



MTBF for NS-208

MTBF(Mean Time Between Failures):

We calculate the actual installed experience of our customers in calculating the Mean Time Between Failure (MTBF) data we publish.

MTBF Data:

| Product | # of Units Sampled | Average Units / month (A) | Total Unit Months (A x 78) | Total Unit Hours (A x 78 x .8 x 8 x 30) | Applicable Failures | MTBF (see notes) |
|---------|--------------------|---------------------------|----------------------------|---|---------------------|------------------|
| NS-208 | 1,200 | 100 | 7,800 | 1,497,600 | 3 | 499,200 |

Notes:

1. This MTBF numbers are based on data for a sampling of units over a time span of one year.
2. The test temperature is +25°C

MTBF Calculation:

First, based on a sampling of actual units, we determine the average number of units being installed per month (A). Second, we determine the number of months in the sampling interval (B). We then can calculate the total number of "unit months" that these units have been in the field (C).

$$((A \times 1) + (A \times 2) + \dots + (A \times B)) = C \text{ (total number of unit months in the field)}$$

(Note: For a twelve-month period, you would multiply 78 times the average number of units installed per month.) $(1+12) \times 12 / 2 = 78$.

Next, we assume an installation rate of 80% of what we shipped and 8 hours operation per day on the average. From this we can calculate the total number of "unit operating hours" (D) as follows:

$$C \text{ (from above)} \times 80\% \times 8 \text{ hours/day} \times 30 \text{ days/month} = D \text{ (total number of unit operating hours)}$$

Finally, to get the MTBF we divide the total number of unit operating hours by the number of applicable failures. An applicable failure is one that cannot be attributed to misuse (i.e. over-voltage, forklift impalement, etc.), Mother Nature (i.e. lightning, flooding, etc.) or other returns that are not related to manufacturing defects.

Notes:

1. This MTBCF number is based on data from component supplier.
2. The test temperature is +25°C