# **CUI** DEVICES

date 01/09/2020

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## MODEL: CMC-4013-SMT-TR | DESCRIPTION: ELECTRET CONDENSER MICROPHONE

#### **FEATURES**

- omnidirectional
- low profile
- surface mount
- tape and reel packaging





#### **SPECIFICATIONS**

parameter	conditions/description	min	typ	max	units
directivity	omnidirectional				
sensitivity (S)	f = 1 kHz, 1 Pa, 0 dB = 1 V/Pa	-45	-42	-39	dB
standard operating voltage (Vs			2		Vdc
max operating voltage				10	Vdc
output impedance (Zout)	f = 1 kHz, 1 Pa		2.2		kΩ
sensitivity reduction (ΔS-Vs)	$f = 1 \text{ kHz}, 1 \text{ Pa, Vs} = 2.0 \sim 1.5 \text{ Vdc}$		-3		dB
frequency (f)		100		20,000	Hz
current consumption (IDSS)	$Vs = 2.0 Vdc$ , $RL = 2.2 k\Omega$			0.5	mA
signal to noise ratio (S/N)	f = 1 kHz, 1 Pa, A-weighted		58		dBA
dimensions	Ø4.0 x 1.3				mm
material	Al				
terminal	SMT type				
weight				0.04	g
operating temperature		-20		70	°C
storage temperature		-20		70	°C
RoHS	yes				

Notes:

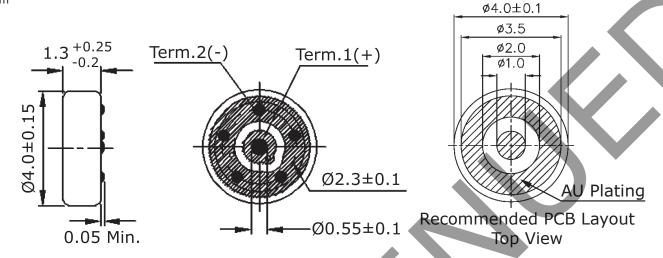


<sup>1.</sup> We use the "Pascal (Pa)" indication of sensitivity as per the recomendation of I.E.C. (International Electrotechnical Commission). The sensitivity of "Pa" will increase 20 dB compared to the "ubar" indication. Example: -60 dB (0 dB = 1 V/ubar) = -40 dB (1V/Pa)

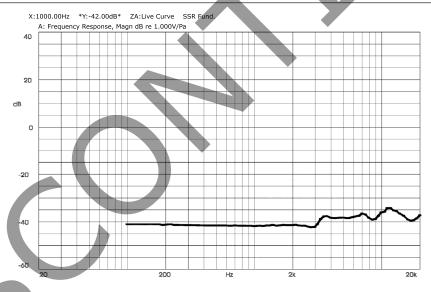
2. All specifications measured at 5~35°C, humidity at 45~85%, under 86~106 kPa pressure, unless otherwise noted.

#### **MECHANICAL DRAWING**

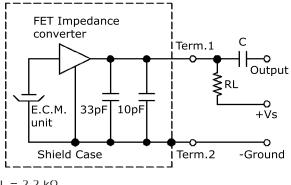




## **FREQUENCY RESPONSE CURVE**



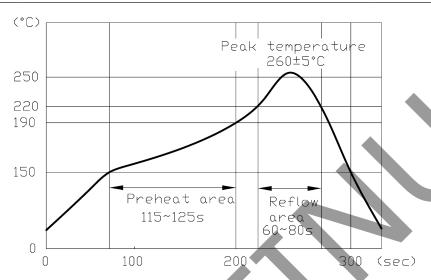
## **MEASUREMENT CIRCUIT**



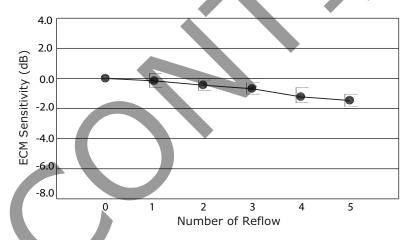
 $RL = 2.2 k\Omega$  $C = 1 \mu F$ 

#### **SOLDERABILITY**

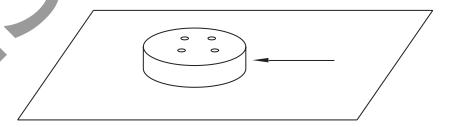
parameter	conditions/description	min	typ	max	units
reflow soldering	see reflow soldering profile	255	260	265	°C



## Number of Reflow vs. ECM Sensitivity



### Horizontal Loading

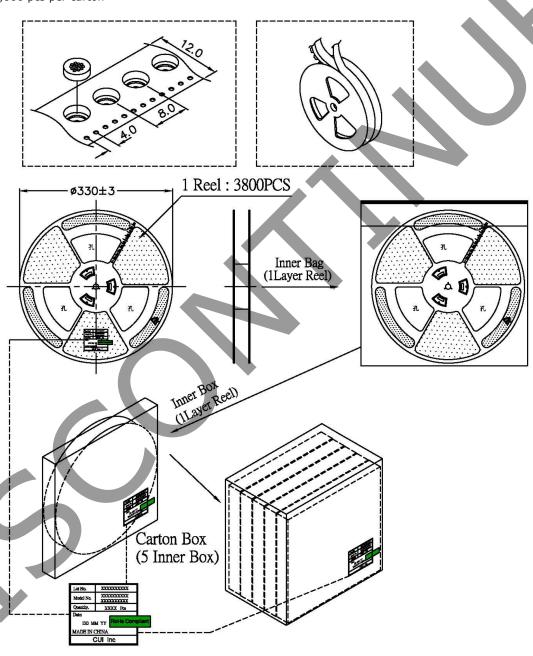


1. When soldered to PCB, must have >10 N resistance to horizontal loading.

units: mm

Reel Size: Ø330 mm

Inner Box Size: 340 x 340 x 30 mm Carton Box Size: 340 x 170 x 340 mm Reel QTY: 3,800 pcs per reel
Inner Box QTY: 3,800 pcs per box
Carton Box QTY: 19,000 pcs per carton



#### **REVISION HISTORY**

rev.	description	date
1.0	initial release	11/28/2016
1.01	added packaging label to reel	06/28/2019
1.02	brand update	01/09/2020

The revision history provided is for informational purposes only and is believed to be accurate.



CUI Devices offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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