



M2125

LINEAR INTEGRATED CIRCUIT

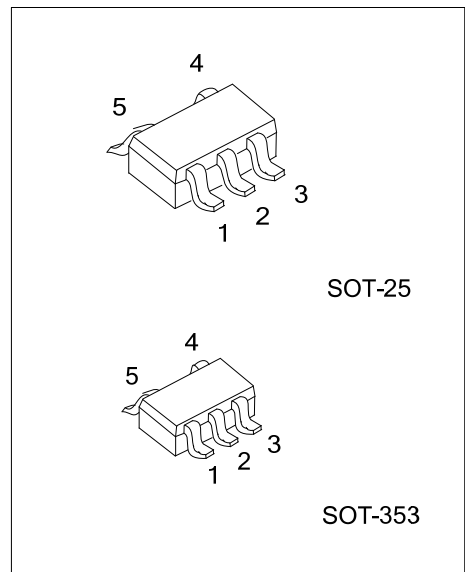
SINGLE-SUPPLY OPERATIONAL AMPLIFIER

DESCRIPTION

The UTC **M2125** is a single-supply operational amplifier.

FEATURES

- * Single-Supply Operation
- * Low Operating Voltage: $\pm 2.7V \sim 20V$
- * Low Operating Current: 1.0mA (typ.)
- * Slew Rate: 1.2V/ μs (typ.)



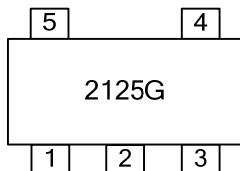
ORDERING INFORMATION

Ordering Number	Package	Pin Assignment					Packing
		1	2	3	4	5	
M2125G-AF5-R	SOT-25	I ⁺	G	I ⁻	O	V ⁺	Tape Reel
M2125G-AL5-R	SOT-353	I ⁺	G	I ⁻	O	V ⁺	Tape Reel

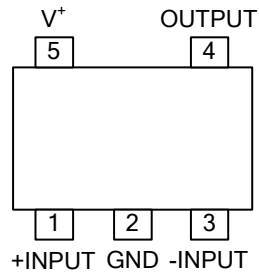
Note: Pin Assignment: I: V_{IN} O: Output G: GND

<p>M2125G-AF5-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AF5: SOT-25, AL5: SOT-353</p> <p>(3) G: Halogen Free and Lead Free</p>
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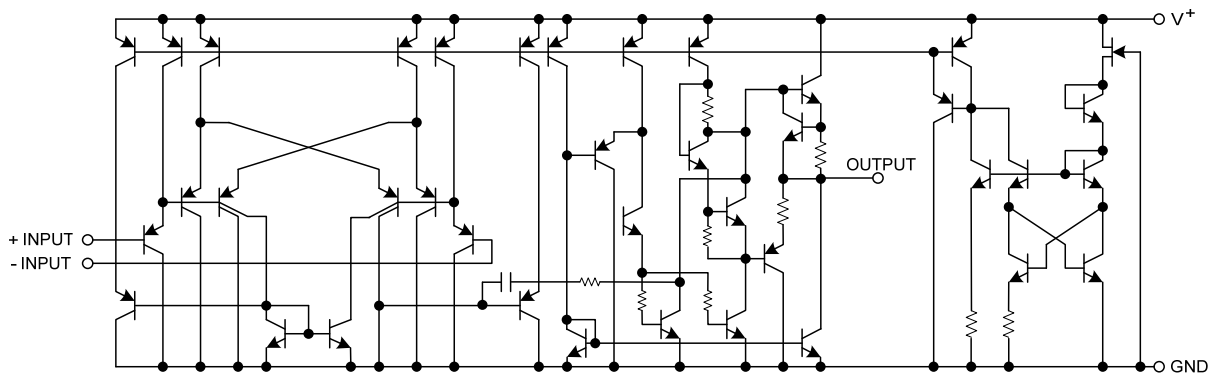
MARKING



■ PIN CONFIGURATION



■ EQUIVALENT CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V^+	+20	V
Differential Input Voltage		$V_{I(DIFF)}$	+20	V
Input Voltage (Note 2)		V_{IN}	-0.3 ~ +20	V
Power Dissipation ($T_C=25^\circ\text{C}$)	SOT-25	P_D	200	mW
	SOT-353		110	mW
Junction Temperature		T_J	+125	$^\circ\text{C}$
Operating Temperature		T_{OPR}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature		T_{STG}	-60 ~ +150	$^\circ\text{C}$

Notes: 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. When the supply voltage is less than +20V, the absolute maximum input voltage is equal to the supply voltage.

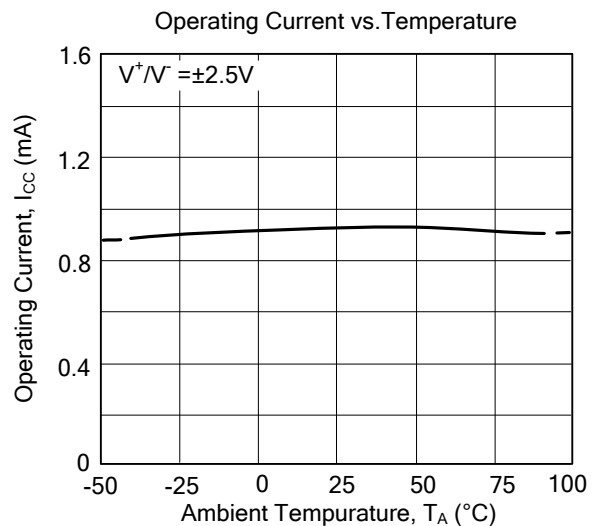
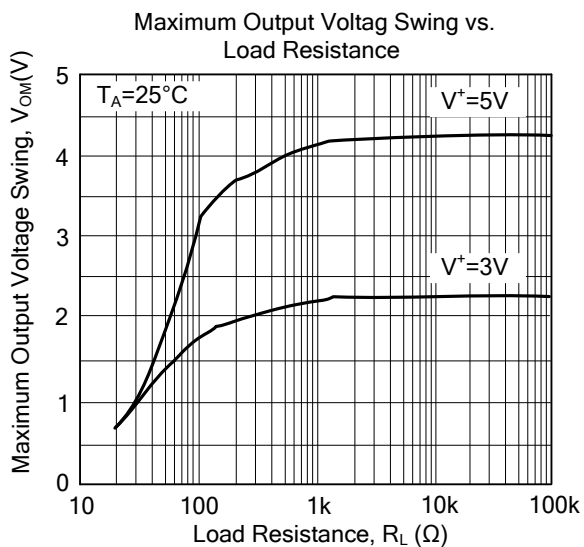
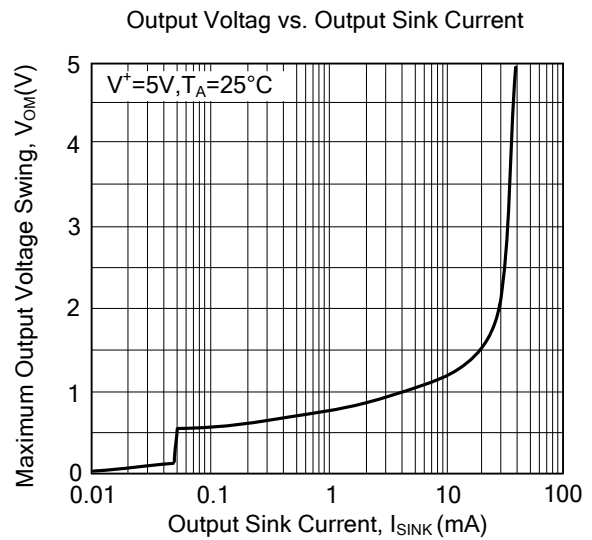
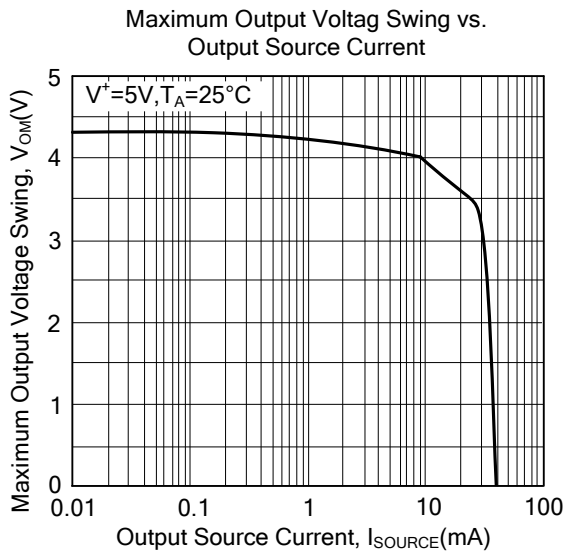
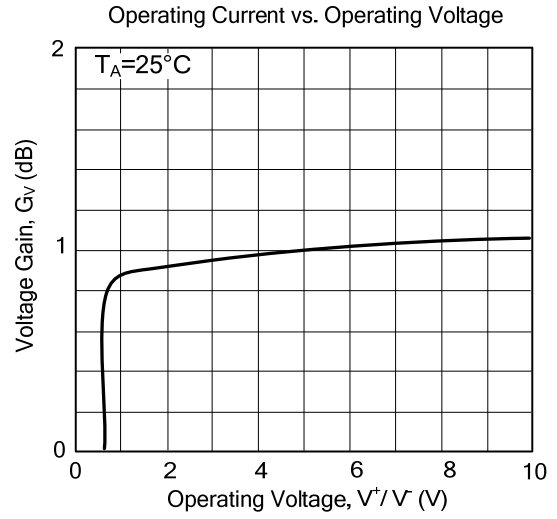
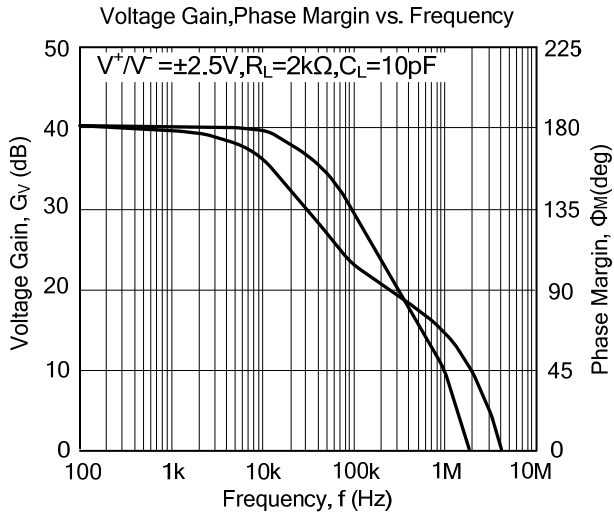
■ THERMAL DATA ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATING	UNIT
Junction to Ambient	SOT-25	θ_{JA}	230	$^\circ\text{C/W}$
	SOT-353		350	$^\circ\text{C/W}$

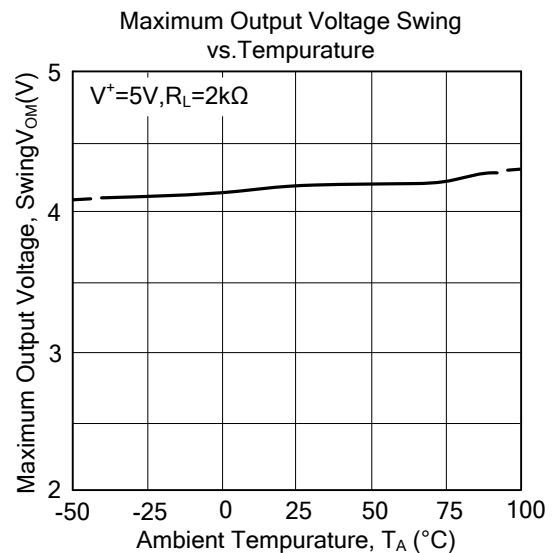
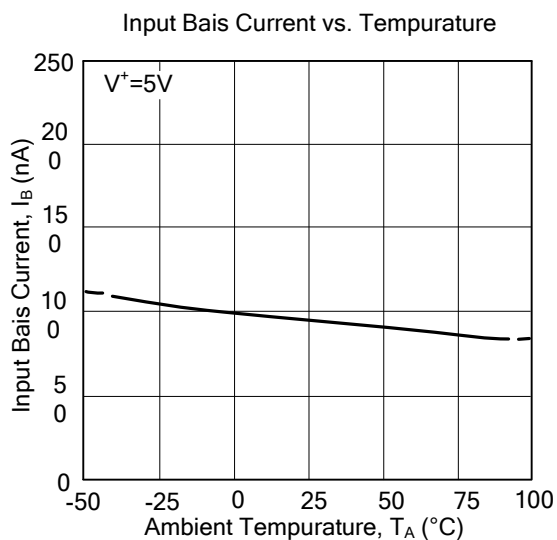
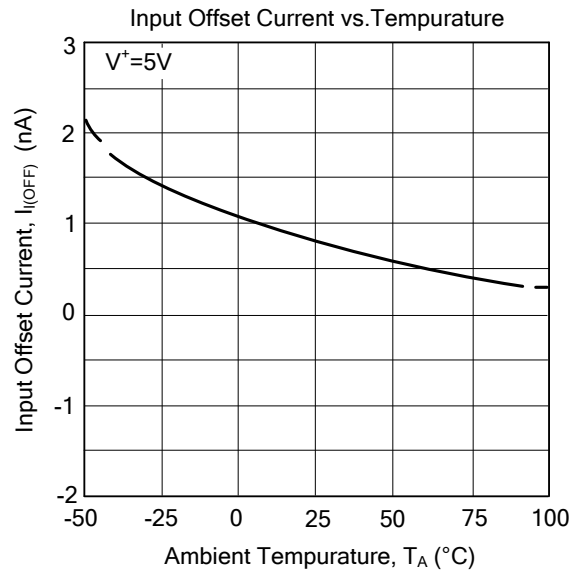
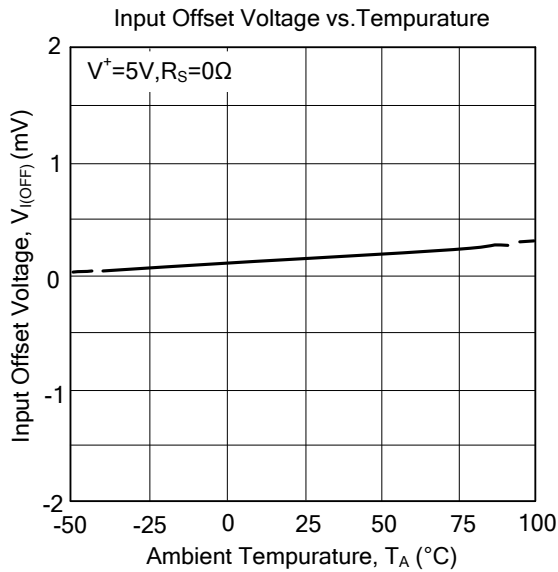
■ ELECTRICAL CHARACTERISTICS ($V^+=5\text{V}$, $T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Offset Voltage	$V_{I(OFF)}$	$R_S=0\Omega$		2	7	mV
Input Offset Current	$I_{I(OFF)}$			5	50	nA
Input Bias Current	$I_{I(BIAS)}$			25	250	nA
Large Signal Voltage Gain	G_V	$R_L \geq 2\text{k}\Omega$	88	100		dB
Maximum Output Voltage Swings	V_{OM}	$R_L=2\text{k}\Omega$	3.5			V
Input Common Mode Voltage	$V_{I(CM)}$		0		3.5	V
Common Mode Rejection Ratio	RR		70	90		dB
Supply Voltage Rejection Ratio	SVR		80	94		dB
Output Source Current	I_{SOURCE}	$V_{IN}^+=1\text{V}, V_{IN}^-=0\text{V}$	20	30		mA
Output Sink Current	I_{SINK}	$V_{IN}^+=0\text{V}, V_{IN}^-=1\text{V}$	8	20		mA
Operating Current	I_{CC}	$R_L=\infty$		1.0	1.75	mA
Slew Rate	SR			1.2		V/ μs
Unity Gain Frequency	f_T			1.2		MHz

TYPICAL CHARACTERISTICS



■ TYPICAL CHARSACTERISTICS(Cont.)



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