

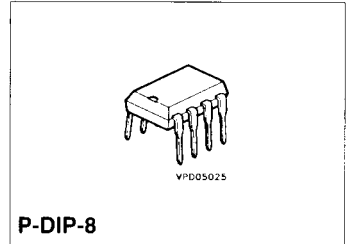
## Dual Operational Amplifier

TAA 2762  
TAA 2765

Bipolar IC

### Features

- Wide common-mode range
- Large supply voltage range
- Wide temperature range (TAA 2762 A)
- High output current
- Large control range
- Internally frequency-compensated
- NPN input with protection diodes
- Open collector output

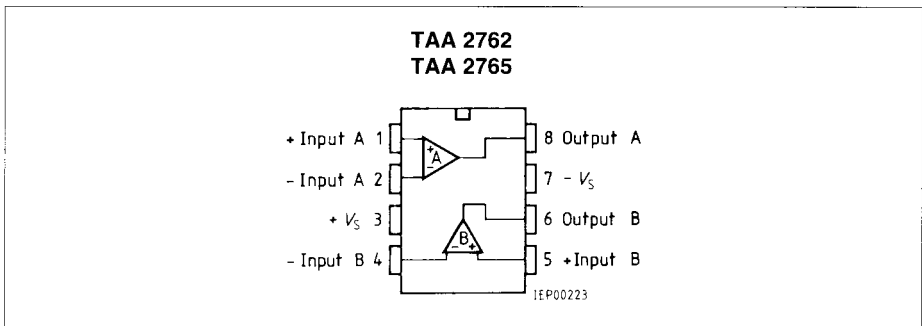


### Applications

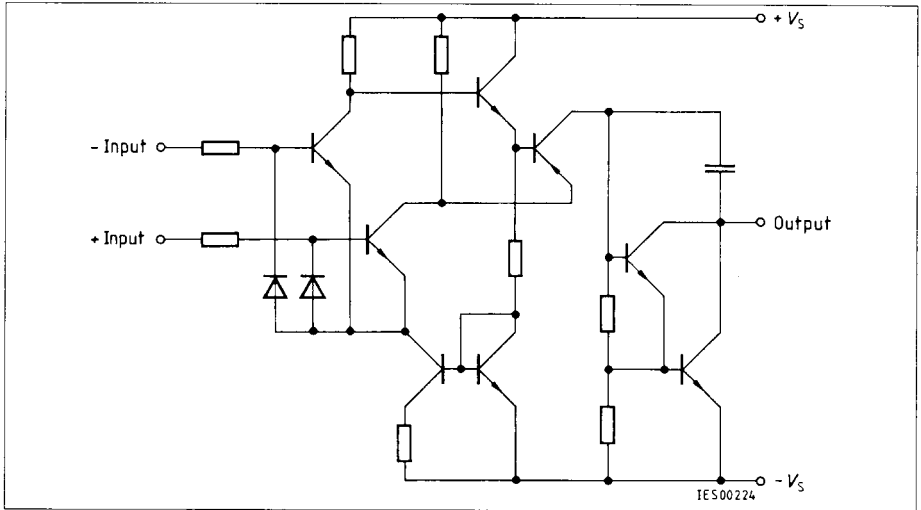
- Amplifier
- Comparator
- Level converter
- Driver

Type	Ordering Code	Package
Ⓢ TAA 2762 A	Q67000-A2499	P-DIP-8
Ⓢ TAA 2765 A	Q67000-A1031	P-DIP-8

These op amps are particularly economic and versatile. Owing to their excellent performance qualities they are well suited for a wide scope of applications, as in control engineering, automotive electronics, AF circuits, analog computers, etc.



### Pin Configuration (top view)



**Circuit Diagram of One Op Amp**

### Absolute Maximum Ratings

Parameter	Symbol	Limit Values	Unit
Supply voltage	$V_S$	$\pm 18$	V
Output current	$I_O$	70	mA
Differential input voltage	$V_{ID}$	$\pm V_S$	V
Junction temperature	$T_j$	150	$^{\circ}\text{C}$
Storage temperature range	$T_{stg}$	- 55 to 125	$^{\circ}\text{C}$
Thermal resistance system - air TAA 2762 A/2765 A	$R_{th SA}$	100	K/W

### Operating Range

Supply voltage	$V_S$	$\pm 2$ to $\pm 15$	V
Ambient temperature TAA 2762 A	$T_A$	- 55 to 125	$^{\circ}\text{C}$
TAA 2765 A	$T_A$	- 25 to 85	$^{\circ}\text{C}$

## Characteristics (TAA 2762)

$V_S = \pm 5V$  to  $\pm 15V$ ;  $R_L = 2k\Omega$ , unless otherwise specified

Parameter	Symbol	Limit Values $T_A = 25\text{ }^\circ\text{C}$			Limit Values $T_A = -55$ to $125\text{ }^\circ\text{C}$		Unit
		min.	typ.	max.	min.	max.	
Open-loop supply current consumption, total	$I_S$		0.5	1.5		1.5	mA
Input offset voltage, $R_G = 50\Omega$	$V_{IO}$	- 4		4	- 6	6	mV
Input offset current	$I_{IO}$	- 100	$\pm 50$	100	- 300	300	nA
Input current	$I_I$		0.3	0.7		1.0	$\mu\text{A}$
Control range $V_S = \pm 15V$ $R_L = 620\Omega$ , $V_S = \pm 15V$	$V_{Q,pp}$ $V_{Q,pp}$	14.9		- 14	14.8	- 14	V V
Input impedance, $f = 1\text{ kHz}$	$Z_I$		200				$k\Omega$
Open-loop voltage gain $f = 100\text{ Hz}$ $R_L = 10\Omega$ , $f = 100\text{ Hz}$	$G_{V0}$ $G_{V0}$	85	87 92		80		dB dB
Output reverse current	$I_{QR}$			1		5	$\mu\text{A}$
Common-mode input voltage range	$V_{IC}$	$-V_S+2$		$V_S-2$	$-V_S+3$	$V_S-3$	V
Common-mode rejection	$k_{CMR}$	80	85			75	dB
Supply voltage rejection, $G_V = 100$	$k_{SVR}$		25	100		100	$\mu\text{V/V}$
Temperature coefficient of $V_{IO}$ $R_G = 50\Omega$	$\alpha_{VIO}$		1	15		25	$\mu\text{V/K}$
Temperature coefficient of $I_{IO}$ $R_G = 50\Omega$	$\alpha_{IIO}$		0.3	1.5		1.5	nA/K
Noise voltage (in acc. with DIN 45405; referred to input; $R_S = 2.5k\Omega$ )	$V_n$		3				$\mu\text{V}$
Output saturation voltage $I_O = 10\text{ mA}$	$V_{Q,sat}$			1			V
Slew rate for non-inverting operation	$SR$		0.5				V/ $\mu\text{s}$
Slew rate for inverting operation	$SR$		0.5				V/ $\mu\text{s}$

## Characteristics (TAA 2762)

$V_S = \pm 2V$ ,  $R_L = 2k\Omega$

Parameter	Symbol	Limit Values $T_A = 25^\circ C$			Limit Values $T_A = -55$ to $125^\circ C$		Unit
		min.	typ.	max.	min.	max.	
Input offset voltage, $R_G = 50\Omega$	$V_{IO}$	-4		4	-6	6	mV
Input offset current	$I_{IO}$	-70		70	-200	200	nA
Input current	$I_I$		0.2	0.5		0.8	$\mu A$
Open-loop voltage gain; $f=100\text{ Hz}$	$G_{VO}$	80			75		dB

## Characteristics (TAA 2765)

$V_S = \pm 5V$  to  $\pm 15V$ ;  $R_L = 2k\Omega$ , unless otherwise specified

Parameter	Symbol	Limit Values $T_A = 25^\circ C$			Limit Values $T_A = -25$ to $85^\circ C$		Unit
		min.	typ.	max.	min.	max.	
Open-loop supply current consumption, total	$I_S$		0.5	1.5		1.5	mA
Input offset voltage, $R_G = 50\Omega$	$V_{IO}$	-5.5		5.5	-7	7	mV
Input offset current	$I_{IO}$	-200	$\pm 80$	200	-300	300	nA
Input current	$I_I$		0.5	0.8		1.0	$\mu A$
Control range $V_S = \pm 15V$	$V_{QPP}$	14.9		-14	14.8	-14	V
$R_L = 620\Omega$ , $V_S = \pm 15V$	$V_{QPP}$	14.9		-12.5	14.8	-12	V
Input impedance, $f = 1\text{ kHz}$	$Z_I$		200				$k\Omega$
Open-loop voltage gain $f = 100\text{ Hz}$	$G_{VO}$	80	85		80		dB
$R_L = 10\Omega$ , $f = 100\text{ Hz}$	$G_{VO}$		90				dB
Output reverse current	$I_{QR}$			10		20	$\mu A$
Common-mode input voltage range	$V_{IC}$	$-V_S+2$		$V_S-2$	$-V_S+3$	$V_S-3$	V
Common-mode rejection	$k_{CMR}$	75	83		75		dB
Supply voltage rejection, $G_V = 100$	$k_{SVR}$		25	100		100	$\mu V/V$

### Characteristics (TAA 2765) (cont'd)

$V_S = \pm 5V$  to  $\pm 15V$ ;  $R_L = 2k\Omega$ , unless otherwise specified

Parameter	Symbol	Limit Values $T_A = 25^\circ C$			Limit Values $T_A = -25$ to $85^\circ C$		Unit
		min.	typ.	max.	min.	max.	
Temperature coefficient of $V_{IO}$ $R_G = 50\Omega$	$\alpha_{VIO}$		1	15		25	$\mu V/K$
Temperature coefficient of $I_{IO}$ $R_G = 50\Omega$	$\alpha_{IIO}$		0.3			1.5	nA/K
Noise voltage (in acc. with DIN 45405, referred to input $R_S = 2.5k\Omega$ )	$V_n$		3				$\mu V$
Output saturation voltage $I_O = 10mA$	$V_{O sat}$			1			V
Slew rate for non-inverting operation	SR		0.5				V/ $\mu s$
Slew rate for inverting operation	SR		0.5				V/ $\mu s$

### Characteristics (TAA 2765)

$V_S = \pm 2V$ ,  $R_L = 2k\Omega$

Parameter	Symbol	Limit Values $T_A = 25^\circ C$			Limit Values $T_A = -25$ to $85^\circ C$		Unit
		min.	typ.	max.	min.	max.	
Input offset voltage, $R_G = 50\Omega$	$V_{IO}$	-6		6	-7.5	7.5	mV
Input offset current	$I_{IO}$	-150		150	-200	200	nA
Input current	$I_I$		0.2	0.6		0.8	$\mu A$
Open-loop voltage gain; $f=100$ Hz	$G_{VO}$	75			75		dB

**Note :** For typical performance curves, please refer to the data sheets of TAA 765 and TAA 762.