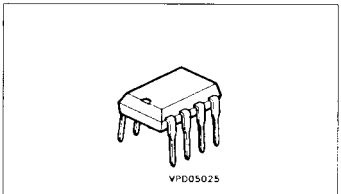
Dual Operational Amplifier

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



P-DIP-8

Applications

- Amplifier
- Comparator
- Level converter
- Driver

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

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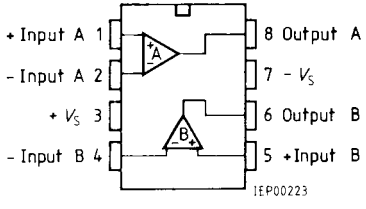
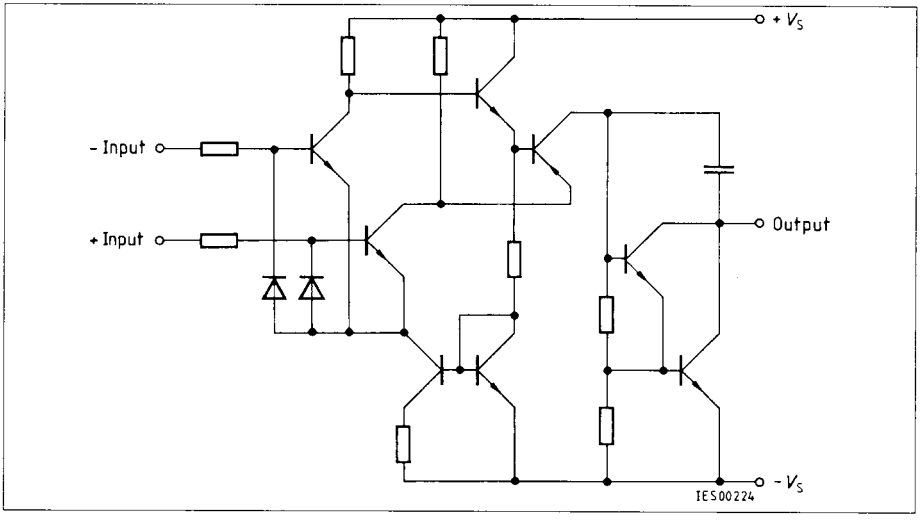


Pin Configuration
(top view)



Circuit Diagram of One Op Amp

Absolute Maximum Ratings

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

Operating Range

Supply voltage		V_S	± 2 to ± 15	V
Ambient temperature	TAA 2762 A TAA 2765 A	T_A T_A	– 55 to 125 – 25 to 85	°C °C

Characteristics (TAA 2762)

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

Parameter	Symbol	Limit Values $T_A = 25\,^\circ C$			Limit Values $T_A = -55$ to $125\,^\circ C$		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}	– 4		4	– 6	6	mV
Input offset current Input current	I_{IO} I_I	– 100	± 50 0.3	100 0.7	– 300	300 1.0	nA µA
Control range $V_S = \pm 15\,V$ $R_L = 620\,\Omega$, $V_S = \pm 15\,V$	 $V_{Q\,pp}$ $V_{Q\,pp}$	 14.9 14.9		 – 14 – 12.5	 14.8 14.8	 – 14 – 12	 V V
Input impedance, $f = 1\,kHz$	Z_I		200				kΩ
Open-loop voltage gain $f = 100\,Hz$ $R_L = 10\,\Omega$, $f = 100\,Hz$	 G_{V0} G_{V0}	 85	 87 92		 80		 dB dB
Output reverse current	I_{QR}			1		5	µA
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	µV/V
Temperature coefficient of V_{IO} $R_G = 50\,\Omega$ Temperature coefficient of I_{IO} $R_G = 50\,\Omega$	α_{VIO} α_{IIO}		1 0.3	15 1.5		25 1.5	µV/K nA/K
Noise voltage (in acc. with DIN 45405; referred to input; $R_S = 2.5\,k\Omega$)	V_n		3				µV
Output saturation voltage $I_Q = 10\,mA$	$V_{Q\,sat}$			1			V
Slew rate for non-inverting operation Slew rate for inverting operation	SR SR		0.5 0.5				V/µs V/µs

Characteristics (TAA 2762)
$V_S = \pm 2\,V$, $R_L = 2\,k\Omega$

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 Input current	I_{IO} I_I	– 70	 0.2	70 0.5	– 200	200 0.8	nA µA
Open-loop voltage gain; f=100 Hz	G_{V0}	80			75		dB

Characteristics (TAA 2765)
$V_S = \pm 5\,V$ to $\pm 15\,V$; $R_L = 2\,k\Omega$, 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 Input current	I_{IO} I_I	– 200	± 80 0.5	200 0.8	– 300	300 1.0	nA µA
Control range $V_S = \pm 15\,V$ $R_L = 620\,\Omega$, $V_S = \pm 15\,V$	 $V_{Q\,pp}$ $V_{Q\,pp}$	 14.9 14.9		 – 14 – 12.5	 14.8 14.8	 – 14 – 12	 V V
Input impedance, f = 1 kHz	Z_I		200				kΩ
Open-loop voltage gain f = 100 Hz $R_L = 10\,\Omega$, f = 100 Hz	 G_{V0} G_{V0}	 80	 85 90		 80		 dB dB
Output reverse current	I_{QR}			10		20	µA
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	µV/V

Characteristics (TAA 2765) (cont'd)
$V_S = \pm 5\,V$ to $\pm 15\,V$; $R_L = 2\,k\Omega$, 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} $R_G = 50\,\Omega$	α_{VIO}		1	15		25	µV/K
Temperature coefficient of I_{IO} $R_G = 50\,\Omega$	α_{IIO}		0.3			1.5	nA/K
Noise voltage (in acc. with DIN 45405, referred to input $R_S = 2.5\,k\Omega$)	V_n		3				µV
Output saturation voltage $I_Q = 10\,mA$	$V_{Q\,sat}$			1			V
Slew rate for non-inverting operation	SR		0.5				V/µs
Slew rate for inverting operation	SR		0.5				V/µs

Characteristics (TAA 2765)
$V_S = \pm 2\,V$, $R_L = 2\,k\Omega$

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	µA
Open-loop voltage gain; f=100 Hz	G_{V0}	75			75		dB

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