



TMCR03-Chip Varistor

Electrical Characteristics

| Item | Max. Working Voltage | | Varistor Voltage @1mA DC | Max. Clamping Voltage (8/20 μ s) | | Peak Current (8/20 μ s) | Operation Ambient Temperature |
|------------------|----------------------|---------------------|-----------------------------|---|--------------------|--------------------------------|----------------------------------|
| | V _{AC} (V) | V _{DC} (V) | V _{1mA} (V) | V _C (V) | I _C (A) | I _p (A) | |
| TMCR03-120K0603T | 5.7 | 8 | 12 \pm 15% | 27 | 1 | 30 | -55~+125 $^{\circ}$ C |
| TMCR03-160K0603T | 7.8 | 11 | 16 \pm 15% | 33 | 1 | 30 | -55~+125 $^{\circ}$ C |
| TMCR03-180K0603T | 8.5 | 12 | 18 \pm 15% | 34 | 1 | 30 | -55~+125 $^{\circ}$ C |
| TMCR03-330K0603T | 17 | 24 | 33 \pm 10% | 58 | 1 | 30 | -55~+125 $^{\circ}$ C |
| TMCR03-450K0603T | 23.3 | 33 | 45 \pm 10% | 79 | 1 | 35 | -55~+125 $^{\circ}$ C |
| TMCR03-120K0805T | 5.7 | 8 | 12 \pm 15% | 27 | 1 | 40 | -55~+125 $^{\circ}$ C |
| TMCR03-160K0805T | 7.8 | 11 | 16 \pm 15% | 33 | 1 | 35 | -55~+125 $^{\circ}$ C |
| TMCR03-180K0805T | 8.5 | 12 | 18 \pm 15% | 34 | 1 | 35 | -55~+125 $^{\circ}$ C |
| TMCR03-330K0805T | 17 | 24 | 33 \pm 10% | 58 | 1 | 35 | -55~+125 $^{\circ}$ C |
| TMCR03-450K0805T | 23.3 | 33 | 45 \pm 10% | 79 | 1 | 35 | -55~+125 $^{\circ}$ C |
| TMCR03-120K1206T | 5.7 | 8 | 12 \pm 15% | 27 | 1 | 40 | -55~+125 $^{\circ}$ C |
| TMCR03-160K1206T | 7.8 | 11 | 16 \pm 15% | 33 | 1 | 30 | -55~+125 $^{\circ}$ C |
| TMCR03-180K1206T | 8.5 | 12 | 18 \pm 15% | 34 | 1 | 30 | -55~+125 $^{\circ}$ C |
| TMCR03-450K1206T | 23.3 | 33 | 45 \pm 10% | 79 | 1 | 35 | -55~+125 $^{\circ}$ C |
| TMCR03-250K1210T | 12.7 | 18 | 25 \pm 10% | 44 | 2.5 | 300 | -55~+125 $^{\circ}$ C |
| TMCR03-330K1210T | 17 | 24 | 33 \pm 10% | 58 | 2.5 | 300 | -55~+125 $^{\circ}$ C |
| TMCR03-450K1210T | 23.3 | 33 | 45 \pm 10% | 79 | 2.5 | 280 | -55~+125 $^{\circ}$ C |
| TMCR03-560K1210T | 30 | 42 | 56 \pm 10% | 99 | 2.5 | 280 | -55~+125 $^{\circ}$ C |
| TMCR03-250K1812T | 12.7 | 18 | 25 \pm 10% | 44 | 5 | 500 | -55~+125 $^{\circ}$ C |
| TMCR03-330K1812T | 17 | 24 | 33 \pm 10% | 58 | 5 | 500 | -55~+125 $^{\circ}$ C |
| TMCR03-450K1812T | 23.3 | 33 | 45 \pm 10% | 79 | 5 | 500 | -55~+125 $^{\circ}$ C |
| TMCR03-560K1812T | 30 | 42 | 56 \pm 10% | 99 | 5 | 500 | -55~+125 $^{\circ}$ C |
| TMCR03-250K2220T | 12.7 | 18 | 25 \pm 10% | 44 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-330K2220T | 17 | 24 | 33 \pm 10% | 58 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-450K2220T | 23.3 | 33 | 45 \pm 10% | 79 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-560K2220T | 30 | 42 | 56 \pm 10% | 99 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-620K2220T | 34 | 48 | 62 \pm 10% | 110 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-760K2220T | 45 | 60 | 76 \pm 10% | 134 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-860K2220T | 48 | 68 | 86 \pm 10% | 151 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-241K0805T | 150 | 200 | 240 \pm 10% | 395 | 1 | 200 | -55~+125 $^{\circ}$ C |
| TMCR03-431K0805T | 275 | 350 | 430 \pm 10% | 705 | 1 | 100 | -55~+125 $^{\circ}$ C |
| TMCR03-271K1206T | 175 | 225 | 270 \pm 10% | 450 | 1 | 300 | -55~+125 $^{\circ}$ C |
| TMCR03-431K1206T | 275 | 350 | 430 \pm 10% | 705 | 1 | 100 | -55~+125 $^{\circ}$ C |
| TMCR03-471K1206T | 300 | 385 | 470 \pm 10% | 775 | 1 | 100 | -55~+125 $^{\circ}$ C |
| TMCR03-471K1210T | 300 | 385 | 470 \pm 10% | 775 | 2.5 | 400 | -55~+125 $^{\circ}$ C |
| TMCR03-561K1210T | 350 | 460 | 560 \pm 10% | 950 | 2.5 | 200 | -55~+125 $^{\circ}$ C |
| TMCR03-471K1812T | 300 | 385 | 470 \pm 10% | 775 | 5 | 600 | -55~+125 $^{\circ}$ C |
| TMCR03-471K2220T | 300 | 385 | 470 \pm 10% | 775 | 10 | 800 | -55~+125 $^{\circ}$ C |

Test and Measurement Procedures

Test Conditions

Unless otherwise specified, the standard atmospheric conditions for measurement/test as

- ambient Temperature: 20 \pm 15 $^{\circ}$ C
- Relative Humidity: 65 \pm 20%
- Air Pressure: 86kPa to 106kPa

If any doubt on the results, measurements/tests should be made within the following limits:

- Ambient Temperature: 25 \pm 2 $^{\circ}$ C
- Relative Humidity: 65 \pm 5%
- Air Pressure: 86kPa to 106kPa

Inspection Equipment

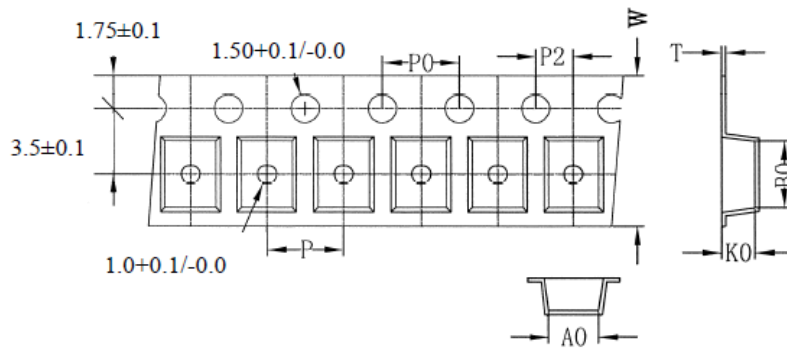
- Visual Examination: 20Xmagnifier
- Varistor Voltage test: Varistor tester



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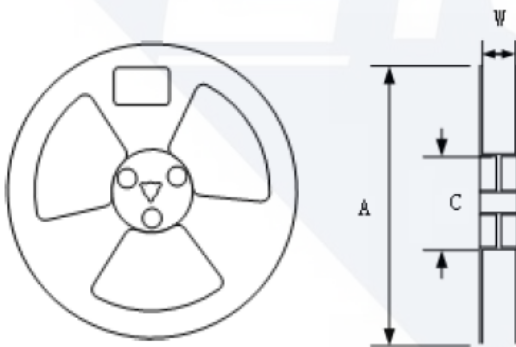
Packing dimension

A. Carrier tape dimensions.(Unit:mm)



| Type | A0(±0.2) | B0(±0.2) | K0(±0.2) | T Maz | W(±0.3) | P0(±0.2) | P(±0.2) | P2(±0.2) |
|------|----------|----------|----------|-------|---------|----------|---------|----------|
| 0604 | 1.3 | 2.1 | 1.3 | 0.3 | 8.0 | 4.0 | 4.0 | 2.0 |
| 0806 | 2.1 | 2.5 | 2.1 | 0.3 | 8.0 | 4.0 | 4.0 | 2.0 |
| 1206 | 2.1 | 3.8 | 2.1 | 0.3 | 8.0 | 4.0 | 4.0 | 2.0 |
| 1210 | 3.1 | 3.8 | 2.8 | 0.3 | 8.0 | 4.0 | 4.0 | 2.0 |
| 1812 | 3.8 | 5.2 | 3.6 | 0.3 | 12.0 | 4.0 | 8.0 | 2.0 |
| 2220 | 6.9 | 6.8 | 3.8 | 0.3 | 12.0 | 4.0 | 8.0 | 2.0 |

B. Taping reel dimensions



| Type | Spec | Dimensions(mm) | | |
|------|------|----------------|--------------|------|
| | | A | W | C |
| 0604 | 7" | 178±2 | 8.4+2.0/-0.0 | 58±2 |
| 0806 | 7" | 178±2 | 8.4+2.0/-0.0 | 58±2 |
| 1206 | 7" | 178±2 | 8.4+2.0/-0.0 | 58±2 |
| 1210 | 7" | 178±2 | 8.4+2.0/-0.0 | 58±2 |
| 1812 | 7" | 178±2 | 8.4+2.0/-0.0 | 58±2 |
| 2220 | 7" | 178±2 | 8.4+2.0/-0.0 | 58±2 |