

## Electrical Specifications

### Absolute Maximum Ratings

	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	-0.3 ~ +3.6	V
Input Signal Voltage	---	-0.3 ~ $V_{CC} + 0.3V$	V
Storage Temperature	$T_{STRAGE}$	-20 ~ +60	°C

### Environmental Conditions

	Symbol	Value	Unit
Operating Voltage	$V_{CC}$	+3.3V ± 5%	V
Operating Temperature	$T_a$	0 ~ +40 (Humidity < 80%)	°C

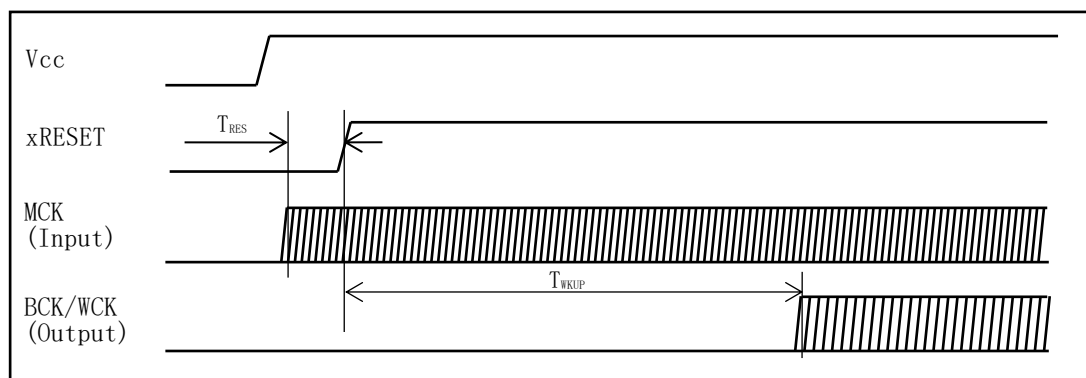
### DC Characteristics

	Symbol	Min	Typ.	Max	Unit
Input High Voltage	$V_{IH}$	$V_{CC} * 0.7$			V
Input Low Voltage	$V_{IL}$			$V_{CC} * 0.3$	V
Output High Voltage	$V_{OH}$	$V_{CC} * 0.9$	$V_{CC}$		V
Output Low Voltage	$V_{OL}$		0	$V_{CC} * 0.1$	V
Current Consumption(※1)	$I_{CC}$			220	mA

(※1) Please apply a limit at about 1.5A for safety in case of abnormal conditions.

### AC Characteristics (Reset Timing)

	Symbol	Min	Typ.	Max	Unit
Reset Low Pulse Time	$T_{RES}$	50			msec
Board Wakeup Time	$T_{WKUP}$	3.1			sec



### Parameter Control: UART

Baud rate: 38,400bps (±1%)  
 Length: 8  
 Start Bit: 1  
 Stop Bit: 1  
 Parity: None

# Roland 01-DSP-R Specification

## Digital Audio Format: I2S

Master Clock Input: 12.288MHz (48kHz\*256) or 18.432MHz (48kHz\*384)

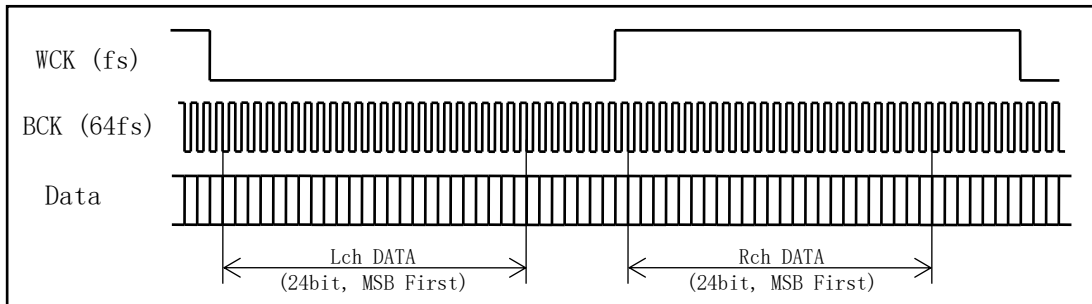
Bit Clock Output: 3.072MHz (48kHz\*64)

Word Clock Output: 48kHz

Input Data: 3 (MIC1/MIC2, MUSIC, AUX)

Output Data: 3 (MIC, MAIN, SUB)

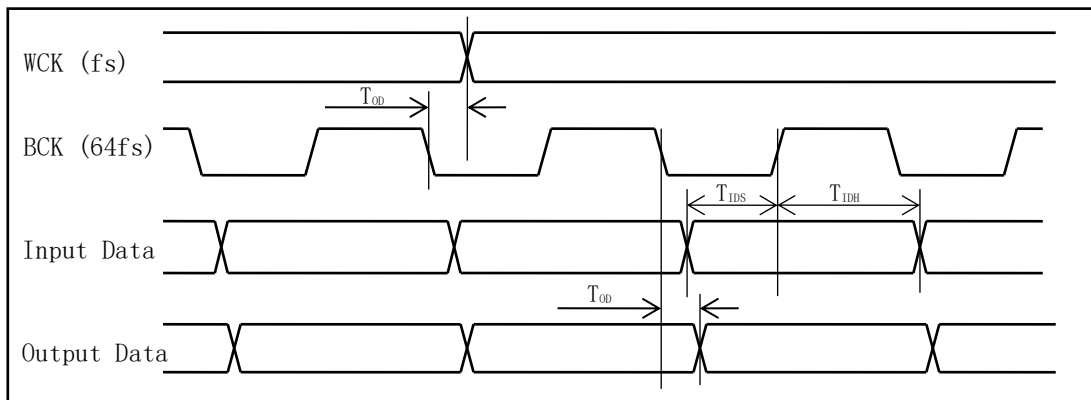
Outline of digital audio signal timing (IIS Format 24bit 48kHz)



## AC Characteristics (Digital Audio Timing)

	Symbol	Min	Typ.	Max	Unit
Sampling Rate (fs)	WCK		48		kHz
Master Clock	(256fs)		12.288		MHz
	(384fs)		18.432		
Bit Clock (64fs)	BCK		3.072		MHz
Input Data Setup Time	$T_{IDS}$	10			ns
Input Data Hold Time	$T_{IDH}$	10			ns
Output Delay Time	$T_{OD}$	-5		10	ns
BCK Rise/Fall Time	$T_{BE}$			10	ns
MCK Rise/Fall Time	$T_{ME}$			8	ns

Digital audio signal timing



Digital audio signal timing (MCK/BCK)

