

Common Mode Choke Coils(Line Filters) for Signal Line

UF and TF Series

Conformity to RoHS Directive

TDK's compact type common mode choke coils are suitable for protecting telephone circuitry from interference such as radio broadcasts or noise conducted from the DC side of an AC adapter.

FEATURES

- Compact size and lightweight.
- High reduction over a wide range of frequencies.

PRODUCT IDENTIFICATION

UF □□□□ V - A □□□Y □R□ - 01
 (1) (2) (3) (4) (5) (6) (7)

- (1) Core shape
 UF: U-type core
 TF: Toroidal core
- (2) Dimensional code
 Width×Depth
- (3) External shape code
 V: Vertical type H: Horizontal type
- (4) High μ material
- (5) Inductance value
 Example) 133:13mH
- (6) Rated current value
 Example) 3R0:3.0A
- (7) Product management number

SELECTION CHART

| Series | Configuration | Type | Inductance value min. | Rated current (A) | Handling power* $L \times I^2(\text{mH} \times \text{A}^2)$ | Weight (g)typ. | Minimum package quantity (pieces/box) |
|--------|---------------------------|------------|-----------------------|-------------------|--|----------------|---------------------------------------|
| UF | Two sections bobbin types | UF1717VB | 7, 15mH | 0.15 to 0.3 | 0.3 | 4 | 640 |
| | | UF1717HB | 7, 15mH | 0.15 to 0.3 | 0.3 | 4 | 480 |
| TF | Compact | TF0402S-01 | 7 μ H | 0.7 | — | 0.14 | 5000 |
| | | TF0804S | 3 to 200 μ H | 1 to 1.6 | — | 2 | 1000 |
| | | TF0402B | 13 μ H | 0.5 | — | 0.35 | 1680 |
| | | TF0804B | 25 μ H | 0.5 | — | 2 | 1800 |
| | | TF0804V | 60 μ H | 1 | — | 2 | 1200 |

* Handling power=(Inductance value)× (Current)². It is possible to design within the range below this value.
 [Example] The coil for 2A can make even the inductance of 2.5mH or less a product for handling power 10.

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.

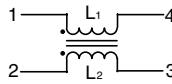
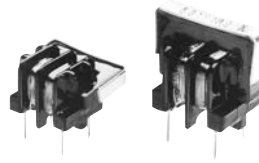
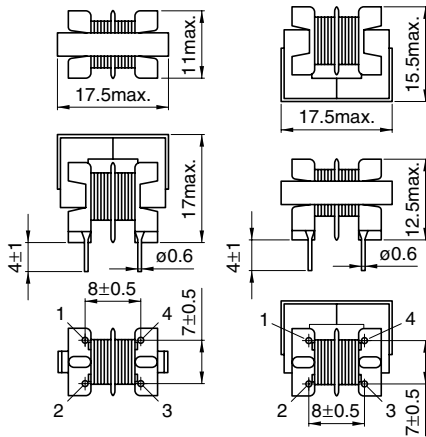
Compact and Separable Bobbin Type UF Series

UF1717VB/UF1717HB TYPES

SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

UF1717VB

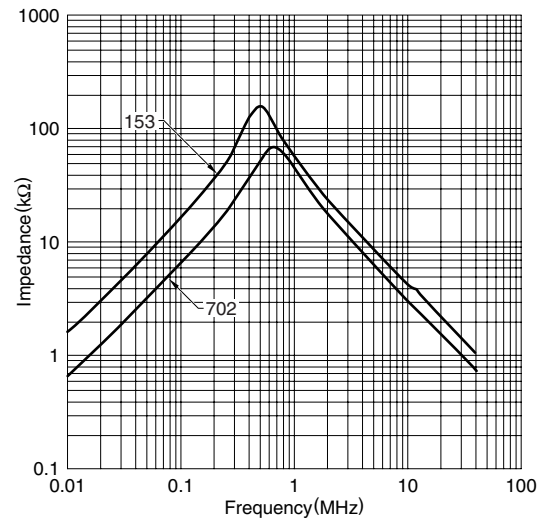
UF1717HB



Weight: 4g typ.

Recommended hole diameter: $\phi 0.9$
Dimensions in mm

TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No. | Inductance (mH)min. | DC resistance (Ω)max. | Rated current Iac(A)max. |
|---------------------|---------------------|--------------------------------|--------------------------|
| UF1717VB-153YR15-01 | 15 | 5 | 0.15 |
| UF1717VB-702Y0R3-01 | 7 | 2.5 | 0.3 |
| UF1717HB-153YR15-01 | 15 | 5 | 0.15 |
| UF1717HB-702Y0R3-01 | 7 | 2.5 | 0.3 |

- Measuring equipment of inductance value:
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

PACKAGING QUANTITIES

| | |
|----------|---------------|
| UF1717VB | 640pieces/box |
| UF1717HB | 480pieces/box |

RATINGS

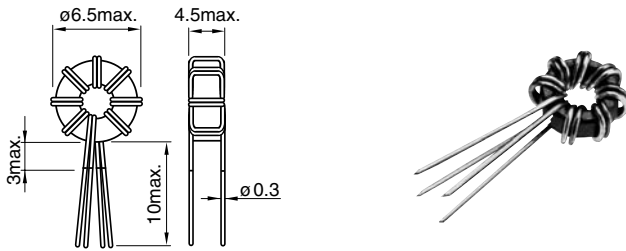
| Item | Standard value | Conditions |
|--|---|----------------------------------|
| Rated voltage(V) | 50 | 50Hz/60Hz |
| Insulation resistance (M Ω) | 100min. | Between each winding for DC.500V |
| Temperature rise($^{\circ}$ C) | 45max. | With line resistance |
| Operating temperature range($^{\circ}$ C) | -20 to +105 | Including self-temperature rise |
| Storage temperature range($^{\circ}$ C) | -20 to +60 | |
| Resistance to soldering temperature* | 260 \pm 5 $^{\circ}$ C, 10 \pm 1sec | Solder bath method |
| | 350 \pm 5 $^{\circ}$ C, 5sec max. | Soldering iron method |

* Pb free solder(Sn-3Ag-0.5Cu)

Small Toroidal Core Type TF Series

TF0420S-01 TYPE

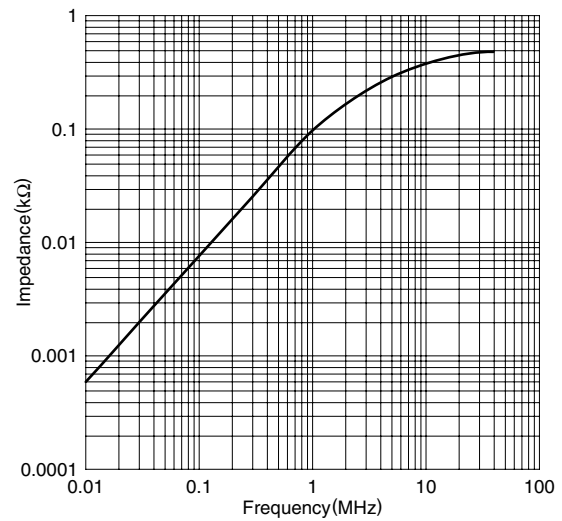
SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



Weight: 0.14g typ.

Recommended hole diameter: $\phi 0.6$
Dimensions in mm

TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



ELECTRICAL CHARACTERISTICS (STANDARD LINE UP)

| Part No. | Inductance (μ H)min. | DC resistance (Ω)max. | Rated current Iac(A)max. |
|------------|------------------------------|-----------------------------------|-----------------------------|
| TF0402S-01 | 7 | 0.019 | 0.7 |

- Measuring equipment of inductance value:
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

PACKAGING QUANTITIES

| | |
|------------|----------------|
| TF0402S-01 | 5000pieces/box |
|------------|----------------|

RATINGS

| Item | Standard value | Conditions |
|--|---|---------------------------------|
| Rated voltage(V) | 80 to 280 | 50Hz/60Hz |
| Temperature rise($^{\circ}$ C) | 45max. | With line resistance |
| Operating temperature range($^{\circ}$ C) | -20 to +120 | Including self-temperature rise |
| Storage temperature range($^{\circ}$ C) | -20 to +85 | |
| Resistance to soldering temperature* | 260 \pm 5 $^{\circ}$ C, 10 \pm 1sec | Solder bath method |
| | 350 \pm 5 $^{\circ}$ C, 5sec max. | Soldering iron method |

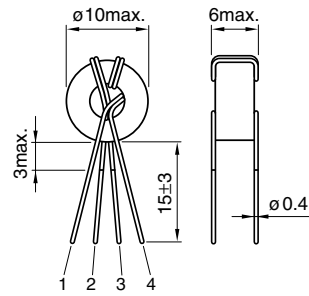
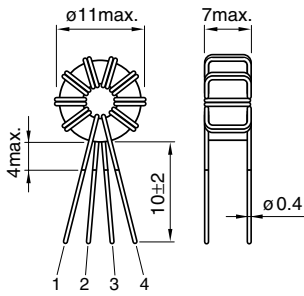
* Pb free solder(Sn-3Ag-0.5Cu)

TF0804S TYPE

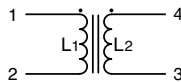
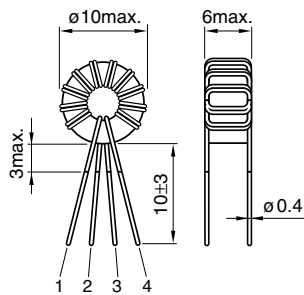
SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

TF0804S-201Y1R6-01

TF0804S-01



TF0804S-02

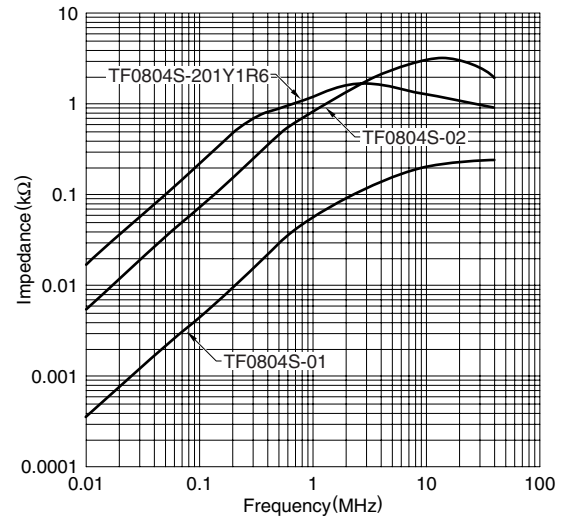


Weight: 2g typ.

Recommended hole diameter: $\phi 0.7$
Dimensions in mm

TYPICAL ELECTRICAL CHARACTERISTICS

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



ELECTRICAL CHARACTERISTICS

(STANDARD LINE UP)

| Part No. | Inductance (μ H)min. | DC resistance (Ω)max. | Rated current Iac(A)max. |
|---------------------|------------------------------|-----------------------------------|-----------------------------|
| TF0804S-201Y1R6-01* | 200 | 0.025 | 1.6 |
| TF0804S-01 | 3 | 0.05 | 1 |
| TF0804S-02 | 60 | 0.036 | 1 |

* Core: coat type

- Measuring equipment of inductance value:
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

PACKAGING QUANTITIES

| | |
|---------|----------------|
| TF0804S | 1000pieces/box |
|---------|----------------|

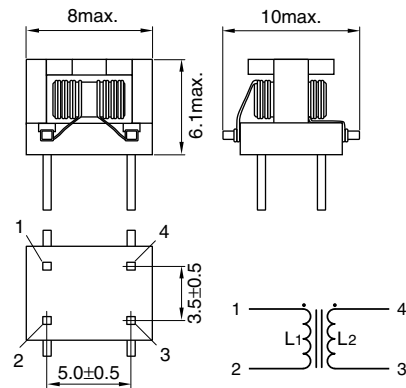
RATINGS

| Item | Standard value | Conditions |
|--|---|---------------------------------|
| Rated voltage(V) | 80 to 280 | 50Hz/60Hz |
| Temperature rise($^{\circ}$ C) | 45max. | With line resistance |
| Operating temperature range($^{\circ}$ C) | -20 to +120 | Including self-temperature rise |
| Storage temperature range($^{\circ}$ C) | -20 to +85 | |
| Resistance to soldering temperature* | 260 \pm 5 $^{\circ}$ C, 10 \pm 1sec | Solder bath method |
| | 350 \pm 5 $^{\circ}$ C, 5sec max. | Soldering iron method |

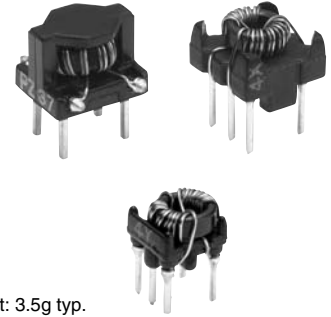
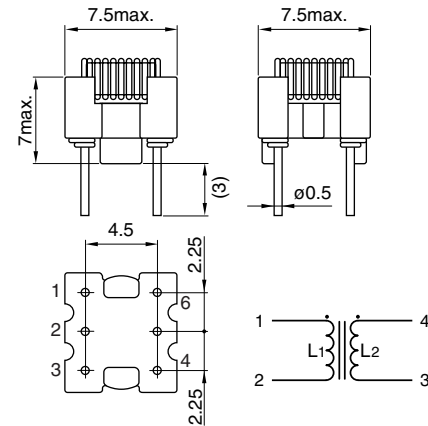
* Pb free solder(Sn-3Ag-0.5Cu)

TF0402B TYPE
SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

TF0402B-04P-03



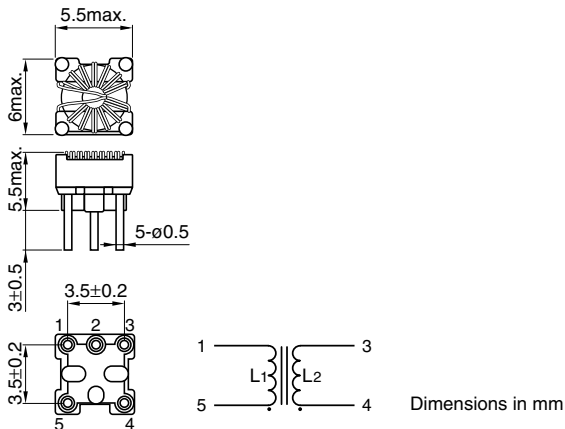
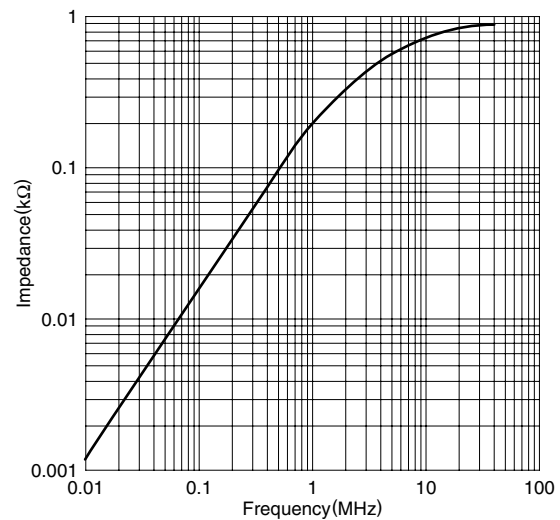
TF0402B-05P-01



Weight: 3.5g typ.

Recommended hole diameter: ø0.9
Dimensions in mm

TF0402B-05P-03


TYPICAL ELECTRICAL CHARACTERISTICS
IMPEDANCE vs. FREQUENCY CHARACTERISTICS

**ELECTRICAL CHARACTERISTICS
(STANDARD LINE UP)**

| Part No. | Inductance (μ H)min. | DC resistance (m Ω)max. | Rated current Iac(A)max. |
|----------------|------------------------------|------------------------------------|-----------------------------|
| TF0402B-04P-03 | 13 | 45 | 0.5 |
| TF0402B-05P-01 | 13 | 45 | 0.5 |
| TF0402B-05P-03 | 13 | 45 | 0.5 |

- Measuring equipment of inductance value:
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

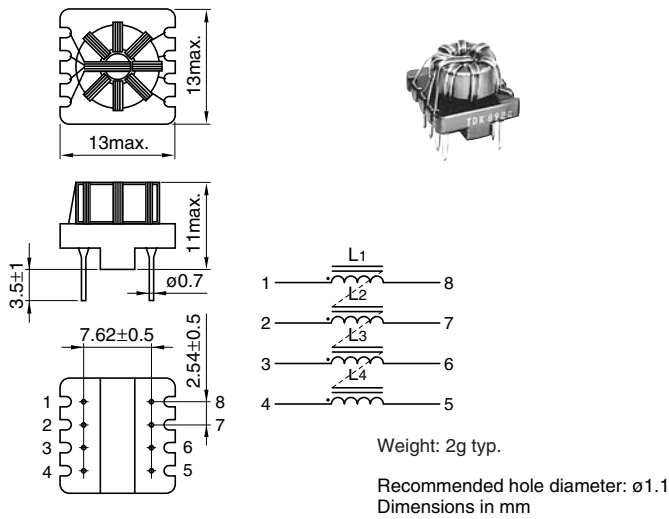
PACKAGING QUANTITIES

| | |
|----------------|----------------|
| TF0402B-04P-03 | 1680pieces/box |
| TF0402B-05P-01 | 1680pieces/box |
| TF0402B-05P-03 | 3520pieces/box |

RATINGS

| Item | Standard value | Conditions |
|--|---|---------------------------------|
| Rated voltage(V) | 80 to 280 | 50Hz/60Hz |
| Temperature rise($^{\circ}$ C) | 45max. | With line resistance |
| Operating temperature range($^{\circ}$ C) | -20 to +120 | Including self-temperature rise |
| Storage temperature range($^{\circ}$ C) | -20 to +85 | |
| Resistance to soldering temperature* | 260 \pm 5 $^{\circ}$ C, 10 \pm 1sec | Solder bath method |
| | 350 \pm 5 $^{\circ}$ C, 5sec max. | Soldering iron method |

* Pb free solder(Sn-3Ag-0.5Cu)

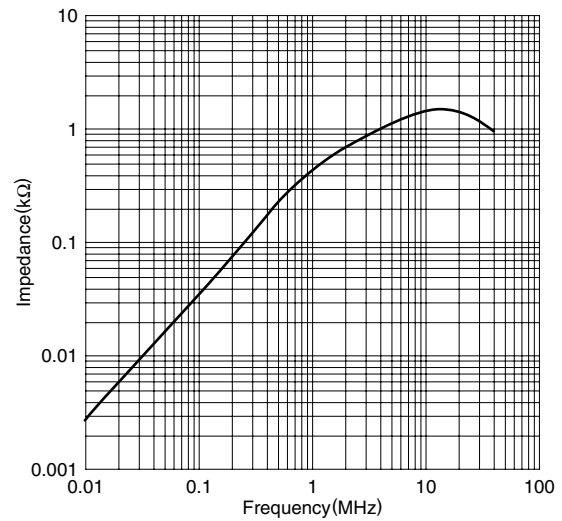
TF0804B TYPE
SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

**ELECTRICAL CHARACTERISTICS
(STANDARD LINE UP)**

| Part No. | Inductance (μH)min. | DC resistance (Ω)max. | Rated current Iac(A)max. |
|----------------|-------------------------------------|-----------------------------------|-----------------------------|
| TF0804B-08P-01 | 25 | 0.1 | 0.5 |

- Measuring equipment of inductance value:
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

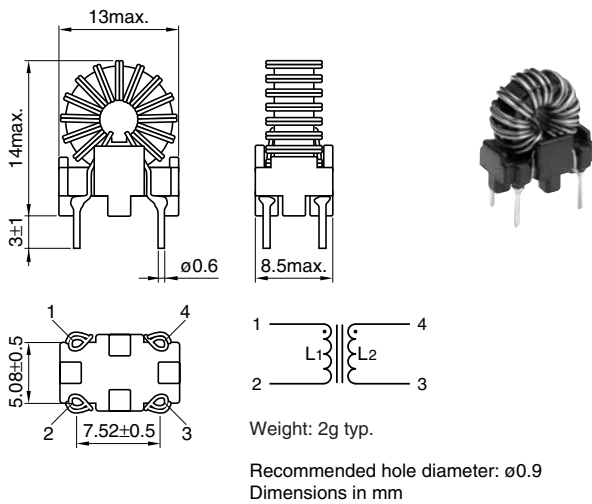
PACKAGING QUANTITIES

| | |
|---------|----------------|
| TF0804B | 1800pieces/box |
|---------|----------------|

**TYPICAL ELECTRICAL CHARACTERISTICS
IMPEDANCE vs. FREQUENCY CHARACTERISTICS**

RATINGS

| Item | Standard value | Conditions |
|---|--|---------------------------------|
| Rated voltage(V) | 80 to 280 | 50Hz/60Hz |
| Temperature rise($^{\circ}\text{C}$) | 45max. | With line resistance |
| Operating temperature range($^{\circ}\text{C}$) | -20 to +120 | Including self-temperature rise |
| Storage temperature range($^{\circ}\text{C}$) | -20 to +85 | |
| Resistance to soldering temperature* | 260 \pm 5 $^{\circ}\text{C}$, 10 \pm 1sec | Solder bath method |
| | 350 \pm 5 $^{\circ}\text{C}$, 5sec max. | Soldering iron method |

* Pb free solder(Sn-3Ag-0.5Cu)

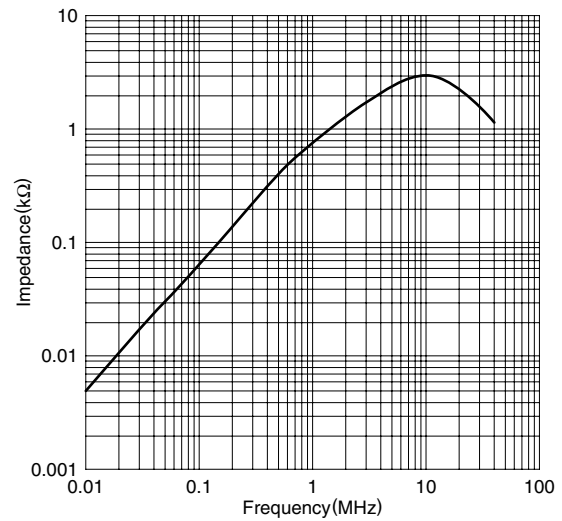
TF0804V TYPE
SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM

**ELECTRICAL CHARACTERISTICS
(STANDARD LINE UP)**

| Part No. | Inductance (μ H)min. | DC resistance (Ω)max. | Rated current Iac(A)max. |
|----------------|------------------------------|-----------------------------------|-----------------------------|
| TF0804V-04P-11 | 60 | 0.036 | 1 |

- Measuring equipment of inductance value:
LCR meter(HP4261A, HP4263B or equivalent)[f=1kHz]

PACKAGING QUANTITIES

| | |
|---------|----------------|
| TF0804V | 1200pieces/box |
|---------|----------------|

**TYPICAL ELECTRICAL CHARACTERISTICS
IMPEDANCE vs. FREQUENCY CHARACTERISTICS**

RATINGS

| Item | Standard value | Conditions |
|--|-------------------------------|---------------------------------|
| Rated voltage(V) | 80 to 280 | 50Hz/60Hz |
| Temperature rise($^{\circ}$ C) | 45max. | With line resistance |
| Operating temperature range($^{\circ}$ C) | -20 to +120 | Including self-temperature rise |
| Storage temperature range($^{\circ}$ C) | -20 to +85 | |
| Resistance to soldering temperature* | 260±5 $^{\circ}$ C, 10±1sec | Solder bath method |
| | 350±5 $^{\circ}$ C, 5sec max. | Soldering iron method |

* Pb free solder(Sn-3Ag-0.5Cu)