SIEMENS

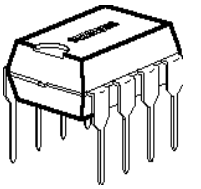
Dual Operational Amplifier

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-8-1

Applications

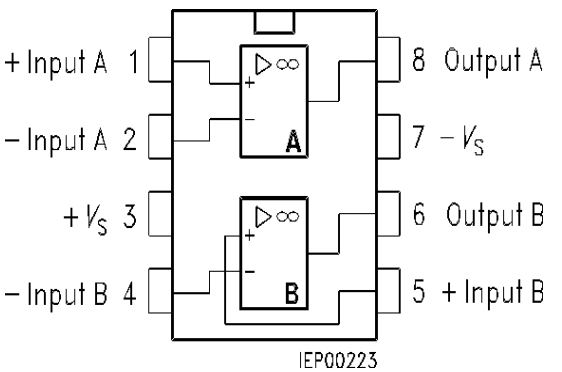
- Amplifier
- Comparator
- Level converter
- Driver

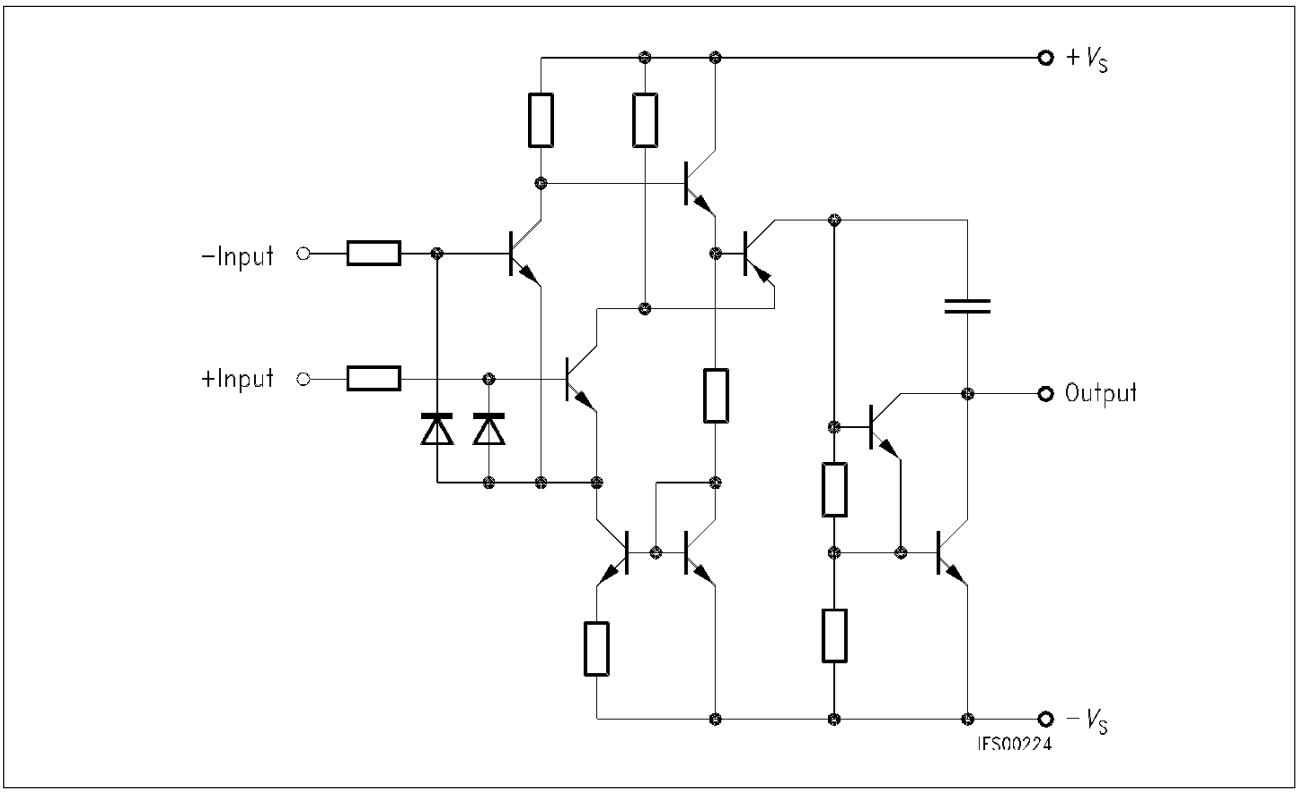
Type	Ordering Code	Package
TAA 2762 A	Q67000-A2499	P-DIP-8-1
TAA 2765 A	Q67000-A1031	P-DIP-8-1

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)

TAA 2762
TAA 2765





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 = ± 5 V to ± 15 V; R_L = 2 kΩ, unless otherwise specified

Parameter	Symbol	Limit Values T_A = 25 °C			Limit Values T_A = – 55 to 125 °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 Ω	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 = ± 15 V R_L = 620 Ω, V_S = ± 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 Ω, 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 Ω Temperature coefficient of I_{IO} R_G = 50 Ω	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 kΩ	V_n		3				µV

Characteristics (TAA 2762) (cont'd)
V_S = ± 5 V to ± 15 V; R_L = 2 kΩ, unless otherwise specified

Parameter	Symbol	Limit Values T_A = 25 °C			Limit Values T_A = – 55 to 125 °C		Unit
		min.	typ.	max.	min.	max.	
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 2762)
V_S = ± 2 V, R_L = 2 kΩ,

Parameter	Symbol	Limit Values T_A = 25 °C			Limit Values T_A = – 55 to 125 °C		Unit
		min.	typ.	max.	min.	max.	
Input offset voltage, R_G = 50 Ω	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 = ± 5 V to ± 15 V; R_L = 2 kΩ, unless otherwise specified

Parameter	Symbol	Limit Values T_A = 25 °C			Limit Values T_A = – 25 to 85 °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 Ω	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 = ± 15 V R_L = 620 Ω, V_S = ± 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 kΩ, 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
Temperature coefficient of V_{IO} R_G = 50 Ω Temperature coefficient of I_{IO} R_G = 50 Ω	α_{VIO} α_{IIO}		1 0.3	15		25 1.5	µV/K nA/K

Characteristics (TAA 2765) (cont'd)
V_S = ± 5 V to ± 15 V; R_L = 2 kΩ, unless otherwise specified

Parameter	Symbol	Limit Values T_A = 25 °C			Limit Values T_A = – 25 to 85 °C		Unit
		min.	typ.	max.	min.	max.	
Noise voltage (in acc. with DIN 45405; referred to input R_S = 2.5 kΩ)	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 = ± 2 V; R_L = 2 kΩ

Parameter	Symbol	Limit Values T_A = 25 °C			Limit Values T_A = – 25 to 85 °C		Unit
		min.	typ.	max.	min.	max.	
Input offset voltage, R_G = 50 Ω	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.