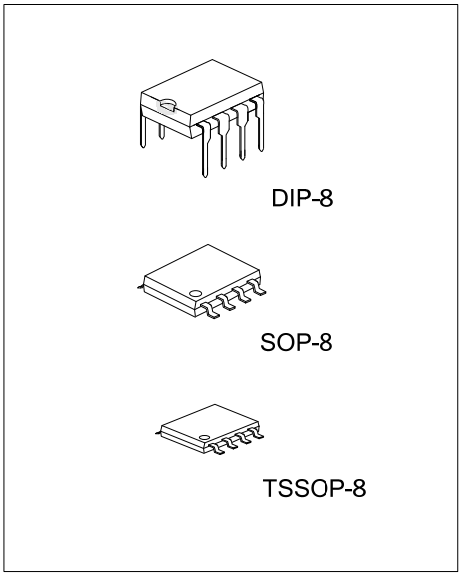
DUAL OPERATIONAL AMPLIFIER



■ DESCRIPTION

The UTC **M2115** is a low operating Voltage(±1.0V min.) and low saturation output voltage(±2.0V p-p at supply voltage ±2.5V) operational amplifier. It is applicable to handy type CD,radio cassete CD, and portable DAT, that are digital audio apparatus which require the 5V single supply operation and high output voltage. The UTC **M2115** is improved version of the UTC M2100 about BIAS-CIRCUIT. So the UTC **M2115** is low saturation compared to the UTC M2100 under the condition of low supply voltage(<±2.5V).The UTC **M2115** is stable about the oscillation compared to the UTC M2100 under the condition of V+/V- >2.5V.

■ FEATURES

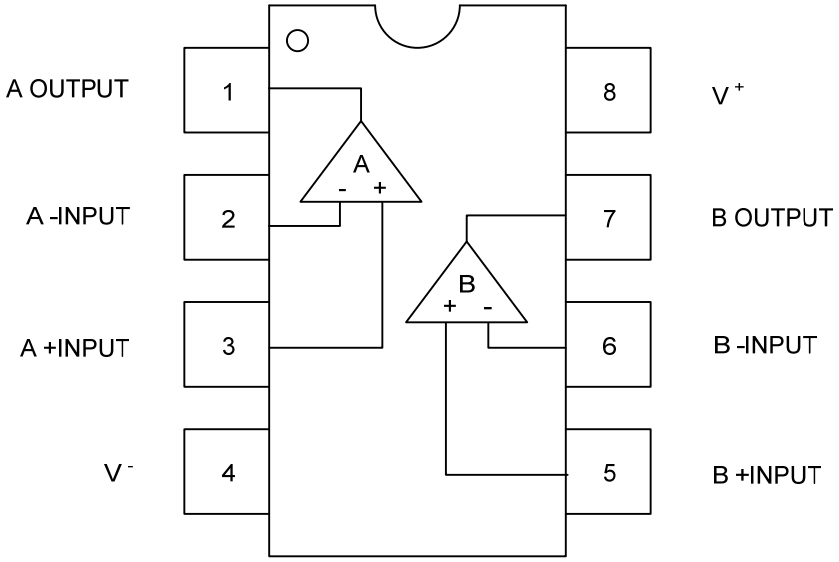
* Operating Voltage: ±1V ~±7V
* Low Saturation Output Voltage: ±2.0Vp-p@V+=±2.5V
* Slew Rate: 4V/μs (typ.)
* Unity Gain Bandwidth: 12MHz (typ.)

■ ORDERING INFORMATION

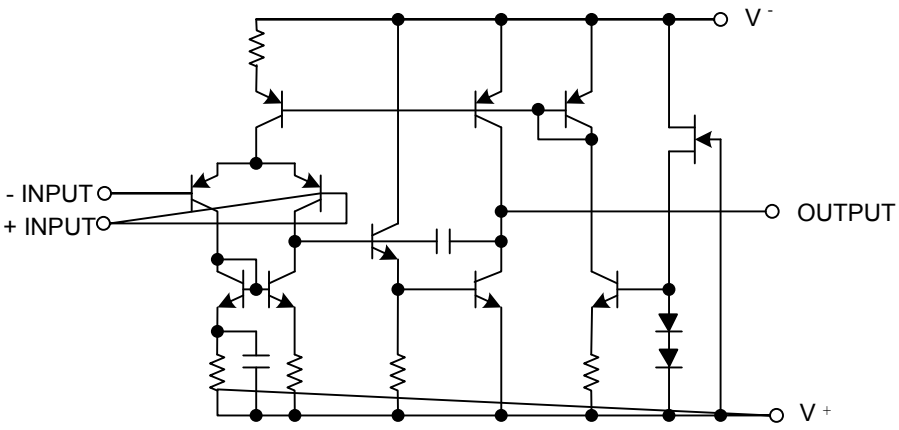
Ordering Number		Package	Packing
Lead Free	Halogen Free		
M2115L-D08-T	M2115G-D08-T	DIP-8	Tube
M2115L-S08-R	M2115G-S08-R	SOP-8	Tape Reel
M2115L-S08-T	M2115G-S08-T	SOP-8	Tube
M2115L-P08-R	M2115G-P08-R	TSSOP-8	Tape Reel
M2115L-P08-T	M2115G-P08-T	TSSOP-8	Tube

M2115L-D08-T (1)Packing Type (2)Package Type (3)Lead Free	(1) R: Tape Reel, T: Tube (2) D08: DIP-8, S08: SOP-8, P08:TSSOP-8 (3) G: Halogen Free, L: Lead Free

■ PIN CONFIGURATION



■ EQUIVALENT CIRCUIT (1/2 Shown)



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V^+/V^-	±7.0	V
Differential Input Voltage		$V_{I(DIFF)}$	±14	V
Power Dissipation	DIP-8	P_D	500	mW
	SOP-8		300	
	TSSOP-8		250	
Operating Temperature		T_{OPR}	-40 ~ +85	°C
Storage Temperature		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 (V+/V- =±2.5V, T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	$V_{I(OFF)}$	Rs≤10kΩ		1	6	mV
Input Bias Current	$I_{I(BIAS)}$			100	300	nA
Operating Current	I_{CC}	V_{IN}=0,R_L=∞		3.5	5	mA
Maximum Output Voltage Swing	V_{OM}	R_L≥2.5kΩ	±2	±2.2		V
Input Common Mode Voltage Range	V_{ICM}		±1.5			V
Large Signal Voltage Gain	G_V	R_L≥10kΩ	60	80		dB
Common Mode Rejection Ratio	CMRR		60	74		dB
Supply Voltage Rejection Ratio	SVR		60	80		dB
Slew Rate	SR	V_{IN}=±1V, G_V=1		4		V/μs
Gain Bandwidth product	GB	f=10kHz		12		MHz

Notes: 1. Applied circuit voltage gain is desired to be operated within the range of 3dB to 30dB.
2. Special care being required for input common mode voltage range and the oscillation due to the capacitive load when operating follower.