



# COMPONENT NEWS

EVALUATION ENGINEERING

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## CAPACITOR GUIDE

The Capacitor Guide on the reverse side of this issue, is an attempt to furnish comparative information on commercially available fixed capacitors. Interpretation of the Guide should be made with the following qualifications:

1. The " $\mu$ F-Volt per cubic inch" rating does not imply availability. For example, the "button" mica capacitor is available neither in the 12 $\mu$ F-volt range nor in the one cubic inch size.
2. The "Maximum Leakage" ratings for electrostatic capacitors are derived as follows:

$$IR \times C = K \quad \mu\text{F-M}\Omega \text{ (as specified)}$$

$$\text{Leakage current} = \frac{V}{IR}$$

$$= \frac{C}{C} \times \frac{V}{IR} = \frac{CV}{C \times IR} = \frac{CV}{K}$$

3. "Closest Tolerance" means the approved tightest tolerance. The commercially available "1%" metallized polycarbonate capacitor in non-hermetic case has not been approved.
4. "Drift" means the maximum capacitance change in life-load after moisture-resistance test.
5. "Failure Rate" is computed from reported failures and allotment quantities. It is understood that not all failures are reported. On the other hand, some failures are not related to component reliability. The polystyrene capacitor P/N 285-0591 failures were due to excessive operating current.

All special purpose capacitors are excluded here, so are the *TEKTRONIX*-made capacitors. The failure rate for *TEKTRONIX*-made capacitors is about 40 parts per million. The "Remarks" are brief and oversimplified. Some parameters such as "dissipation factor" or "equivalent series resistance" are omitted because they do not lend themselves to simplification.

For further information, please call Ext 7264.

-Joe Yuen

