



M2107

LINEAR INTEGRATED CIRCUIT

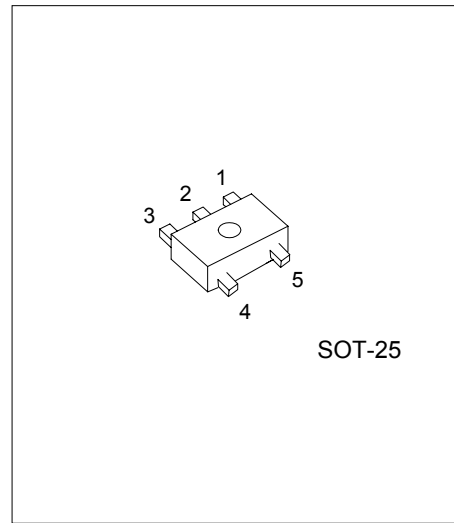
SINGLE OPERATIONAL AMPLIFIER

DESCRIPTION

The UTC M2107 is the single operational amplifier of ultra miniature surface mount package. It has features of low operating supply voltage and low saturation output voltage. It is suitable for small electronic equipments and hybrid circuits.

FEATURES

- *Operating Voltage (V⁺/V⁻ = ± 1.0V to ± 3.5V)
- *Low Output Saturation: (4Vp-p at single 5V supply)
- *V⁻ Shield Plate Between +Input and -Input
- *Suitable Pin Arrangement for Application
- *Bipolar Technology



*Pb-free plating product number: M2107L

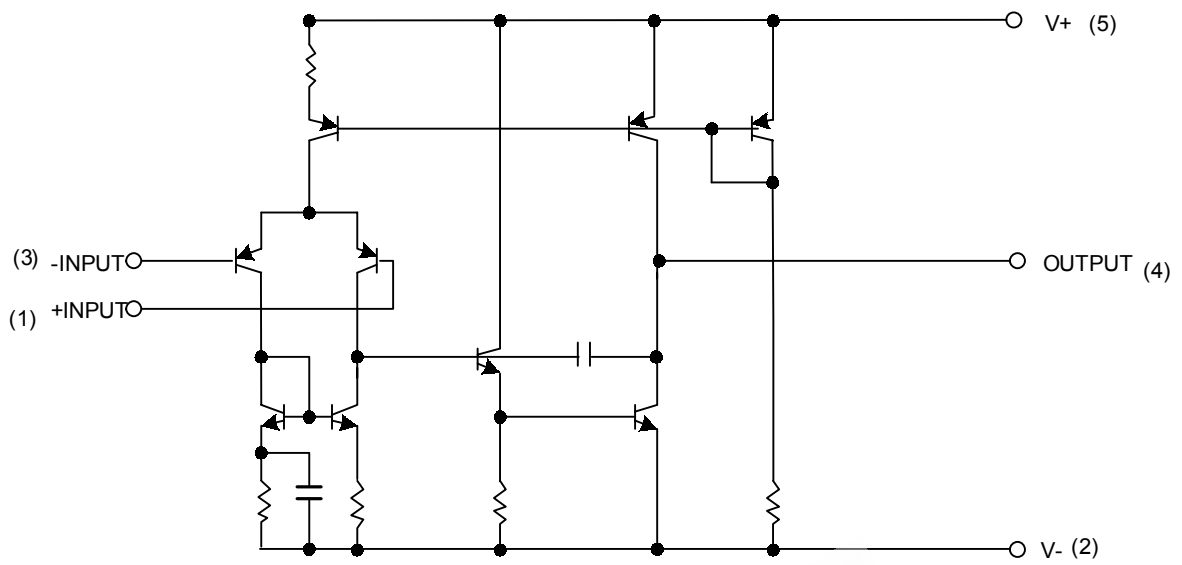
PIN CONFIGURATION

PIN NO.	PIN NAME
1	+INPUT
2	V ⁻
3	-INPUT
4	OUTPUT
5	V ⁺

ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead Free		
M2107-AF5-R	M2107L-AF5-R	SOT-25	Tape Reel

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta=25 , unless otherwise specified.)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V+(V+/V-)	7(or ± 3.5)	V
Differential Input Voltage	V _{I(DIFF)}	± 7	V
Input Voltage	V _{IN}	± 3.5	V
Power Dissipation	P _D	200	mW
Operating Temperature Range	T _{OPR}	0 ~ +70	°C
Storage Temperature Range	T _{STG}	-40 ~ +150	°C

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

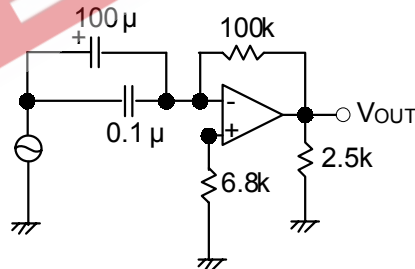
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2.The device is guaranteed to meet performance specification within 0 ~70 operating temperature range and assured by design from -40 ~85 .

■ ELECTRICAL CHARACTERISTICS (Ta=25□, V⁺/V⁻= ± 2.5V , unless otherwise specified.)

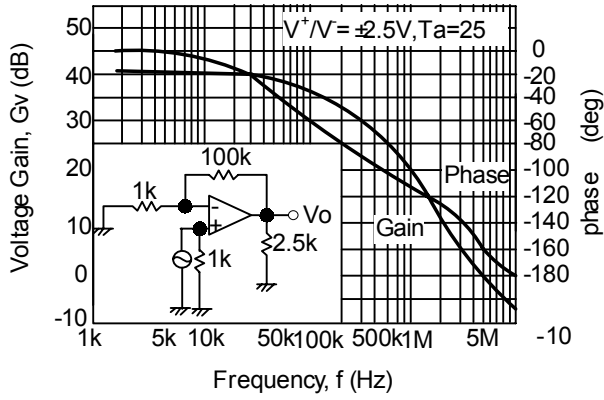
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	V _{IN(OFF)}	R _S =10kΩ		1	6	mV
Input Offset Current	I _{IN(OFF)}	I ⁺ -I ⁻		5	200	nA
Input Bias Current	I _{IN(BIAS)}			100	500	nA
Large Signal Voltage Gain	G _V	V _{OUT} = ± 2.0V, R _L =10kΩ	60	80		dB
Supply Voltage Rejection Ratio	SVR	R _S ≤10kΩ	60	70		dB
Input Common Mode Voltage Range	V _{IN(CM)}		± 1.5			V
Rejection Ratio	RR	R _S ≤10kΩ	60	80		dB
Output Voltage Swing	V _{OM}	R _L =2.5kΩ	± 2.0	± 2.2		V
Slew Rate	SR	V _{IN} = ± 1Vp-p, ACL=+1		3		V/μs
Operating Current	I _{OPR}		1	2	3	mA

■ TEST CIRCUIT

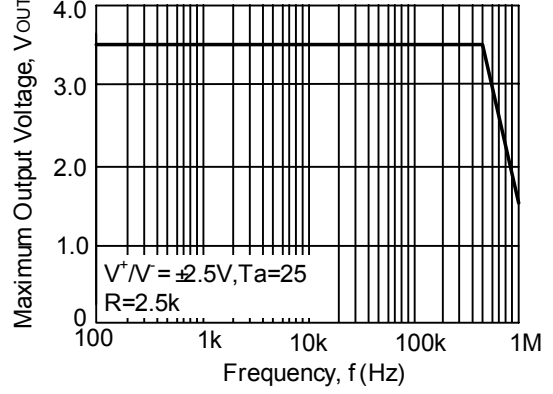


■ TYPICAL CHARACTERISTICS

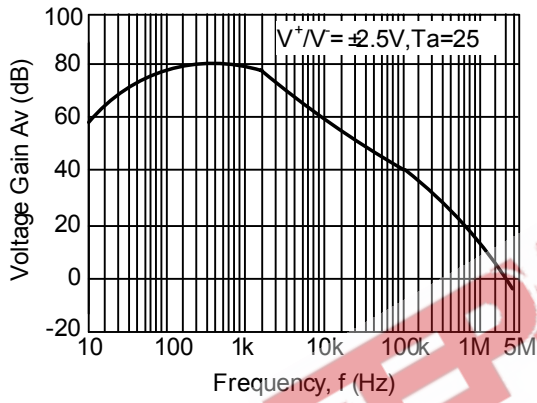
Voltage Gain, Phase vs. Frequency



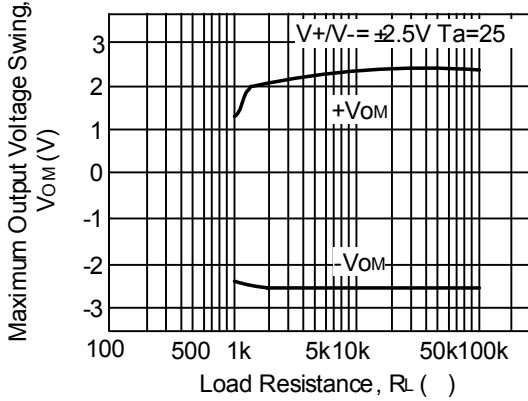
Maximum Output Voltage vs. Frequency



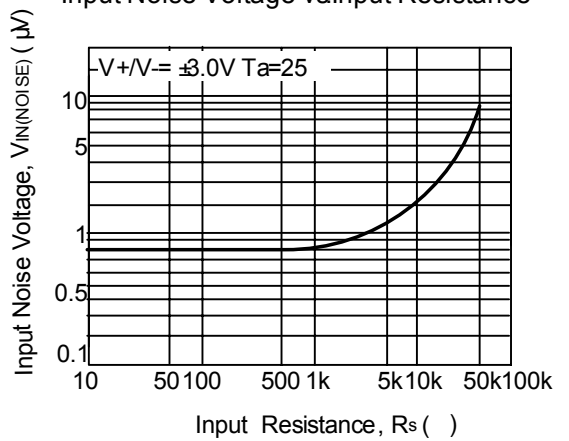
Voltage Gain vs. Frequency



Maximum Output Voltage Swing vs. Load Resistance

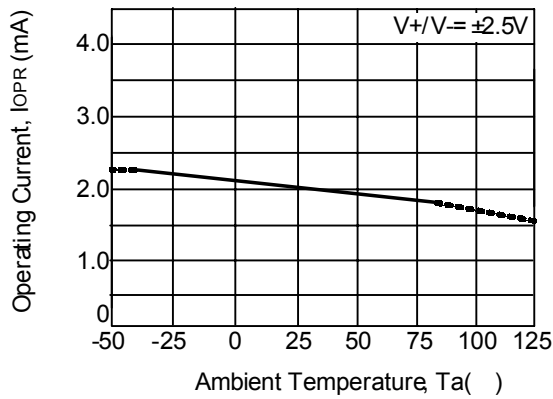


Input Noise Voltage vs. Input Resistance

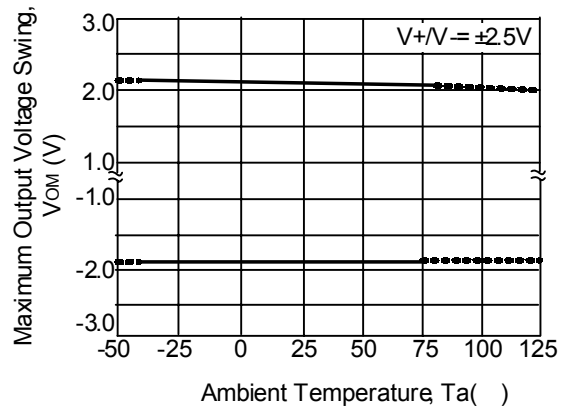


TYPICAL CHARACTERISTICS (Cont.)

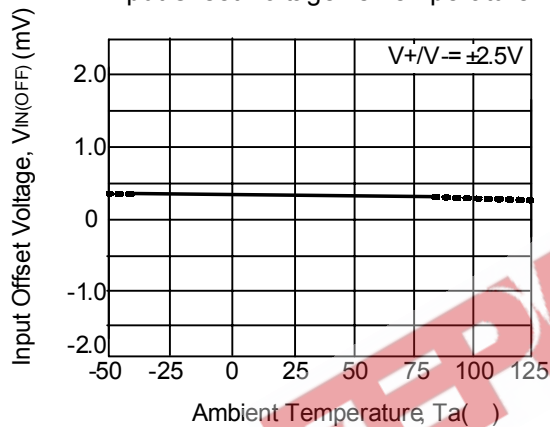
Operating Current vs. Temperature



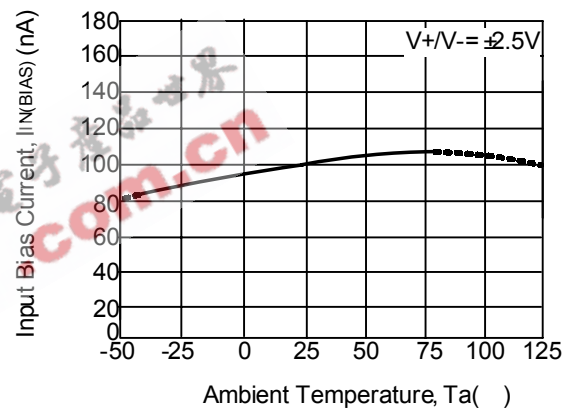
Maximum Output Voltage Swing vs. Temperature



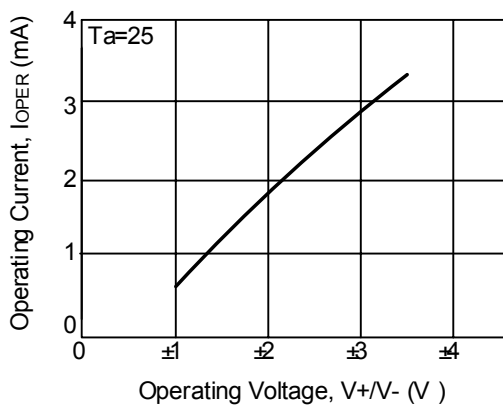
Input Offset Voltage vs. Temperature



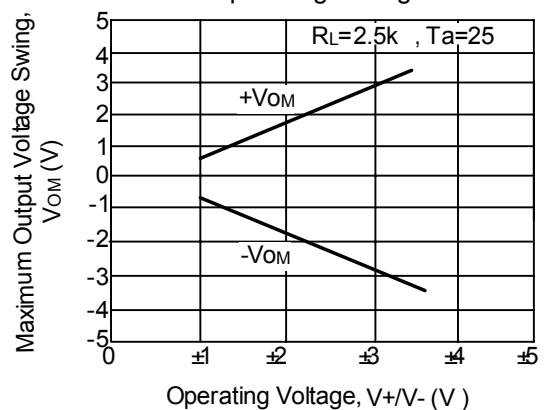
Input Bias Current vs. Temperature



Operating Current vs. Operating Voltage

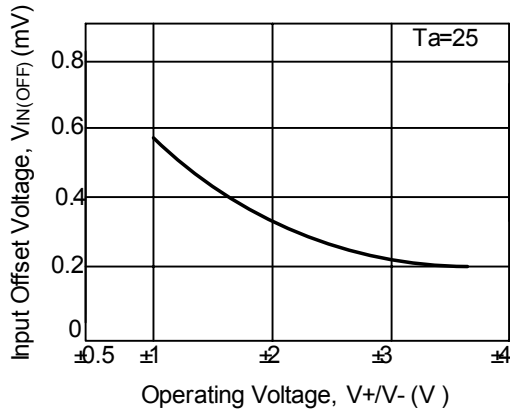


Maximum Output Voltage Swing vs. Operating Voltage

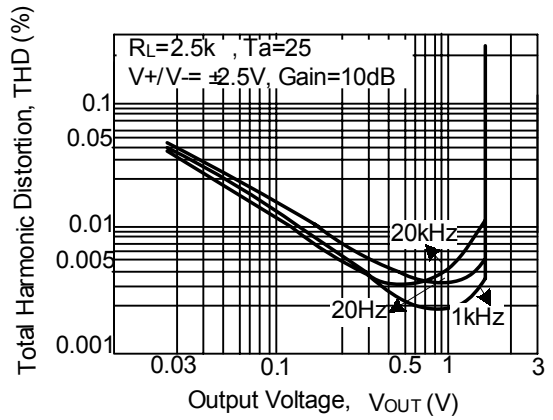


■ TYPICAL CHARACTERISTICS (Cont.)

Input Offset Voltage vs. Operating Voltage



Total Harmonic Distortion vs. Output Voltage



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