

date 09/24/2013

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# MODEL: CMA-4544PF-W | DESCRIPTION: ELECTRET CONDENSER MICROPHONE

#### **SPECIFICATIONS**

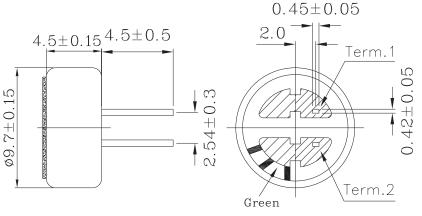
parameter	conditions/description	min	typ	max	units
directivity	omnidirectional				
sensitivity (S)	f = 1 kHz, 1 Pa, 0 dB = 1 V/1 Pa	-46	-44	-42	dB
operating voltage			3	10	Vdc
output impedance (Zout)	f = 1 kHz, 1 Pa		2.2		ΚΩ
sensitivity reduction (ΔS-Vs)	f = 1 kHz, 1 Pa, Vs = 3.0 to 2.0 Vdc		-3		dB
frequency (f)		20		20,000	Hz
current consumption (IDSS)	Vs = 3.0 Vdc, RL = 2.2 KΩ			0.5	mA
signal to noise ratio (S/N)	f = 1 kHz, 1 Pa, A-weighted		60		dBA
operating temperature		-20		70	°C
storage temperature		-20		70	°C
dimension	ø9.7 x 4.5 mm				
weight				0.8	g
material	Al				
terminal	pin type (hand soldering only)				
RoHS	yes				

Note:

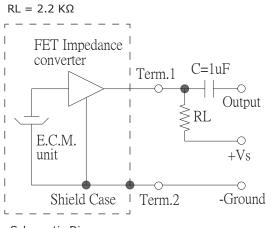
We use the "Pascal (Pa)" indication of sensitivity as per the recomendation of I.E.C. (International Electrotechnical Commission). The sensitivity of "Pa" will increase 20dB compared to the "ubar" indication. Example: -60dB (0dB = 1V/ubar) = -40dB (1V/Pa)

## **MECHANICAL DRAWING**

# unit: mm

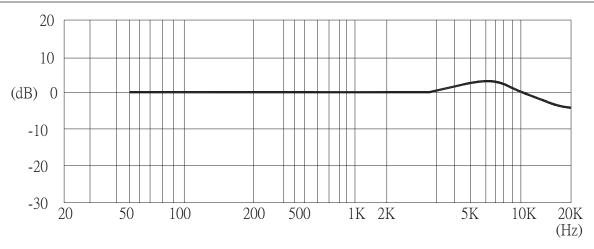


## **MEASUREMENT CIRCUIT**



Schematic Diagram

# **FREQUENCY RESPONSE CURVE**



#### 1.000V/PA

# **MECHANICAL CHARACTERISTICS**

item	test condition	evaluation standard	
soldering heat resistance	Soldering iron of $\pm 270 \pm 5^{\circ}$ C should be placed on the terminal for 2 $\pm 0.5$ seconds.	No interference in operation.	
terminal mechanical strength	Apply to the terminal 4.9 N (0.5 kg) for 30 seconds	No damage or cutting off.	
vibration test	The part should be measured after a vibration amplitude of $1.5 \text{ mm}$ with $10{\sim}55 \text{ Hz}$ band of vibration frequency to each of the 3 perpendicular directions for 2 hours.	After any tests, the sensitivity should be within ±3 dB of the initial sensitivity.	
drop test	The part without packaging is subjected to 3 drops on each axis from the height of 1 m onto a 20 mm thick wooden board.		

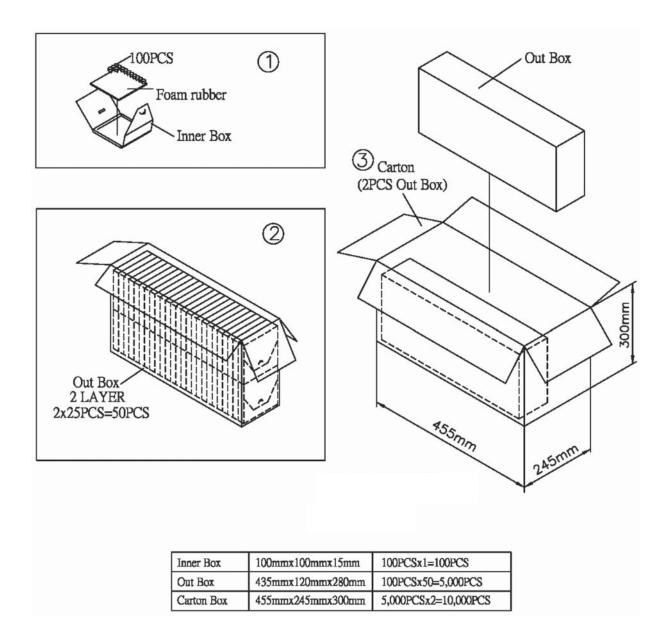
#### **ENVIRONMENT TEST**

item	test condition	evaluation standard
high temperature test	After being placed in a chamber at +70°C for 72 hours.	
low temperature test	After being placed in a chamber at -20°C for 72 hours.	
thermal shock	After being placed in a chamber at $\pm 40^{\circ}$ C and 90 $\pm 5\%$ RH for 240 hours.	
temperature cycle test	The part will be subjected to 10 cycles. One cycle will consist of:  +70°C  +25°C  -20°C  1hr  0.5hr  1hr  0.5hr  1hr  0.5hr	After any tests and 6 hours of conditioning at +25°C, the sensitivity should be within ±3 dB of the initial sensitivity.

# **TEST CONDITIONS**

standard test conditions	a) Temperature: +5 ~ +35°C	b) Humidity: 45 ~ 85%	c) Pressure: 860 ~ 1060 mbar
judgement test conditions	a) Temperature: +25 ±2°C	b) Humidity: 60 ~ 70%	c) Pressure: 860 ~ 1060 mbar

# **PACKAGING**



#### **REVISION HISTORY**

rev.	description	date
1.0	initial release	06/01/2008
1.01	new template applied, updated drawing	09/24/2013

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



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

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