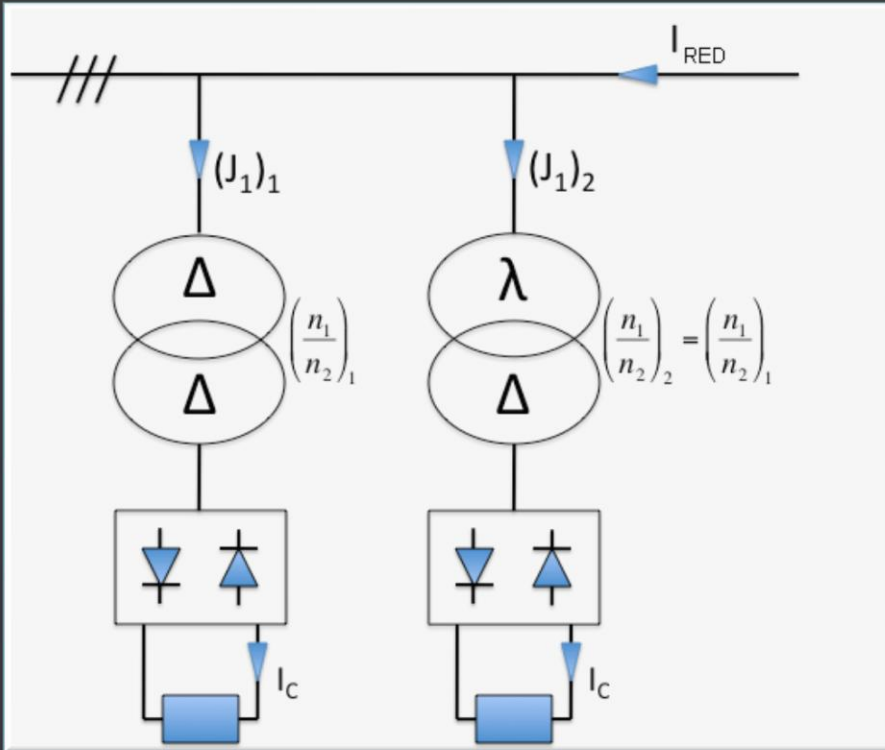


# Estudio de Rectificadores Trifásicos

## 7.- Dos S3 conectados a la misma línea

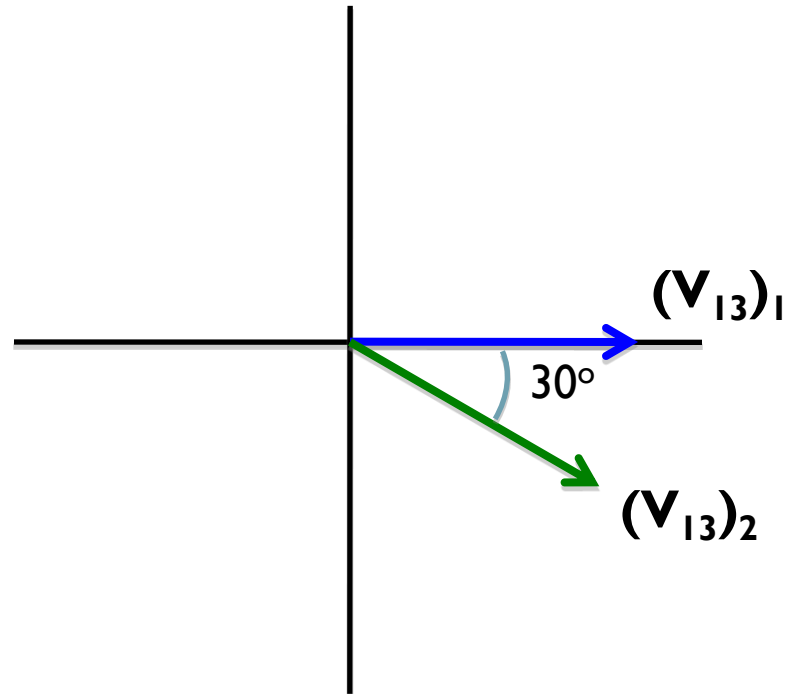
## Dos rectificadores S3 conectados a la misma línea



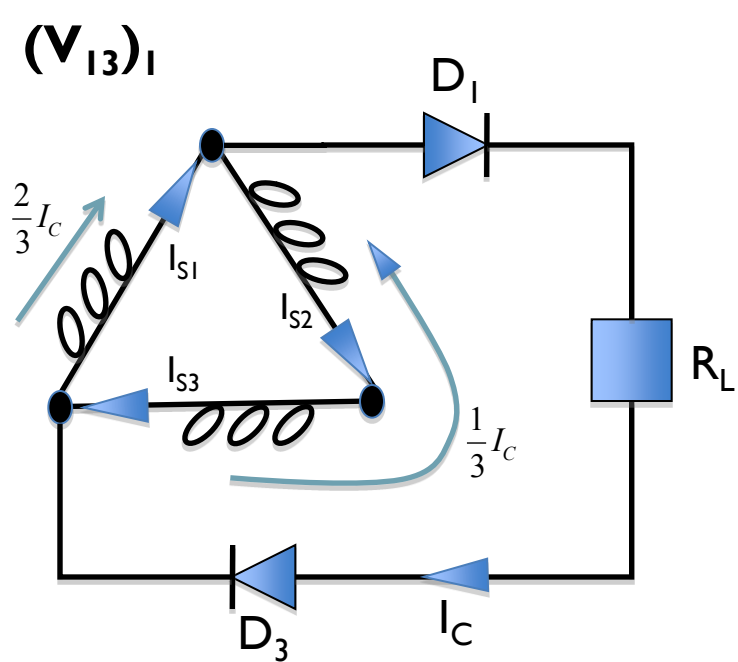
1. Representar en un diagrama vectorial las tensiones  $(V_{13})_1$  y  $(V_{13})_2$
2. Dibujar  $(J_1)_1$ ,  $(J_1)_2$ , e  $I_{RED}$ . Calcular el valor eficaz de  $I_{RED}$ .

## Dos rectificadores S3 conectados a la misma línea

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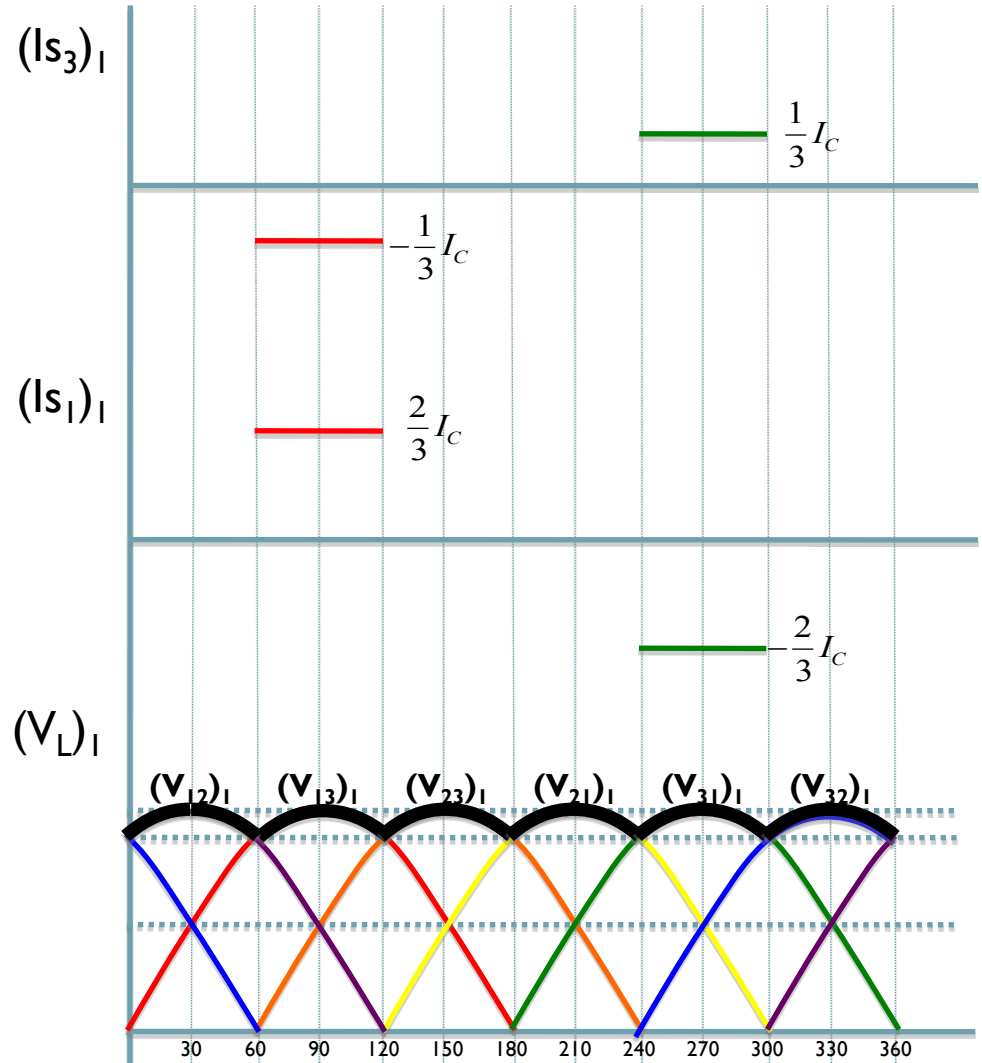
## Dos rectificadores S3 conectados a la misma línea



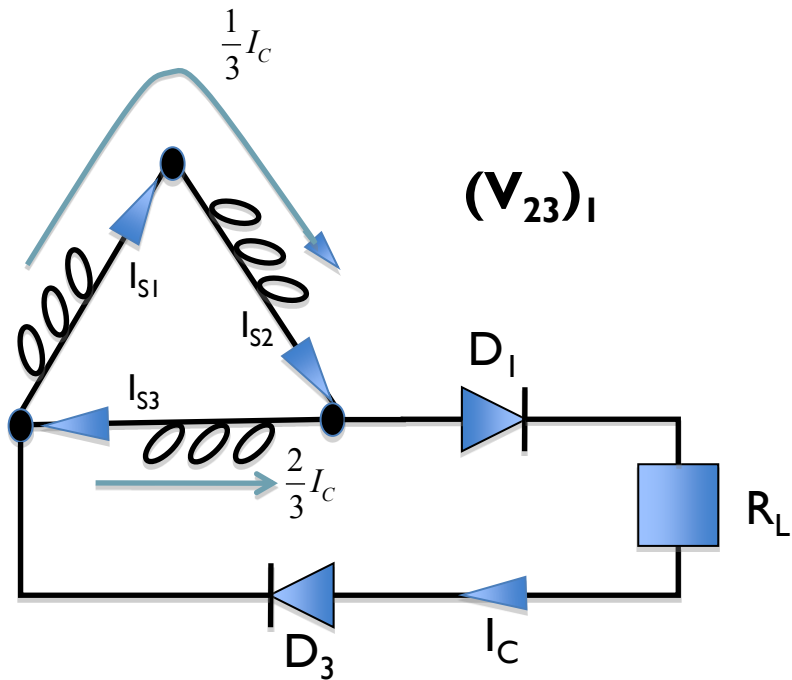
$$I_{S1} = \frac{2}{3} I_C$$

$$I_{S2} = -\frac{1}{3} I_C$$

$$I_{S3} = -\frac{1}{3} I_C$$



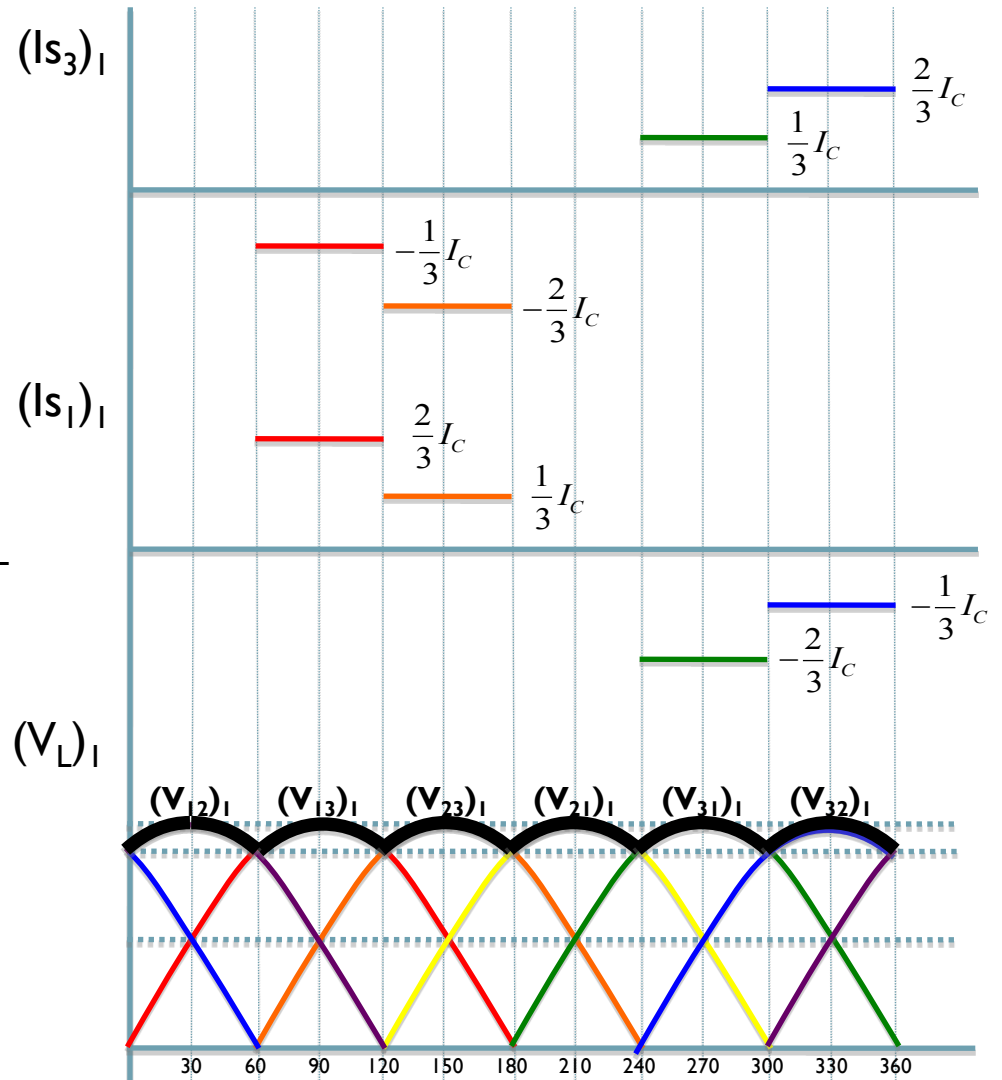
## Dos rectificadores S3 conectados a la misma línea



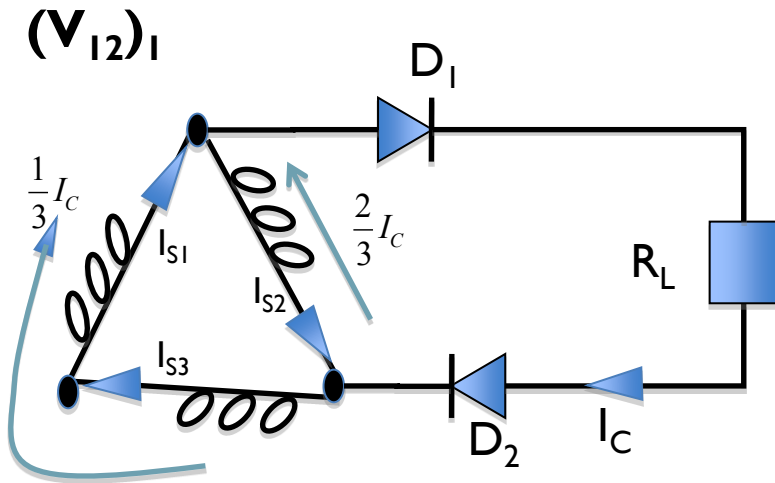
$$I_{S1} = \frac{1}{3} I_C$$

$$I_{S2} = \frac{1}{3} I_C$$

$$I_{S3} = -\frac{2}{3} I_C$$



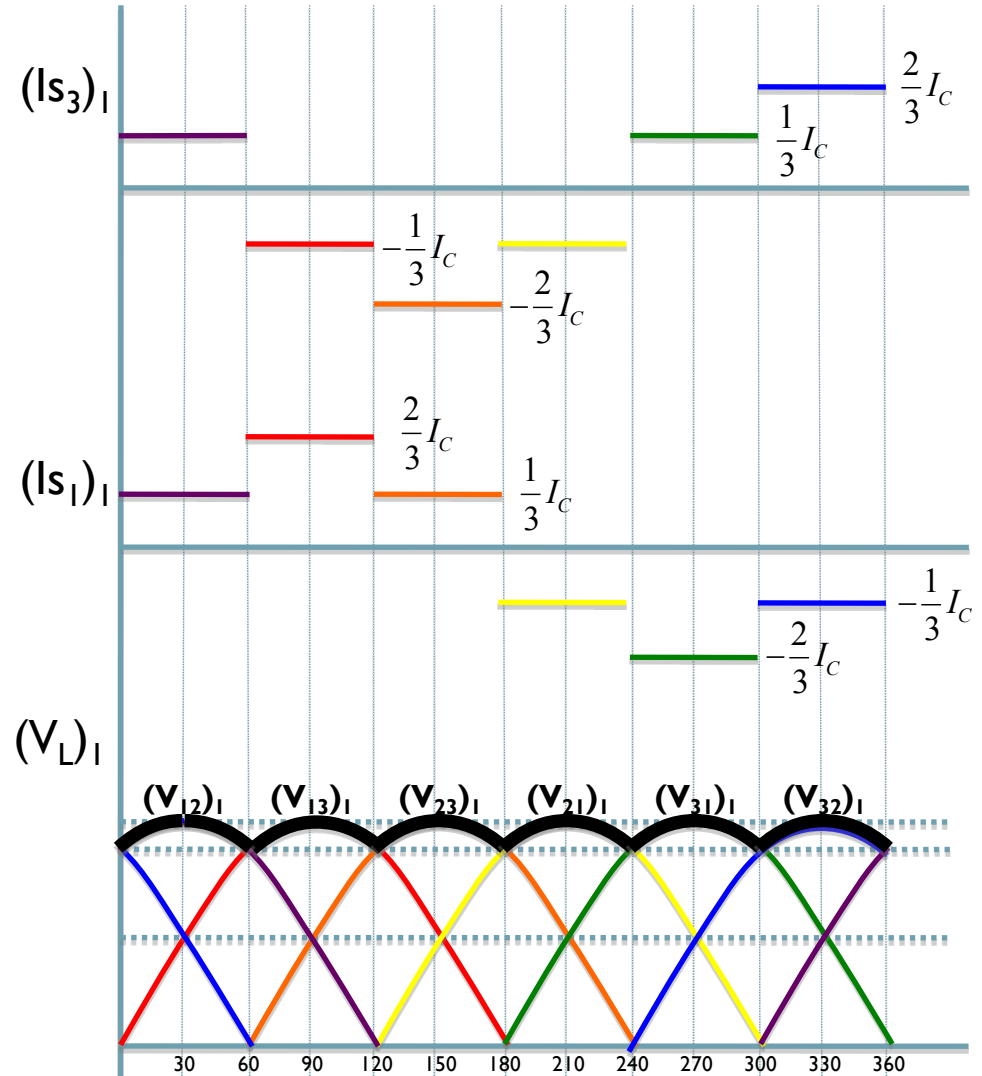
## Dos rectificadores S3 conectados a la misma línea



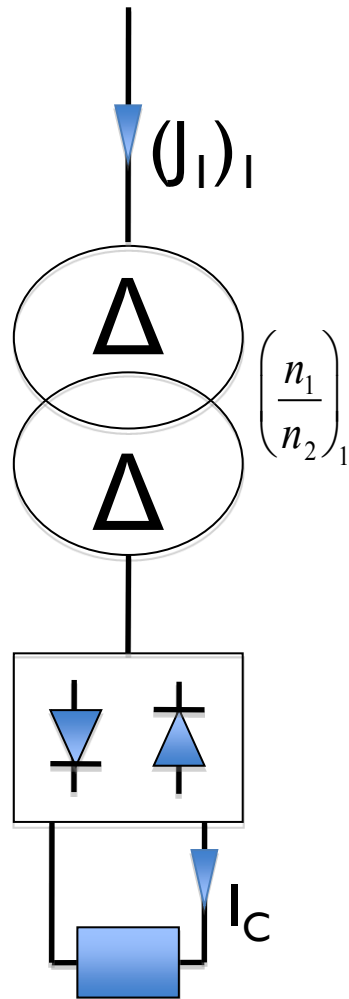
$$I_{S1} = \frac{1}{3} I_C$$

$$I_{S2} = -\frac{2}{3} I_C$$

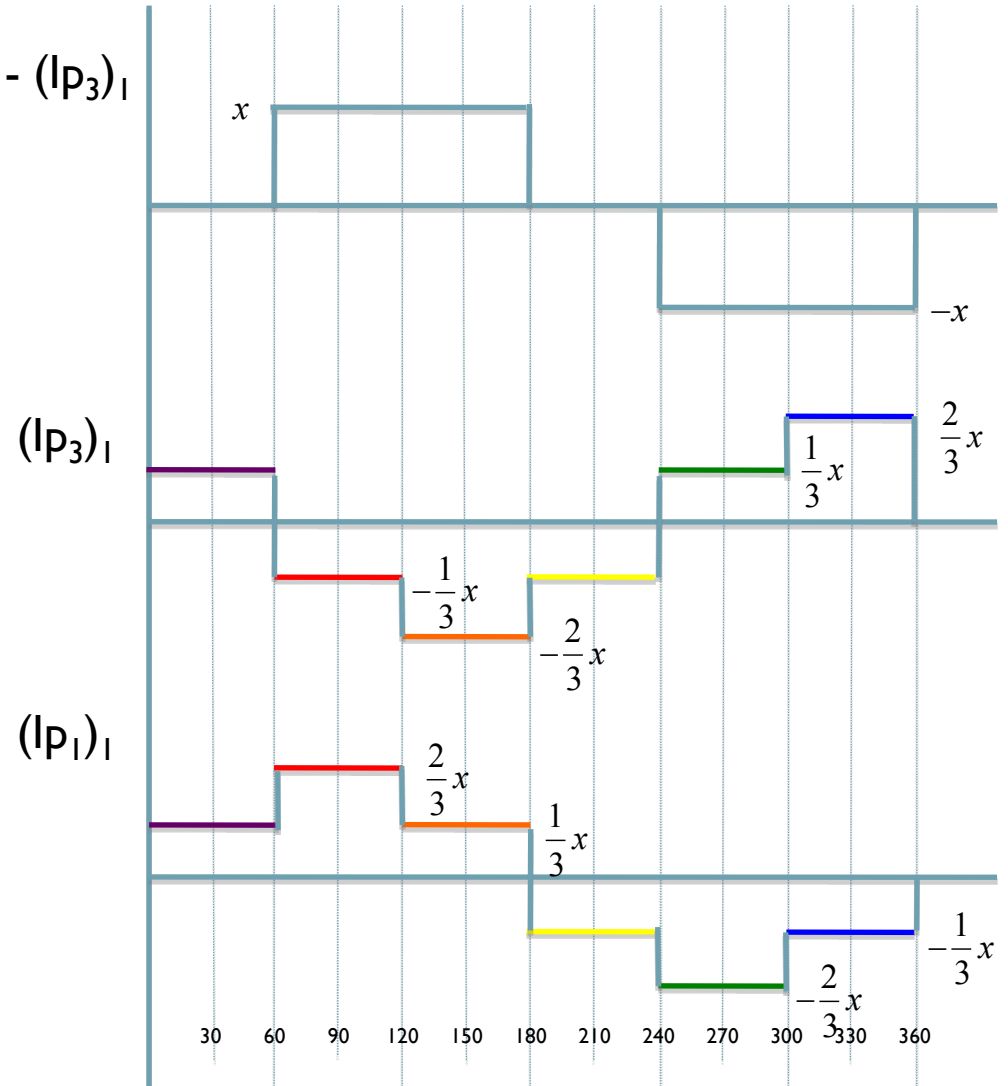
$$I_{S3} = \frac{1}{3} I_C$$



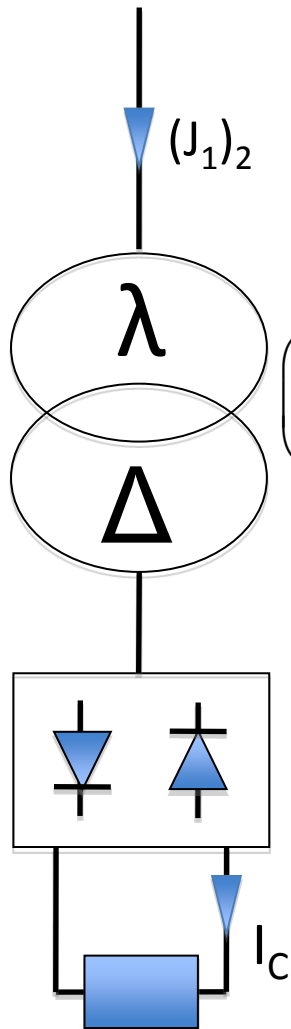
## Dos rectificadores S3 conectados a la misma línea



$$(U_1)_1 = (I_{P_1})_1 - (I_{P_3})_1$$

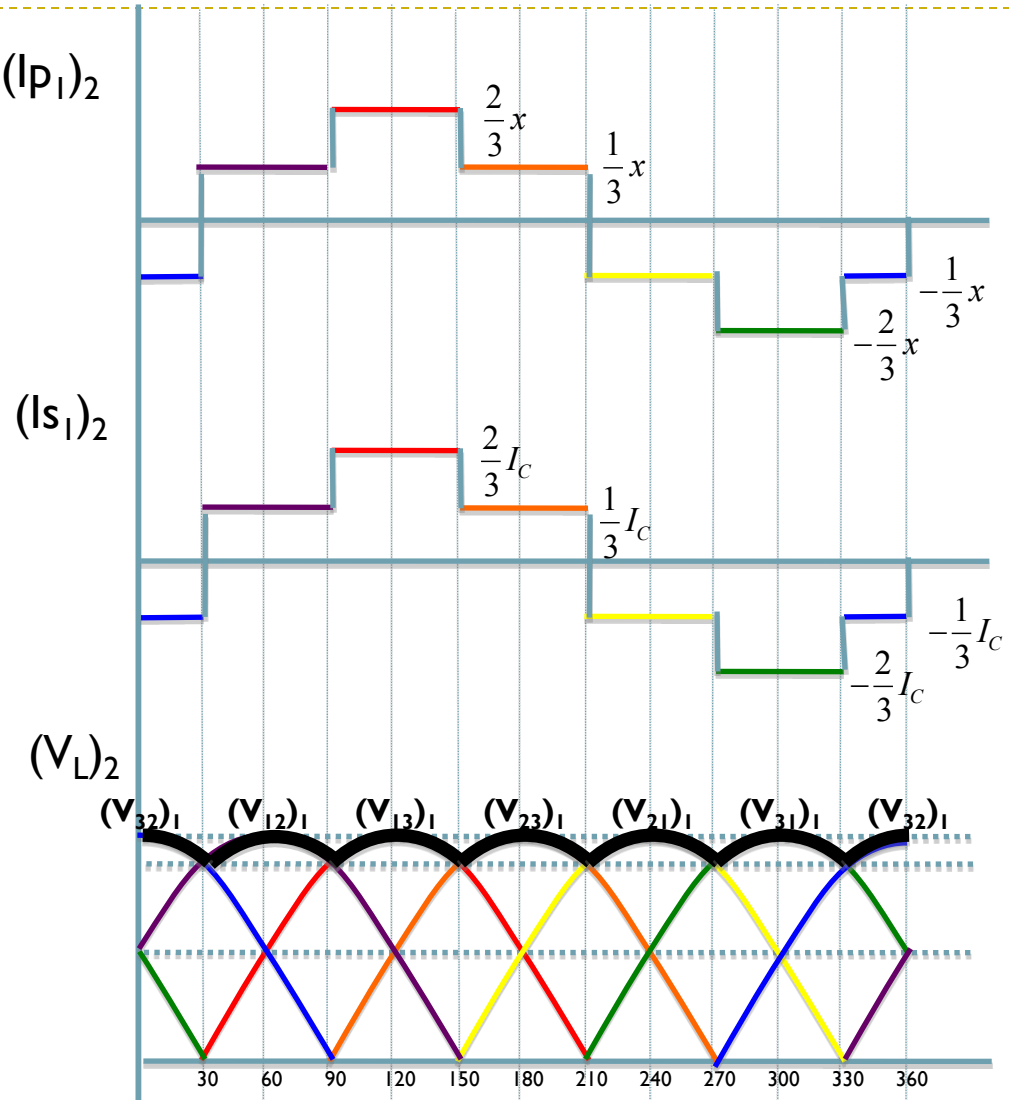


## Dos rectificadores S3 conectados a la misma línea



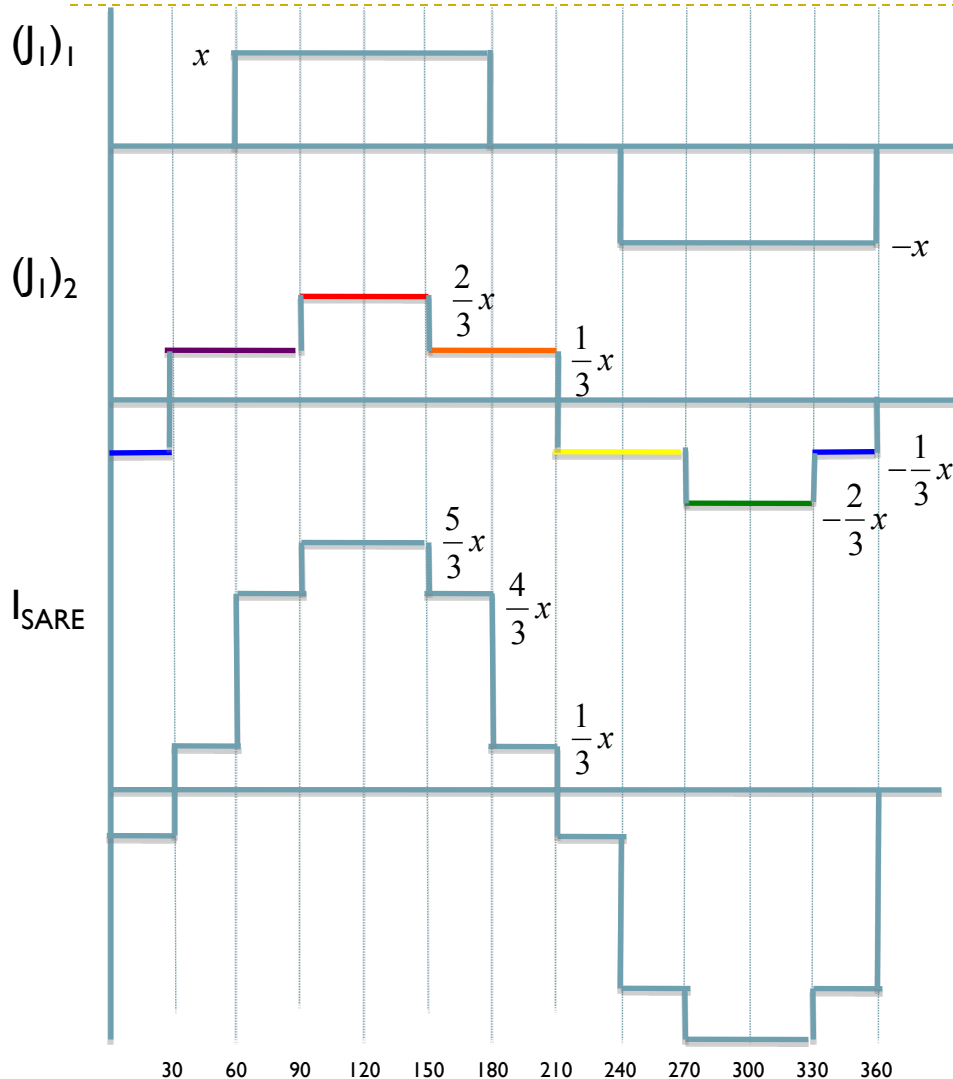
$$(J_1)_2 = (I_{P1})_2$$

$$\left(\frac{n_1}{n_2}\right)_2 = \left(\frac{n_1}{n_2}\right)_1$$





## Dos rectificadores S3 conectados a la misma línea



$$J_1 = \sqrt{\frac{1}{2\pi} \cdot \left[ 2 \cdot \frac{2\pi}{3} \cdot (x)^2 \right]} = x \cdot \sqrt{\frac{2}{3}} = \sqrt{\frac{2}{3}} \cdot \left( \frac{n_2}{n_1} \right)_1 \cdot I_C$$

$$J_2 = \sqrt{\frac{1}{2\pi} \cdot \left[ \frac{2\pi}{3} \cdot \left( \frac{2}{3}x \right)^2 + 2 \cdot \frac{2\pi}{3} \cdot \left( \frac{1}{3}x \right)^2 \right]} = x \cdot \frac{\sqrt{2}}{3} = \frac{\sqrt{2}}{3} \cdot \left( \frac{n_2}{n_1} \right)_1 \cdot I_C$$

$$I_{RED} = \sqrt{\frac{1}{2\pi} \cdot \left[ 2 \cdot \frac{\pi}{3} \cdot \left( \frac{5}{3}x \right)^2 + 2 \cdot \frac{\pi}{3} \cdot \left( \frac{4}{3}x \right)^2 + 2 \cdot \frac{\pi}{3} \cdot \left( \frac{1}{3}x \right)^2 \right]}$$

$$= x \cdot \sqrt{\left[ \frac{1}{3} \cdot \frac{25}{9} + \frac{1}{3} \cdot \frac{16}{9} + \frac{1}{3} \cdot \frac{1}{9} \right]} = x \cdot \sqrt{\frac{42}{27}}$$

$$I_{RED} = \frac{\sqrt{14}}{3} \cdot \left( \frac{n_2}{n_1} \right)_1 \cdot I_C$$