

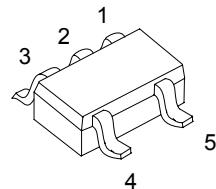
SINGLE OPERATIONAL AMPLIFIER

■ 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 ($V^+/V^- = \pm 1.0V$ to $\pm 3.5V$)
- *Low Output Saturation: (4Vp-p at single 5V supply)
- *V Shield Plate Between +Input and -Input
- *Suitable Pin Arrangement for Application
- *Bipolar Technology



SOT-25

*Pb-free plating product number: M2107L

■ ORDERING INFORMATION

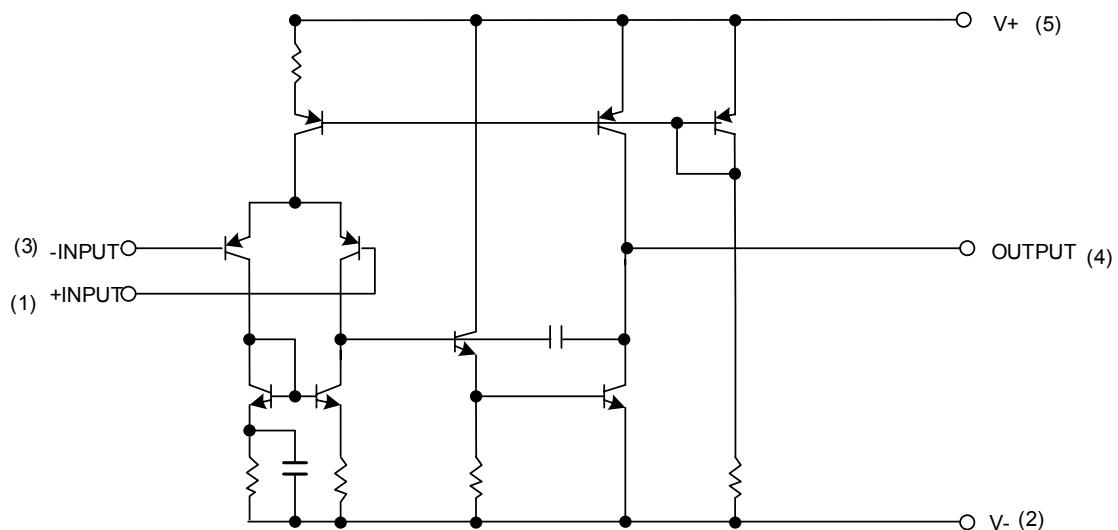
Order Number		Package	Packing
Normal	Lead Free Plating		
M2107-AF5-R	M2107L-AF5-R	SOT-25	Tape Reel

M2107L-AF5-R 	(1) R: Tape Reel (2) AF5: SOT-25 (3) L: Lead Free Plating, Blank: Pb/Sn
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■ PIN CONFIGURATION

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

■ BLOCK DIAGRAM



■ **ABSOLUTE MAXIMUM RATINGS** (Ta=25°C, 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}	-20 ~ +75	°C
Storage Temperature Range	T _{STG}	-40 ~ +125	°C

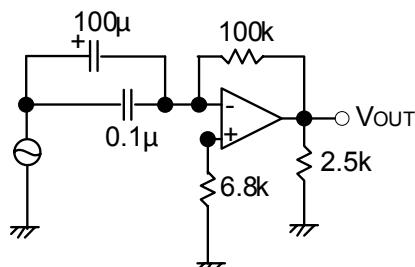
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged.

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

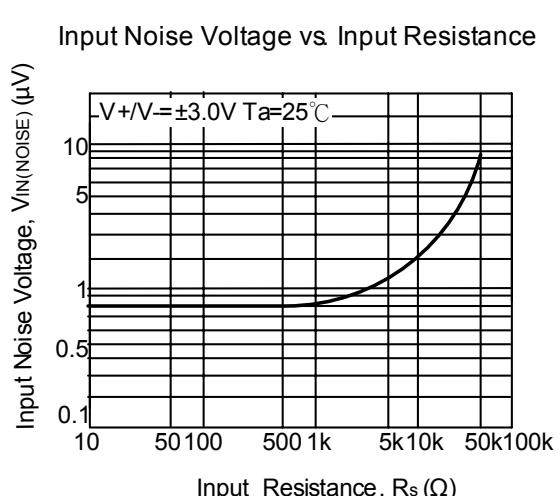
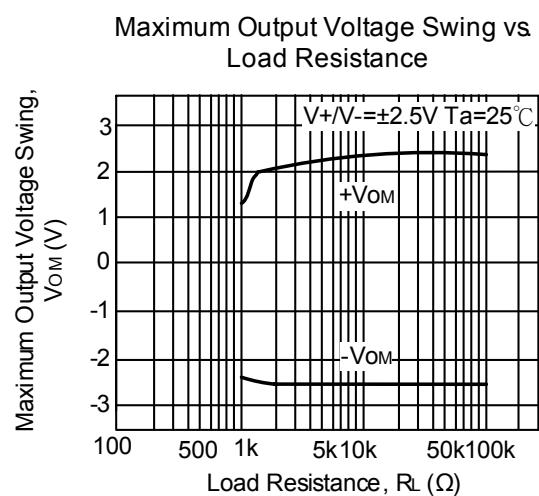
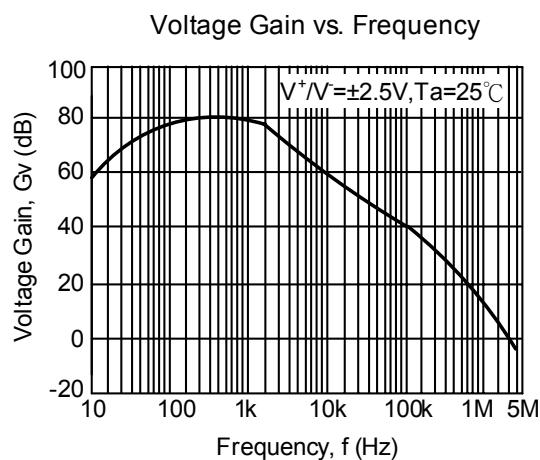
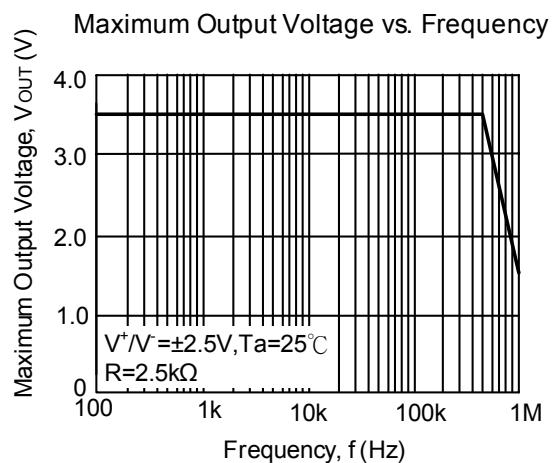
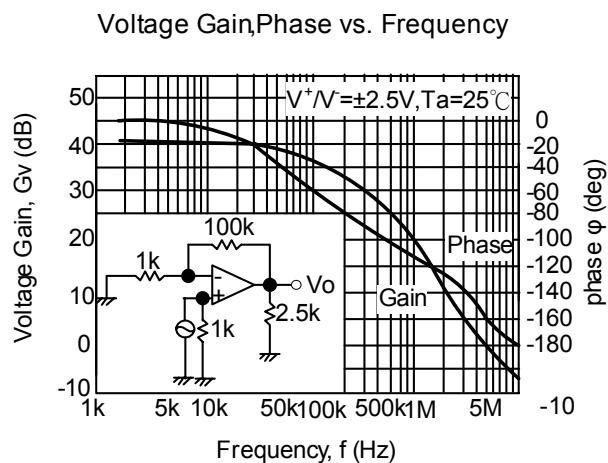
■ **ELECTRICAL CHARACTERISTICS** (Ta=25°C, V⁺/V⁻= ± 2.5 V, unless otherwise specified.)

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} = ± 2.0 V, R _L =10kΩ	60	80		dB
Supply Voltage Rejection Ratio	SVR	R _S \leq 10kΩ	60	70		dB
Input Common Mode Voltage Range	V _{IN(CM)}		± 1.5			V
Rejection Ratio	RR	R _S \leq 10kΩ	60	80		dB
Output Voltage Swing	V _{OM}	R _L =2.5kΩ	± 2.0	± 2.2		V
Slew Rate	SR	V _{IN} = ± 1 Vp-p, ACL=+1		3		V/ μ s
Operating Current	I _{OPR}		1	2	3	mA

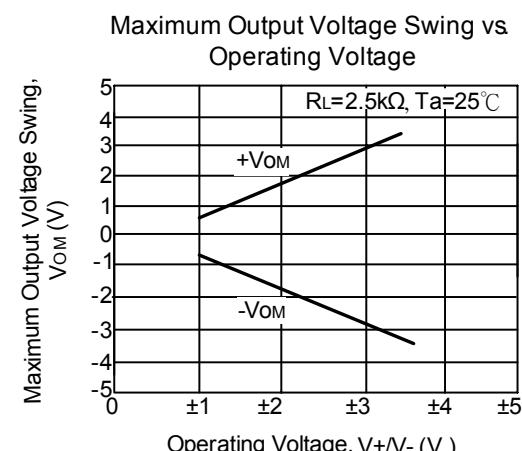
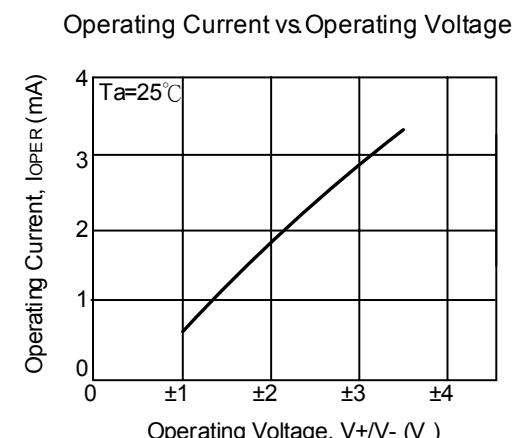
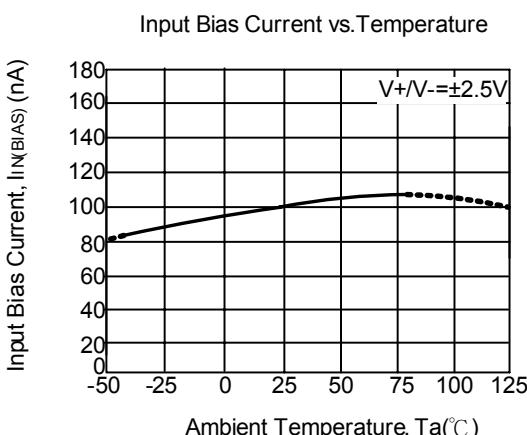
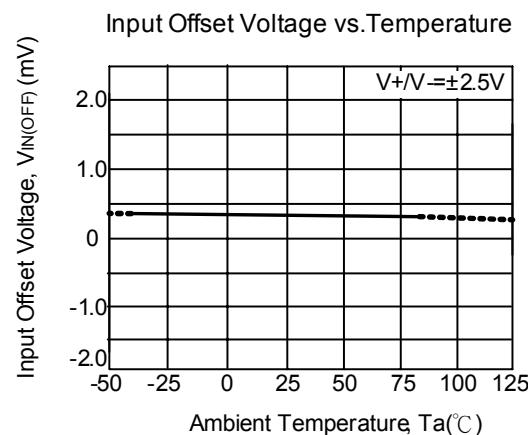
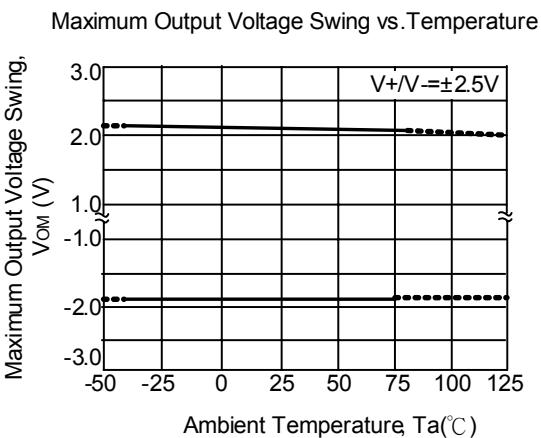
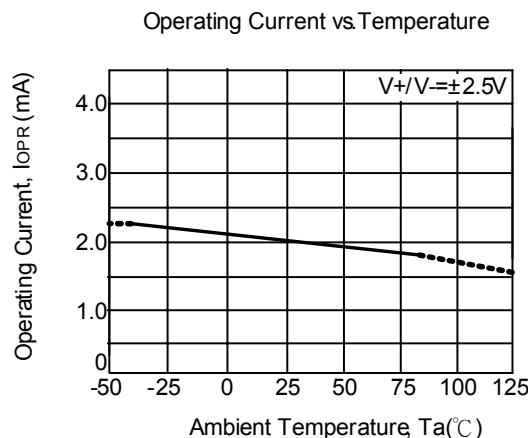
■ **TEST CIRCUIT**



■ TYPICAL CHARACTERISTICS

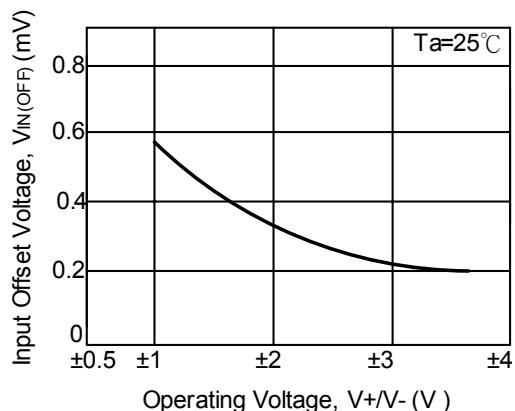


■ TYPICAL CHARACTERISTICS (Cont.)

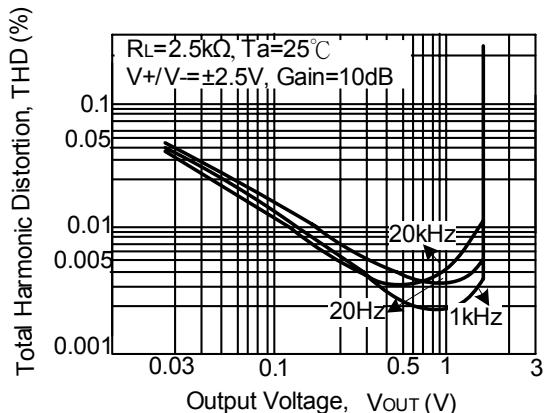


■ TYPICAL CHARACTERISTICS (Cont.)

Input Offset Voltage vs. Operating Voltage



Total Harmonic Distortion vs. Output Voltage



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