

## Radial Lead Type

Series : **FM** Type : **A**



### Features

- Low impedance (40 % to 70 % less than FC Series)
- Endurance : 105 °C 2000 h to 7000 h
- RoHS compliant

### Attention

- Not applicable for automotive

### Specifications

|   |  |      |      |      |      |      |      |                        |
|---|--|------|------|------|------|------|------|------------------------|
| Category temperature range                            | -40 °C to +105 °C  |      |      |      |      |      |      |                        |
| Rated voltage range                                   | 6.3 V.DC to 50 V.DC  |      |      |      |      |      |      |                        |
| Capacitance range                                     | 22 µF to 6800 µF   |      |      |      |      |      |      |                        |
| Capacitance tolerance                                 | ±20 % (120 Hz/+20 °C)  |      |      |      |      |      |      |                        |
| Leakage current                                       | I ≤ 0.01 CV (µA) After 2 minutes   |      |      |      |      |      |      |                        |
| Dissipation factor (tan δ)                            | V.DC   | 6.3  | 10   | 16   | 25   | 35   | 50   | (max.) (120 Hz/+20 °C) |
|   | tan δ  | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 |                        |
| Add 0.02 per 1000 µF for products of 1000 µF or more. |  |      |      |      |      |      |      |                        |
| Endurance   | After following life test with DC voltage and +105 °C±2 °C ripple current value applied. (The sum of DC and ripple peak voltage shall not exceed the rated working voltage) when the capacitors are restored to 20 °C, the capacitors shall meet the limits specified below. |      |      |      |      |      |      |                        |
|   | Duration   |      |      |      |      |      |      |                        |
|   | φ5 to φ6.3 : 2000 hours, φ8×11.5 to φ8×15: 3000 hours  |      |      |      |      |      |      |                        |
|   | φ8×20 to φ10×16 : 4000 hours, φ10×20 to φ12.5×20/ φ16×20 : 5000 hours<br>φ12.5×25 to φ12.5×35/ φ16×25 : 7000 hours   |      |      |      |      |      |      |                        |
| Capacitance change                                    | Within ±25 % of the initial value (6.3 V.DC to 10 V.DC : ±30 %)  |      |      |      |      |      |      |                        |
| tan δ   | ≤ 200 % of the initial limit   |      |      |      |      |      |      |                        |
| DC leakage current                                    | Within the initial limit   |      |      |      |      |      |      |                        |
| Shelf life  | After storage for 1000 hours at +105 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)  |      |      |      |      |      |      |                        |

### Frequency correction factor for ripple current

| Rated voltage (V.DC) | Capacitance (µF) | Frequency (Hz) |      |      |      |       |
|----------------------|------------------|----------------|------|------|------|-------|
|                      |                  | 60             | 120  | 1 k  | 10 k | 100 k |
| 6.3 to 50            | 22 to 33         | 0.45           | 0.55 | 0.75 | 0.90 | 1.00  |
|                      | 47 to 330        | 0.60           | 0.70 | 0.85 | 0.95 | 1.00  |
|                      | 390 to 1000      | 0.65           | 0.75 | 0.90 | 0.98 | 1.00  |
|                      | 1200 to 6800     | 0.75           | 0.80 | 0.95 | 1.00 | 1.00  |

### Dimensions

(Unit : mm)

| φD | 5   | 6.3 | 8   | 10  | 12.5       |          | 16  |
|----|-----|-----|-----|-----|------------|----------|-----|
| L  | —   | —   | —   | —   | 12.5 to 25 | 30 to 40 | —   |
| φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6        | 0.8      | 0.8 |
| F  | 2.0 | 2.5 | 3.5 | 5.0 | 5.0        |          | 7.5 |

**Case size/ Impedance/ Ripple current**

| Rated voltage<br>(V.DC) | Case size<br>(mm)<br>( $\phi$ D×L) | 6.3 V.DC to 35 V.DC               |        |                                       | 50 V.DC                           |        |                                       |
|-------------------------|------------------------------------|-----------------------------------|--------|---------------------------------------|-----------------------------------|--------|---------------------------------------|
|                         |                                    | Impedance<br>( $\Omega$ /100 kHz) |        | Ripple current<br>(mA r.m.s./100 kHz) | Impedance<br>( $\Omega$ /100 kHz) |        | Ripple current<br>(mA r.m.s./100 kHz) |
|                         |                                    | +20 °C                            | -10 °C | +105 °C                               | +20 °C                            | -10 °C | +105 °C                               |
|                         | 5 × 11                             | 0.300                             | 1.000  | 280                                   | 0.340                             | 1.130  | 250                                   |
|                         | 6.3 × 11.2                         | 0.130                             | 0.430  | 455                                   | 0.140                             | 0.460  | 405                                   |
|                         | 8 × 11.5                           | 0.056                             | 0.168  | 950                                   | 0.061                             | 0.183  | 870                                   |
|                         | 8 × 15                             | 0.041                             | 0.123  | 1240                                  | 0.045                             | 0.135  | 1140                                  |
|                         | 8 × 20                             | 0.030                             | 0.090  | 1560                                  | 0.033                             | 0.099  | 1430                                  |
|                         | 10 × 12.5                          | 0.038                             | 0.114  | 1290                                  | 0.042                             | 0.126  | 1170                                  |
|                         | 10 × 16                            | 0.026                             | 0.078  | 1790                                  | 0.030                             | 0.090  | 1650                                  |
|                         | 10 × 20                            | 0.019                             | 0.057  | 2180                                  | 0.023                             | 0.069  | 1890                                  |
|                         | 10 × 25                            | 0.018                             | 0.054  | 2470                                  | 0.022                             | 0.066  | 2150                                  |
|                         | 12.5 × 20                          | 0.018                             | 0.045  | 2600                                  | 0.022                             | 0.055  | 2260                                  |
|                         | 12.5 × 25                          | 0.015                             | 0.038  | 3190                                  | 0.018                             | 0.045  | 2660                                  |
|                         | 12.5 × 30                          | 0.013                             | 0.033  | 3630                                  | 0.016                             | 0.040  | 3160                                  |
|                         | 12.5 × 35                          | 0.012                             | 0.030  | 3750                                  | 0.014                             | 0.035  | 3270                                  |
|                         | 16 × 20                            | 0.017                             | 0.043  | 3300                                  | 0.019                             | 0.048  | 2870                                  |
|                         | 16 × 25                            | 0.014                             | 0.035  | 3820                                  | 0.016                             | 0.040  | 3320                                  |

## Characteristics list

| Rated voltage (V.DC) | Cap. (±20 %) (μF) | Case size (mm) |      | Specification                                  |                                  |                   | Lead length (mm) |            |           | Part No.      | Min. Packaging Qty |              |           |
|----------------------|-------------------|----------------|------|--|----------------------------------|-------------------|------------------|------------|-----------|---------------|--------------------|--------------|-----------|
|                      |                   | φD             | L    | Ripple current (100 kHz) (+105 °C) (mA r.m.s.) | Impedance (100 kHz) (+20 °C) (Ω) | Endurance (hours) | Lead dia. φd     | Lead space |           |               | Long lead (pcs)    | Taping (pcs) |           |
|                      |                   |                |      |  |                                  |                   |                  | Straight   | Taping *B |               |                    |              | Taping *H |
| 6.3                  | 150               | 5              | 11   | 280  | 0.300                            | 2000              | 0.5              | 2.0        | 5.0       | 2.5           | EEUFM0J151( )      | 200          | 2000      |
|                      | 330               | 6.3            | 11.2 | 455  | 0.130                            | 2000              | 0.5              | 2.5        | 5.0       | 2.5           | EEUFM0J331( )      | 200          | 2000      |
|                      | 560               | 8              | 11.5 | 950  | 0.056                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM0J561( )      | 200          | 1000      |
|                      | 820               | 8              | 15   | 1240   | 0.041                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM0J821L( )     | 200          | 1000      |
|                      | 1000              | 10             | 12.5 | 1290   | 0.038                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM0J102( )      | 200          | 500       |
|                      | 1200              | 8              | 20   | 1560   | 0.030                            | 4000              | 0.6              | 3.5        | 5.0       |               | EEUFM0J122L( )     | 200          | 1000      |
|                      |                   | 10             | 16   | 1790   | 0.026                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM0J122( )      | 200          | 500       |
|                      | 1500              | 10             | 20   | 2180   | 0.019                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM0J152( )      | 200          | 500       |
|                      | 2200              | 10             | 25   | 2470   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM0J222L( )     | 200          | 500       |
|                      | 3300              | 12.5           | 20   | 2600   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM0J332( )      | 200          | 500       |
|                      | 3900              | 12.5           | 25   | 3190   | 0.015                            | 7000              | 0.6              | 5.0        | 5.0       |               | EEUFM0J392( )      | 200          | 500       |
|                      | 4700              | 12.5           | 30   | 3630   | 0.013                            | 7000              | 0.8              | 5.0        |           |               | EEUFM0J472L        | 100          |           |
|                      | 5600              | 12.5           | 35   | 3750   | 0.012                            | 7000              | 0.8              | 5.0        |           |               | EEUFM0J562L        | 100          |           |
|                      |                   | 16             | 20   | 3300   | 0.017                            | 5000              | 0.8              | 7.5        | 7.5       |               | EEUFM0J562S( )     | 100          | 250       |
| 6800                 | 16                | 25             | 3820 | 0.014  | 7000                             | 0.8               | 7.5              | 7.5        |           | EEUFM0J682( ) | 100                | 250          |           |
| 10                   | 100               | 5              | 11   | 280  | 0.300                            | 2000              | 0.5              | 2.0        | 5.0       | 2.5           | EEUFM1A101( )      | 200          | 2000      |
|                      | 220               | 6.3            | 11.2 | 455  | 0.130                            | 2000              | 0.5              | 2.5        | 5.0       | 2.5           | EEUFM1A221( )      | 200          | 2000      |
|                      | 470               | 8              | 11.5 | 950  | 0.056                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1A471( )      | 200          | 1000      |
|                      | 680               | 8              | 15   | 1240   | 0.041                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1A681L( )     | 200          | 1000      |
|                      |                   | 10             | 12.5 | 1290   | 0.038                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1A681( )      | 200          | 500       |
|                      | 1000              | 8              | 20   | 1560   | 0.030                            | 4000              | 0.6              | 3.5        | 5.0       |               | EEUFM1A102L( )     | 200          | 1000      |
|                      |                   | 10             | 16   | 1790   | 0.026                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1A102( )      | 200          | 500       |
|                      | 1200              | 10             | 20   | 2180   | 0.019                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1A122( )      | 200          | 500       |
|                      | 1500              | 10             | 25   | 2470   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1A152L( )     | 200          | 500       |
|                      | 2200              | 12.5           | 20   | 2600   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1A222( )      | 200          | 500       |
|                      | 3300              | 12.5           | 25   | 3190   | 0.015                            | 7000              | 0.6              | 5.0        | 5.0       |               | EEUFM1A332( )      | 200          | 500       |
|                      | 3900              | 12.5           | 30   | 3630   | 0.013                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1A392L        | 100          |           |
|                      |                   | 16             | 20   | 3300   | 0.017                            | 5000              | 0.8              | 7.5        | 7.5       |               | EEUFM1A392S( )     | 100          | 250       |
|                      | 4700              | 12.5           | 35   | 3750   | 0.012                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1A472L        | 100          |           |
| 5600                 | 16                | 25             | 3820 | 0.014  | 7000                             | 0.8               | 7.5              | 7.5        |           | EEUFM1A562( ) | 100                | 250          |           |
| 16                   | 68                | 5              | 11   | 280  | 0.300                            | 2000              | 0.5              | 2.0        | 5.0       | 2.5           | EEUFM1C680( )      | 200          | 2000      |
|                      | 120               | 6.3            | 11.2 | 455  | 0.130                            | 2000              | 0.5              | 2.5        | 5.0       | 2.5           | EEUFM1C121( )      | 200          | 2000      |
|                      | 330               | 8              | 11.5 | 950  | 0.056                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1C331( )      | 200          | 1000      |
|                      | 470               | 8              | 15   | 1240   | 0.041                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1C471L( )     | 200          | 1000      |
|                      |                   | 10             | 12.5 | 1290   | 0.038                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1C471( )      | 200          | 500       |
|                      | 680               | 8              | 20   | 1560   | 0.030                            | 4000              | 0.6              | 3.5        | 5.0       |               | EEUFM1C681L( )     | 200          | 1000      |
|                      |                   | 10             | 16   | 1790   | 0.026                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1C681( )      | 200          | 500       |
|                      | 1000              | 10             | 20   | 2180   | 0.019                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1C102( )      | 200          | 500       |
|                      | 1200              | 10             | 25   | 2470   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1C122L( )     | 200          | 500       |
|                      | 1500              | 12.5           | 20   | 2600   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1C152( )      | 200          | 500       |
|                      | 2200              | 12.5           | 25   | 3190   | 0.015                            | 7000              | 0.6              | 5.0        | 5.0       |               | EEUFM1C222( )      | 200          | 500       |
|                      | 2700              | 12.5           | 30   | 3630   | 0.013                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1C272L        | 100          |           |
|                      |                   | 16             | 20   | 3300   | 0.017                            | 5000              | 0.8              | 7.5        | 7.5       |               | EEUFM1C272S( )     | 100          | 250       |
|                      | 3300              | 12.5           | 35   | 3750   | 0.012                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1C332L        | 100          |           |
| 3900                 | 16                | 25             | 3820 | 0.014  | 7000                             | 0.8               | 7.5              | 7.5        |           | EEUFM1C392( ) | 100                | 250          |           |

· When requesting taped product, please put the letter "B" or "H" between the "( )". Lead wire pitch \*B=5 mm, 7.5 mm, H=2.5 mm.

· Please refer to the page of "Taping dimensions".

## Characteristics list

| Rated voltage (V.DC) | Cap. (±20 %) (μF) | Case size (mm) |      | Specification                                  |                                  |                   | Lead length (mm) |            |           | Part No.      | Min. Packaging Qty |              |           |
|----------------------|-------------------|----------------|------|--|----------------------------------|-------------------|------------------|------------|-----------|---------------|--------------------|--------------|-----------|
|                      |                   | φD             | L    | Ripple current (100 kHz) (+105 °C) (mA r.m.s.) | Impedance (100 kHz) (+20 °C) (Ω) | Endurance (hours) | Lead dia. φd     | Lead space |           |               | Long lead (pcs)    | Taping (pcs) |           |
|                      |                   |                |      |  |                                  |                   |                  | Straight   | Taping *B |               |                    |              | Taping *H |
| 25                   | 47                | 5              | 11   | 280  | 0.300                            | 2000              | 0.5              | 2.0        | 5.0       | 2.5           | EEUFM1E470( )      | 200          | 2000      |
|                      | 100               | 6.3            | 11.2 | 455  | 0.130                            | 2000              | 0.5              | 2.5        | 5.0       | 2.5           | EEUFM1E101( )      | 200          | 2000      |
|                      | 220               | 8              | 11.5 | 950  | 0.056                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1E221( )      | 200          | 1000      |
|                      | 330               | 8              | 15   | 1240   | 0.041                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1E331L( )     | 200          | 1000      |
|                      |                   | 10             | 12.5 | 1290   | 0.038                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1E331( )      | 200          | 500       |
|                      | 470               | 8              | 20   | 1560   | 0.030                            | 4000              | 0.6              | 3.5        | 5.0       |               | EEUFM1E471L( )     | 200          | 1000      |
|                      |                   | 10             | 16   | 1790   | 0.026                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1E471( )      | 200          | 500       |
|                      | 680               | 10             | 20   | 2180   | 0.019                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1E681( )      | 200          | 500       |
|                      | 820               | 10             | 25   | 2470   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1E821L( )     | 200          | 500       |
|                      | 1000              | 12.5           | 20   | 2600   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1E102( )      | 200          | 500       |
|                      | 1500              | 12.5           | 25   | 3190   | 0.015                            | 7000              | 0.6              | 5.0        | 5.0       |               | EEUFM1E152( )      | 200          | 500       |
|                      | 1800              | 12.5           | 30   | 3630   | 0.013                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1E182L        | 100          |           |
|                      |                   | 16             | 20   | 3300   | 0.017                            | 5000              | 0.8              | 7.5        | 7.5       |               | EEUFM1E182S( )     | 100          | 250       |
|                      | 2200              | 12.5           | 35   | 3750   | 0.012                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1E222L        | 100          |           |
| 2700                 | 16                | 25             | 3820 | 0.014  | 7000                             | 0.8               | 7.5              | 7.5        |           | EEUFM1E272( ) | 100                | 250          |           |
| 35                   | 33                | 5              | 11   | 280  | 0.300                            | 2000              | 0.5              | 2.0        | 5.0       | 2.5           | EEUFM1V330( )      | 200          | 2000      |
|                      | 68                | 6.3            | 11.2 | 455  | 0.130                            | 2000              | 0.5              | 2.5        | 5.0       | 2.5           | EEUFM1V680( )      | 200          | 2000      |
|                      | 150               | 8              | 11.5 | 950  | 0.056                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1V151( )      | 200          | 1000      |
|                      | 220               | 8              | 15   | 1240   | 0.041                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1V221L( )     | 200          | 1000      |
|                      |                   | 10             | 12.5 | 1290   | 0.038                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1V221( )      | 200          | 500       |
|                      | 330               | 8              | 20   | 1560   | 0.030                            | 4000              | 0.6              | 3.5        | 5.0       |               | EEUFM1V331L( )     | 200          | 1000      |
|                      |                   | 10             | 16   | 1790   | 0.026                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1V331( )      | 200          | 500       |
|                      | 470               | 10             | 20   | 2180   | 0.019                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1V471( )      | 200          | 500       |
|                      | 560               | 10             | 25   | 2470   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1V561L( )     | 200          | 500       |
|                      | 680               | 12.5           | 20   | 2600   | 0.018                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1V681( )      | 200          | 500       |
|                      | 1000              | 12.5           | 25   | 3190   | 0.015                            | 7000              | 0.6              | 5.0        | 5.0       |               | EEUFM1V102( )      | 200          | 500       |
|                      | 1200              | 12.5           | 30   | 3630   | 0.013                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1V122L        | 100          |           |
|                      |                   | 16             | 20   | 3300   | 0.017                            | 5000              | 0.8              | 7.5        | 7.5       |               | EEUFM1V122S( )     | 100          | 250       |
|                      | 1500              | 12.5           | 35   | 3750   | 0.012                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1V152L        | 100          |           |
| 1800                 | 16                | 25             | 3820 | 0.014  | 7000                             | 0.8               | 7.5              | 7.5        |           | EEUFM1V182( ) | 100                | 250          |           |
| 50                   | 22                | 5              | 11   | 250  | 0.340                            | 2000              | 0.5              | 2.0        | 5.0       | 2.5           | EEUFM1H220( )      | 200          | 2000      |
|                      | 56                | 6.3            | 11.2 | 405  | 0.140                            | 2000              | 0.5              | 2.5        | 5.0       | 2.5           | EEUFM1H560( )      | 200          | 2000      |
|                      | 100               | 8              | 11.5 | 870  | 0.061                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1H101( )      | 200          | 1000      |
|                      | 120               | 8              | 15   | 1140   | 0.045                            | 3000              | 0.6              | 3.5        | 5.0       |               | EEUFM1H121L( )     | 200          | 1000      |
|                      | 150               | 10             | 12.5 | 1170   | 0.042                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1H151( )      | 200          | 500       |
|                      | 180               | 8              | 20   | 1430   | 0.033                            | 4000              | 0.6              | 3.5        | 5.0       |               | EEUFM1H181L( )     | 200          | 1000      |
|                      | 220               | 10             | 16   | 1650   | 0.030                            | 4000              | 0.6              | 5.0        | 5.0       |               | EEUFM1H221( )      | 200          | 500       |
|                      | 270               | 10             | 20   | 1890   | 0.023                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1H271( )      | 200          | 500       |
|                      | 330               | 10             | 25   | 2150   | 0.022                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1H331L( )     | 200          | 500       |
|                      | 470               | 12.5           | 20   | 2260   | 0.022                            | 5000              | 0.6              | 5.0        | 5.0       |               | EEUFM1H471( )      | 200          | 500       |
|                      | 560               | 12.5           | 25   | 2660   | 0.018                            | 7000              | 0.6              | 5.0        | 5.0       |               | EEUFM1H561( )      | 200          | 500       |
|                      | 680               | 12.5           | 30   | 3160   | 0.016                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1H681L        | 100          |           |
|                      | 820               | 12.5           | 35   | 3270   | 0.014                            | 7000              | 0.8              | 5.0        |           |               | EEUFM1H821L        | 100          |           |
|                      |                   | 16             | 20   | 2870   | 0.019                            | 5000              | 0.8              | 7.5        | 7.5       |               | EEUFM1H821S( )     | 100          | 250       |
| 1000                 | 16                | 25             | 3320 | 0.016  | 7000                             | 0.8               | 7.5              | 7.5        |           | EEUFM1H102( ) | 100                | 250          |           |

· When requesting taped product, please put the letter "B" or "H" between the "( )". Lead wire pitch \*B=5 mm, 7.5 mm, H=2.5 mm.

· Please refer to the page of "Taping dimensions".

## Guidelines and precautions regarding the technical information and use of our products described in this online catalog.

- If you want to use our products described in this online catalog for applications requiring special qualities or reliability, or for applications where the failure or malfunction of the products may directly jeopardize human life or potentially cause personal injury (e.g. aircraft and aerospace equipment, traffic and transportation equipment, combustion equipment, medical equipment, accident prevention, anti-crime equipment, and/or safety equipment), it is necessary to verify whether the specifications of our products fit to such applications. Please ensure that you will ask and check with our inquiry desk as to whether the specifications of our products fit to such applications use before you use our products.
- The quality and performance of our products as described in this online catalog only apply to our products when used in isolation. Therefore, please ensure you evaluate and verify our products under the specific circumstances in which our products are assembled in your own products and in which our products will actually be used.
- If you use our products in equipment that requires a high degree of reliability, regardless of the application, it is recommended that you set up protection circuits and redundancy circuits in order to ensure safety of your equipment.
- The products and product specifications described in this online catalog are subject to change for improvement without prior notice. Therefore, please be sure to request and confirm the latest product specifications which explain the specifications of our products in detail, before you finalize the design of your applications, purchase, or use our products.
- The technical information in this online catalog provides examples of our products' typical operations and application circuits. We do not guarantee the non-infringement of third party's intellectual property rights and we do not grant any license, right, or interest in our intellectual property.
- If any of our products, product specifications and/or technical information in this online catalog is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially with regard to security and export control, shall be observed.

## <Regarding the Certificate of Compliance with the EU RoHS Directive/REACH Regulations>

- The switchover date for compliance with the RoHS Directive/REACH Regulations varies depending on the part number or series of our products.
- When you use the inventory of our products for which it is unclear whether those products are compliant with the RoHS Directive/REACH Regulation, please select "Sales Inquiry" in the website inquiry form and contact us.

**We do not take any responsibility for the use of our products outside the scope of the specifications, descriptions, guidelines and precautions described in this online catalog.**

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