

ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

105°C, LOW IMPEDANCE, LONG LIFE

TS13D CD287

FEATURES

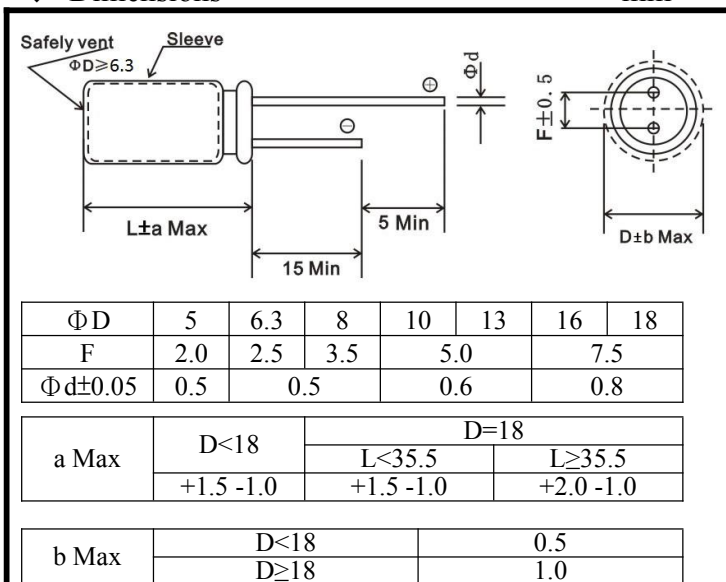
- Load life of 5000 hours at 105°C
- at 55°C (Φ5~Φ6: 2000hours Φ8~Φ10: 3000hours)
- Ultra lower impedance
- Switch power supply
- Excellent ripple current capability



◆ Specifications

| I T E M S | | P E R F O R M A N C E C H A R A C T E R I S T I C S | | | | | | | |
|---|---|---|------|------|------|------|------|------|------|
| Operating Temperature Range(°C) | -40~+105 | | | | | | | | |
| Rated Voltage Range (V) | 6.3~100 | | | | | | | | |
| Capacitance Range (μF) | 0.47~15000 | | | | | | | | |
| Capacitance Tolerance(25°C, 120Hz) | ±20% | | | | | | | | |
| Leakage Current(μA) | I≤0.02CV or 3uA, whichever is greater (after 2 minutes at 25°C) Where, C: Nominal Capacitance (μF) V: Rated Voltage (V) | | | | | | | | |
| Dissipation Factor(25°C, 120Hz) | Wv (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | Tan δ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 |
| 0.02 is added to each 1000 μF increase over 1000 μF | | | | | | | | | |
| Temperature Stability (120Hz) | Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | Z-40°C/Z+20°C | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Load Life (105°C) | Time | 5000hours (Φ5~6: 2000hours Φ8~10: 3000hours) | | | | | | | |
| | Leakage Current | Not more than the specified value. | | | | | | | |
| | Capacitance Change | Within±20% of the initial value | | | | | | | |
| | Dissipation Factor | Not more than 200% of the specified value. | | | | | | | |
| Shelf Life (105°C) | After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life Characteristics listed above. *after test: UR to be applied for 30 minutes, 24 to 48 hours before measurement. | | | | | | | | |

◆ Dimensions



◆ Multiplier for ripple current

Frequency coefficient

| Freq(Hz) | 120 | 1K | 10K | 100K |
|------------|------|------|------|------|
| Cap(μF) | | | | |
| 0.47~4.7 | 0.40 | 0.68 | 0.78 | 1.0 |
| 5.6~47 | 0.50 | 0.76 | 0.87 | 1.0 |
| 56~270 | 0.70 | 0.85 | 0.90 | 1.0 |
| 330~1000 | 0.80 | 0.93 | 0.98 | 1.0 |
| 1200~15000 | 0.90 | 0.95 | 1.0 | 1.0 |

| Dia | Life Time |
|-------|-----------|
| 5~6.3 | 2000h |
| 8~10 | 3000h |
| ≥13 | 5000h |

Temperature coefficient

| Temperature | +70 | +85 | +105 |
|-------------|------|------|------|
| Factor | 1.96 | 1.68 | 1.0 |

ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

105°C, LOW IMPEDANCE, LONG LIFE

TS13D CD287

◆ STANDARD RATINGS

| V μF | 6.3V | | | | 10V | | | |
|---------|--------|---|------------------|--------------|--------|---|------------------|--------------|
| | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | |
| | | | 20°C 100KHz | -10°C 100KHz | | | 20°C 100KHz | -10°C 100KHz |
| 100 | -- | -- | -- | -- | 5x11 | 235 | 0.460 | 0.920 |
| 120 | -- | -- | -- | -- | 5x11 | 245 | 0.380 | 0.750 |
| 150 | 5x11 | 232 | 0.460 | 0.920 | 5x11 | 260 | 0.350 | 0.700 |
| 180 | 5x11 | 250 | 0.400 | 0.700 | 6.3x11 | 290 | 0.310 | 0.620 |
| 220 | 6.3x11 | 290 | 0.300 | 0.600 | 6.3x11 | 395 | 0.200 | 0.400 |
| 270 | 6.3x11 | 330 | 0.250 | 0.500 | 6.3x11 | 450 | 0.180 | 0.380 |
| 330 | 6.3x11 | 360 | 0.200 | 0.400 | 8x12 | 490 | 0.170 | 0.340 |
| 390 | 6.3x12 | 420 | 0.180 | 0.380 | 8x12 | 530 | 0.150 | 0.300 |
| 470 | 8x12 | 486 | 0.170 | 0.340 | 8x12 | 585 | 0.130 | 0.260 |
| 560 | 8x12 | 500 | 0.150 | 0.300 | 8x12 | 660 | 0.100 | 0.300 |
| 680 | 8x12 | 615 | 0.130 | 0.260 | 8x12 | 780 | 0.095 | 0.190 |
| 820 | 8x14 | 715 | 0.100 | 0.230 | 8x16 | 850 | 0.080 | 0.150 |
| 1000 | 8x16 | 798 | 0.095 | 0.190 | 8x16 | 1000 | 0.060 | 0.130 |
| 1200 | 8x16 | 1005 | 0.065 | 0.130 | 10x17 | 1140 | 0.055 | 0.110 |
| 1500 | 8x16 | 1185 | 0.055 | 0.110 | 10x21 | 1430 | 0.045 | 0.090 |
| 1800 | 10x17 | 1200 | 0.050 | 0.100 | 10x25 | 1450 | 0.042 | 0.084 |
| 2200 | 10x20 | 1430 | 0.045 | 0.090 | 13x20 | 1680 | 0.036 | 0.072 |
| 2700 | 10x21 | 1680 | 0.038 | 0.076 | 13x21 | 1850 | 0.032 | 0.064 |
| 3300 | 13x20 | 1720 | 0.036 | 0.060 | 13x20 | 2210 | 0.028 | 0.056 |
| 3900 | 13x25 | 1940 | 0.032 | 0.064 | -- | -- | -- | -- |
| 4700 | 13x25 | 2210 | 0.028 | 0.056 | 13x25 | 2100 | 0.027 | 0.054 |
| 5600 | 16x26 | 2300 | 0.026 | 0.052 | 16x30 | 2350 | 0.025 | 0.050 |
| 6800 | 16x26 | 2340 | 0.025 | 0.050 | 16x30 | 2540 | 0.022 | 0.044 |
| 8200 | 16x32 | 2530 | 0.022 | 0.044 | 16x35 | 2950 | 0.020 | 0.040 |
| 10000 | 16x35 | 2560 | 0.021 | 0.043 | 16x40 | 3000 | 0.018 | 0.036 |

| V μF | 16V | | | | 25V | | | |
|---------|--------|---|------------------|--------------|--------|---|------------------|--------------|
| | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | |
| | | | 20°C 100KHz | -10°C 100KHz | | | 20°C 100KHz | -10°C 100KHz |
| 15 | 5x12 | 95 | 0.800 | 1.700 | -- | -- | -- | -- |
| 22 | -- | -- | -- | -- | 5x11 | 170 | 0.700 | 1.400 |
| 47 | 5x11 | 160 | 0.700 | 1.500 | 5x11 | 195 | 0.600 | 1.200 |
| 56 | 5x11 | 175 | 0.650 | 1.300 | 5x11 | 230 | 0.460 | 0.920 |
| 68 | 5x12 | 200 | 0.500 | 1.200 | 5x12 | 260 | 0.380 | 0.700 |
| 82 | -- | -- | -- | -- | 6.3x11 | 290 | 0.310 | 0.620 |
| 100 | 6.3x11 | 250 | 0.500 | 1.500 | 6.3x11 | 350 | 0.270 | 0.500 |
| 120 | 6.3x11 | 290 | 0.310 | 0.620 | 6.3x11 | 375 | 0.200 | 0.400 |
| 150 | 6.3x11 | 350 | 0.250 | 0.550 | 8x12 | 450 | 0.180 | 0.380 |
| 180 | 6.3x11 | 380 | 0.200 | 0.400 | 8x12 | 503 | 0.170 | 0.340 |
| 220 | 6.3x11 | 450 | 0.180 | 0.380 | 8x12 | 565 | 0.130 | 0.260 |
| 270 | 8x12 | 501 | 0.170 | 0.340 | 8x14 | 658 | 0.090 | 0.180 |
| 330 | 8x12 | 565 | 0.130 | 0.260 | 8x14 | 850 | 0.080 | 0.150 |
| 390 | -- | -- | -- | -- | 8x20 | 920 | 0.070 | 0.140 |
| 470 | 8x12 | 740 | 0.095 | 0.190 | 10x17 | 1000 | 0.065 | 0.130 |
| 560 | 8x16 | 870 | 0.080 | 0.150 | 8x20 | 1180 | 0.055 | 0.110 |
| 680 | 8x16 | 1000 | 0.065 | 0.130 | 10x17 | 1200 | 0.050 | 0.100 |
| 820 | 8x20 | 1170 | 0.055 | 0.110 | 10x25 | 1350 | 0.045 | 0.090 |
| 1000 | 10x17 | 1250 | 0.050 | 0.100 | 13x20 | 1680 | 0.036 | 0.072 |
| 1200 | 10x21 | 1380 | 0.042 | 0.084 | 13x20 | 1850 | 0.032 | 0.068 |
| 1500 | 13x20 | 1660 | 0.038 | 0.076 | 13x20 | 1940 | 0.030 | 0.060 |
| 1800 | 13x20 | 1750 | 0.035 | 0.070 | 13x25 | 2050 | 0.028 | 0.056 |
| 2200 | 13x20 | 1930 | 0.032 | 0.064 | 13x25 | 2380 | 0.024 | 0.048 |
| 2700 | 16x26 | 2210 | 0.028 | 0.056 | 13x25 | 2390 | 0.023 | 0.046 |
| 3300 | 13x30 | 2380 | 0.026 | 0.052 | 16x26 | 2460 | 0.022 | 0.045 |
| 3900 | 16x26 | 2390 | 0.025 | 0.050 | 16x26 | 2720 | 0.020 | 0.038 |
| 4700 | 16x26 | 3290 | 0.022 | 0.044 | 16x26 | 3050 | 0.018 | 0.036 |
| 5600 | 16x35 | 3300 | 0.020 | 0.040 | -- | -- | -- | -- |
| 6800 | 18x25 | 3380 | 0.019 | 0.038 | -- | -- | -- | -- |

ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

105°C, LOW IMPEDANCE, LONG LIFE

TS13D CD287

◆ STANDARD RATINGS

| μF \ V | 35V | | | | 50V | | | |
|--------|--------|---|------------------|--------------|--------|---|------------------|--------------|
| | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | |
| | | | 20°C 100KHz | -10°C 100KHz | | | 20°C 100KHz | -10°C 100KHz |
| 1 | -- | -- | -- | -- | 5x11 | 36 | 3.500 | 7.000 |
| 2.2 | -- | -- | -- | -- | 5x11 | 54 | 3.000 | 6.000 |
| 3.3 | -- | -- | -- | -- | 5x11 | 63 | 2.600 | 5.200 |
| 4.7 | 5x11 | 110 | 0.420 | 0.980 | 5x11 | 75 | 2.200 | 4.400 |
| 6.8 | 5x11 | 120 | 0.470 | 1.170 | 5x11 | 90 | 2.000 | 3.800 |
| 10 | 5x11 | 130 | 0.480 | 0.200 | 5x12 | 110 | 1.400 | 2.800 |
| 15 | 5x11 | 150 | 0.500 | 1.150 | 5x12 | 180 | 1.120 | 2.000 |
| 18 | 5x11 | 167 | 0.570 | 1.180 | 5x12 | 220 | 0.950 | 1.900 |
| 22 | 5x11 | 170 | 0.600 | 1.200 | 6.3x11 | 222 | 0.600 | 1.700 |
| 27 | 5x11 | 175 | 0.650 | 1.300 | 6.3x11 | 225 | 0.550 | 1.100 |
| 33 | 6.3x11 | 223 | 0.500 | 0.850 | 6.3x11 | 230 | 0.450 | 0.900 |
| 39 | 6.3x11 | 237 | 0.460 | 0.920 | 6.3x11 | 270 | 0.360 | 0.720 |
| 47 | 6.3x11 | 250 | 0.280 | 0.700 | 6.3x12 | 300 | 0.250 | 0.620 |
| 56 | 6.3x11 | 290 | 0.260 | 0.600 | 6.3x12 | 320 | 0.280 | 0.560 |
| 68 | 6.3x11 | 350 | 0.250 | 0.500 | 8x12 | 360 | 0.200 | 0.400 |
| 82 | 6.3x11 | 390 | 0.200 | 0.400 | 8x12 | 450 | 0.180 | 0.360 |
| 100 | 8x12 | 450 | 0.180 | 0.370 | 8x12 | 600 | 0.150 | 0.300 |
| 120 | 8x12 | 501 | 0.170 | 0.340 | 8x20 | 670 | 0.130 | 0.260 |
| 150 | 8x12 | 650 | 0.150 | 0.300 | 8x20 | 700 | 0.100 | 0.230 |
| 180 | 8x14 | 680 | 0.130 | 0.260 | 8x20 | 735 | 0.095 | 0.190 |
| 220 | 10x17 | 770 | 0.095 | 0.190 | 10x17 | 825 | 0.085 | 0.150 |
| 270 | 10x17 | 885 | 0.080 | 0.160 | 10x21 | 880 | 0.055 | 0.170 |
| 330 | 10x17 | 1000 | 0.065 | 0.130 | 10x21 | 965 | 0.052 | 0.120 |
| 390 | 10x17 | 1170 | 0.055 | 0.110 | 13x20 | 1000 | 0.050 | 0.100 |
| 470 | 10x17 | 1280 | 0.050 | 0.100 | 13x20 | 1170 | 0.044 | 0.088 |
| 560 | 10x25 | 1430 | 0.045 | 0.090 | 13x21 | 1180 | 0.043 | 0.087 |
| 680 | 13x20 | 1670 | 0.038 | 0.076 | 13x21 | 1300 | 0.040 | 0.080 |
| 820 | 13x20 | 1685 | 0.036 | 0.070 | 13x30 | 1350 | 0.039 | 0.079 |
| 1000 | 13x25 | 1700 | 0.034 | 0.068 | 13x35 | 1480 | 0.038 | 0.076 |
| 1200 | 16x25 | 2070 | 0.028 | 0.056 | 16x25 | 1870 | 0.032 | 0.064 |
| 1500 | 16x25 | 2250 | 0.027 | 0.053 | 13x30 | 2170 | 0.028 | 0.056 |
| 1800 | 16x26 | 2330 | 0.025 | 0.050 | 16x26 | 2400 | 0.026 | 0.052 |
| 2200 | 16x26 | 2540 | 0.022 | 0.044 | 16x32 | 2300 | 0.025 | 0.050 |
| 2700 | 16x35 | 2890 | 0.020 | 0.040 | 16x35 | 2500 | 0.024 | 0.048 |
| 3300 | 16x35 | 3100 | 0.018 | 0.036 | 18x40 | 2800 | 0.022 | 0.038 |
| 3900 | 18x40 | 3320 | 0.015 | 0.030 | 18x40 | 3000 | 0.020 | 0.018 |
| | | | | | -- | -- | -- | -- |

| μF \ V | 63V | | | | 100V | | | |
|--------|--------|---|------------------|--------------|--------|---|------------------|--------------|
| | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | | DxL | Rated Ripple Current (mA.m.s./105°C 100KHZ) | Impedance (Ωmax) | |
| | | | 20°C 100KHz | -10°C 100KHz | | | 20°C 100KHz | -10°C 100KHz |
| 10 | 5x11 | 100 | 1.400 | 4.000 | 6.3x11 | 65 | 1.200 | 6.800 |
| 22 | 6.3x11 | 150 | 0.750 | 2.400 | 8x12 | 275 | 0.530 | 2.100 |
| 33 | 6.3x11 | 160 | 0.600 | 1.500 | 10x13 | 370 | 0.350 | 1.400 |
| 47 | 8x12 | 360 | 0.320 | 0.960 | 10x17 | 450 | 0.300 | 1.200 |
| 68 | 10x13 | 475 | 0.240 | 0.720 | 10x21 | 630 | 0.180 | 0.720 |
| 100 | 10x17 | 600 | 0.150 | 0.450 | 10x20 | 730 | 0.150 | 0.600 |
| 220 | 10x21 | 965 | 0.075 | 0.230 | 16x26 | 1260 | 0.075 | 0.300 |
| 330 | 13x20 | 1050 | 0.065 | 0.200 | 16x26 | 1600 | 0.059 | 0.230 |
| 470 | 13x20 | 1450 | 0.048 | 0.140 | 16x31 | 1900 | 0.045 | 0.180 |
| 680 | 16x26 | 1870 | 0.042 | 0.130 | -- | -- | -- | -- |
| 1000 | 16x26 | 2400 | 0.032 | 0.096 | -- | -- | -- | -- |
| 1200 | 16x30 | 2530 | 0.031 | 0.095 | -- | -- | -- | -- |
| 2200 | 18x40 | 2620 | 0.028 | 0.011 | -- | -- | -- | -- |

105°C, LOW IMPEDANCE, LONG LIFE

TS13D CD287

◆ Typical Curves

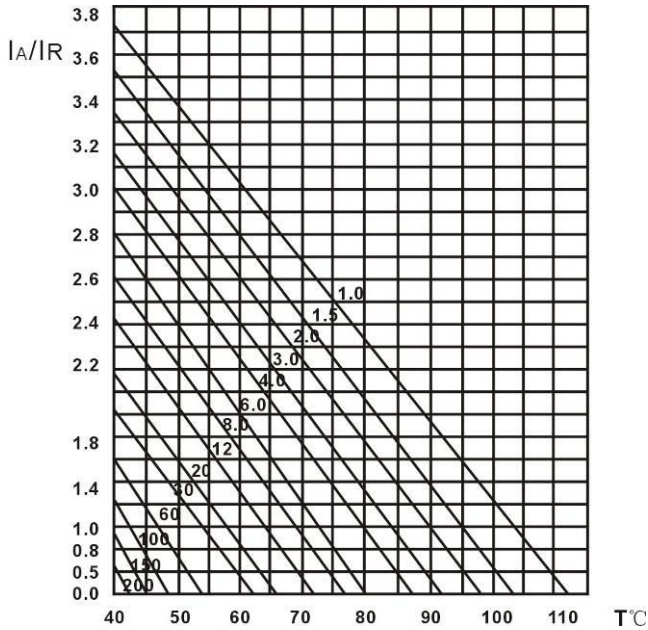


Fig.4 Multiplier of useful life as a function of ambient temperature and ripple current load
 I_A = actual ripple current 120KHz
 I_R = rated ripple current at 100KHz, 105°C

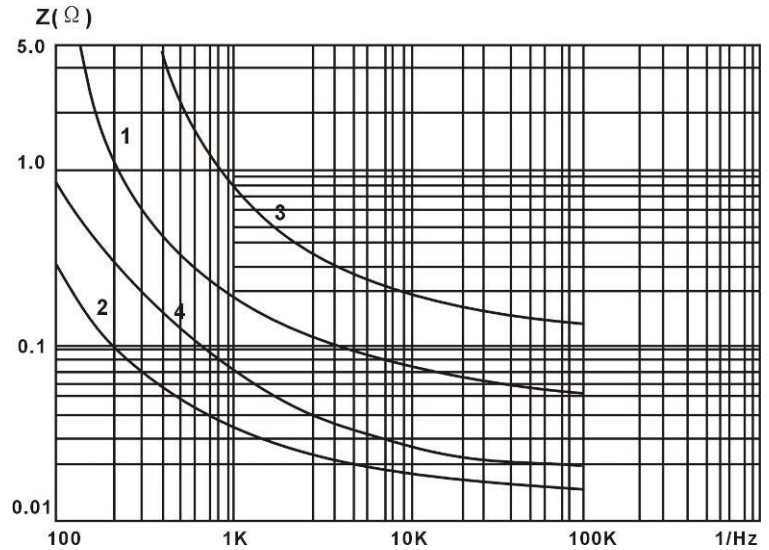


Fig.3 Typical impedance as a function of frequency

| | | |
|----|------------------|---------|
| 1. | 10V1000 μ F | 10x20 |
| 2. | 10V10000 μ F | 18x35.5 |
| 3. | 63V100 μ F | 10x20 |
| 4. | 63V1000 μ F | 18x35.5 |

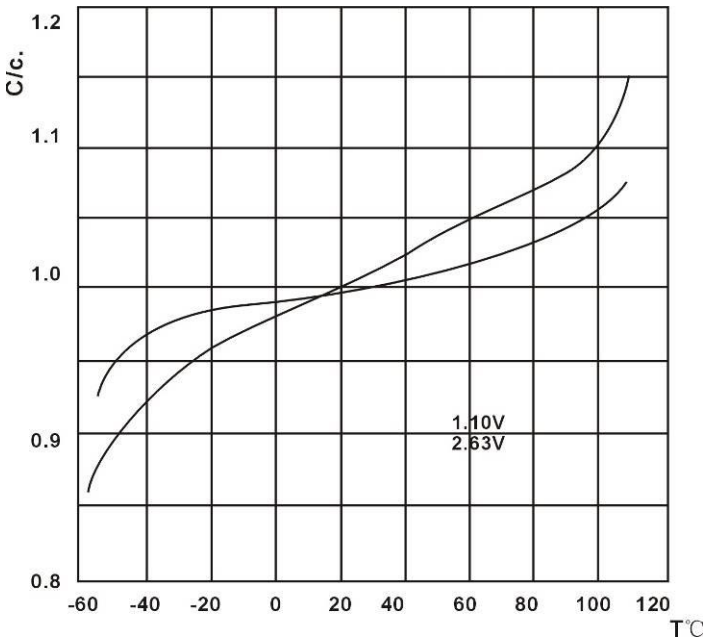


Fig. 1 Typical multiplier of capacitance as a function of ambient temperature
 C_0 = capacitance at 25°C, 120Hz

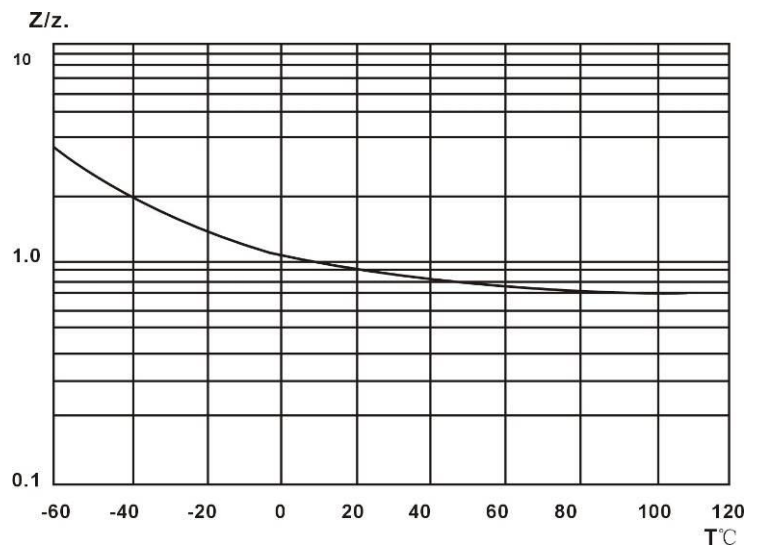


Fig. 2 Typical multiplier of impedance as a function of ambient temperature
 Z_0 – typical impedance to 25°C, 100KHz

Note: Specifications are subject to change without notice. For more detail and update, please visit our website.