

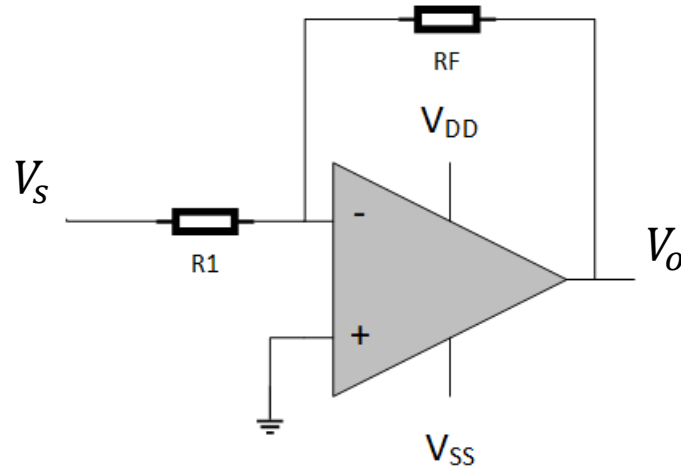
ELM320 ANALOG ELEKTRONİK

Ders Materyali

İŞLEMSEL YÜKSELTEÇ
UYGULAMALARI - BAĞIMLI
KAYNAKLAR

İŞLEMSEL YÜKSELTEÇ UYGULAMALARI - BAĞIMLI KAYNAKLAR

Gerilim kontrollü gerilim kaynağı:



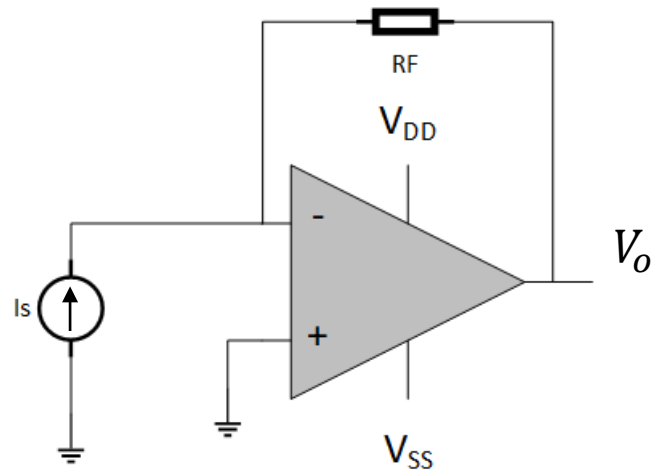
$$V_o = kV_s$$



$$V_o = -\frac{R_F}{R_1} V_s$$

İŞLEMSEL YÜKSELTEÇ UYGULAMALARI - BAĞIMLI KAYNAKLAR

Akım kontrollü gerilim kaynağı:



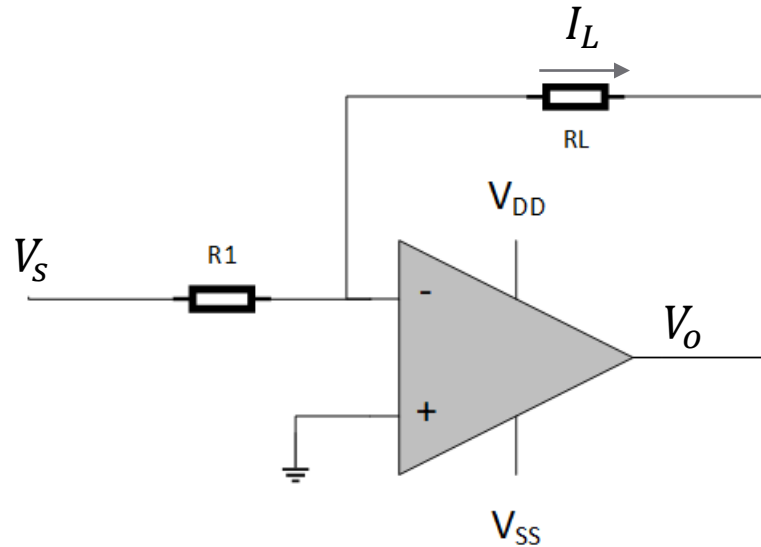
$$V_o = kI_S$$



$$V_o = -R_F \times I_S$$

İŞLEMSEL YÜKSELTEÇ UYGULAMALARI - BAĞIMLI KAYNAKLAR

Gerilim kontrollü akım kaynağı:



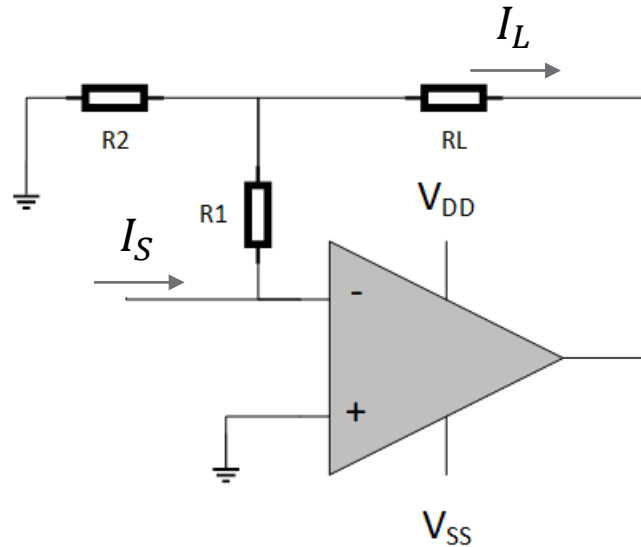
$$I_L = kV_S$$



$$I_L = \frac{V_S}{R_1}$$

İŞLEMSEL YÜKSELTEÇ UYGULAMALARI - BAĞIMLI KAYNAKLAR

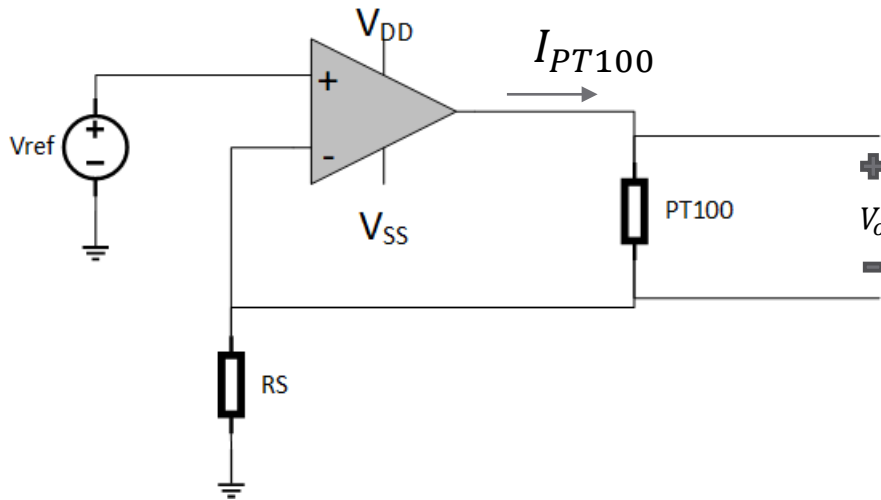
Akım kontrollü akım kaynağı:



$$I_L = kI_S \quad \longrightarrow \quad I_L = \left(1 + \frac{R_1}{R_2}\right) I_S$$

İŞLEMSEL YÜKSELTEÇ UYGULAMALARI - BAĞIMLI KAYNAKLAR

Sabit akım kaynağı (PT100 algılayıcı sürücüsü):

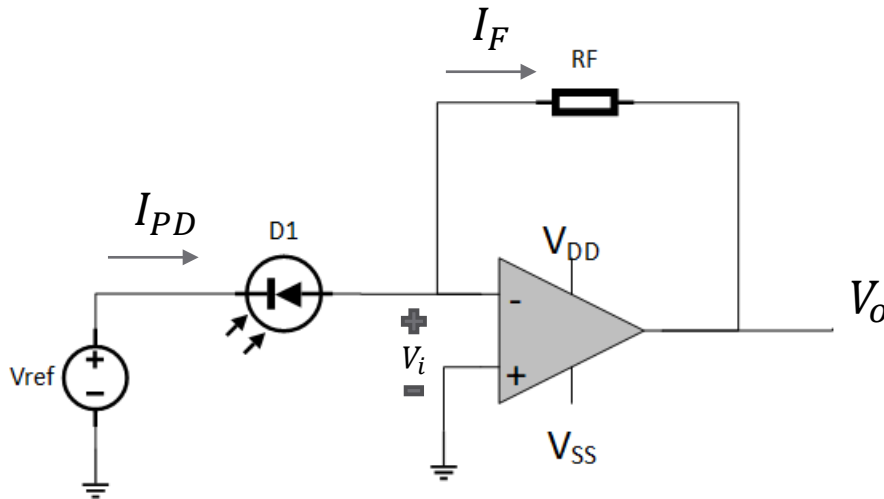


$$I_{PT100} = \frac{V_{ref}}{R_S}$$

$$V_o = R_{PT100} \times I_{PT100}$$

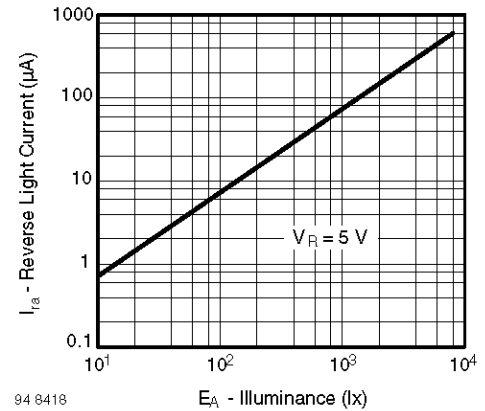
İŞLEMSEL YÜKSELTEÇ UYGULAMALARI - BAĞIMLI KAYNAKLAR

Transimpedans yükselteç:



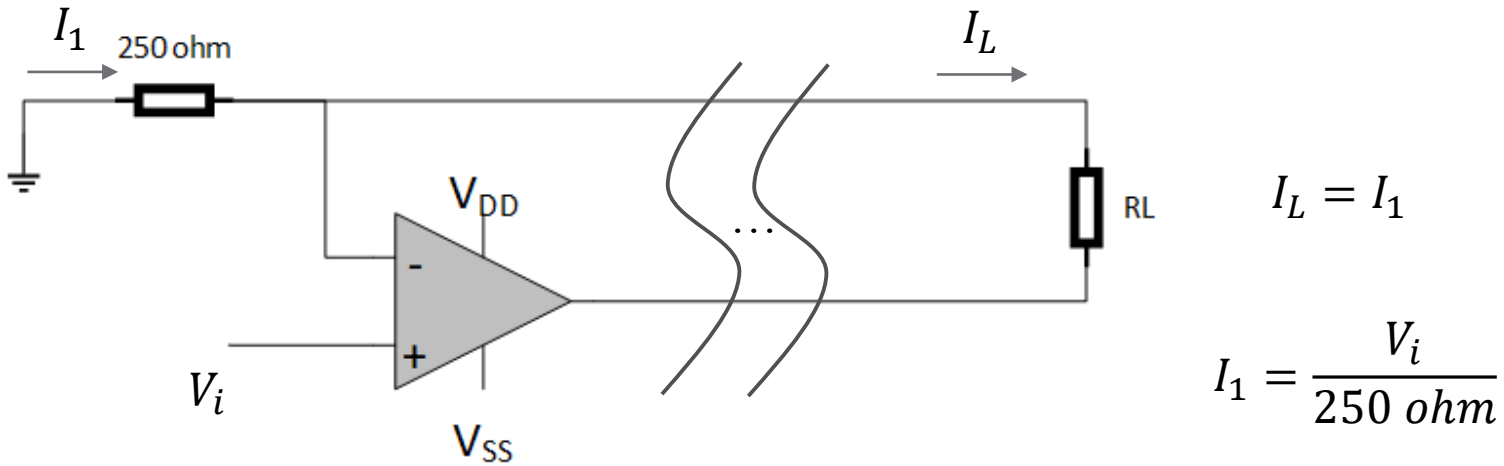
$$I_F = I_{PD}$$

$$V_o = R_F \times I_{PD}$$



İŞLEMSEL YÜKSELTEÇ UYGULAMALARI - BAĞIMLI KAYNAKLAR

4-20mA dönüştürücü:



$V_i: 1 \rightarrow 5V$



$I_L: 4 \rightarrow 20mA$

KAYNAKLAR

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