

L10 DATA

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PREPARE

機種名 Model	U80T12BS2AA7
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試験機種 Sample P/N	H92C12BUA7 SERIES	
試験台数 Number of Sample	10	台 (PCS.)
試験時間 Test time already passed	40,000	時間 (Hours)
不良台数 Number of Failure	0	台 (PCS.)

試験条件(Test Condition)

■温度(Temperature) 70 °C (degreeC)
■連続(Continuation Operation)

内部発熱(Motor generation of heat)	°C (degreeC)
要求機種(Demand model) : T _d	12
試験機種(Examination model) : T _e	40.5

計算式 (Formula)

$$L10@_{40^{\circ}\text{C}} = L10@_{70^{\circ}\text{C}} \times \varepsilon$$

$$\alpha_{\text{test}} \times \{-\ln(1-10/100)\}^{1/\beta} = L10@_{70^{\circ}\text{C}}$$

$$\alpha_{\text{test}} = t / (4.605/2n)^{1/\beta}$$

ε : 加速係数(Acceleration coefficient)
t : 試験時間(Test time already passed)

◇特性寿命(Characteristic Life)

$$\alpha_{\text{test}} = 65262$$

◇加速係数(Acceleration coefficient)

$$\varepsilon = 1.5^{(70-40)/10} = 3.375$$

◇形状係数(Configuration coefficient)

$$\beta = 3$$

◇内部温度上昇差(Internal temperature rise difference)

$$\Delta T = T_e - T_d = 28.5 \text{ degree}$$

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◇結果(Result)

$$L10@_{70^{\circ}\text{C}} = 65,262 \times 0.4723 = 30,824 \text{ (h)}$$

$$L10@_{40^{\circ}\text{C}} = 30,824 \times 3.375 = 104,030 \text{ (h)}$$

$$L10@_{\text{Demand Model}} = 104,030 \times 3.1759 = 330,385 \text{ (h)}$$

◇参考(Ex.)

温度毎のL10データ(L10 at different temperature)

温度(Temp)	25	40	55	60	70
L10(h)	330,385	330,385	179,839	146,838	97,892

