

# Expected Life Calculation Formula (Hybrid Cap)

$$L = L_s \times 2^{\left[ \frac{(T_s + \Delta T_s) - (T + \Delta T)}{10} \right]} \quad \Delta T = \Delta T_s \left[ \frac{I}{I_s} \right]^2$$

I : Actual ripple current  
Is : Rated ripple current

L : Expected Life at operating temperature with ripple current

L<sub>s</sub> : Basic life at maximum operating temperature

T : Actual operating temperature (ambient temperature at the set of customer)

T<sub>s</sub> : Maximum operating temperature at the specified operating temperature range

ΔT<sub>s</sub> : Heat rise by ripple current at the maximum operating temperature : Generally 5°C

ΔT : Heat rise by actual ripple current

## ※ Expected life calculation

Maximum operating temperature & Life	Rated ripple Current	Expected Life (Actual ripple current 115mA rms, Actual operating temp. 85°C)
125°C 4,000hrs	1,200mA rms	90,222hrs (10.3years)