



Features

- Short Circuit Protected Outputs
- True Differential Input Stage
- Single Supply Operation: 3V to 32V
- Low Input Bias Currents
- Internally Compensated
- Common Mode Range Extends to Negative Supply
- Single and Split Supply Operation

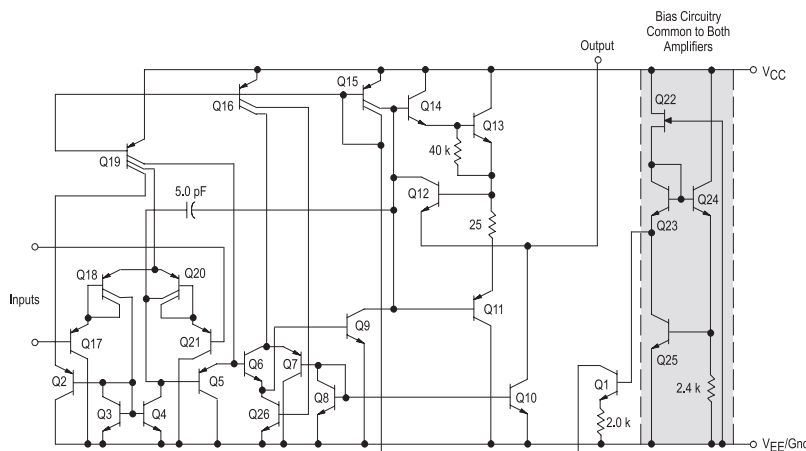
Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating
Power Supply Voltages Single Supply Split Supplies	V_{CC} V_{CC}, V_{EE}	32V DC $\pm 16\text{V DC}$
Input Differential Voltage Range *1	V_{IDR}	$\pm 32\text{V DC}$
Input Common Mode Voltage Range *2	V_{ICR}	-0.3V DC to 32V DC
Output Short Circuit Duration	t_{SC}	Continuous
Junction Temperature	T_J	150°C
Thermal Resistance, Junction-to-Air	$R_{\theta JA}$	238°C/W
Storage Temperature Range	T_{stg}	-55°C to $+125^\circ\text{C}$
Operating Ambient Temperature Range	T_A	0°C to $+70^\circ\text{C}$

*1 Split Power Supplies.

*2 For supply voltages less than 32 V the absolute maximum input voltage is equal to the supply voltage.

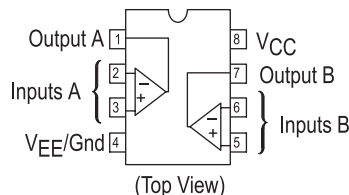
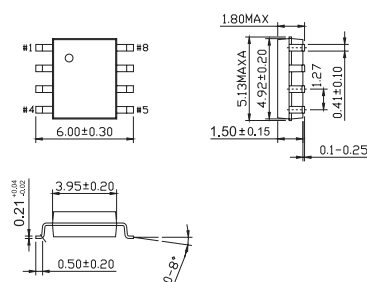
Representative Schematic Diagram (One-Half of Circuit Shown)



Electrical Characteristics $T_A = 25^\circ\text{C}$ ($V_{CC} = 5\text{V}$, $V_{EE} = \text{Gnd}$, $T_A = 25^\circ\text{C}$, unless otherwise noted.)

Parameter Name	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Offset Voltage	V _{IO}	V _{CC} = 5V to 30V, V _{IC} = 0V to V _{CC} -1.7V V _O -1.4V, R _S = 0Ω T _A = 25°C		2	7	mV
		T _A = T _{high} *5			9	
		T _V = T _{low} *5				
Average Temperature Coefficient of Input Offset Voltage	ΔV _{IO} /ΔT	T _A = T _{high} to T _{low} *5		7		μV/°C
Input Offset Current	I _{IO}	T _A = T _{high} to T _{low} *5		5	50	nA
					150	
Input Bias Current	I _{IB}	T _A = T _{high} to T _{low} *5		-45	-250	
				-50	-500	
Average Temperature Coefficient of Input Offset Current	ΔV _{IO} /ΔT	T _A = T _{high} to T _{low} *5		10		pA/°C
Input Common Mode Voltage Range *6	V _{ICR}	V _{CC} = 30 V	0		28.3	V
		V _{CC} = 30V, T _A = T _{high} to T _{low}	0		28	
Differential Input Voltage Range	V _{IDR}				V _{CC}	
Large Signal Open Loop Voltage Gain	A _{VOL}	R _L = 2kΩ V _{CC} = 15V, For Large V _O Swing,	25	100		V/mV
		T _A = T _{high} to T _{low}	15			
Channel Separation	C _S	1.0 kHz ≤ f ≤ 20 kHz, Input Referenced		-120		dB
Common Mode Rejection	C _{MR}	R _S ≤ 10KΩ	65	70		
Power Supply Rejection	P _{SR}		65	100		
Output Voltage-High Limit	V _{OH}	T _A = T _{high} to T _{low} *5	3.3	3.5		V
		V _{CC} = 5eV, R _L = 2KΩ T _A = 25°C	26			
		V _{CC} = 30V, R _L = 2KΩ V _{CC} = 30V, R _L = 10KΩ	27	28		
Output Voltage-Low Limit	V _{OL}	V _{CC} = 5.0 V, R _L = 10KΩ T _A = T _{high} to T _{low} *5		5	20	mV
Output Source Current	I _{O+}	V _{ID} = +1V, V _{CC} = 15V	20	40		mA
Output Sink Current	I _{O-}	V _{ID} = -1V, V _{CC} = 15V	10	20		
		V _{ID} = -1V, V _O = 200 mV	12	50		μA
Output Short Circuit to Ground *7	I _{SC}			40	60	mA
Power Supply Current (Total De-vice)		T _A = T _{high} to T _{low} *5 V _{CC} = 30 V, V _O = 0 V, R _L = ∞ V _{CC} = 5 V, V _O = 0 V, R _L = ∞		1.5	3	
					0.7	

Diagram



Typical Characteristics

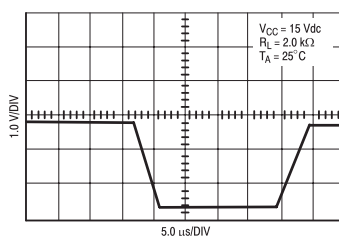


Figure 1. Large Signal Voltage Follower Response

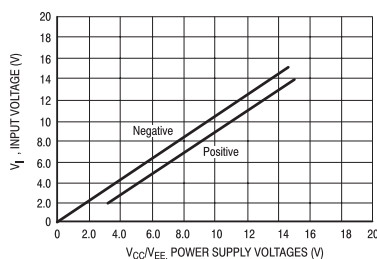


Figure 2. Input Voltage Range

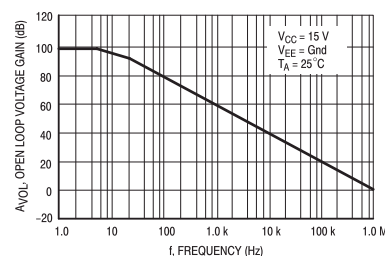


Figure 3. Large-Signal Open Loop Voltage Gain

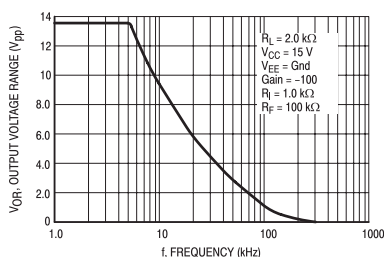


Figure 4. Large-Signal Frequency Response

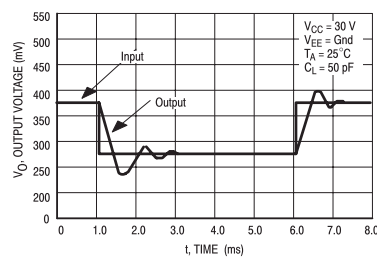


Figure 5. Small Signal Voltage Follower Pulse Response (Noninverting)

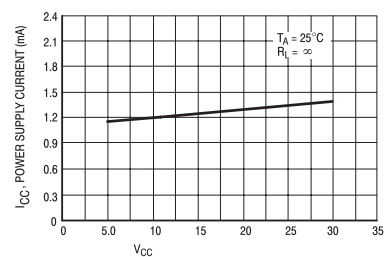


Figure 6. Power Supply Current versus Power Supply Voltage

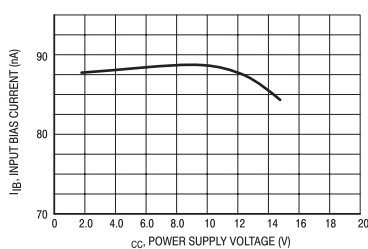


Figure 7. Input Bias Current versus Supply Voltage

Dimensions : Millimetres

Part Number Table

Description	Part Number
Dual Operational Amplifier, Single Supply, SOP-8	KM358

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