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| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                                                     |      |             |      |      |      |      |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------|-------------|------|------|------|------|
| PARAMETER                                                                                                | TEST CONDITION                                      | PART | SYMBOL      | MIN. | TYP. | MAX. | UNIT |
| <b>INPUT</b>                                                                                             |                                                     |      |             |      |      |      |      |
| Forward voltage                                                                                          | $I_F = \pm 10\text{ mA}$                            |      | $V_F$       | -    | 1.25 | 1.5  | V    |
| <b>OUTPUT</b>                                                                                            |                                                     |      |             |      |      |      |      |
| Collector emitter breakdown voltage                                                                      | $I_C = 10\text{ mA}$ , $I_F = 0\text{ A}$           |      | $BV_{CEO}$  | 60   | -    | -    | V    |
| Collector emitter leakage current                                                                        | $V_{CE} = 10\text{ V}$ , $I_F = 0\text{ A}$         |      | $I_{CEO}$   | -    | 1.0  | 100  | nA   |
| <b>COUPLER</b>                                                                                           |                                                     |      |             |      |      |      |      |
| Collector emitter, saturation voltage                                                                    | $I_C = \pm 10\text{ mA}$ , $I_F = \pm 10\text{ mA}$ |      | $V_{CEsat}$ | -    | -    | 1.0  | V    |

**Note**

- Minimum and maximum values were tested requirements. Typical values are characteristics of the device and are the result of engineering evaluations. Typical values are for information only and are not part of the testing requirements

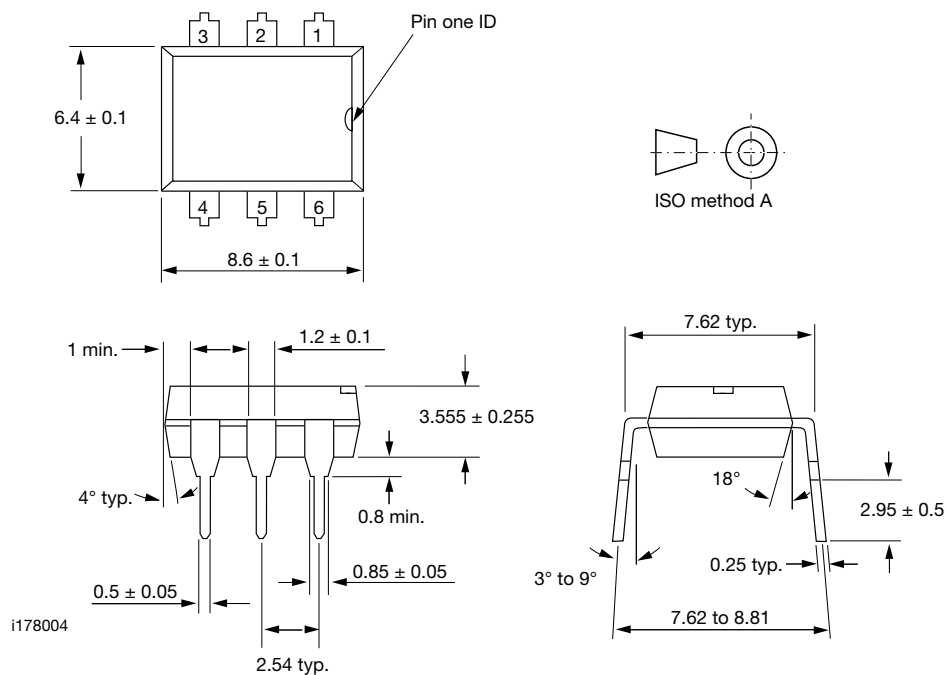
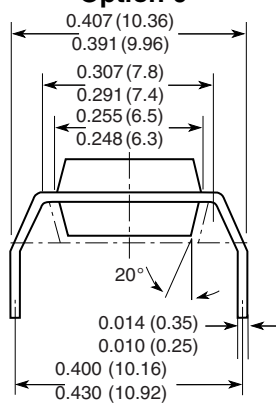
| <b>CURRENT TRANSFER RATIO</b>         |                                                     |          |        |      |      |      |      |
|---------------------------------------|-----------------------------------------------------|----------|--------|------|------|------|------|
| PARAMETER                             | TEST CONDITION                                      | PART     | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Saturation voltage, collector emitter | $I_F = \pm 1.0\text{ mA}$ , $V_{CE} = 5.0\text{ V}$ | IL766B-1 | CTR    | 400  | -    | -    | %    |
|                                       | $I_F = \pm 0.5\text{ mA}$ , $V_{CE} = 5.0\text{ V}$ | IL766B-2 | CTR    | 900  | -    | -    | %    |

| SWITCHING CHARACTERISTICS |                                                                            |                  |      |      |      |      |
|---------------------------|----------------------------------------------------------------------------|------------------|------|------|------|------|
| PARAMETER                 | TEST CONDITION                                                             | SYMBOL           | MIN. | TYP. | MAX. | UNIT |
| Turn-off time             | V <sub>CC</sub> = 5.0 V, I <sub>F</sub> = ± 2.0 mA, R <sub>L</sub> = 100 Ω | t <sub>off</sub> | -    | 200  | -    | μs   |

| <b>SAFETY AND INSULATION RATINGS</b>         |                                                                   |            |                |                    |
|----------------------------------------------|-------------------------------------------------------------------|------------|----------------|--------------------|
| PARAMETER                                    | TEST CONDITION                                                    | SYMBOL     | VALUE          | UNIT               |
| Climatic classification                      | According to IEC 68 part 1                                        |            | 55 / 100 / 21  |                    |
| Comparative tracking index                   |                                                                   | CTI        | 175            |                    |
| Maximum rated withstanding isolation voltage | $t = 1\text{ min}$                                                | $V_{ISO}$  | 4420           | $V_{RMS}$          |
| Maximum transient isolation voltage          |                                                                   | $V_{IOTM}$ | 10 000         | $V_{peak}$         |
| Maximum repetitive peak isolation voltage    |                                                                   | $V_{IORM}$ | 890            | $V_{peak}$         |
| Isolation resistance                         | $V_{IO} = 500\text{ V}$ , $T_{amb} = 25\text{ }^{\circ}\text{C}$  | $R_{IO}$   | $\geq 10^{12}$ | $\Omega$           |
|                                              | $V_{IO} = 500\text{ V}$ , $T_{amb} = 100\text{ }^{\circ}\text{C}$ | $R_{IO}$   | $\geq 10^{11}$ | $\Omega$           |
| Output safety power                          |                                                                   | $P_{SO}$   | 400            | mW                 |
| Input safety current                         |                                                                   | $I_{SI}$   | 275            | mA                 |
| Safety temperature                           |                                                                   | $T_S$      | 175            | $^{\circ}\text{C}$ |
| Creepage distance                            |                                                                   |            | $\geq 7$       | mm                 |
| Clearance distance                           |                                                                   |            | $\geq 7$       | mm                 |
| Insulation thickness                         |                                                                   | DTI        | $\geq 0.4$     | mm                 |

**Note**

- As per IEC 60747-5-5, § 7.4.3.8.2, this optocoupler is suitable for "safe electrical insulation" only within the safety ratings. Compliance with the safety ratings shall be ensured by means of protective circuits

**PACKAGE DIMENSIONS** in inches (millimeters)**Option 6**

18446



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