Various operational conditions which affect the life expectancy of a capacitor are:

VOLTAGE STRESS:

The life expectancy is a function of the peak d-c voltage applied to a capacitor. The curve in Figure III indicates that operation at 120% of rated voltage results in the life expectancy being reduced to 4% of the rated voltage life expectancy. Operation at 75% of rated voltage results in an increase to 850% of the rated voltage life expectancy.

The curve was established under rated conditions, and at:

1. 30 KC circuit ringing frequency
2. 80% voltage reversal

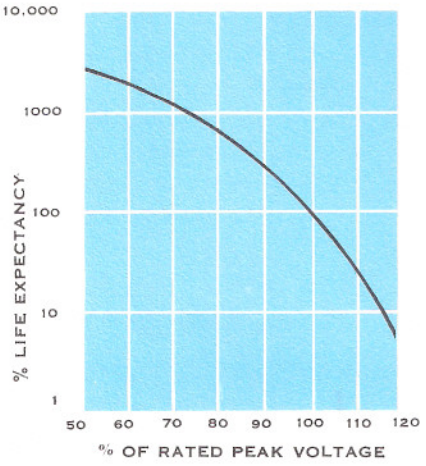

Fig. III

RINGING FREQUENCY:

The life expectancy is a function of the circuit ringing frequency. The curve in Figure IV indicates that operation at a ringing frequency of 100KC results in the life expectancy being reduced to 50% of the 30KC life expectancy. Operation at a ringing frequency of 10KC results in an increase to 180% of the 30KC life expectancy. The curve was established under rated conditions, and at:

1. 80% voltage reversal
2. Rated peak d-c voltage

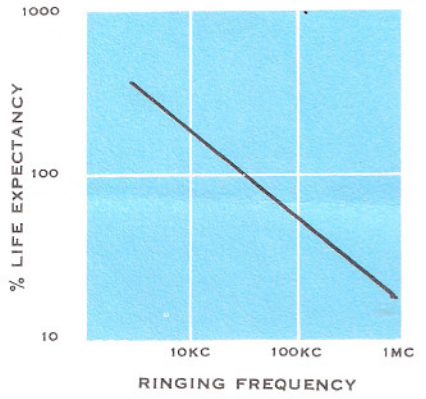

Fig. IV

VOLTAGE REVERSAL:

The life expectancy is a function of the percentage of voltage reversal. The curve in Figure V indicates that operation at 90% voltage reversal results in the life expectancy being reduced to 74% of the life expectancy at 80% voltage reversal. Operation at 50% voltage reversal results in an increase to 270% of the life expectancy at 80% voltage reversal.

The curve was established under rated conditions, and at:

1. Rated peak d-c voltage
2. 30KC circuit ringing frequency

Crowbarring (short circuiting) the discharges shortly after peak current will minimize the voltage reversal. This increases the life expectancy of the capacitor considerably.

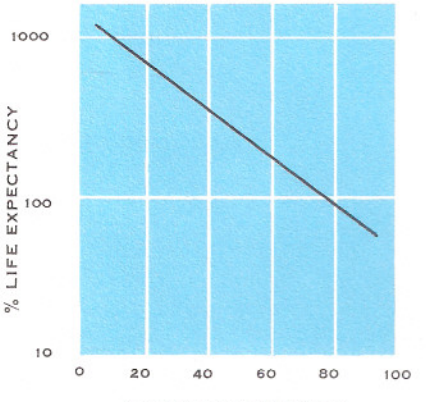

Fig. V

TEMPERATURE:

The standard Type EDC and Type LDC units may be operated in any position over the temperature range of +10°C to +40°C.