

KME Series

- Endurance with ripple current : 105°C 1,000 hours
- Solvent-proof type except 350 to 400V_{dc}
- RoHS Compliant

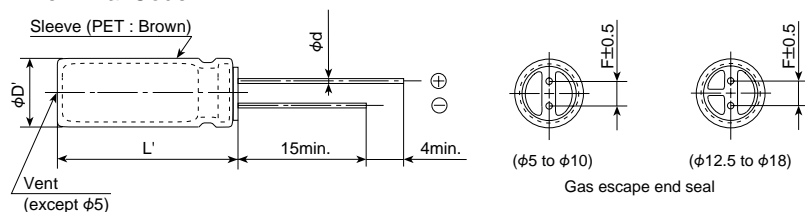


◆SPECIFICATIONS

| Items | Characteristics | |
|--|---|---|
| Category Temperature Range | -55 to +105°C(6.3 to 100V _{dc}) -40 to +105°C(160 to 400V _{dc}) | |
| Rated Voltage Range | 6.3 to 400V _{dc} | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | |
| Leakage Current | 6.3 to 100V _{dc} | |
| | 160 to 400V _{dc} | |
| | I=0.03CV or 4μA, whichever is greater. (at 20°C after 1 minute) | CV \ Time After 1minute After 5minutes |
| | I=0.01CV or 3μA, whichever is greater. (at 20°C after 2 minutes) | CV≤1,000 I=0.1CV+40 max. I=0.03CV+15 max. |
| | | CV>1,000 I=0.04CV+100 max. I=0.02CV+25 max. |
| | (at 20°C) | |
| | Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) | |
| Dissipation Factor (tanδ) | Rated voltage (V _{dc}) | 6.3V 10V 16V 25V 35V 50V 63V 100V 160 to 250V 350 to 400V |
| | tanδ (Max.) | 0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08 0.08 0.20 0.24 |
| | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz) | |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V _{dc}) | 6.3V 10V 16V 25V 35V 50V 63V 100V 160 to 250V 350 to 400V |
| | Z(-25°C)/Z(+20°C) | 4 3 2 2 2 2 2 2 3 6 |
| | Z(-40°C)/Z(+20°C) | 8 6 4 3 3 3 3 3 4 6 |
| | (at 120Hz) | |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 1,000 hours at 105°C. | |
| | Capacitance change | ≤±20% of the initial value |
| | D.F. (tanδ) | ≤200% of the initial specified value |
| | Leakage current | ≤The initial specified value |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. | |
| | Rated voltage | 6.3 to 100V _{dc} 160 to 400V _{dc} |
| | Capacitance change | ≤±20% of the initial value ≤±20% of the initial value |
| | D.F. (tanδ) | ≤200% of the initial specified value ≤200% of the initial specified value |
| | Leakage current | ≤The initial specified value ≤500% of the initial specified value |

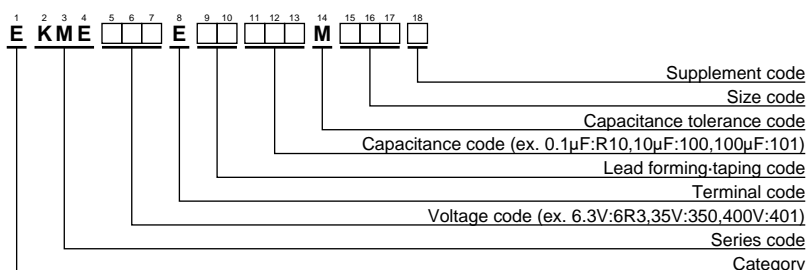
◆DIMENSIONS [mm]

- Terminal Code : E



| φD | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
|-----|------------|-----|-----|-----|------|-----|-----|
| 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 | 7.5 |
| φD' | φD+0.5max. | | | | | | |
| L' | L+1.5max | | | | | | |

◆PART NUMBERING SYSTEM



Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tanδ | Rated ripple current (mA rms/105°C,120Hz) | Part No. | WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tanδ | Rated ripple current (mA rms/105°C,120Hz) | Part No. | |
|----------|----------|--------------------|-------|---|--------------------|----------|----------|--------------------|---------------------|---|---------------------|--------------------|
| 6.3 | 33 | 5×11 | 0.22 | 54 | EKME6R3E□□330ME11D | 50 | 0.10 | 5×11 | 0.10 | 1.3 | EKME500E□□R10ME11D | |
| | 47 | 5×11 | 0.22 | 65 | EKME6R3E□□470ME11D | | 0.22 | 5×11 | 0.10 | 2.9 | EKME500E□□R22ME11D | |
| | 100 | 5×11 | 0.22 | 95 | EKME6R3E□□101ME11D | | 0.33 | 5×11 | 0.10 | 4.4 | EKME500E□□R33ME11D | |
| | 220 | 6.3×11 | 0.22 | 160 | EKME6R3E□□221MF11D | | 0.47 | 5×11 | 0.10 | 7.0 | EKME500E□□R47ME11D | |
| | 330 | 6.3×11 | 0.22 | 195 | EKME6R3E□□331MF11D | | 1.0 | 5×11 | 0.10 | 13 | EKME500E□□R10ME11D | |
| | 470 | 8×11.5 | 0.22 | 270 | EKME6R3E□□471MHB5D | | 2.2 | 5×11 | 0.10 | 20 | EKME500E□□R22ME11D | |
| | 1,000 | 10×12.5 | 0.22 | 460 | EKME6R3E□□102MJC5S | | 3.3 | 5×11 | 0.10 | 25 | EKME500E□□R33ME11D | |
| | 2,200 | 12.5×20 | 0.24 | 810 | EKME6R3E□□222MK20S | | 4.7 | 5×11 | 0.10 | 30 | EKME500E□□R47ME11D | |
| | 3,300 | 12.5×20 | 0.26 | 960 | EKME6R3E□□332MK20S | | 10 | 5×11 | 0.10 | 46 | EKME500E□□R100ME11D | |
| | 4,700 | 16×25 | 0.28 | 1,330 | EKME6R3E□□472ML25S | | 22 | 5×11 | 0.10 | 68 | EKME500E□□R220ME11D | |
| | 6,800 | 16×25 | 0.32 | 1,500 | EKME6R3E□□682ML25S | | 33 | 6.3×11 | 0.10 | 90 | EKME500E□□R330MF11D | |
| | 10,000 | 16×31.5 | 0.40 | 1,765 | EKME6R3E□□103MLN3S | | 47 | 6.3×11 | 0.10 | 110 | EKME500E□□R470MF11D | |
| 15,000 | 18×35.5 | 0.50 | 2,075 | EKME6R3E□□153MMP1S | 100 | 8×11.5 | 0.10 | 180 | EKME500E□□R101MHB5D | | | |
| 10 | 22 | 5×11 | 0.19 | 49 | EKME100E□□220ME11D | 220 | 10×16 | 0.10 | 345 | EKME500E□□R221MJ16S | | |
| | 33 | 5×11 | 0.19 | 60 | EKME100E□□330ME11D | 330 | 10×20 | 0.10 | 460 | EKME500E□□R331MJ20S | | |
| | 47 | 5×11 | 0.19 | 70 | EKME100E□□470ME11D | 470 | 12.5×20 | 0.10 | 610 | EKME500E□□R471MK20S | | |
| | 100 | 5×11 | 0.19 | 105 | EKME100E□□101ME11D | 1,000 | 16×25 | 0.10 | 1,080 | EKME500E□□R102ML25S | | |
| | 220 | 6.3×11 | 0.19 | 175 | EKME100E□□221MF11D | 2,200 | 18×35.5 | 0.12 | 1,530 | EKME500E□□R222MMP1S | | |
| | 330 | 8×11.5 | 0.19 | 245 | EKME100E□□331MHB5D | 63 | 4.7 | 5×11 | 0.09 | 32 | EKME630E□□R47ME11D | |
| | 470 | 8×11.5 | 0.19 | 290 | EKME100E□□471MHB5D | | 10 | 5×11 | 0.09 | 50 | EKME630E□□R100ME11D | |
| | 1,000 | 10×16 | 0.19 | 550 | EKME100E□□102MJ16S | | 22 | 6.3×11 | 0.09 | 82 | EKME630E□□R220MF11D | |
| | 2,200 | 12.5×20 | 0.21 | 860 | EKME100E□□222MK20S | | 33 | 6.3×11 | 0.09 | 100 | EKME630E□□R330MF11D | |
| | 3,300 | 12.5×25 | 0.23 | 1,100 | EKME100E□□332MK25S | | 47 | 8×11.5 | 0.09 | 135 | EKME630E□□R470MHB5D | |
| | 4,700 | 16×25 | 0.25 | 1,400 | EKME100E□□472ML25S | | 100 | 10×12.5 | 0.09 | 225 | EKME630E□□R101MJC5S | |
| | 6,800 | 16×31.5 | 0.29 | 1,690 | EKME100E□□682MLN3S | | 220 | 10×20 | 0.09 | 400 | EKME630E□□R221MJ20S | |
| 10,000 | 18×35.5 | 0.37 | 1,950 | EKME100E□□103MMP1S | 330 | | 12.5×20 | 0.09 | 540 | EKME630E□□R331MK20S | | |
| 16 | 10 | 5×11 | 0.16 | 35 | EKME160E□□100ME11D | | 470 | 12.5×25 | 0.09 | 700 | EKME630E□□R471MK25S | |
| | 22 | 5×11 | 0.16 | 54 | EKME160E□□220ME11D | | 1,000 | 16×31.5 | 0.09 | 1,210 | EKME630E□□R102MLN3S | |
| | 33 | 5×11 | 0.16 | 64 | EKME160E□□330ME11D | | 100 | 0.10 | 5×11 | 0.08 | 2.6 | EKME101E□□R10ME11D |
| | 47 | 5×11 | 0.16 | 77 | EKME160E□□470ME11D | | | 0.22 | 5×11 | 0.08 | 5.8 | EKME101E□□R22ME11D |
| | 100 | 6.3×11 | 0.16 | 125 | EKME160E□□101MF11D | 0.33 | | 5×11 | 0.08 | 7.8 | EKME101E□□R33ME11D | |
| | 220 | 8×11.5 | 0.16 | 215 | EKME160E□□221MHB5D | 0.47 | | 5×11 | 0.08 | 10 | EKME101E□□R47ME11D | |
| | 330 | 8×11.5 | 0.16 | 260 | EKME160E□□331MHB5D | 1.0 | | 5×11 | 0.08 | 15 | EKME101E□□R10ME11D | |
| | 470 | 10×12.5 | 0.16 | 370 | EKME160E□□471MJC5S | 2.2 | | 5×11 | 0.08 | 23 | EKME101E□□R22ME11D | |
| | 1,000 | 10×20 | 0.16 | 640 | EKME160E□□102MJ20S | 3.3 | | 5×11 | 0.08 | 29 | EKME101E□□R33ME11D | |
| | 2,200 | 12.5×25 | 0.18 | 1,000 | EKME160E□□222MK25S | 4.7 | | 5×11 | 0.08 | 34 | EKME101E□□R47ME11D | |
| | 3,300 | 16×25 | 0.20 | 1,300 | EKME160E□□332ML25S | 10 | | 6.3×11 | 0.08 | 56 | EKME101E□□R100MF11D | |
| | 4,700 | 16×31.5 | 0.22 | 1,600 | EKME160E□□472MLN3S | 22 | | 8×11.5 | 0.08 | 96 | EKME101E□□R220MHB5D | |
| 6,800 | 18×35.5 | 0.26 | 1,900 | EKME160E□□682MMP1S | 33 | 10×12.5 | | 0.08 | 140 | EKME101E□□R330MJC5S | | |
| 10,000 | 18×40 | 0.34 | 2,060 | EKME160E□□103MM40S | 47 | 10×16 | | 0.08 | 180 | EKME101E□□R470MJ16S | | |
| 25 | 4.7 | 5×11 | 0.14 | 26 | EKME250E□□R47ME11D | 100 | 12.5×20 | 0.08 | 320 | EKME101E□□R101MK20S | | |
| | 10 | 5×11 | 0.14 | 38 | EKME250E□□100ME11D | 220 | 16×25 | 0.08 | 570 | EKME101E□□R221ML25S | | |
| | 22 | 5×11 | 0.14 | 57 | EKME250E□□220ME11D | 330 | 16×25 | 0.08 | 700 | EKME101E□□R331ML25S | | |
| | 33 | 5×11 | 0.14 | 69 | EKME250E□□330ME11D | 470 | 16×31.5 | 0.08 | 880 | EKME101E□□R471MLN3S | | |
| | 47 | 5×11 | 0.14 | 82 | EKME250E□□470ME11D | 160 | 0.47 | 6.3×11 | 0.20 | 9.0 | EKME161E□□R47MF11D | |
| | 100 | 6.3×11 | 0.14 | 135 | EKME250E□□101MF11D | | 1.0 | 6.3×11 | 0.20 | 12 | EKME161E□□R10MF11D | |
| | 220 | 8×11.5 | 0.14 | 230 | EKME250E□□221MHB5D | | 2.2 | 6.3×11 | 0.20 | 19 | EKME161E□□R22MF11D | |
| | 330 | 10×12.5 | 0.14 | 335 | EKME250E□□331MJC5S | | 3.3 | 8×11.5 | 0.20 | 26 | EKME161E□□R33MHB5D | |
| | 470 | 10×16 | 0.14 | 440 | EKME250E□□471MJ16S | | 4.7 | 8×11.5 | 0.20 | 31 | EKME161E□□R47MHB5D | |
| | 1,000 | 12.5×20 | 0.14 | 770 | EKME250E□□102MK20S | | 10 | 10×16 | 0.20 | 59 | EKME161E□□R100MJ16S | |
| | 2,200 | 16×25 | 0.16 | 1,170 | EKME250E□□222ML25S | | 22 | 10×20 | 0.20 | 95 | EKME161E□□R220MJ20S | |
| | 3,300 | 16×31.5 | 0.18 | 1,460 | EKME250E□□332MLN3S | | 33 | 12.5×20 | 0.20 | 125 | EKME161E□□R330MK20S | |
| 4,700 | 18×35.5 | 0.20 | 1,780 | EKME250E□□472MMP1S | 47 | | 12.5×25 | 0.20 | 165 | EKME161E□□R470MK25S | | |
| 6,800 | 18×40 | 0.24 | 1,950 | EKME250E□□682MM40S | 100 | | 16×25 | 0.20 | 270 | EKME161E□□R101ML25S | | |
| 35 | 4.7 | 5×11 | 0.12 | 28 | EKME350E□□R47ME11D | | 220 | 18×35.5 | 0.20 | 450 | EKME161E□□R221MMP1S | |
| | 10 | 5×11 | 0.12 | 41 | EKME350E□□100ME11D | | 200 | 0.47 | 6.3×11 | 0.20 | 9.0 | EKME201E□□R47MF11D |
| | 22 | 5×11 | 0.12 | 61 | EKME350E□□220ME11D | 1.0 | | 6.3×11 | 0.20 | 12 | EKME201E□□R10MF11D | |
| | 33 | 5×11 | 0.12 | 75 | EKME350E□□330ME11D | 2.2 | | 6.3×11 | 0.20 | 19 | EKME201E□□R22MF11D | |
| | 47 | 6.3×11 | 0.12 | 100 | EKME350E□□470MF11D | 3.3 | | 8×11.5 | 0.20 | 26 | EKME201E□□R33MHB5D | |
| | 100 | 8×11.5 | 0.12 | 170 | EKME350E□□101MHB5D | 4.7 | | 10×12.5 | 0.20 | 36 | EKME201E□□R47MJC5S | |
| | 220 | 10×12.5 | 0.12 | 300 | EKME350E□□221MJC5S | 10 | | 10×16 | 0.20 | 59 | EKME201E□□R100MJ16S | |
| | 330 | 10×16 | 0.12 | 400 | EKME350E□□331MJ16S | 22 | | 10×20 | 0.20 | 95 | EKME201E□□R220MJ20S | |
| | 470 | 10×20 | 0.12 | 520 | EKME350E□□471MJ20S | 33 | | 12.5×25 | 0.20 | 140 | EKME201E□□R330MK25S | |
| | 1,000 | 12.5×25 | 0.12 | 920 | EKME350E□□102MK25S | 47 | | 12.5×25 | 0.20 | 165 | EKME201E□□R470MK25S | |
| | 2,200 | 16×31.5 | 0.14 | 1,340 | EKME350E□□222MLN3S | 100 | | 16×31.5 | 0.20 | 285 | EKME201E□□R101MLN3S | |
| | 3,300 | 18×35.5 | 0.16 | 1,650 | EKME350E□□332MMP1S | 220 | | 18×40 | 0.20 | 470 | EKME201E□□R221MM40S | |
| 4,700 | 18×40 | 0.18 | 1,900 | EKME350E□□472MM40S | | | | | | | | |

□□ : Lead forming / Taping code

Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

□ is non solvent-proof.

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tanδ | Rated ripple current (mA _{rms} /105°C,120Hz) | Part No. | WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tanδ | Rated ripple current (mA _{rms} /105°C,120Hz) | Part No. | |
|----------|-----------|--------------------|------|---|--------------------|----------|----------|--------------------|-----------|---|--------------------|--------------------|
| 250 | 0.47 | 6.3 × 11 | 0.20 | 9.0 | EKME251E□□R47MF11D | 350 | 4.7 | 10 × 20 | 0.24 | 48 | EKME351E□□4R7MJ20S | |
| | 1.0 | 6.3 × 11 | 0.20 | 12 | EKME251E□□1R0MF11D | | 10 | 12.5 × 20 | 0.24 | 79 | EKME351E□□100MK20S | |
| | 2.2 | 8 × 11.5 | 0.20 | 21 | EKME251E□□2R2MHB5D | | 22 | 16 × 20 | 0.24 | 130 | EKME351E□□220ML20S | |
| | 3.3 | 10 × 12.5 | 0.20 | 30 | EKME251E□□3R3MJC5S | | 33 | 16 × 25 | 0.24 | 175 | EKME351E□□330ML25S | |
| | 4.7 | 10 × 12.5 | 0.20 | 36 | EKME251E□□4R7MJC5S | | 47 | 16 × 35.5 | 0.24 | 230 | EKME351E□□470MLP1S | |
| | 10 | 10 × 20 | 0.20 | 64 | EKME251E□□100MJ20S | | 100 | 18 × 40 | 0.24 | 330 | EKME351E□□101MM40S | |
| | 22 | 12.5 × 25 | 0.20 | 110 | EKME251E□□220MK25S | | 400 | 1.0 | 10 × 12.5 | 0.24 | 18 | EKME401E□□1R0MJC5S |
| | 33 | 12.5 × 25 | 0.20 | 140 | EKME251E□□330MK25S | | | 2.2 | 10 × 16 | 0.24 | 30 | EKME401E□□2R2MJ16S |
| | 47 | 16 × 25 | 0.20 | 180 | EKME251E□□470ML25S | | | 3.3 | 10 × 20 | 0.24 | 40 | EKME401E□□3R3MJ20S |
| 100 | 18 × 35.5 | 0.20 | 310 | EKME251E□□101MMP1S | 4.7 | 10 × 25 | | 0.24 | 52 | EKME401E□□4R7MJ25S | | |
| 350 | 0.47 | 8 × 11.5 | 0.24 | 10 | EKME351E□□R47MHB5D | 10 | | 12.5 × 25 | 0.24 | 79 | EKME401E□□100MK25S | |
| | 1.0 | 10 × 12.5 | 0.24 | 18 | EKME351E□□1R0MJC5S | 22 | | 16 × 25 | 0.24 | 145 | EKME401E□□220ML25S | |
| | 2.2 | 10 × 16 | 0.24 | 30 | EKME351E□□2R2MJ16S | 33 | | 16 × 31.5 | 0.24 | 185 | EKME401E□□330MLN3S | |
| | 3.3 | 10 × 16 | 0.24 | 37 | EKME351E□□3R3MJ16S | 47 | | 18 × 31.5 | 0.24 | 230 | EKME401E□□470MMN3S | |

□ : Lead forming / Taping code

◆MAXIMUM ESR

(Ω) at 20°C, 120Hz

| μF \ V _{dc} | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 to 250 | 350 to 400 |
|----------------------|--------|--------|--------|--------|--------|--------|-------|-------|------------|------------|
| 0.1 | | | | | | 1,660 | | 1,330 | | |
| 0.22 | | | | | | 754 | | 603 | | |
| 0.33 | | | | | | 503 | | 402 | | |
| 0.47 | | | | | | 353 | | 282 | 706 | 847 |
| 1.0 | | | | | | 166 | | 133 | 332 | 398 |
| 2.2 | | | | | | 75.4 | | 60.3 | 151 | 181 |
| 3.3 | | | | | | 50.3 | | 40.3 | 101 | 121 |
| 4.7 | | | | | | 35.3 | 31.8 | 28.2 | 70.6 | 84.7 |
| 10 | | | | | | 16.6 | 14.9 | 13.3 | 33.2 | 39.8 |
| 22 | | | | | | 7.54 | 6.79 | 6.03 | 15.1 | 18.1 |
| 33 | | | | | 6.03 | 5.03 | 4.52 | 4.02 | 10.1 | 12.1 |
| 47 | | | 5.65 | 4.94 | 4.23 | 3.53 | 3.18 | 2.82 | 7.06 | 8.47 |
| 100 | 3.70 | 3.15 | 2.65 | 2.32 | 1.99 | 1.66 | 1.49 | 1.33 | 3.32 | 3.98 |
| 220 | 1.66 | 1.43 | 1.21 | 1.06 | 0.905 | 0.754 | 0.679 | 0.603 | 1.51 | |
| 330 | 1.11 | 0.955 | 0.804 | 0.704 | 0.603 | 0.503 | 0.452 | 0.402 | | |
| 470 | 0.776 | 0.671 | 0.565 | 0.494 | 0.423 | 0.353 | 0.318 | 0.282 | | |
| 1,000 | 0.370 | 0.315 | 0.265 | 0.232 | 0.199 | 0.166 | 0.149 | | | |
| 2,200 | 0.181 | 0.158 | 0.136 | 0.121 | 0.106 | 0.0905 | | | | |
| 3,300 | 0.131 | 0.116 | 0.101 | 0.0905 | 0.0804 | | | | | |
| 4,700 | 0.0988 | 0.0882 | 0.0776 | 0.0706 | 0.0635 | | | | | |
| 6,800 | 0.0781 | 0.0707 | 0.0634 | 0.0585 | | | | | | |
| 10,000 | 0.0630 | 0.0581 | 0.0531 | | | | | | | |
| 15,000 | 0.0531 | | | | | | | | | |

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Capacitance (μF) \ Frequency (Hz) | 50 | 120 | 300 | 1k | 10k | 100k |
|-----------------------------------|------|------|------|------|------|------|
| 0.1 to 4.7 | 0.65 | 1.00 | 1.35 | 1.75 | 2.30 | 2.50 |
| 10 to 47 | 0.75 | 1.00 | 1.25 | 1.50 | 1.75 | 1.80 |
| 100 to 1,000 | 0.80 | 1.00 | 1.15 | 1.30 | 1.40 | 1.50 |
| 2,200 to | 0.85 | 1.00 | 1.03 | 1.05 | 1.08 | 1.08 |

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