

Murata Manufacturing Co., Ltd.
Polymer Device Dept. Business Unit

Reliability on Polymer Aluminum Electrolytic Capacitor

Part No. : ECAS Series

Field Data

The Failure Rate is estimated from the results of returned failure products (customer's incoming inspection, in-process, field failures, etc.). The failure rate calculation is as follows.

Calculation of Failure Rate:

$$\lambda = \frac{Y \times K}{T} \times 10^9 \text{ FIT}$$

$$= 0.5 \text{ FIT or less}$$

Where:

λ = Failure Rate

y = Number of accumulated failures

T = Accumulated component hours

FIT = Failures In Time

K = Coefficient of confidence level at 60% (Reference Table 1)

TABLE 1				
COEFFICIENT OF CONFIDENCE LEVEL				
Failure Quantity	K		Failure Quantity	K
0	0.916		3	1.39
1	2.02		4	1.31
2	1.55		5	1.26

This is the current results, but we expect that failure rate will decrease with the addition of additional data.