



MC4558

LINEAR INTEGRATED CIRCUIT

DUAL OPERATIONAL AMPLIFIER

DESCRIPTION

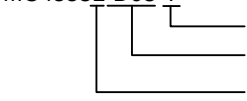
The UTC **MC4558** is a monolithic integrated circuit designed for dual operational amplifier.

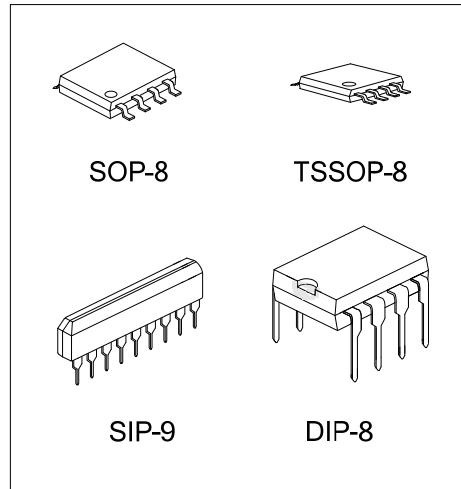
FEATURES

- * No frequency compensation required
- * No latch-up
- * Large common mode and differential voltage range
- * Parameter tracking over temperature range
- * Gain and phase match between amplifiers
- * Internally frequency compensated
- * Low noise input transistors

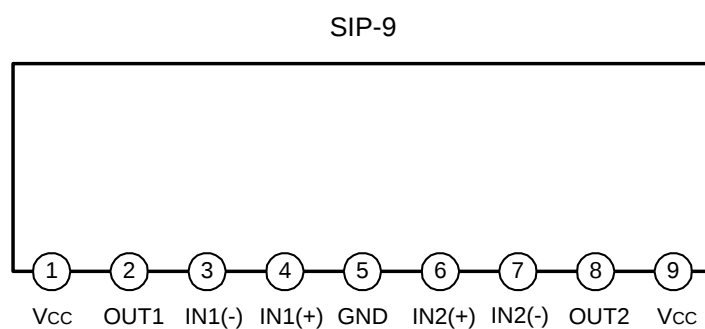
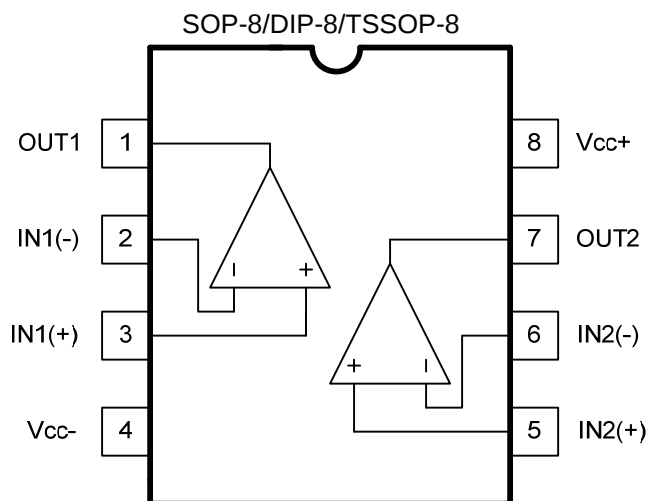
ORDERING INFORMATION

Ordering Number			Package	Packing
Normal	Lead Free Plating	Halogen Free		
MC4558-D08-T	MC4558L-D08-T	MC4558G-D08-T	DIP-8	Tube
MC4558-P08-R	MC4558L-P08-R	MC4558G-P08-R	TSSOP-8	Tape Reel
MC4558-S08-T	MC4558L-S08-T	MC4558G-S08-T	SOP-8	Tube
MC4558-S08-R	MC4558L-S08-R	MC4558G-S08-R	SOP-8	Tape Reel
MC4558-G09-T	MC4558L-G09-T	MC4558G-G09-T	SIP-9	Tube

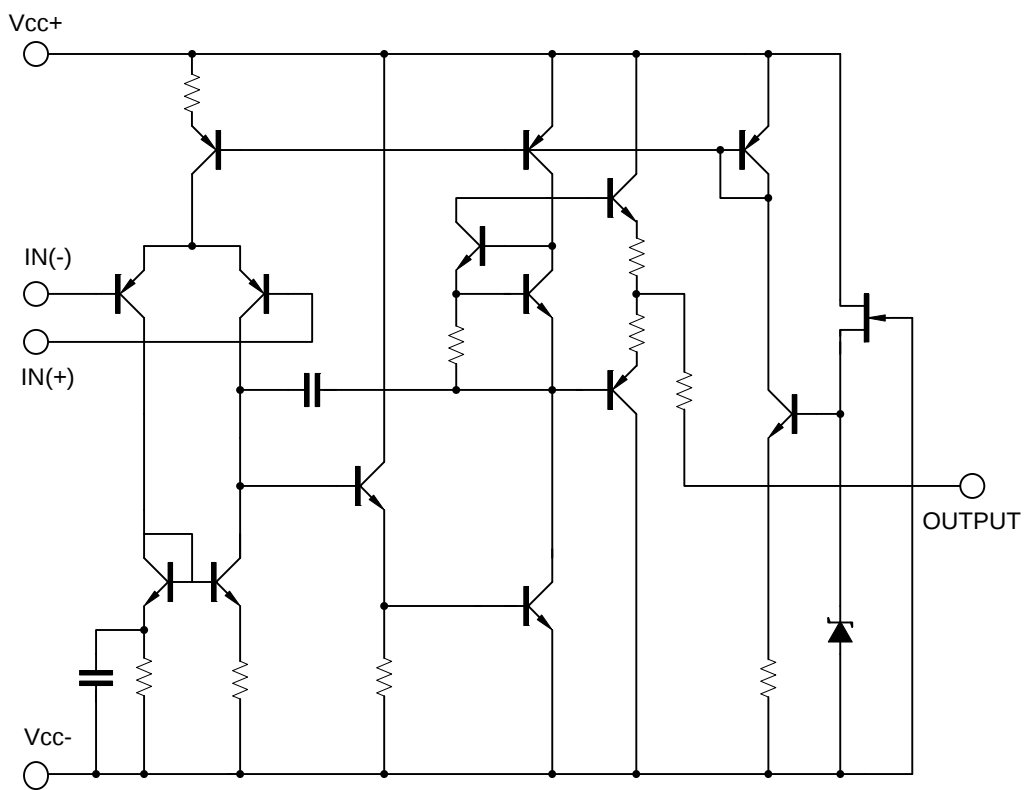
MC4558L-D08-T 		(1) Packing Type (2) Package Type (3) Lead Plating
		(1) R: Tape Reel, T: Tube (2) D08: DIP-8, P08: TSSOP-8, S08: SOP-8, G09: SIP-9 (3) L: Lead Free Plating, Blank: Pb/Sn, G: Halogen Free



■ PIN CONFIGURATIONS



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATING	UNIT
Supply Voltage		V_{CC}	± 22	V
Differential input voltage		$V_{I(DIFF)}$	± 18	V
Power Dissipation	DIP-8	P_D	600	mW
	SOP-8		400	mW
	TSSOP-8		250	mW
	SIP-9		500	mW
Input Voltage		V_{IN}	± 15	V
Junction Temperature		T_J	+125	°C
Operating Temperature		T_{OPR}	-20 ~ +85	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

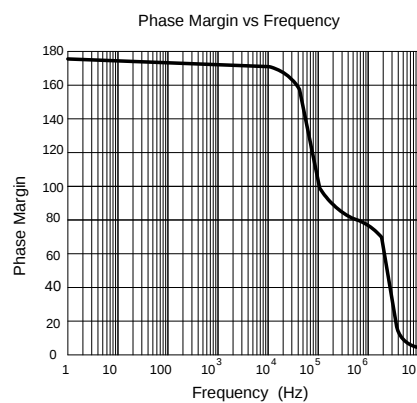
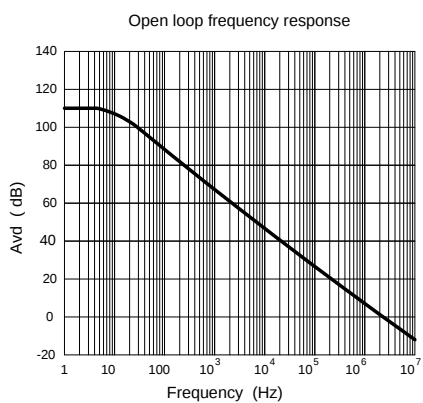
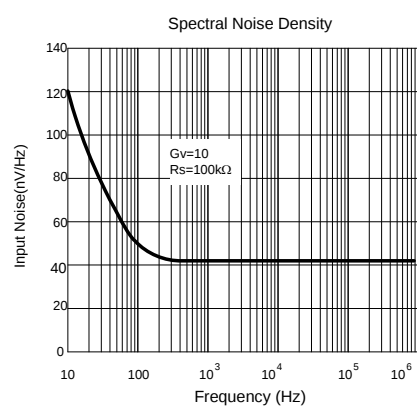
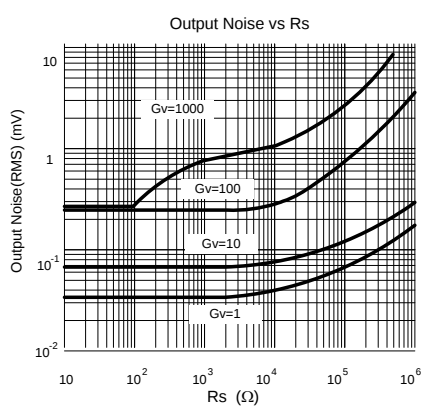
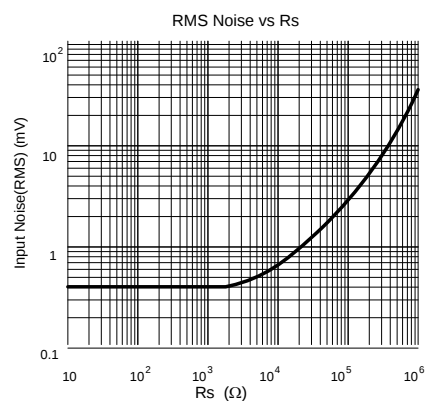
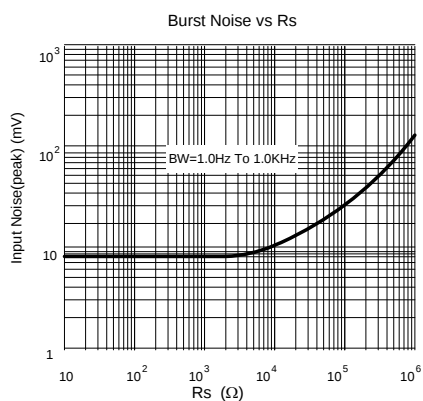
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. The device is guaranteed to meet performance specification within 0°C ~ +70°C operating temperature range and assured by design from -20°C ~ +85°C.

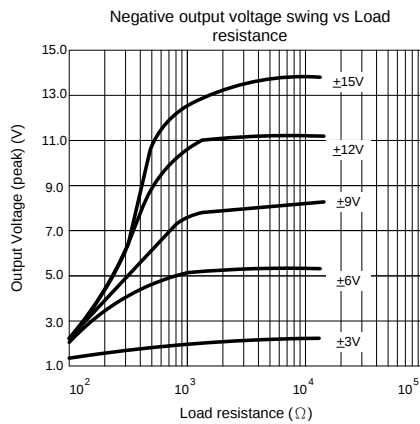
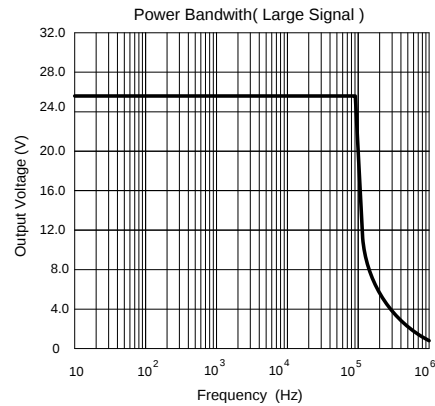
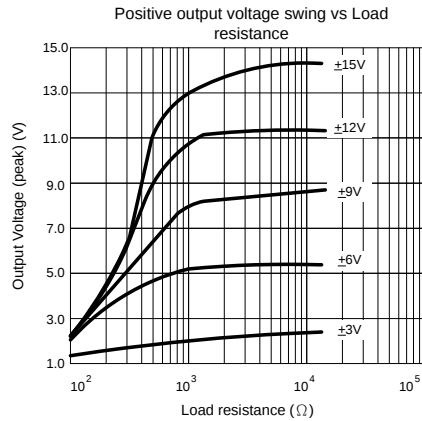
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V_{CC}=15V, V_{ee}=-15V)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Current, all Amp, no load	I_{CC}			2.3	4.5	mA
Input offset voltage	$V_{I(OFF)}$	$R_S \leq 10k\Omega$		2	6	mV
Input offset current	$I_{I(OFF)}$			5	200	nA
Input bias current	$I_{I(BIAS)}$			30	500	nA
Large signal voltage gain	G_v	$V_o(p-p) = \pm 10V, R_L \leq 2k\Omega$	20	200		V/mV
Common Mode Input Voltage Range	$V_{I(COM)}$		± 12	± 13		V
Common Mode Rejection Ratio	$RR_{(COM)}$	$R_S \leq 10k\Omega$	70	90		dB
Supply Voltage Rejection Ratio	$RR_{(VCC)}$	$R_S \leq 10k\Omega$	76	90		dB
Output Voltage swing	$V_{O(p-p)}$	$R_L \geq 10k\Omega$	± 12	± 14		V
Power Consumption	P_C			70	170	mW
Slew Rate	SR	$V_{IN} = \pm 10V, R_L \geq 2k\Omega, C_L \leq 100pF$	1.2	2.2		V/ μs
Rise Time	T_{RIS}	$V_{IN} = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		0.3		μs
Overshoot	OS	$V_{IN} = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		15		%
Input Resistance	R_{IN}		0.3	2		M Ω
Output Resistance	R_{OUT}			75		Ω
Total Harmonic Distortion	THD	$f=1kHz, A_v=20dB, R_L=2k\Omega, V_{OUT}=2V_{pp}, C_L=100pF$		0.008		%
Channel Separation	V_{O1}/V_{O2}			120		dB
FREQUENCY CHARACTERISTIC						
Unity Gain Bandwidth	BW		2.0	2.8		MHz

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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