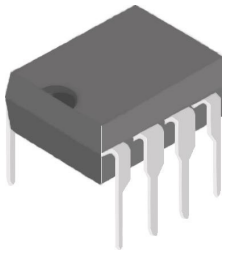
SM4558

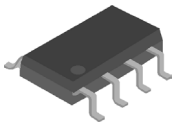
Dual Low Noise Operation Amplifier

FEATURES

- **No Frequency Compensation Required**
- **No Latch-Up**
- **Gain and Phase Match Between Amplifier**
- **Large Common Mode and Voltage Range**
- **Parameter Tracking Over Temperature Range**
- **Internally Frequency Compensated**
- **Low Noise Input Transistors**



DIP-8

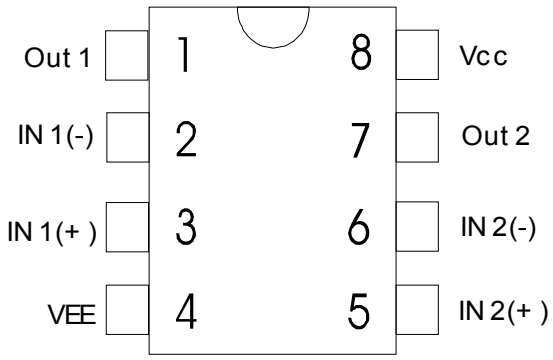


SOP-8

PRODUCT DESCRIPTION

The SM4558 series are a monolithic integrated circuit designed for dual operational amplifier. Wide Band Range : f_T = 3MHz (type) , and suitable application for active filter and equalizer amplifier.

PIN CONFIGURATION



ORDERING INFORMATION

Part Number	Operating Temperature Range	Package Type
SM4558N	0℃~+70℃	DIP-8
SM4558S	0℃~+70℃	SOP-8

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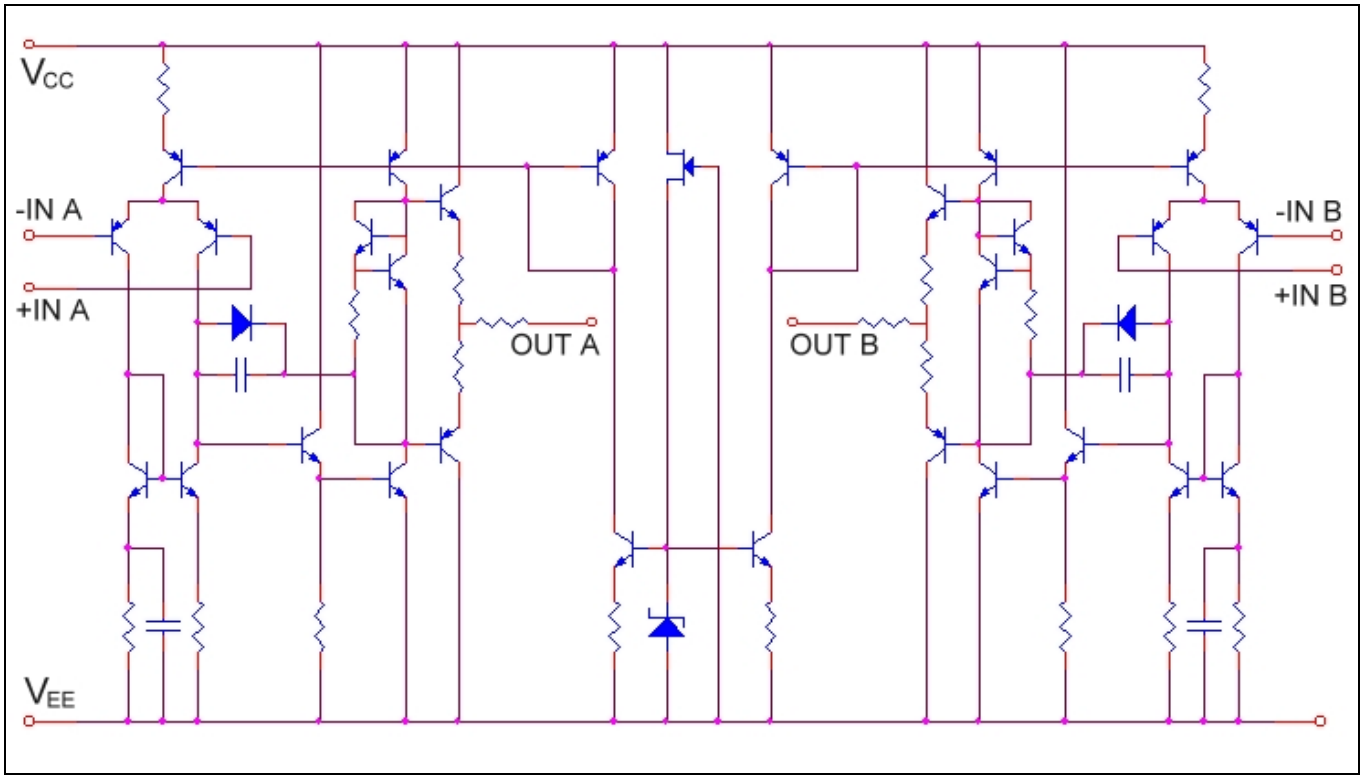
ABSOLUTE MAXIMUM RATING

Characteristic		Symbol	Value	Unit
Supply Voltage		V_{CC}	36,+18	V
		V_{EE}	0,-18	
Differential Voltage		D_{VIN}	±30	
Input Volateg		V_{IN}	V_{CC}~V_{EE}	
Power Dissipation	SM4558N	P_D	500	mW
	SM4558S		240	
Storage Temperature		T_{stg}	-55 ~ 125	℃
Operating Temperature		T_{opr}	-40 ~ 85	℃

SCHEMATIC DIAGRAM



Dual Low Noise Operation Amplifier

ELECTRICAL CHARACTETRISTICS (V_{CC}=15V, V_{EE}= -15V, T_A=25℃ unless otherwise specified.)

Characteristics		Symbol	Min	Typ	Max	Unit
Input Offset Volatge	Rg≦10 kΩ	V_{IO}		0.5		mV
Input Offset Current		I_{IO}		5	200	nA
Input Bias Current		I_I		60	500	nA
Common Mode Input Voltage		CMV_{IN}	612	614		V
Maximum Output Voltage	RL≦10 kΩ	V_{OM}	612	614		V
	RL≦2 kΩ	V_{OMR}	610	613		
Source Current		I_{SOURCE}	27			mA
Sink Current		I_{Sink}	27			
Voltage Gain (Open Loop) RL=2 kΩ V_{OUT}=10 V		G_V	86	100		dB
Common Mode Input Signal Rejection Ratio Rg≦10 kΩ		CMRR	70	90		dB
Supply Voltage Rejection Ratio Rg≦10 kΩ		SVRR		30	150	μV/V
Slew Rate RL=2 kΩ，Gv=1		SR		1.0		V/μS
Unity Gain Cross Frequency	Open Loop	f_T		3.0		MHz
Supply Current		I_{CC},I_{EE}		4.0	6.0	mA
Equivalent Input Noise Voltage Rs=1 kΩ，f=30Hz ~ 30kHz		V_{NI}		2.5		μV_{rms}

ELECTRICAL CHARACTERISTICS CURVES

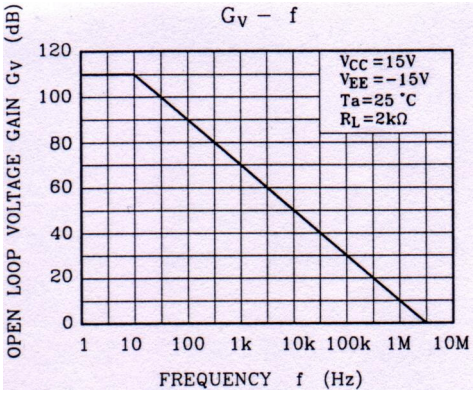


Fig 1.Open Loop Frequency Response

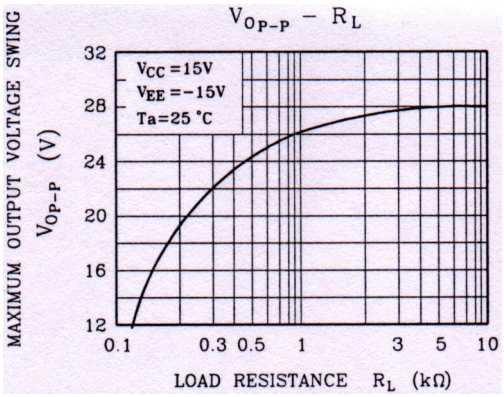


Fig 2.Output Voltage Swing Vs Load Resistance

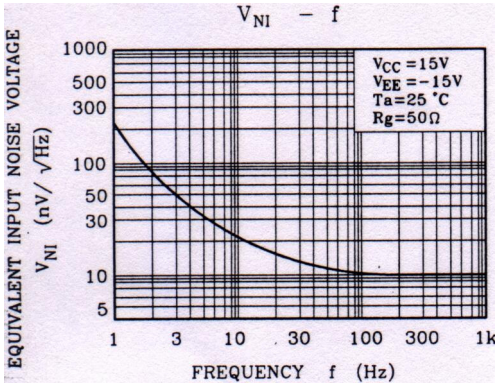


Fig 3.Spectral Noise Density

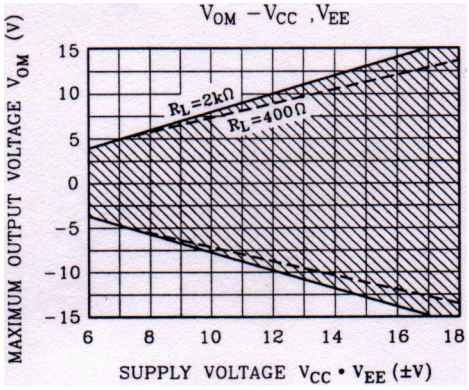


Fig 4.Output Voltage Vs Supply Voltage

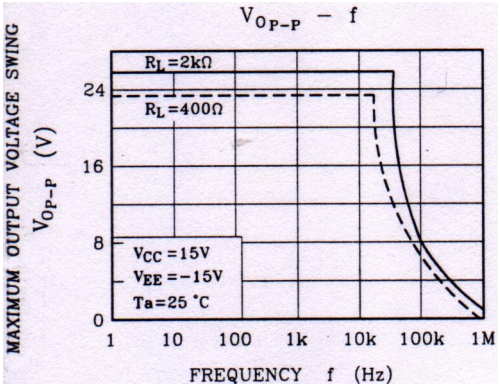


Fig 5.Power Bandwidth

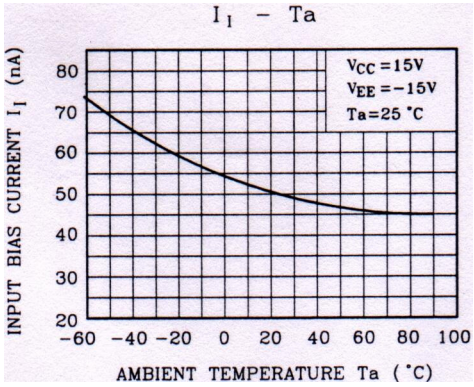


Fig 6.Input Bias Current