**Model Number**

NBB5-F33-E2

**Features**

- 5 mm embeddable
- 3-wire DC

**Connection**

- BN
- L+
- BK
- BU
- L-

**Technical Data**

**General specifications**

- Switching element function: PNP, NO
- Rated operating distance: 5 mm
- Installation: embeddable
- Output polarity: DC
- Assured operating distance: 0 ... 4.05 mm
- Reduction factor: rAl = 0.3
- Reduction factor: rCu = 0.2
- Reduction factor: r304 = 0.6

**Nominal ratings**

- Operating voltage: U_B = 10 ... 30 V DC
- Switching frequency: f = 0 ... 500 Hz
- Hysteresis: H typ. = 5 %
- Reverse polarity protected
- Short-circuit protection: pulsing
- Voltage drop: U_d ≤ 3 V
- Operating current: I_L = 0 ... 200 mA
- Off-state current: I_r = 0 ... 0.5 mA typ. = 0.1 µA
- No-load supply current: I_0 ≤ 15 mA

**Functional safety related parameters**

- MTTFd = 820 a
- Mission Time (T_M) = 20 a
- Diagnostic Coverage (DC) = 0 %

**Ambient conditions**

- Ambient temperature: -25 ... 70 °C (-13 ... 158 °F)

**Mechanical specifications**

- Connection type: cable PVC, 2 m
- Core cross-section: 0.34 mm²
- Housing material: PBT
- Sensing face: PBT
- Protection degree: IP67

**Compliance with standards and directives**

- Standard conformity:
  - EN 60947-5-2:2007
  - IEC 60947-5-2:2007

- Approvals and certificates:
  - UL approval: cULus Listed, General Purpose
  - CSA approval: cCSAus Listed, General Purpose
  - CCC approval: Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.