

CM04M-03S26-MD-9

Rev. 0-2025
RoHS3 & REACH
Omni Directional Microphones



Operating Characteristics

ELECTRICAL

Type	Digital
Rated Voltage	2 VDC
Operating Voltage	1.65 to 3.6 VDC
Max Short Circuit Current	20 mA
Capacitance	N/A

ACOUSTIC - General

Technology	MEMS
Directionality	Omni Directional

ACOUSTIC-Standard Mode @ 94dB;1000 Hz;Rated Voltage;CLK Freq.-2.4 MHz

Clock Frequency Range	1.3 - 4.8 MHz
Supply Current	680 uA
Sensitivity	-26 ± 1 dBFS
Signal-to-Noise	58 dB(A)
Power Supply Rejection*	-80 dBFS
PSR Ratio**	52 dBV/FS
Acoustic Overload Point	120 dB SPL
Total Harmonic Distortion	0.5% Max

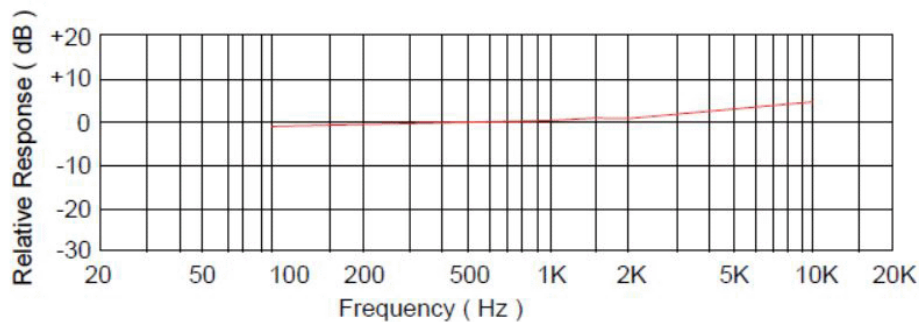
ACOUSTIC-Low Power Mode @ 94dB;1000 Hz;Rated Voltage;CLK Freq.-2.4 kHz

Clock Frequency Range	150-900 kHz
Supply Current	280 uA
Sensitivity	-26 ± 1 dBFS
Signal-to-Noise	57 dB(A)
Power Supply Rejection*	-80 dBFS
PSR Ratio**	52 dBV/FS
Acoustic Overload Point	120 dB SPL
Total Harmonic Distortion	0.5% Max

ACOUSTIC - Sleep Mode @ 94dB; 1000 Hz; Rated Voltage

Clock Frequency Range	0-10 kHz
Sleep Current	3 uA

*Tested At 100mVpp Squarewave @ 217Hz, A weighted
**Tested At 200mVpp Sine Wave @1,000Hz, VDD=2.0V



Revision	Description	By	Date
0-2025	Original Specification	KG	2025-02-12

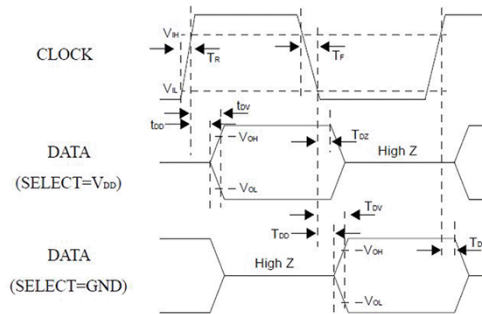
Warranty: For a period of one (1) year from date of shipping under normal operations conditions. This warranty does not apply to products damaged through misuse, abuse, improper installation, alteration, rework, or attempt to repair.

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Parameter	Symbol	Conditions	Min	Typ	Max	Units
Logic Input High	V _{IH}	-	0.65*V _{DD}	-	V _{DD} +0.3	V
Logic Input Low	V _{IL}	-	-0.3	-	0.35*V _{DD}	V
Logic Output High	V _{OH}	-	V _{DD} -0.45	-	-	V
Logic Output Low	V _{OL}	-	-	-	0.45	V
Clock Duty Cycle	FDC	-	40	-	60	%
Data Format	-	-	1/2 Cycle PDM			
Fall Asleep Time	T _{s1p}	F _{clock} ≤10KHz	-	-	20	μs
Wake-up Time	T _{wk}	F _{clock} >150KHz	-	-	20	μs
Power-up Time	T _{pu}	-	-	-	20	μs
Mode Change Time	T _{mc}	-	-	-	20	μs

Parameter	Symbol	Min	Typ	Max	Units
Clock Rise / Fall Time	T _R / T _F	-	-	15	ns
DATA Rise to Hi Z time	t _{oz}	5	-	20	ns
Delay Time For Data Driven	t _{do}	25	-	50	ns
DATA Valid time	t _{dv}	40	-	100	ns

Microphone	Select (L/R)	Asserts DATA On	Latch DATA On
Mic (High)	V _{DD}	Rising clock edge	Falling clock edge
Mic (Low)	GND	Falling clock edge	Rising clock edge

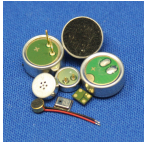
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Physical Characteristics

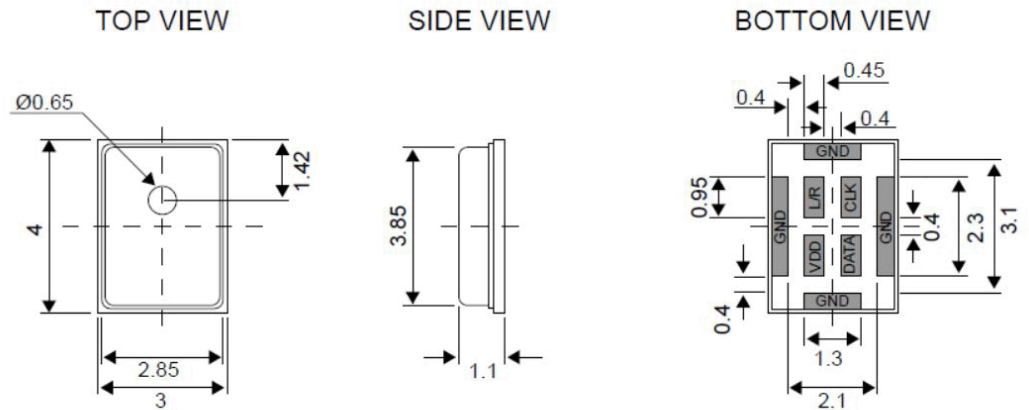
MATERIAL

Solder Pads Gold Plated Copper

TEMPERATURE RANGES

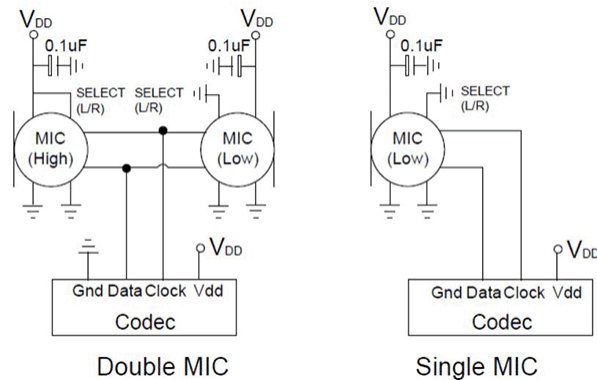
Operating -40 to +80 °C
Storage -40 to +100 °C

Weight 0.029 g



General tolerance = ± 0.50 mm and all measurements in mm unless otherwise noted.

Interface Circuit



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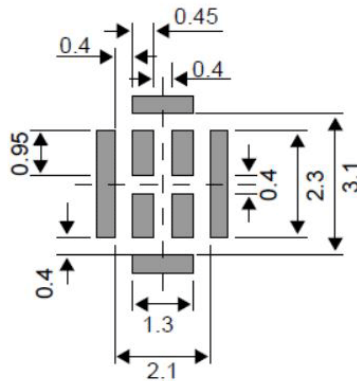
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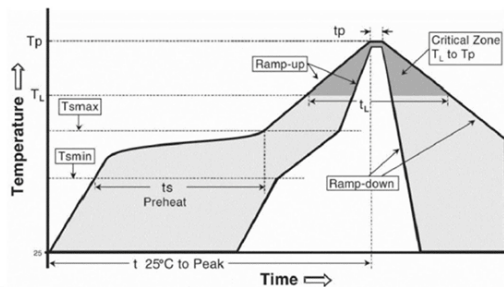
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Recommended Footprint

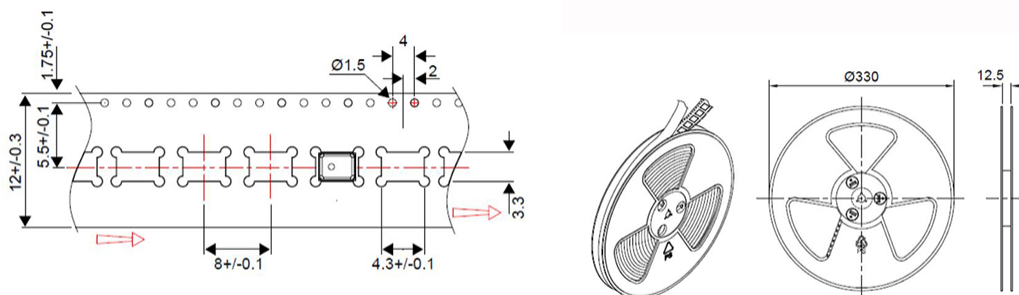


Recommended Reflow Profile



Profile Feature	Pb-Free
Average Ramp-up rate (T_{smax} to T_p)	3°C/second max.
Preheat	
Temperature Min (T_{smin})	150°C
Temperature Max (T_{smax})	200°C
Time (T_{smin} to T_{smax}) (t_s)	60-180 seconds
Time maintained above:	
Temperature (T_l)	217°C
Time (t_d)	60-150 seconds
Peak Temperature (T_p)	260°C
Time within 5°C of actual Peak Temperature (t_e)	20-40 seconds
Ramp-down rate (T_p to T_{smax})	6°C/second max
Time 25°C to Peak Temperature	8 minutes max

Tape & Reel Packaging



5,700PCS Per Reel, 4 Reels Per Inner Box, 4 Inner Boxes Per Carton, 91,200 PCS Per Carton

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