

Part Number: 2N7002T

Package Type: SOT-523

1. Reliability Test Method And Description:

| | |
|--|-------------------|
| Stress Test Item: | HTRB |
| Test Duration (Hours): | 1000 |
| Sample Q'ty (Pcs): | 77 |
| Failure Q'ty (Pcs): | 0 |
| Total Device Hours (Hrs): | 77000 |
| Accelerated Temp. (Ta)(°C): | 150 |
| Normal Operation Temp. (Tu)(°C): | 55 |
| Eactivation Energy (Ea): | 0.7 |
| K (Boltzmanns Constant): | 8.617164E-5 eV/°K |
| Chi-Square Constant @confidence level:60% (chi): | 1.833 |
| Chi-Square Constant @confidence level:90% (chi): | 4.605 |

Acceleration Factor ,Af at Tu list:

| | | | | | |
|----|-------|------|-------|-------|-------|
| Tu | 55°C | 85°C | 100°C | 125°C | 150°C |
| Af | 259.2 | 32.6 | 13.1 | 3.3 | 1.0 |

2. Results(Use Conditions Tu=55°C & confidence level:90%):

| | | |
|--|---------|-------|
| Failure Rate FIT (@Operation Condition): | 115.4 | FIT |
| Mean Time to Failure (MTTF): | 8668504 | Hours |
| | 990 | Years |

3. MTTF/FIT Calculate Equations:

| | |
|---------------------------|--|
| Af | $\exp[(Ea/K)*(1/(Tu+273.15)-1/(Ta+273.15))]$ |
| FIT @ Operation Condition | $Chi*10^9/(2*Hrs*Af)$ |
| MTTF Hours | $10^9/FIT$ |
| MTTF Years | $10^9/(FIT*24*365)$ |

Remark: JSCJ Laboratory reserves the right of final interpretation of this report