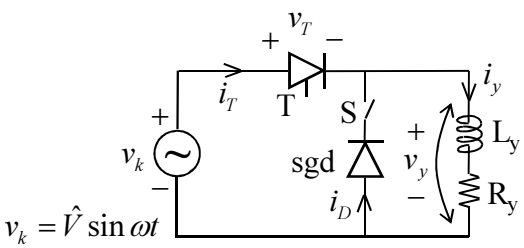
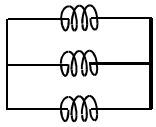
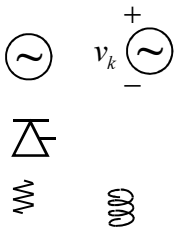
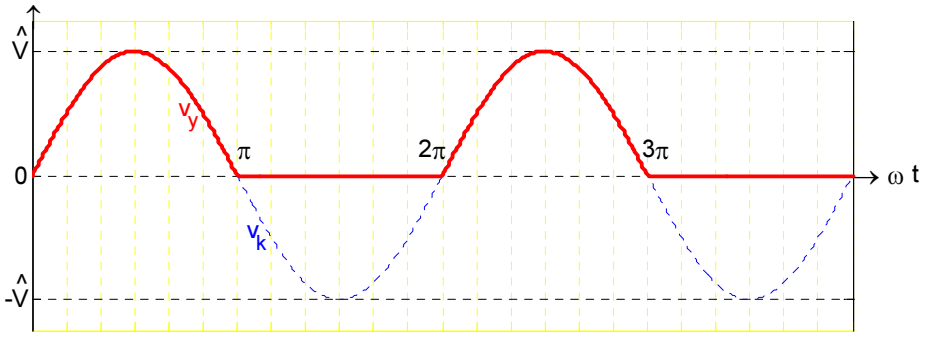


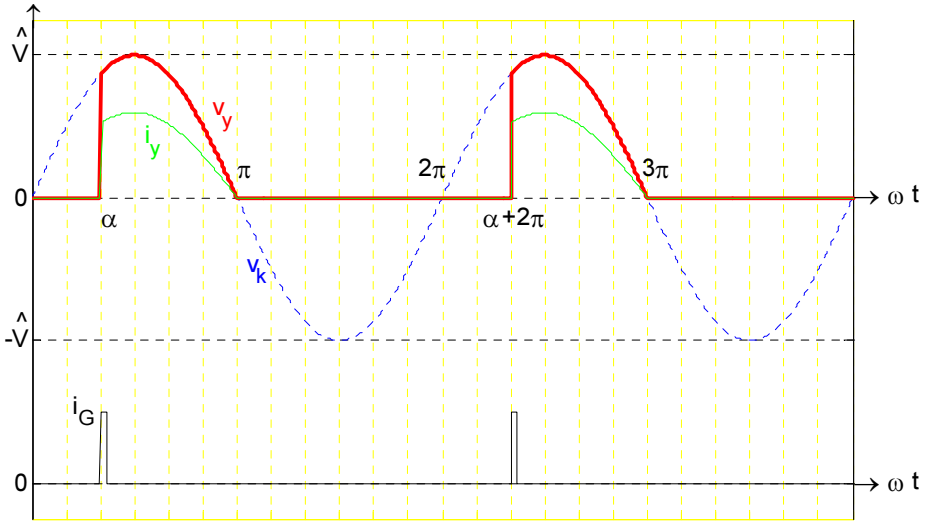




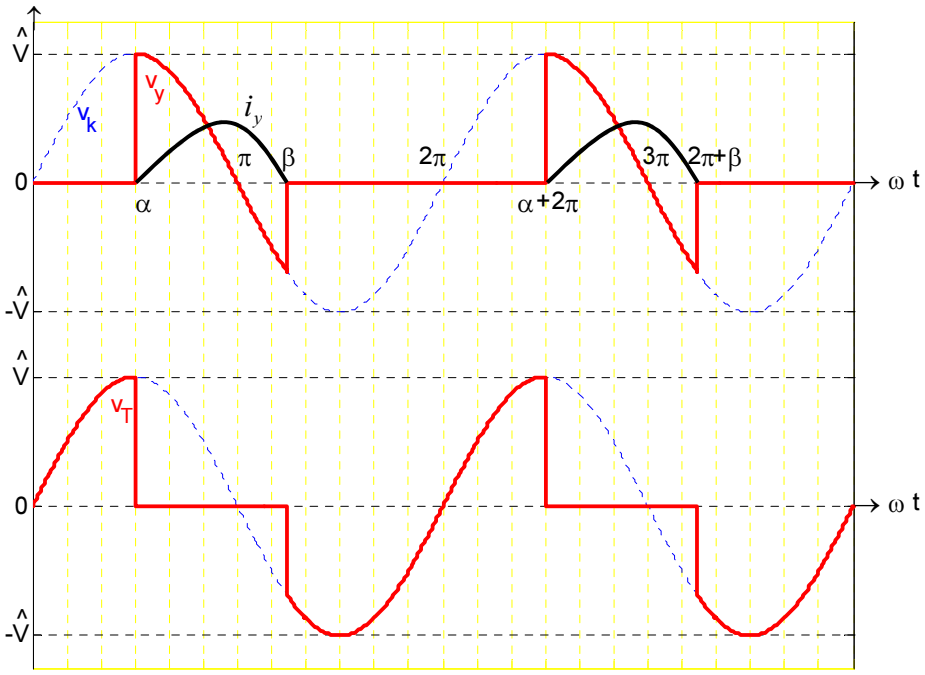
Tek fazlı yarım dalga doğrultucu (O1)

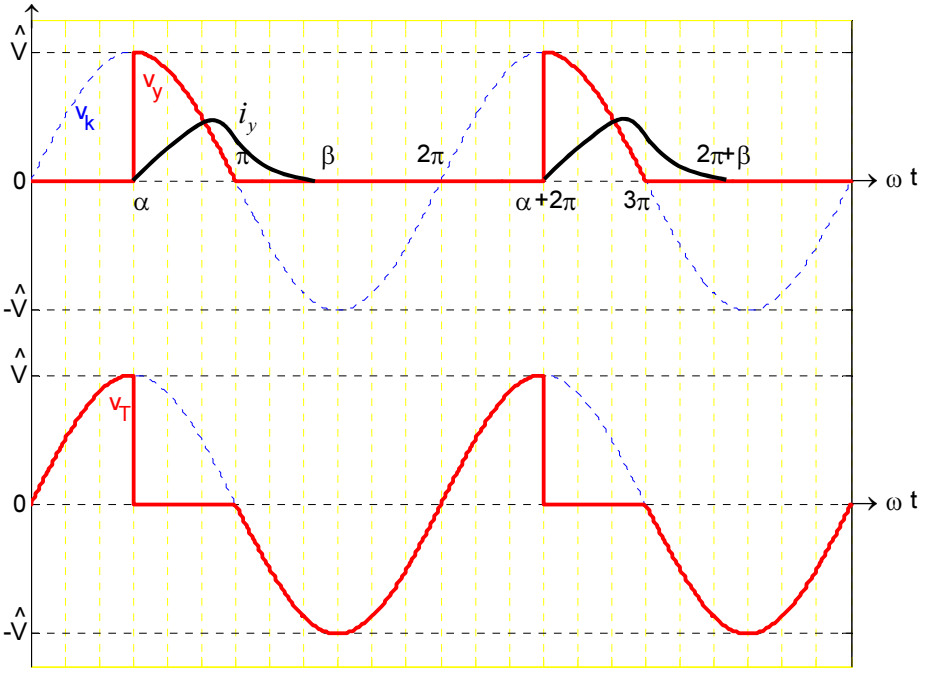


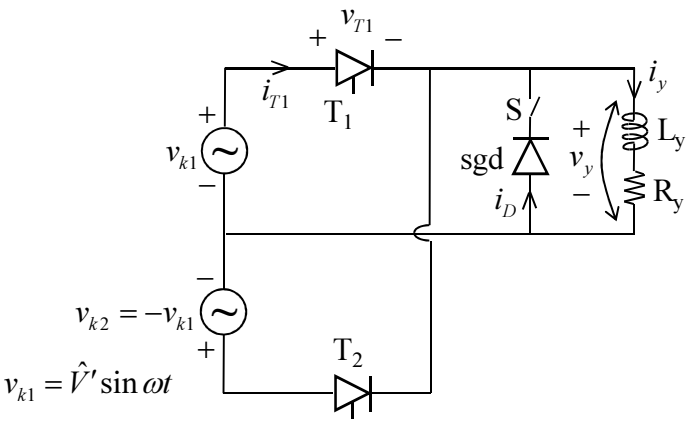
Omik yükte ve alfa = 0º(tristör yerine diyot)



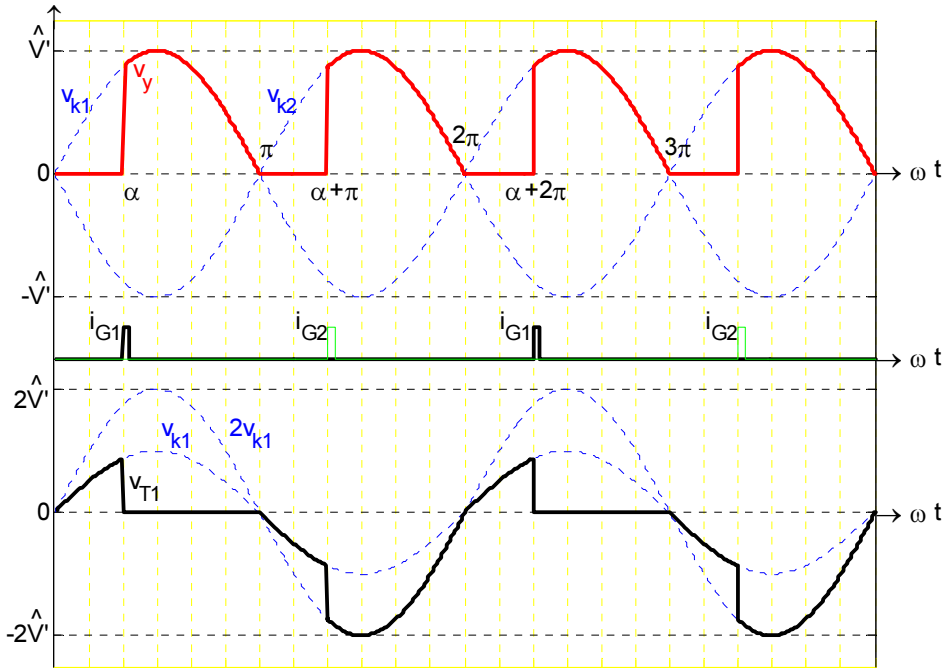
Omik yükte ve α = 60º


V̂
v_k
v_y
i_y
0
α
π
β
2π
α+2π
3π
2π+β
ω t
-V̂
V̂
v_T
0
ω t
-V̂

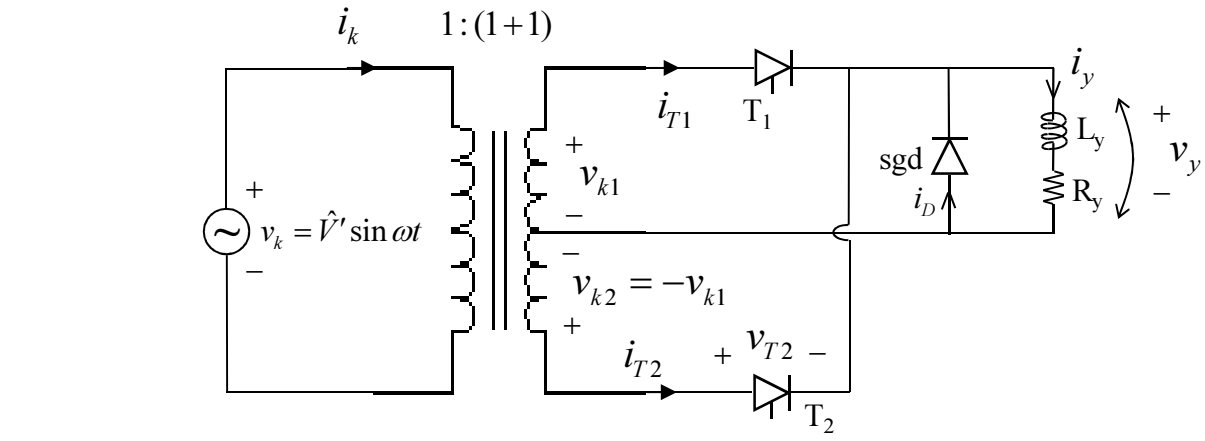

V̂
v_k
v_y
i_y
0
α
π
β
2π
α+2π
3π
2π+β
ω t
-V̂
V̂
v_T
0
ω t
-V̂

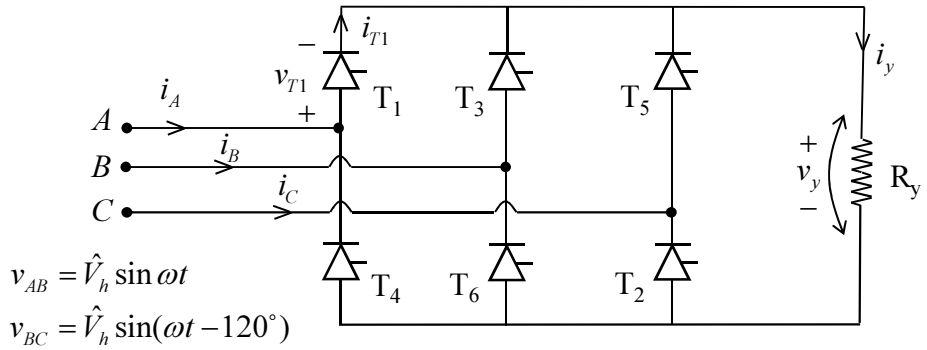


Tek fazlı tam dalga doğrultucu (O2)



Omik yükte α = 60°

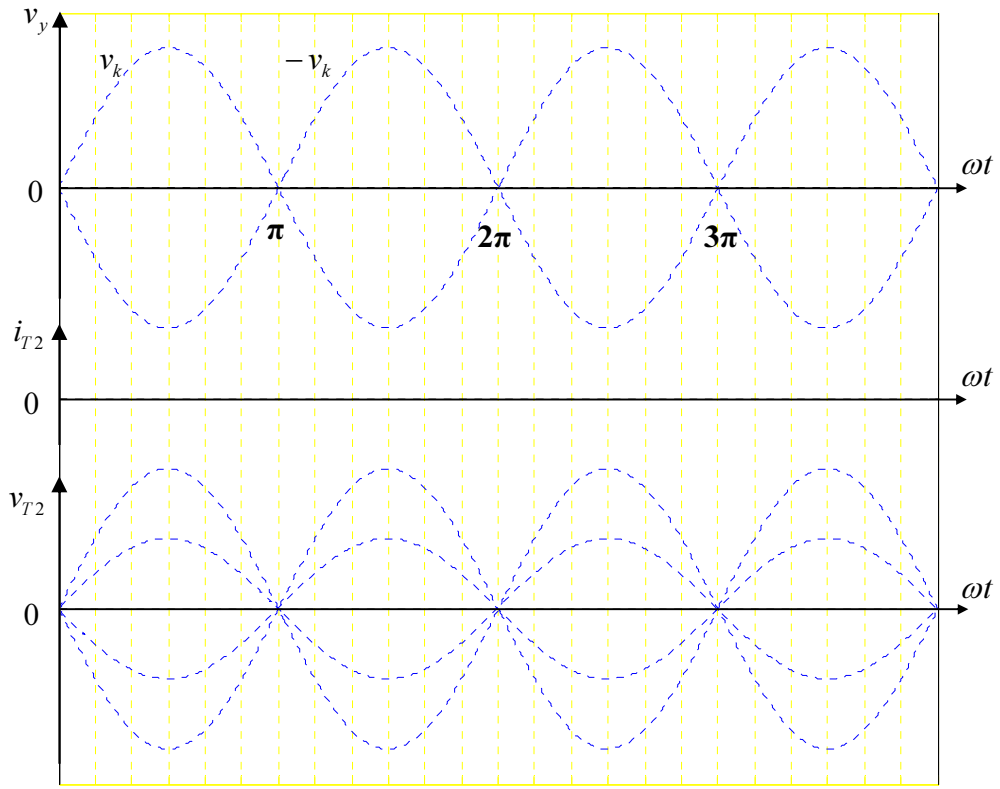


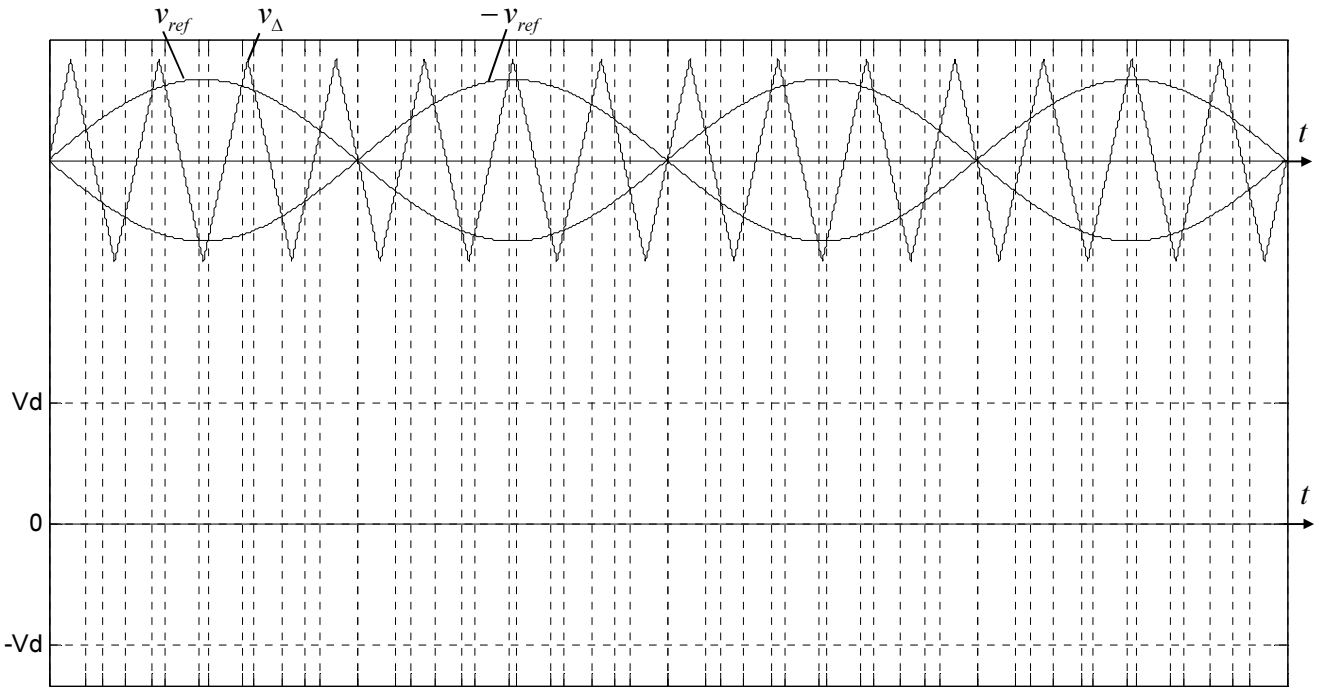


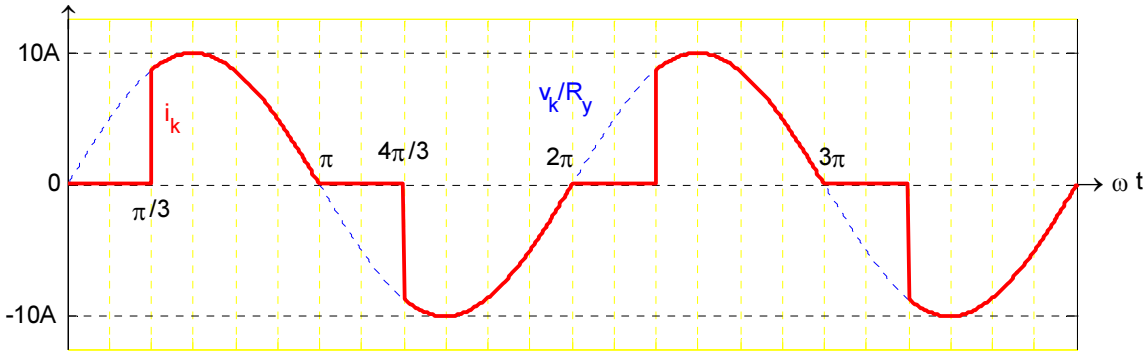
$$v_{AB} = \hat{V}_h \sin \omega t$$

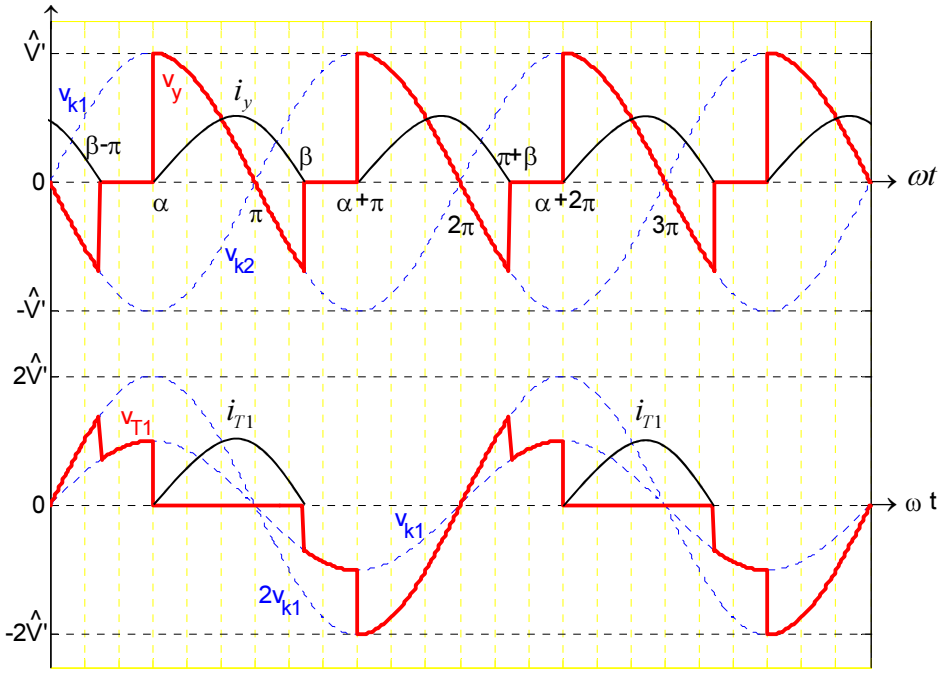
$$v_{BC} = \hat{V}_h \sin(\omega t - 120^\circ)$$

$$v_{CA} = \hat{V}_h \sin(\omega t - 240^\circ)$$

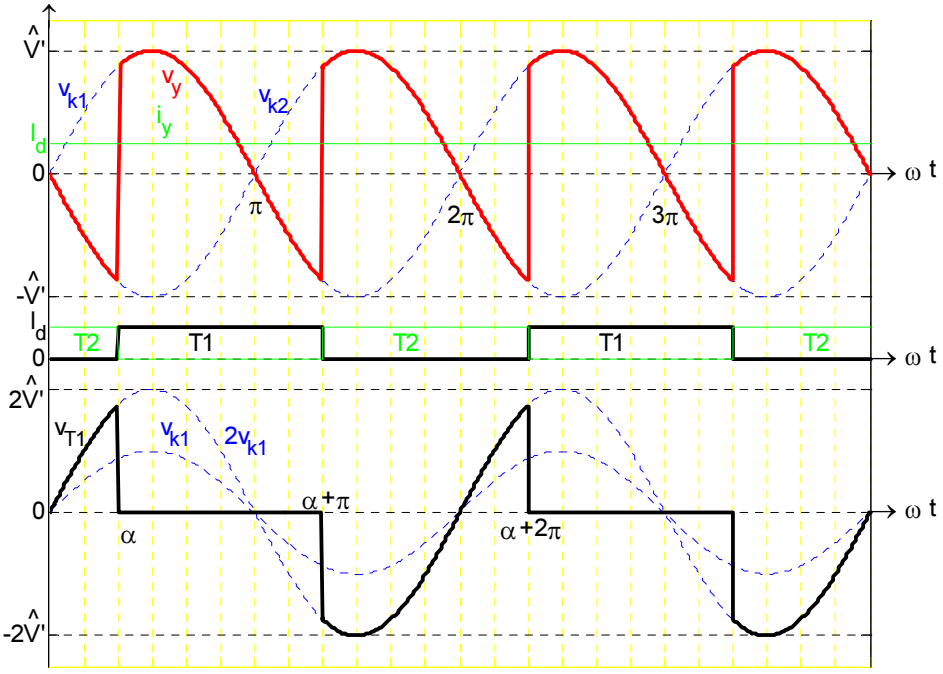



v_{ref}
v_{Δ}
$-v_{ref}$
t
Vd
0
t
-Vd

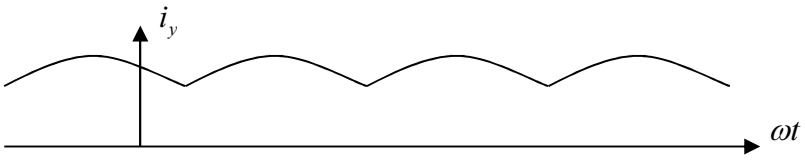

10A
i_k
v_k/R_y
π
4π/3
2π
3π
0
π/3
ω t
-10A

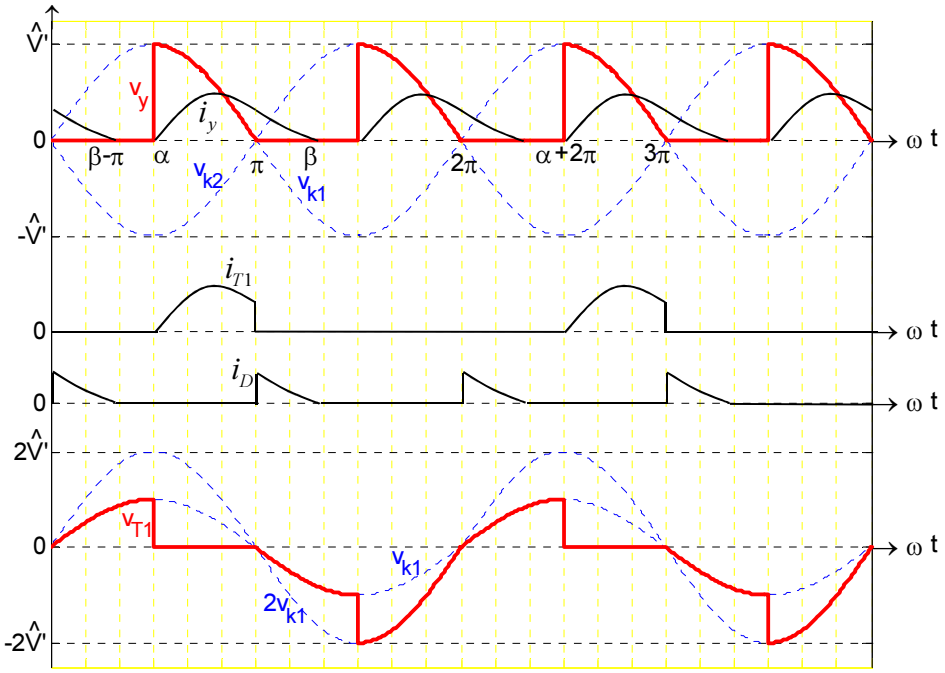


Endüktif yükte sgd yok ve α = 90º

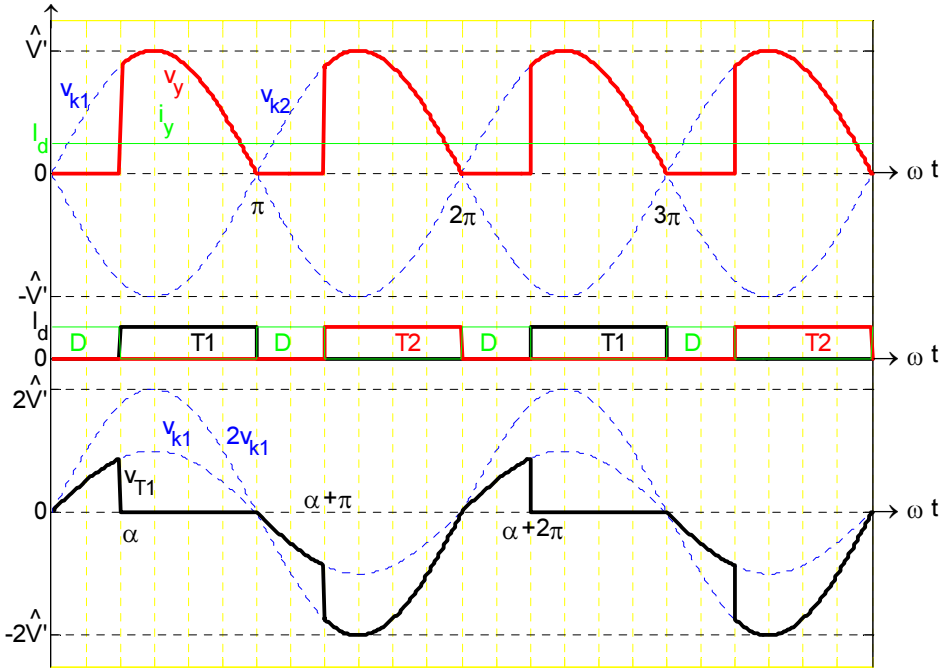


Tam süzülmüş akımlı, sgd yok ve α = 60º

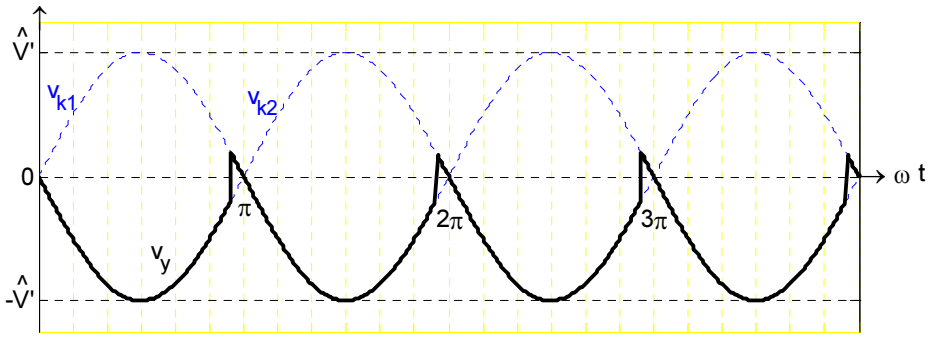




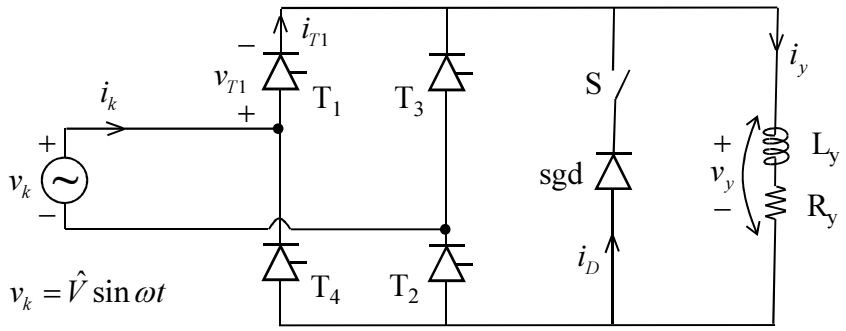
Endüktif yükte sgd var ve α = 90º



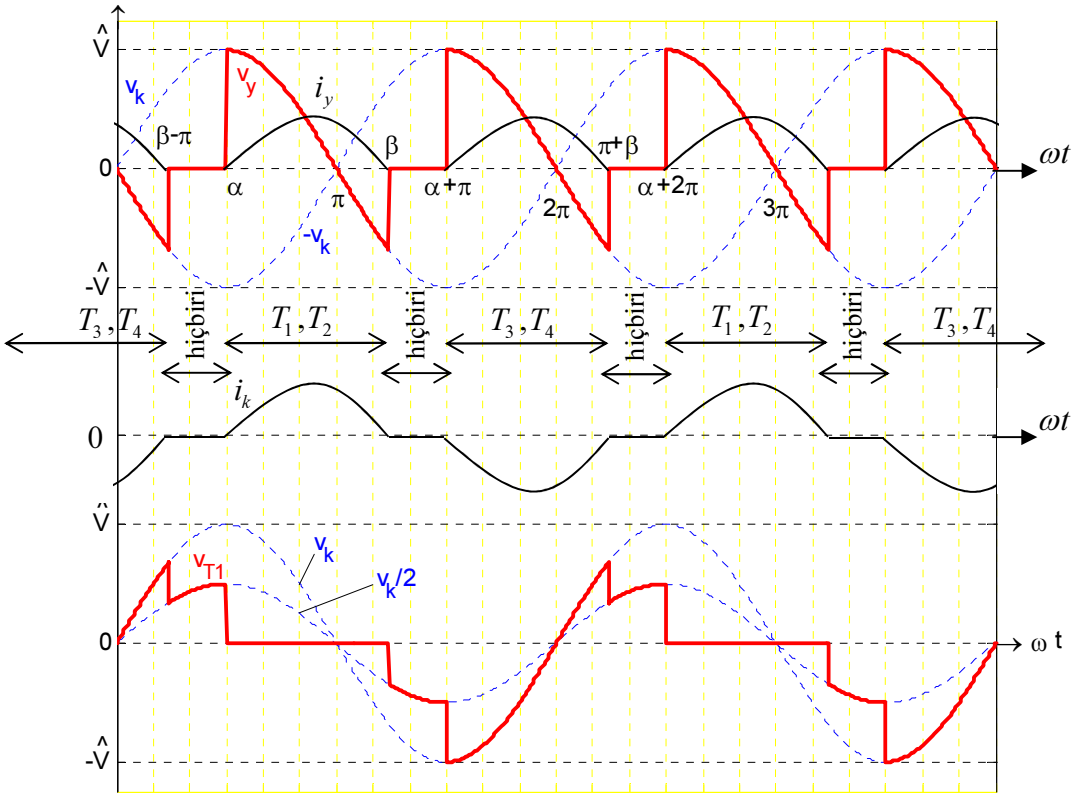
Tam süzülmüş akımlı, sgd var ve α = 60º



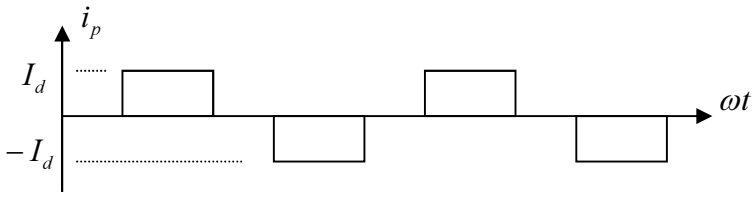
Sgd'siz tam süzülmüş akımlı, $\alpha = 180^o - \omega t_q$

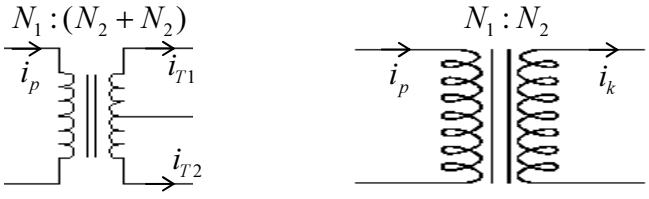


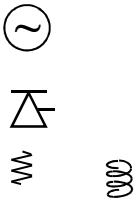
Tek fazlı tam denetimli köprü doğrultucu (K2)



Endüktif yükte sgd yok, $\alpha = 90^o$



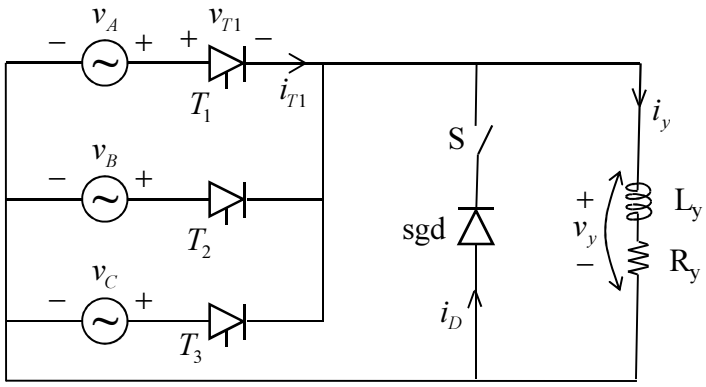




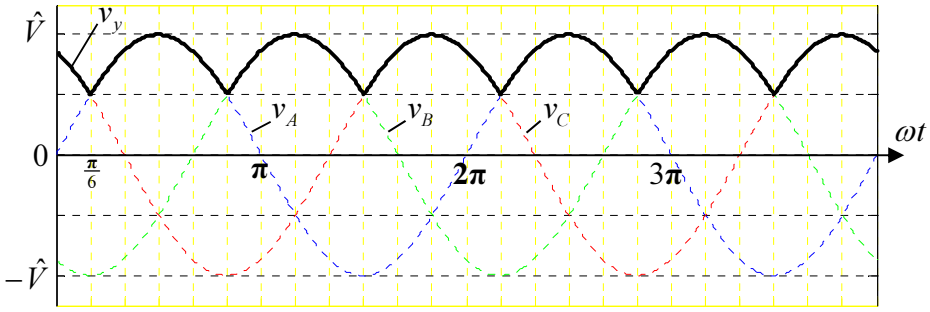
$v_A = \hat{V} \sin \omega t$

$v_B = \hat{V} \sin(\omega t - 120^\circ)$

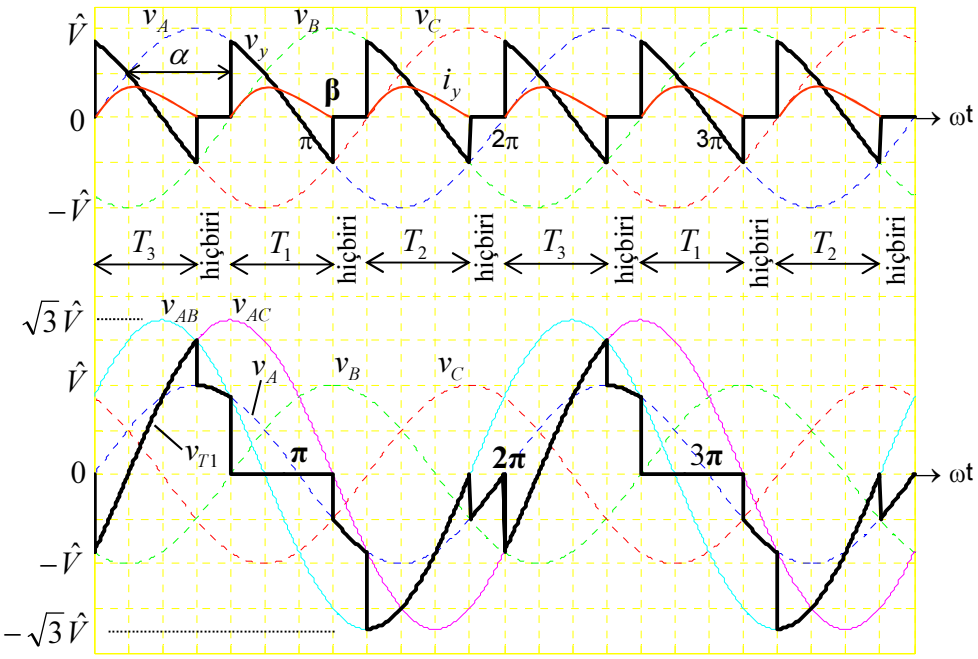
$v_C = \hat{V} \sin(\omega t - 240^\circ)$



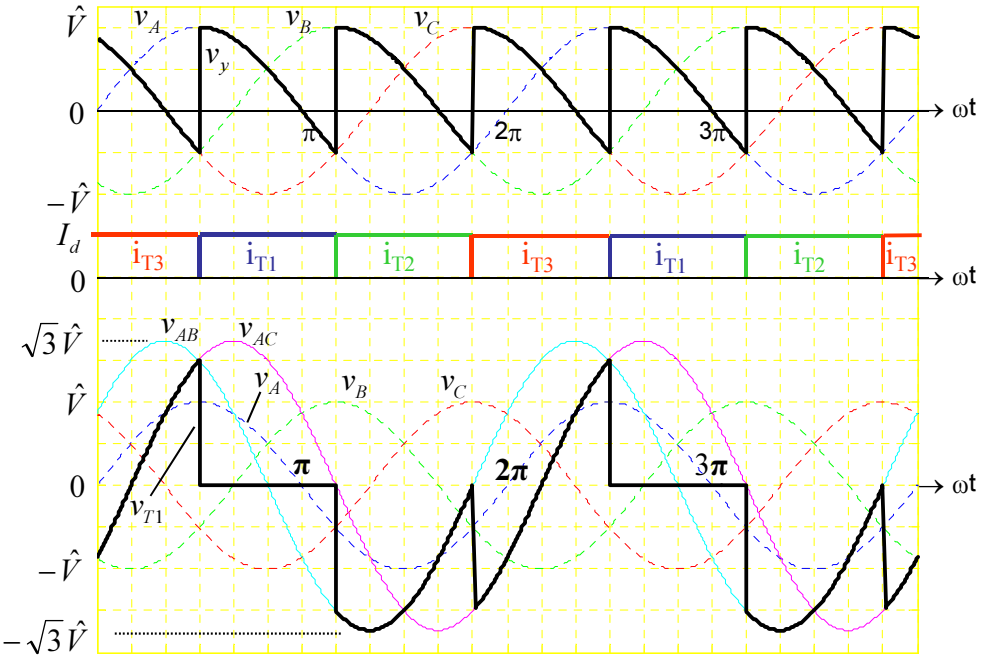
Üç fazlı orta uçlu doğrultucu (O3)



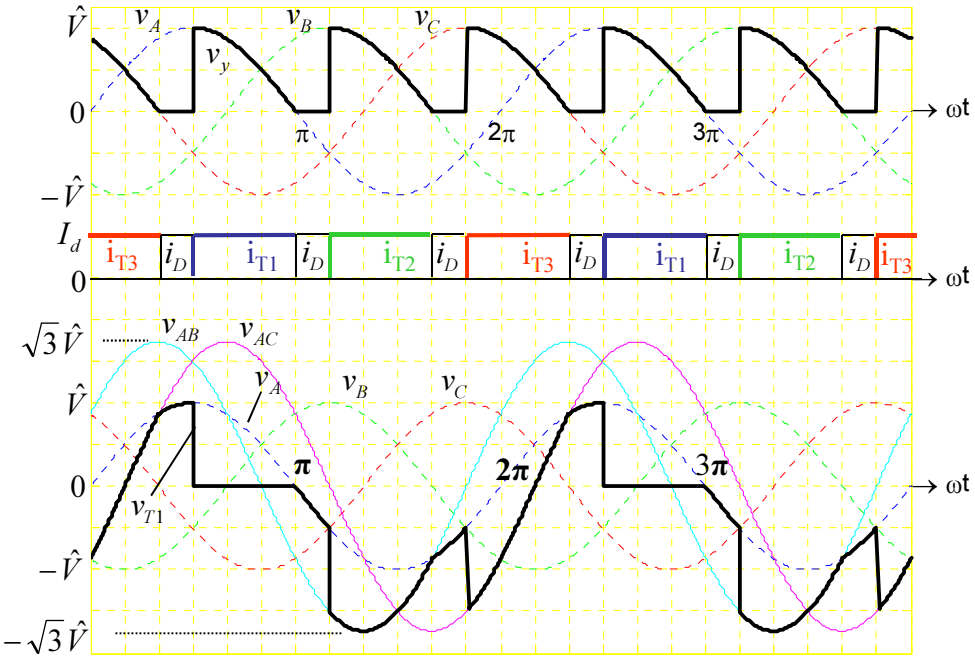
Omik yükte ve α = 0º(tristör yerine diyot)



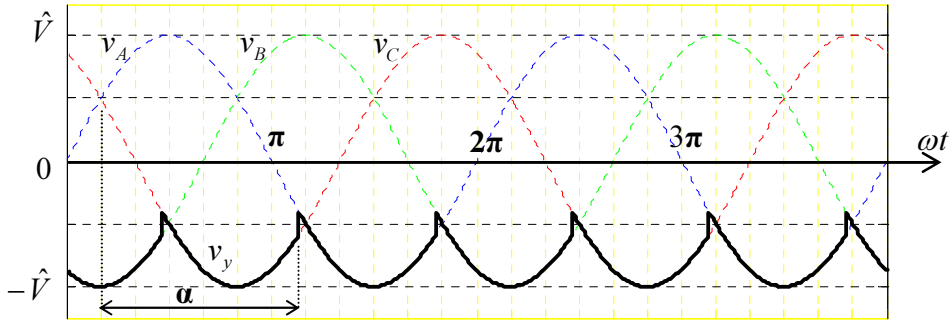
Endüktif yükte sgd yok, α = 90º



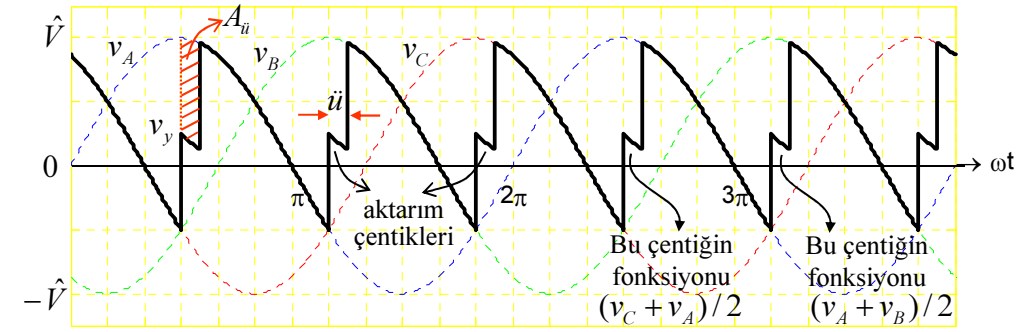
Tam süzülmüş akımlı, sgd yok, α = 60º



Tam süzülmüş akımlı, sgd var, α = 60º

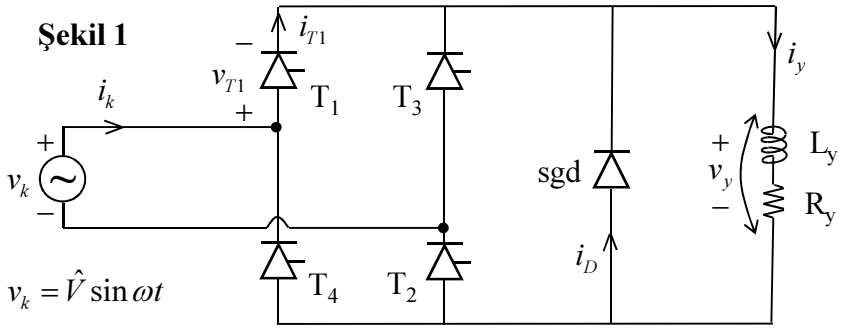


Tam süzülmüş akımlı, sgd yok, α = 180º - ωt_q

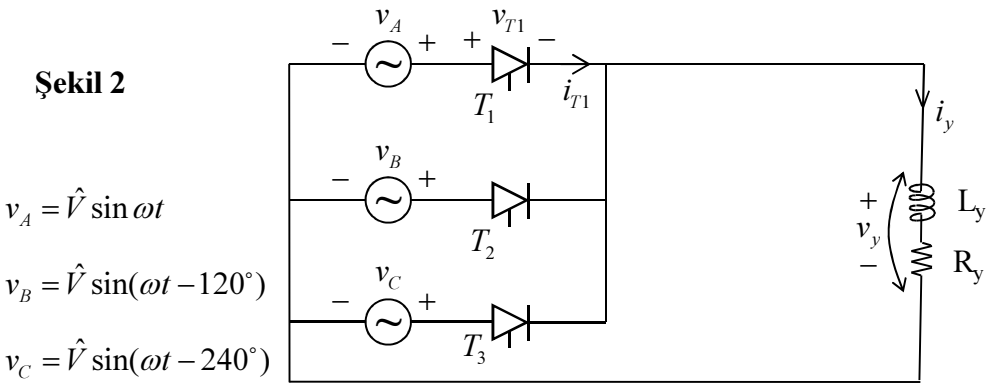


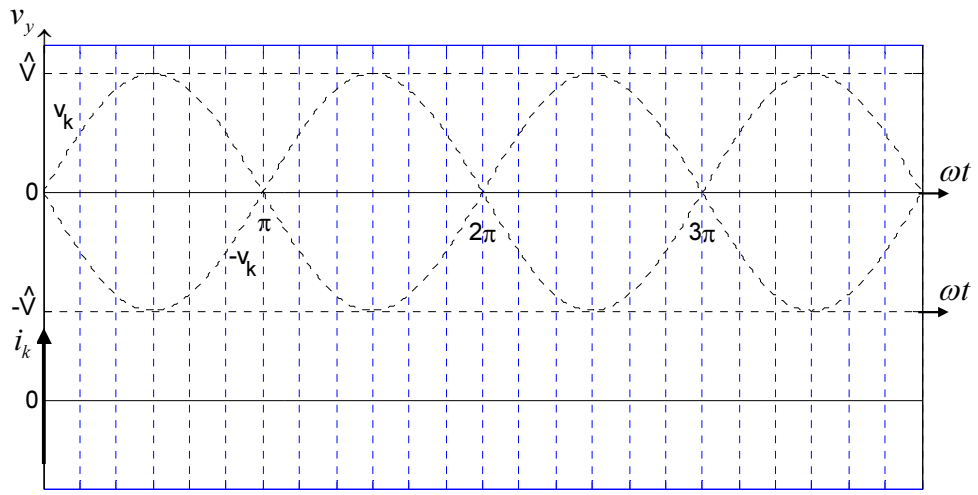
Aktarım ihmal edilmeden sgd'siz tam süzülmüş akımlı α = 60º

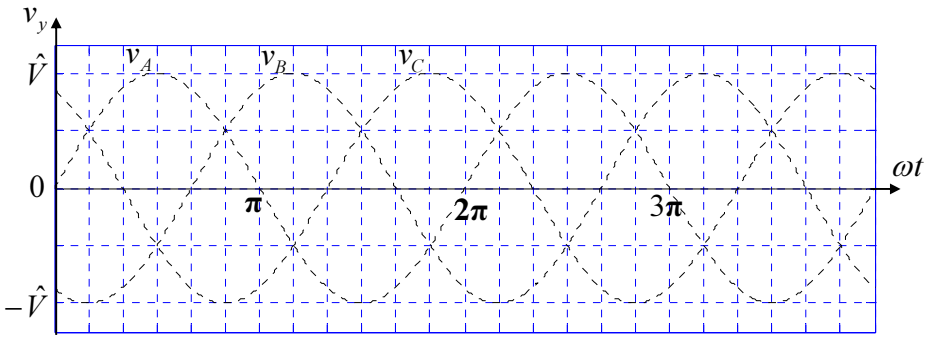
Şekil 1

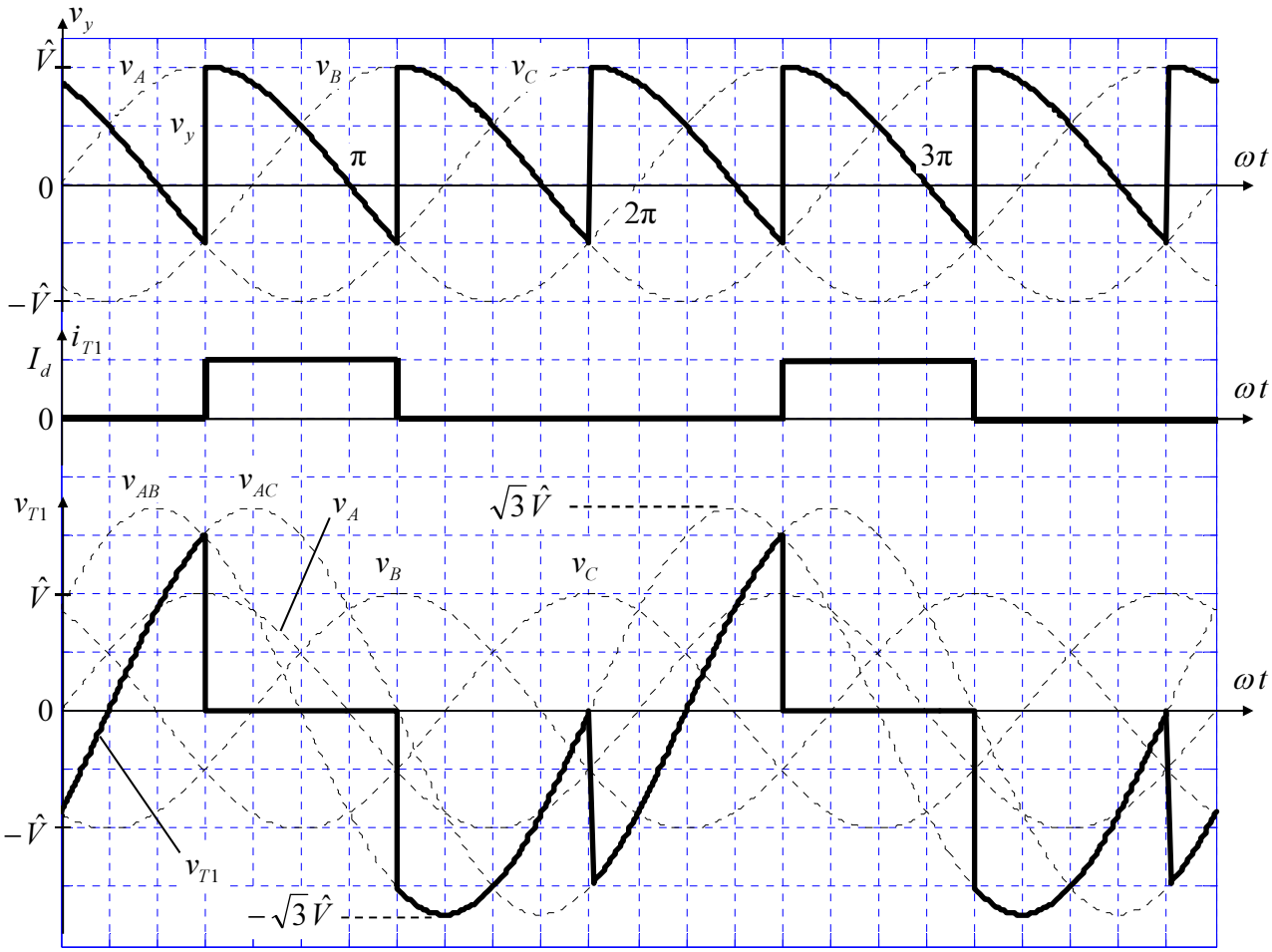


Şekil 2

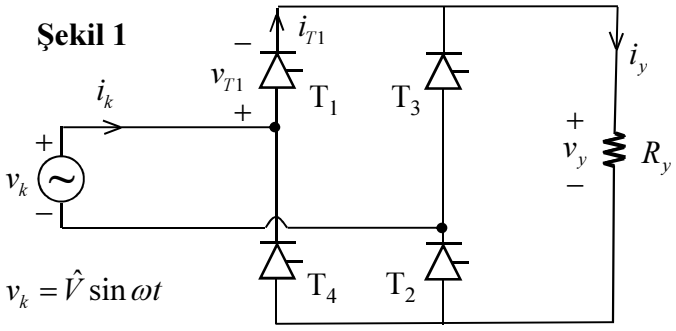


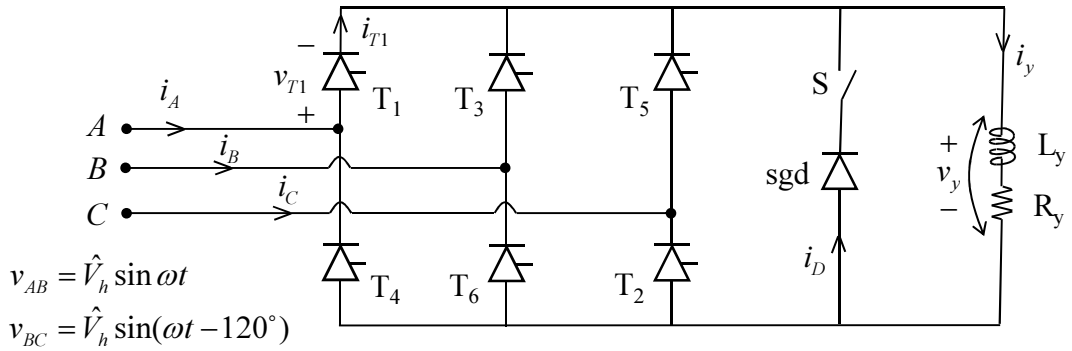





v_y
$\hat{V}$
v_A
v_B
v_C
v_y
π
3π
ωt
0
2π
$-\hat{V}$
i_{T1}
I_d
ωt
0
v_{T1}
v_{AB}
v_{AC}
v_A
$\sqrt{3}\hat{V}$
v_B
v_C
$\hat{V}$
ωt
0
$-\hat{V}$
v_{T1}
$-\sqrt{3}\hat{V}$

Şekil 1


i_{T1}
v_{T1}
T_1
T_3
i_y
i_k
v_y
R_y
v_k
T_4
T_2
$v_k = \hat{V}\sin\omega t$

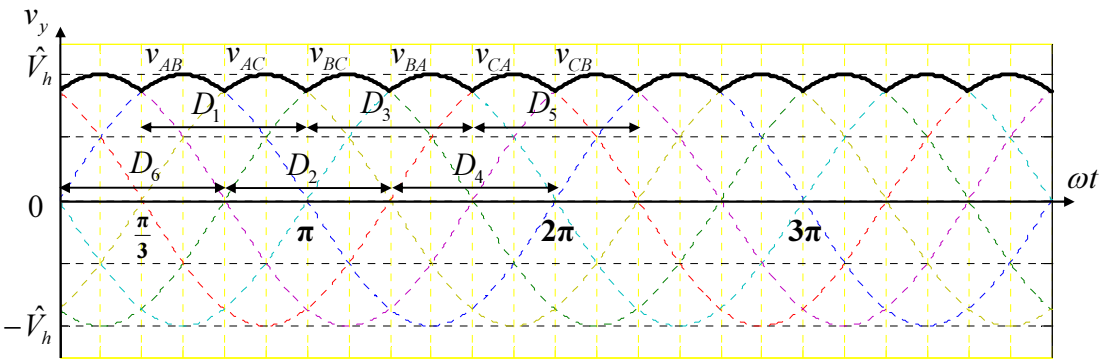


$v_{AB} = \hat{V}_h \sin \omega t$

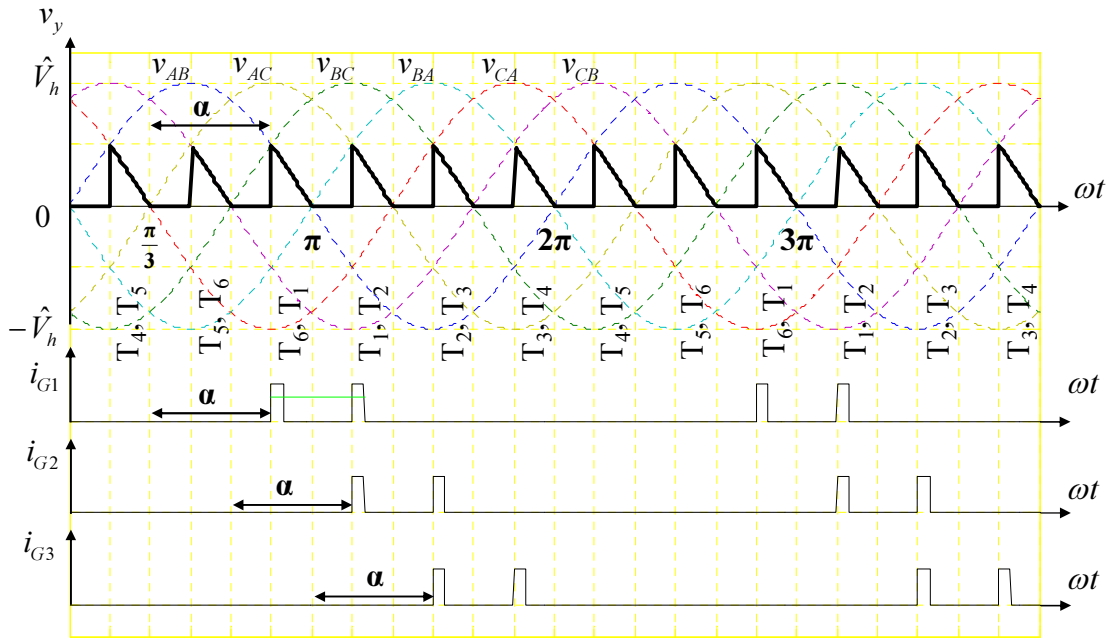
$v_{BC} = \hat{V}_h \sin(\omega t - 120^\circ)$

$v_{CA} = \hat{V}_h \sin(\omega t - 240^\circ)$

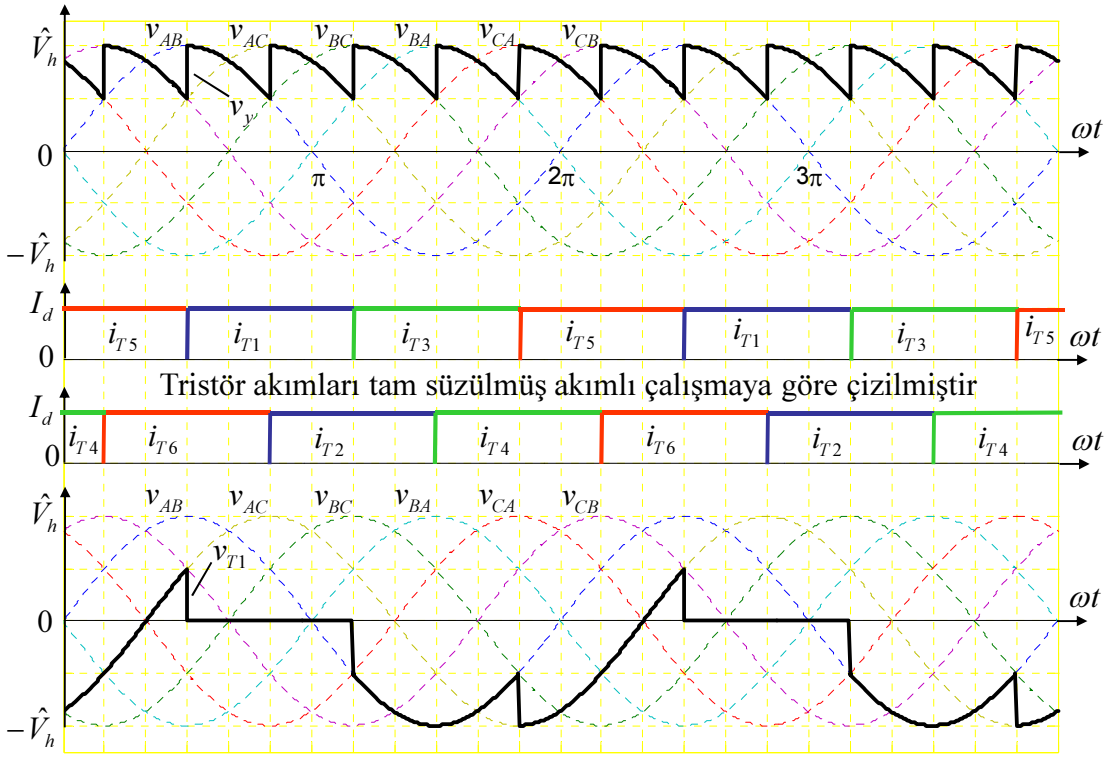
Üç fazlı tam denetimli köprü doğrultucu (K6)



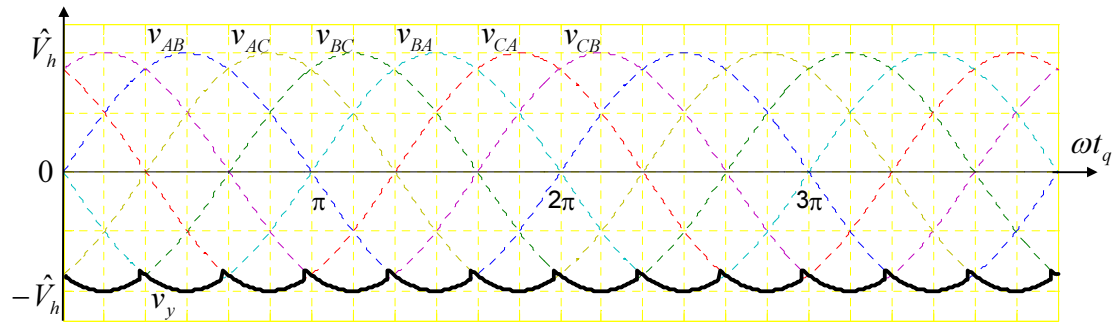
Omik yükte ve α = 0º(tristör yerine diyot)



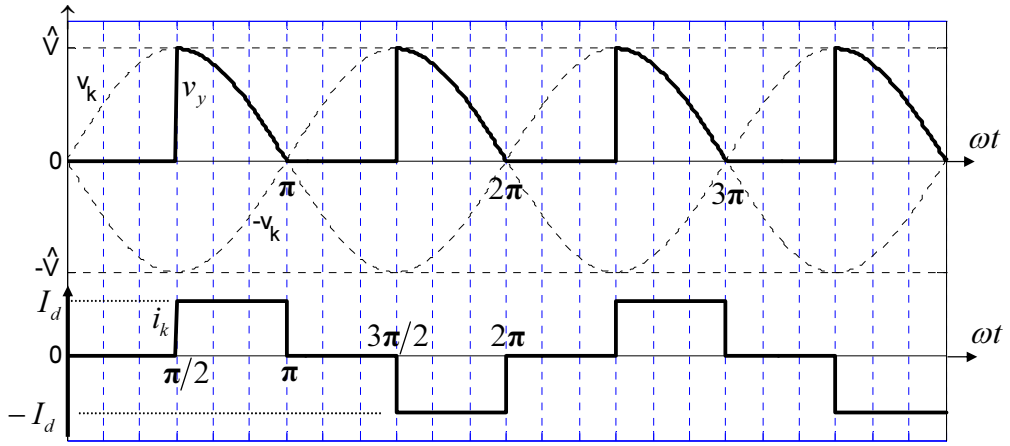
Omik yükte ya da sgd'li tam süzülmüş akımlı çalışmada α = 90º

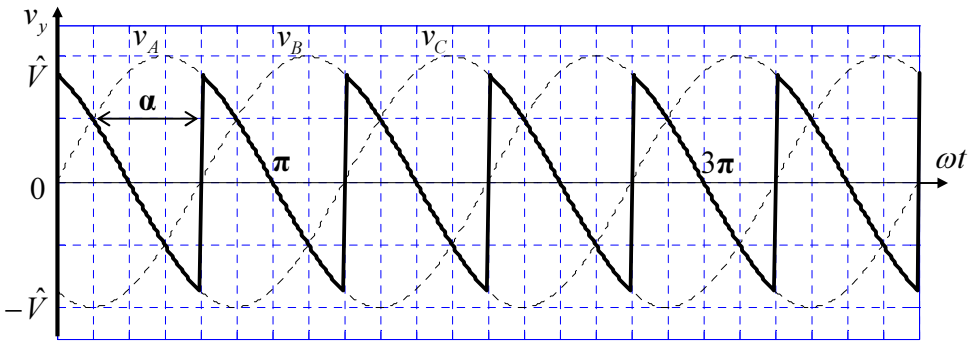


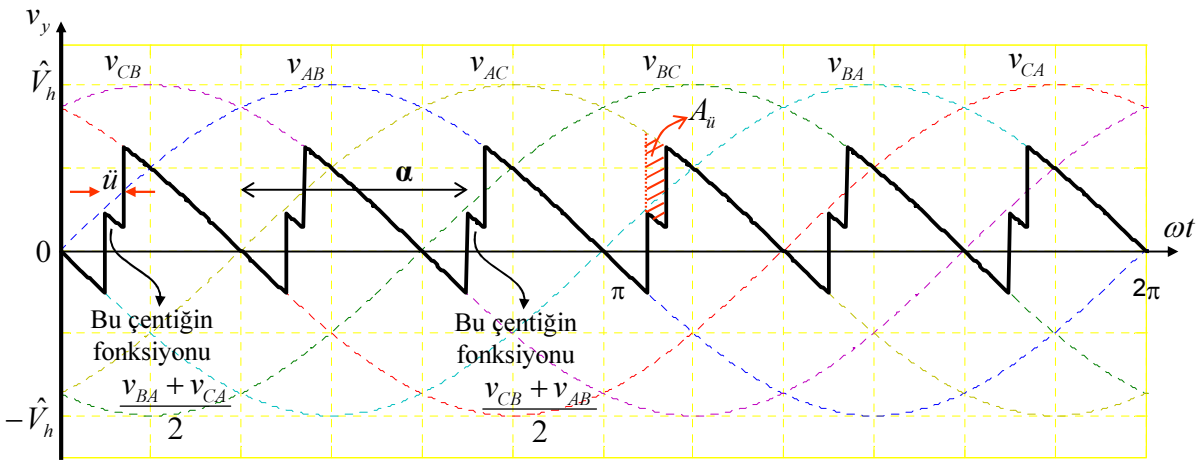
Kapasitif olmayan herhangi bir yük durumunda (sgd önemsiz) α ≤60º (α = 30º)



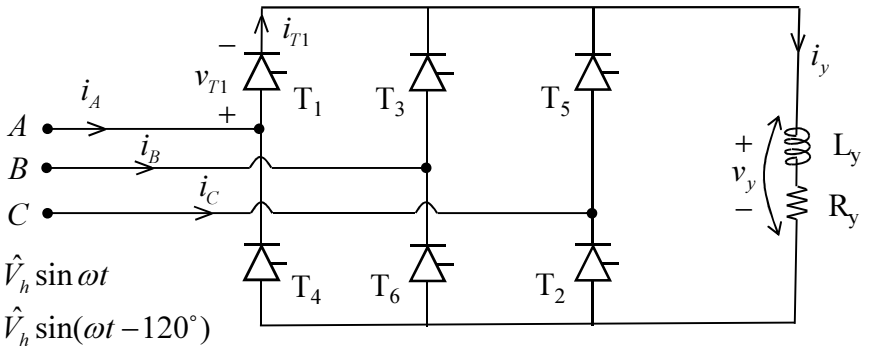
Tam süzülmüş akımlıda α = 180º - ωt_q







K6’da aktarım ihmal edilmeden, tam süzülmüş akımlı, α = 75°

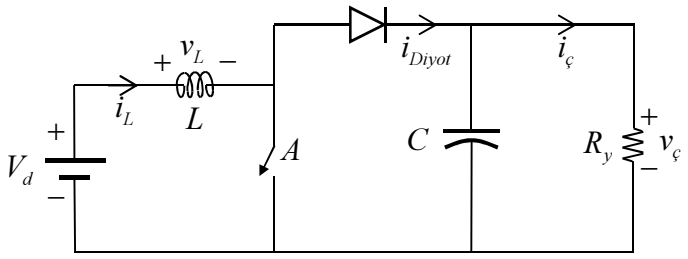


$$v_{AB} = \hat{V}_h \sin \omega t$$

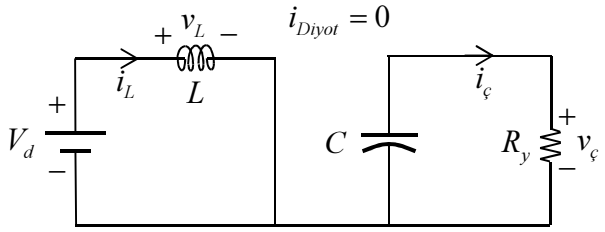
$$v_{BC} = \hat{V}_h \sin(\omega t - 120^\circ)$$

$$v_{CA} = \hat{V}_h \sin(\omega t - 240^\circ)$$

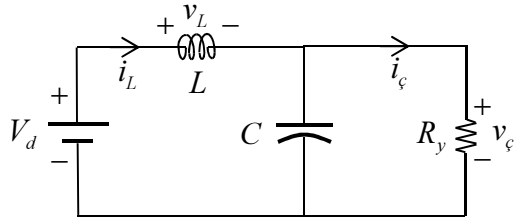
Üç fazlı tam denetimli köprü doğrultucu (K6)



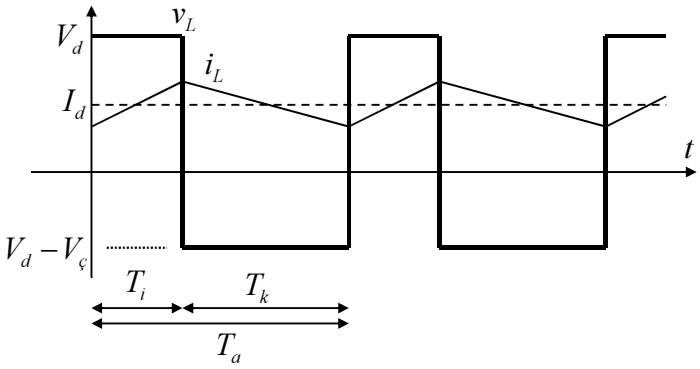
Yükseltici DC/DC çevirici

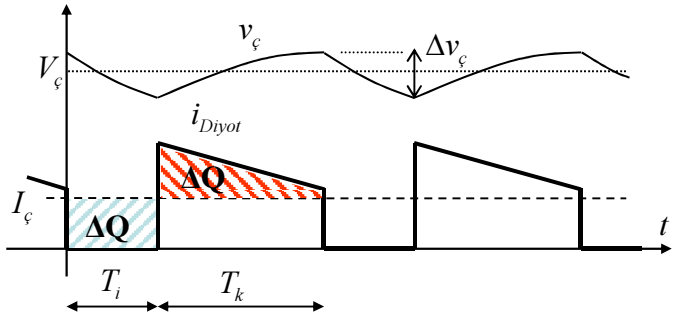


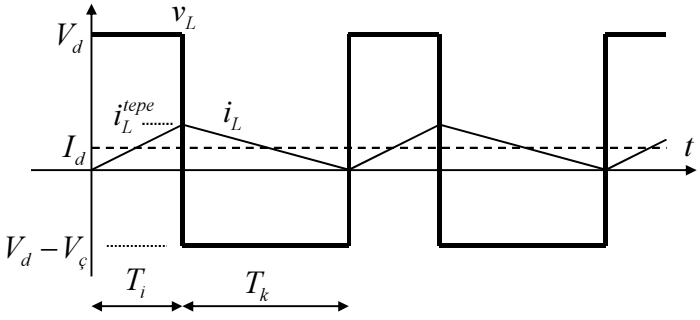
A anahtarı iletimdeyken devrenin eşdeğeri

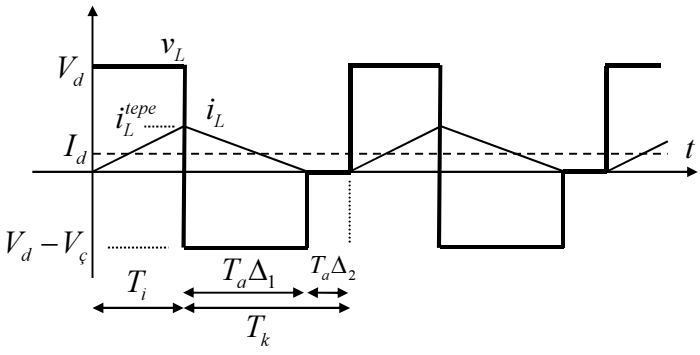


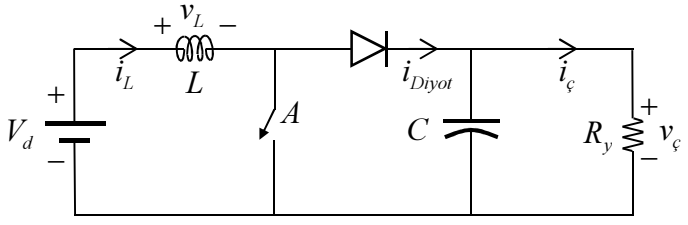
A anahtarı kesimdeyken devrenin eşdeğeri



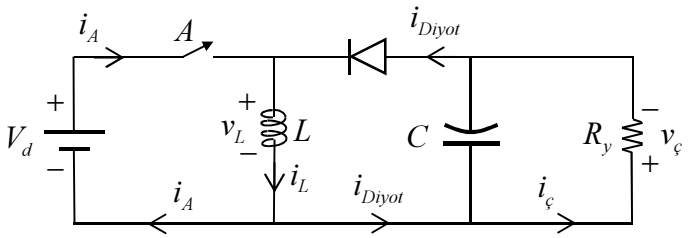




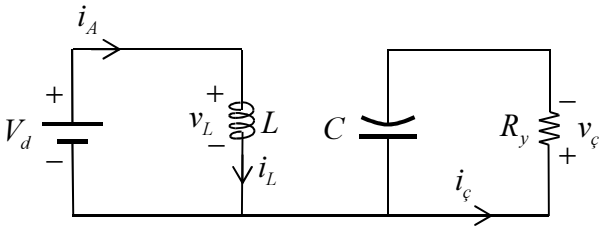




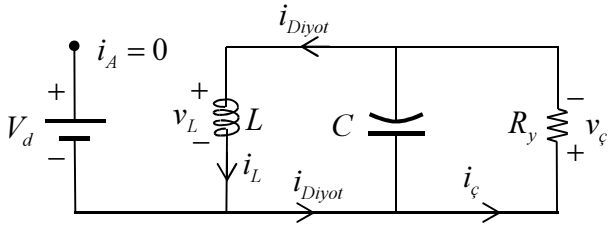
Yükseltici DC/DC çevirici



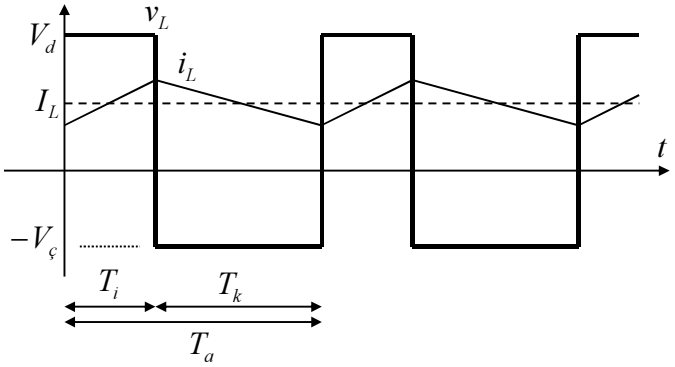
Alçaltıcı / Yükseltici DC/DC Çevirici

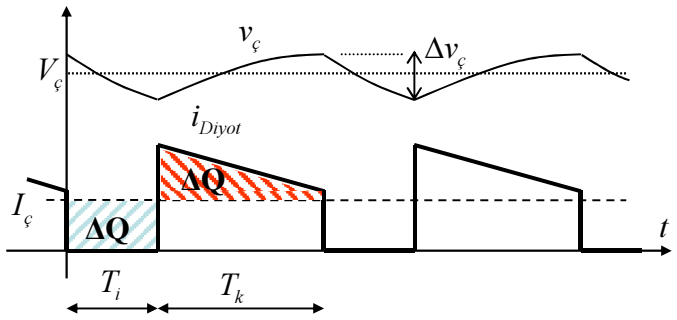


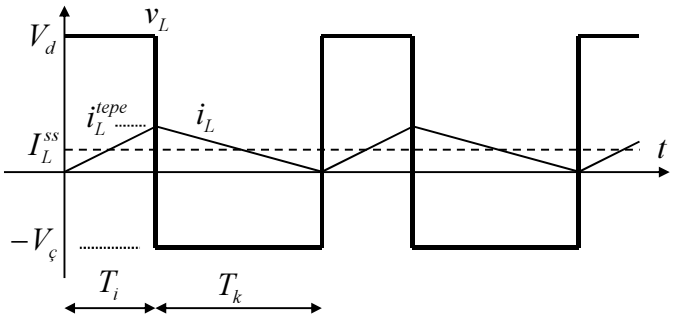
A iletimdeyken devrenin eşdeğeri

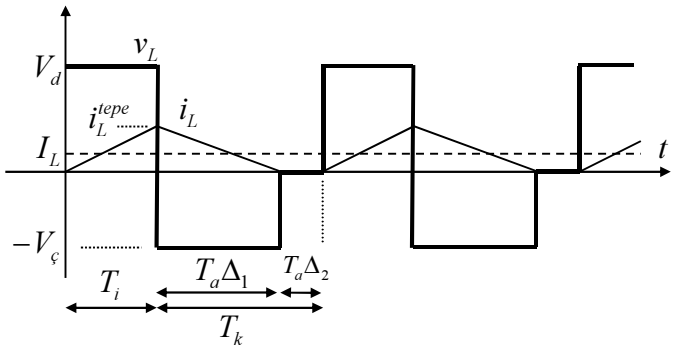


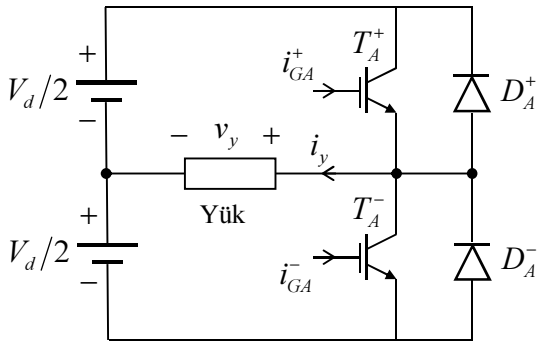
Alçaltıcı / Yükseltici DC/DC Çevirici



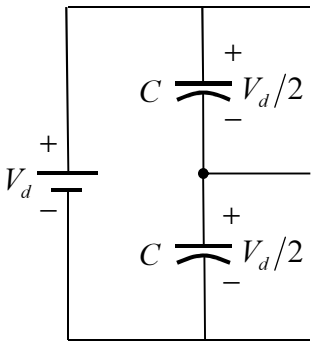




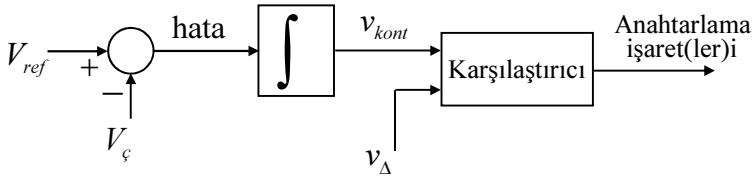


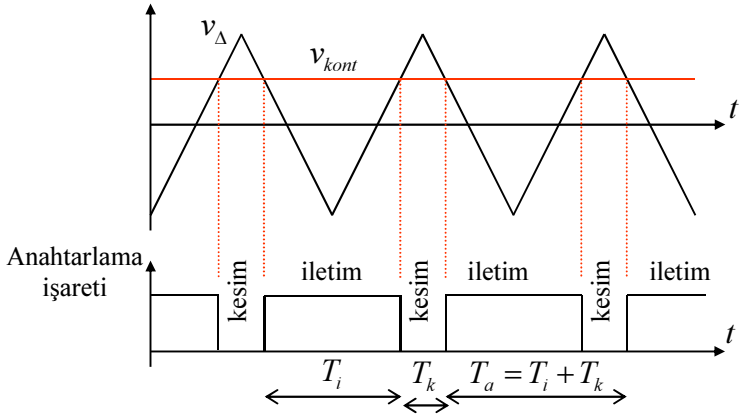


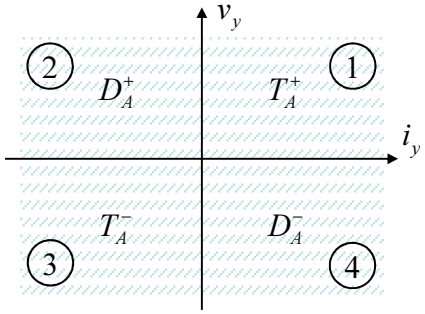
Yarım köprü DC/DC çevirici

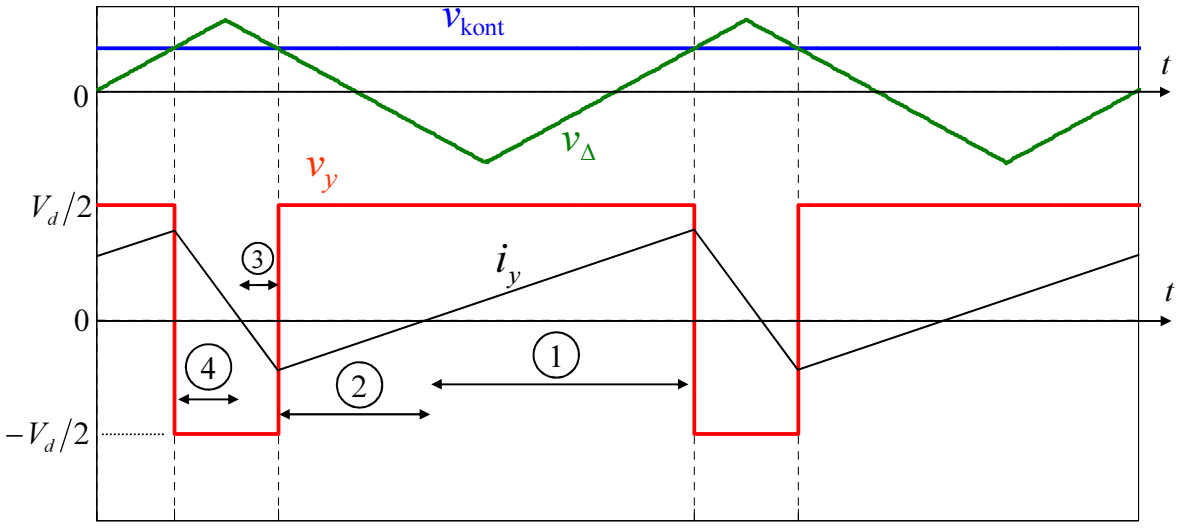


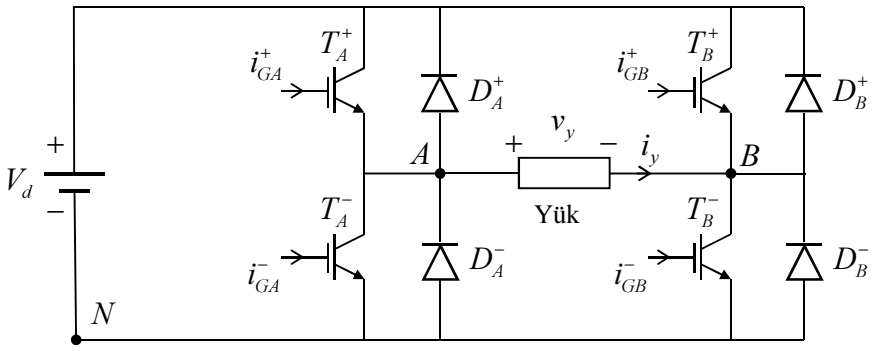
Tek DC kaynağın simetrik iki kaynak gibi kullanılması



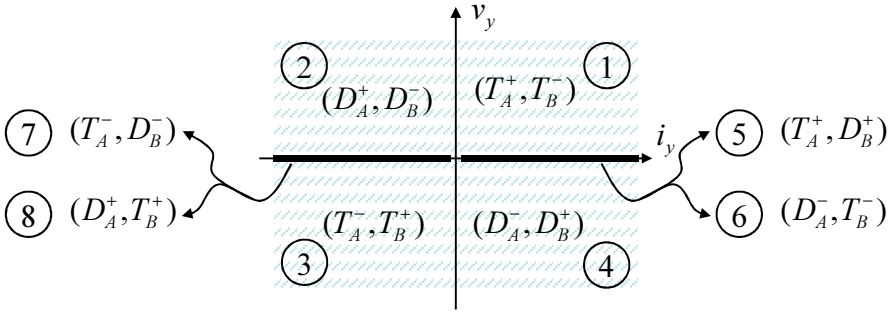


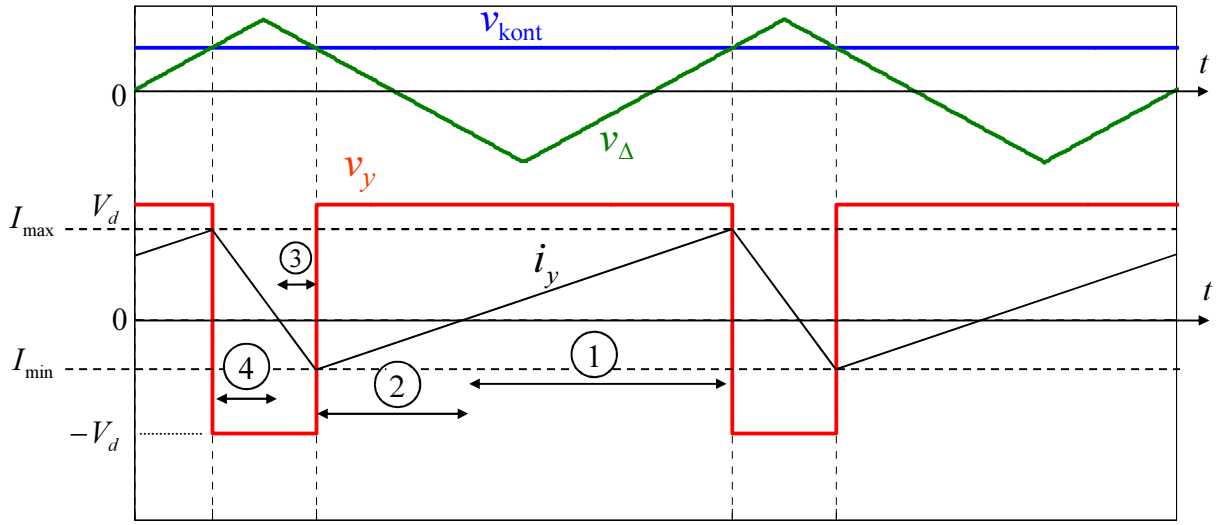


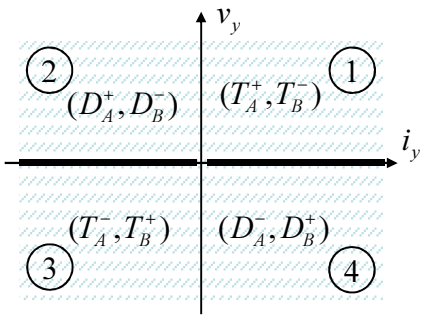


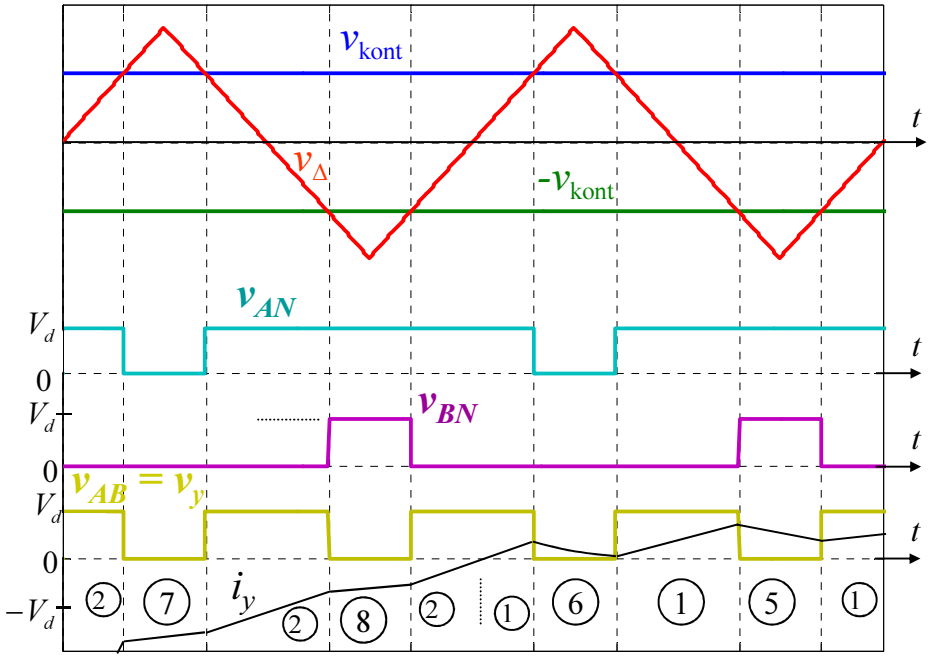


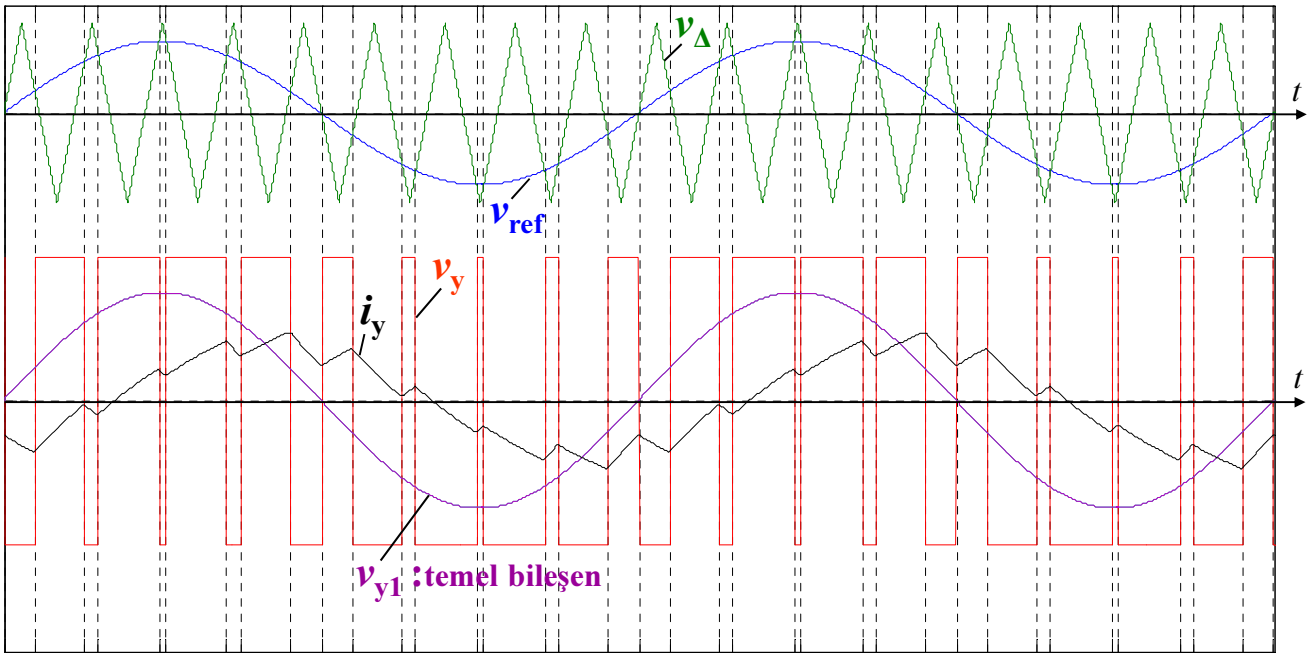
Tam köprü (H köprüsü) DC/DC çevirici

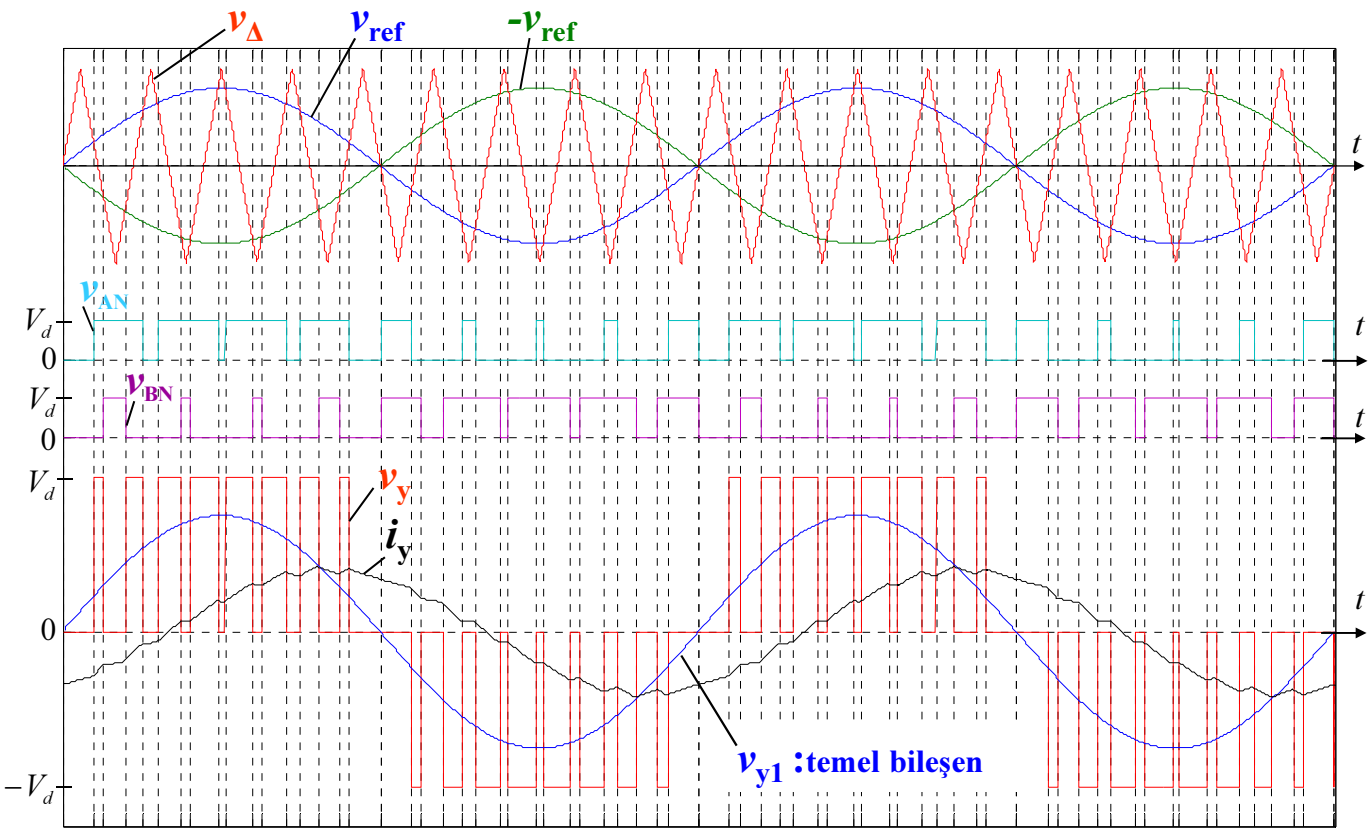




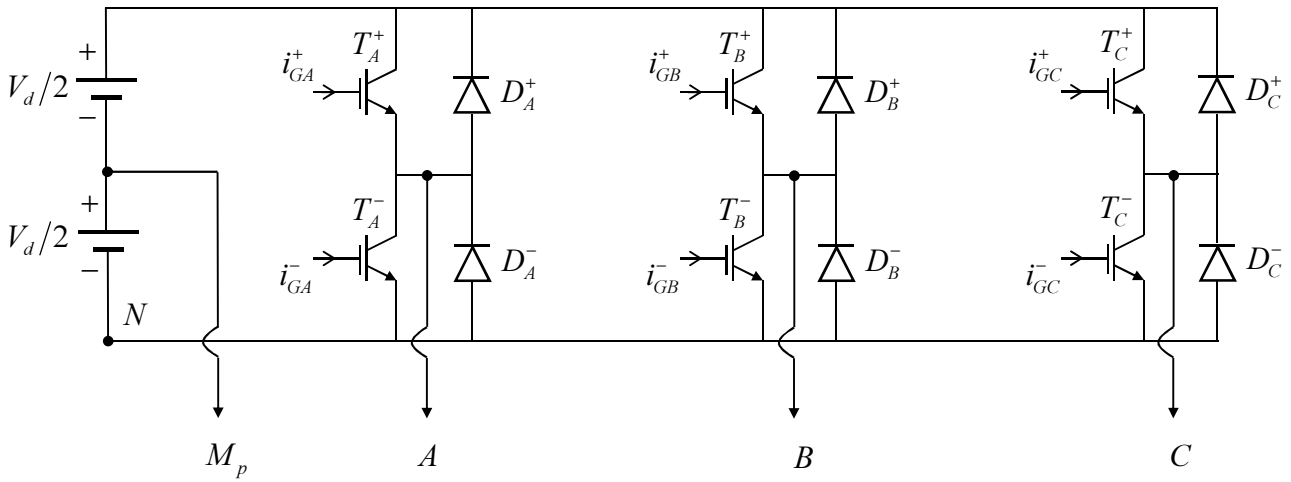



v_{kont}
v_Δ
$-v_{kont}$
v_{AN}
v_{BN}
$v_{AB} = v_y$
i_y
V_d
0
$-V_d$
t
2
7
2
8
2
1
6
1
5
1

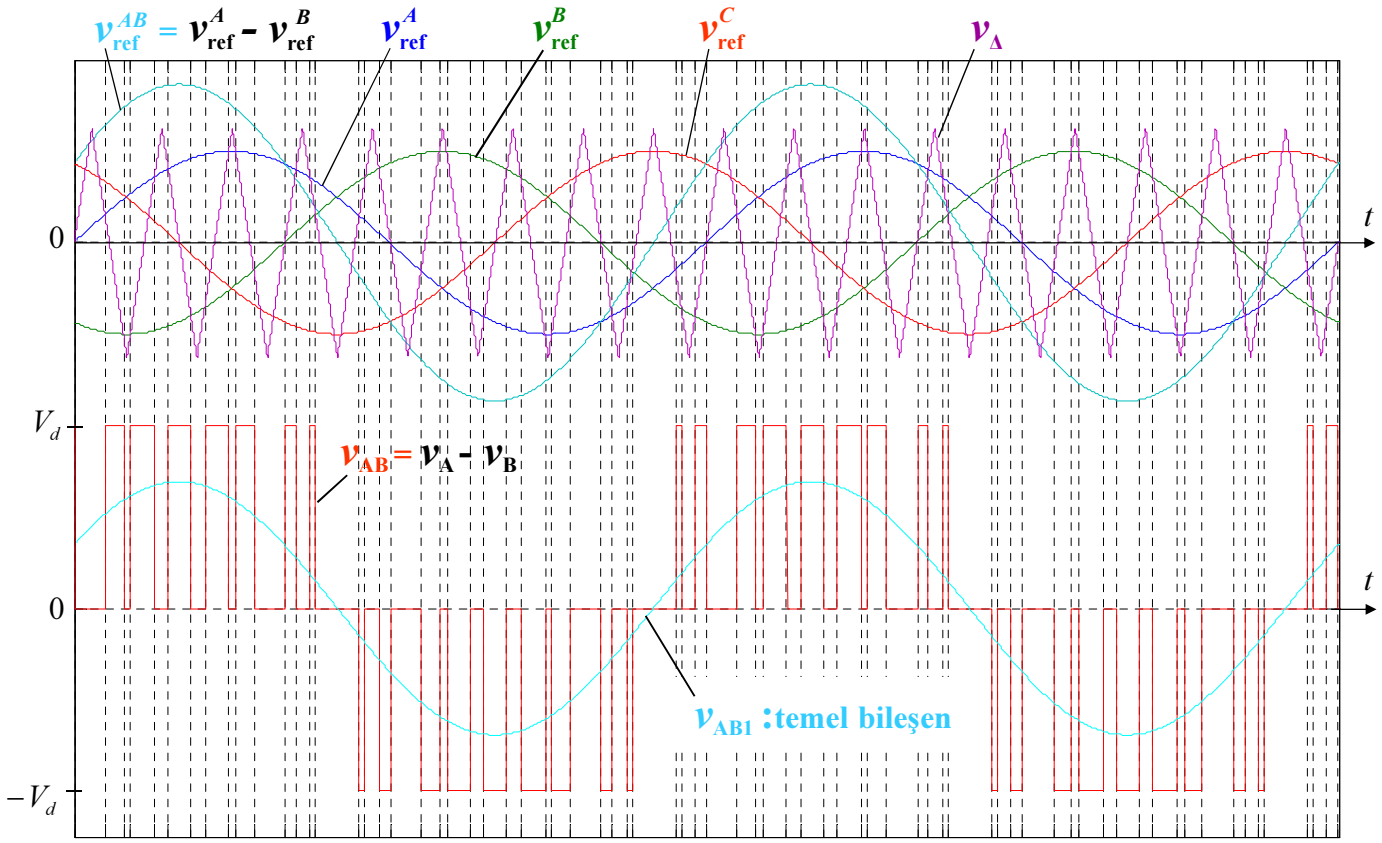

v_Δ
v_{ref}
v_y
i_y
v_{y1} :temel bileşen
t

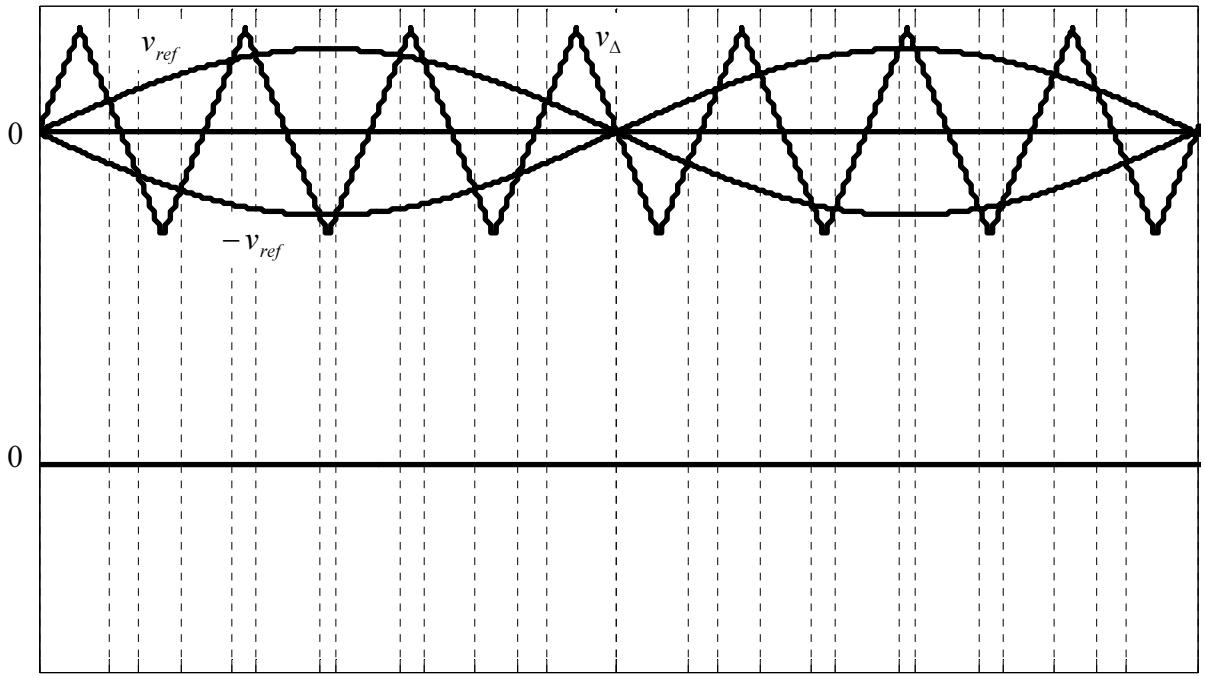


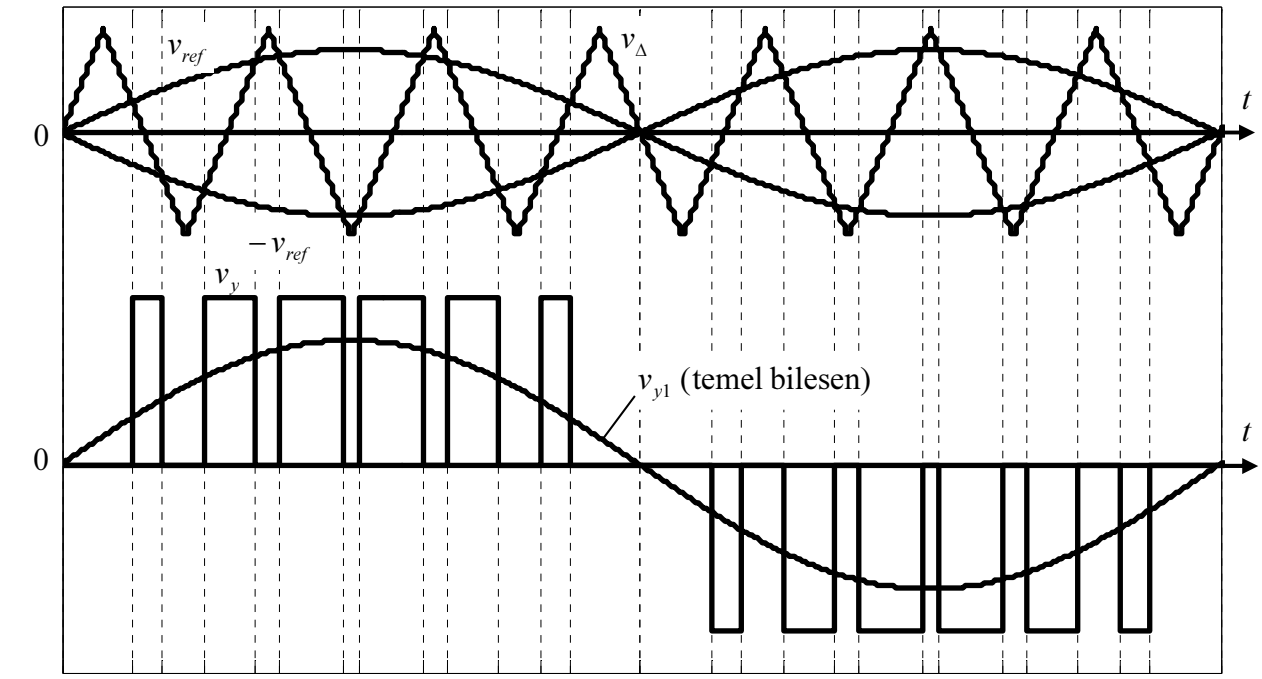
Üç fazlı köprü evirici

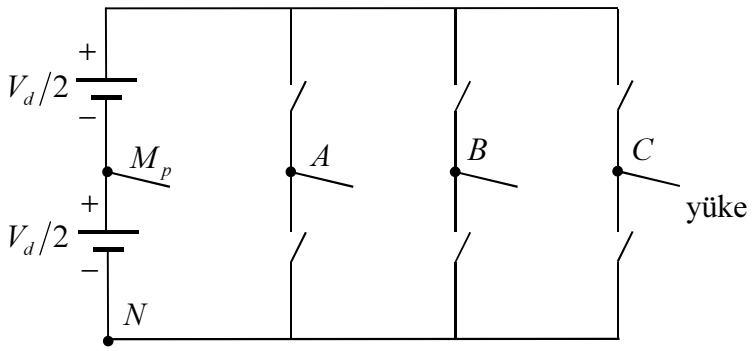


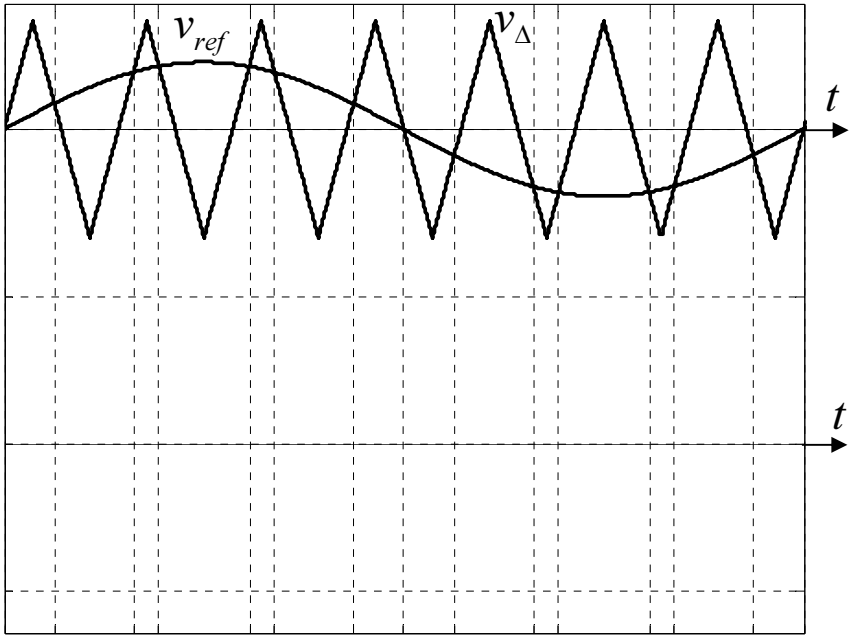
Yükün üç faz ve nötr uçlarına bağlanır (Nötr kullanılmazsa tek bir V_d kaynağı yeterli)

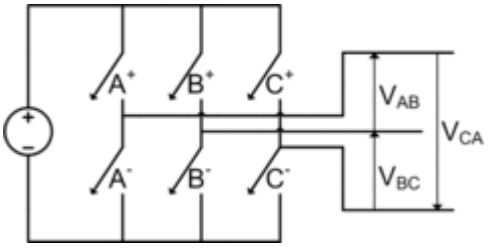

$v_{ref}^{AB} = v_{ref}^{A} - v_{ref}^{B}$
v_{ref}^{A}
v_{ref}^{B}
v_{ref}^{C}
v_{Δ}
0
t
V_d
$v_{AB} = v_A - v_B$
0
t
v_{AB1} :temel bileşen
$-V_d$


v_{ref}
v_{Δ}
0
$-v_{ref}$
0

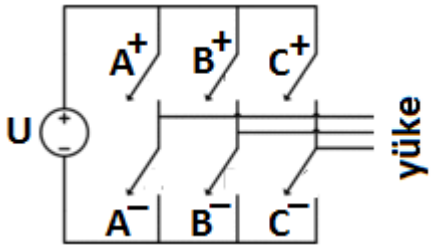

v_{ref}
v_Δ
0
t
$-v_{ref}$
v_y
v_{y1} (temel bilesen)
0
t

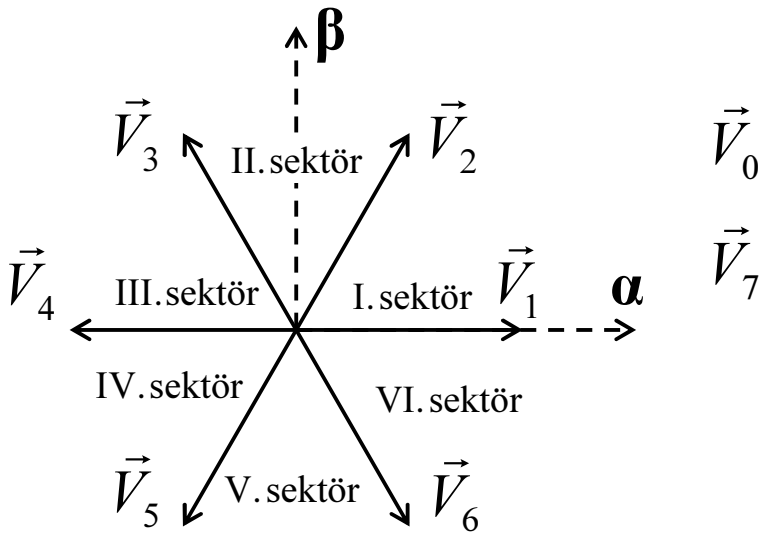

+
$V_d/2$
−
M_p
A
B
C
yüke
+
$V_d/2$
−
N

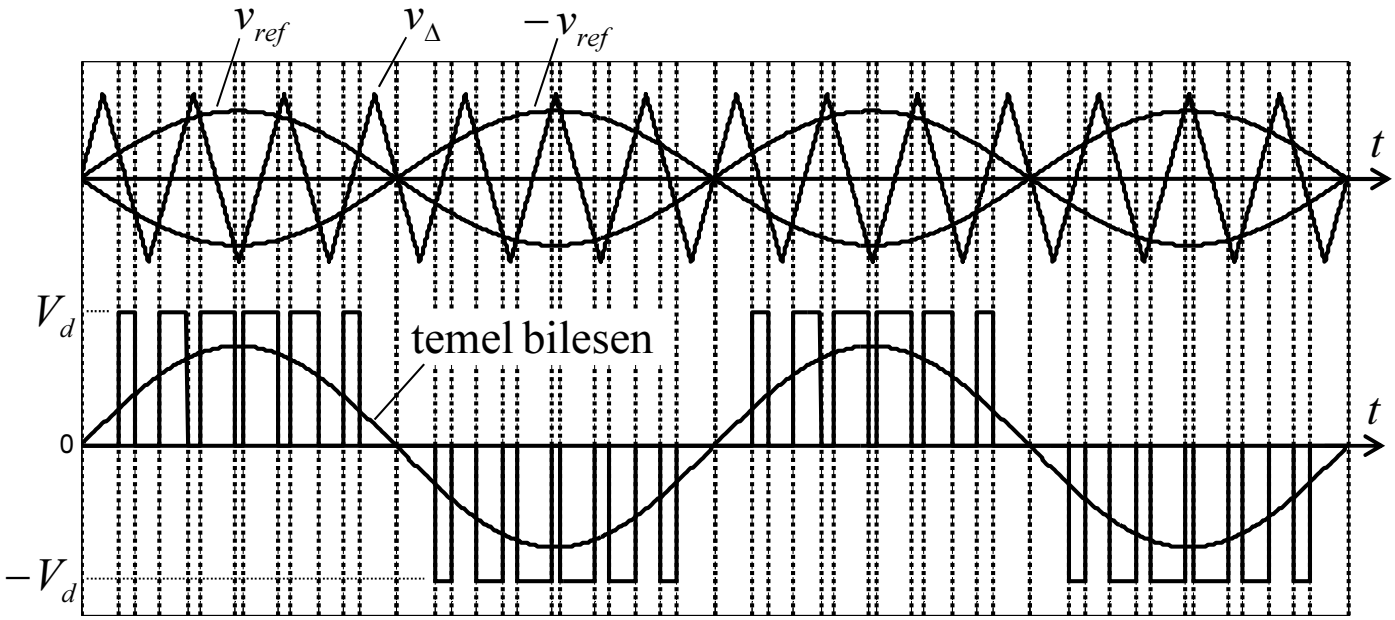




üç fazlı yüke






v_{ref}
v_{Δ}
$-v_{ref}$
t
V_d
temel bilesen
0
t
$-V_d$