ms (-54°C, +150°C)
5 A / 10 ms (-162°C, -54°C)
- **"No fire" current:** 1.0 A/1W-5 min until+150°C
- **"No fire" current test:** 0.02 A / 1 min max

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ENVIRONMENT

Sinus vibration: 5-22 Hz: ± 10 mm - 22-100 Hz: 20 g - all axes - 2 oct/min - 1 sweep

Random vibration:

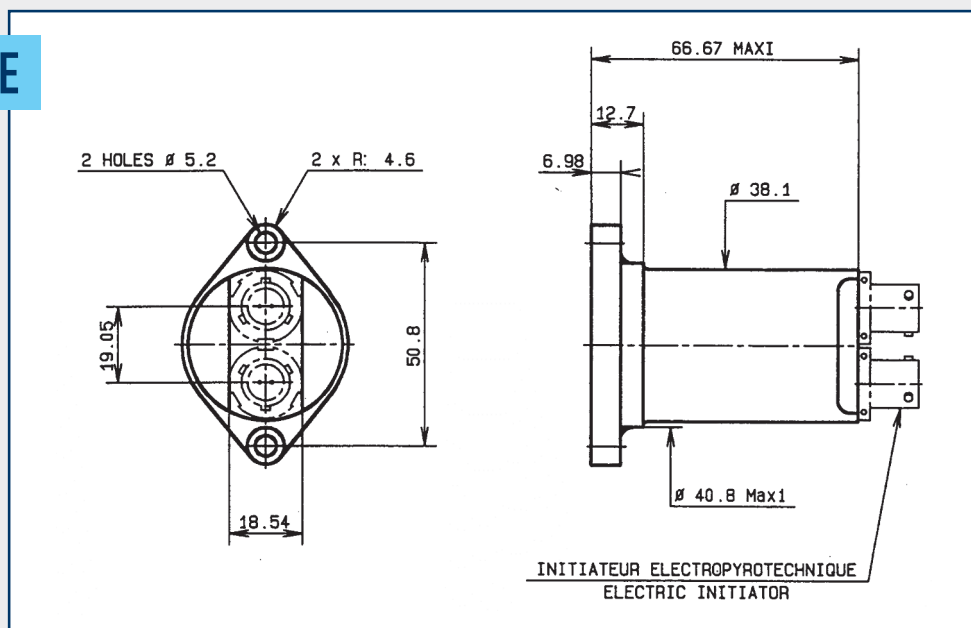
20-60 Hz: + 6 dB/oct - 60-85 Hz: 0.3 g²/Hz - 85-110 Hz: + 12 dB/oct - 110-140 Hz: 0.8 g²/Hz -
 140-215 Hz: - 6 dB/oct - 215-350 Hz: 0.3 g²/Hz - 350-470 Hz: + 12 dB/oct - 470-590 Hz: 1 g²/Hz -
 590-800 Hz: - 12 dB/oct - 800-900 Hz: 0.3 g²/Hz - 900-2000 Hz: - 6 dB/oct - all axes - 2 min/axis

Thermal shock: -60°C up to +70°C - 8 cycles, 2h

Thermal vacuum: 10⁻⁵ Torr / -60°C

Operating temperature: -100°C to +100°C

INTERFACE



RECOMMENDED STORAGE CONDITIONS

Storage temperature: +10°C up to +30°C

Humidity: $\leq 60\%$

Storage lifetime: 10 years

Explosive class: 1.4 S

UNO N°: 0173

UNO designation: Release devices, explosives