

date 09/23/2013

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# MODEL: CMA-6542PF | DESCRIPTION: ELECTRET CONDENSER MICROPHONE

### **SPECIFICATIONS**

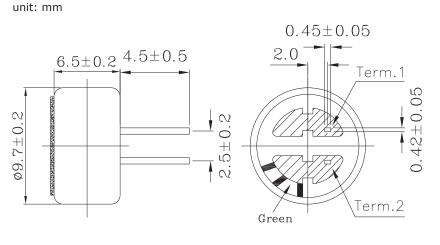
parameter	conditions/description	min	typ	max	units
directivity	omnidirectional				
sensitivity (S)	f = 1 kHz, 1 Pa, 0 dB = 1 V/1 Pa	-45	-42	-39	dB
operating voltage			4.5	10	Vdc
output impedance (Zout)	f = 1 kHz, 1 Pa		2.2		ΚΩ
sensitivity reduction (ΔS-Vs)	f = 1 kHz, 1 Pa, Vs = 4.5 to 1.5 Vdc		-3		dB
frequency (f)		50		20,000	Hz
current consumption (IDSS)	Vs = 4.5 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 6.5 mm				
weight				0.7	g
material	Al				
terminal	pin type (hand soldering only)				
RoHS	yes				

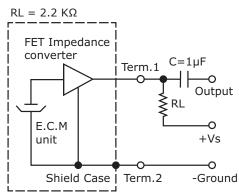
Note:

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**

## **MEASUREMENT CIRCUIT**

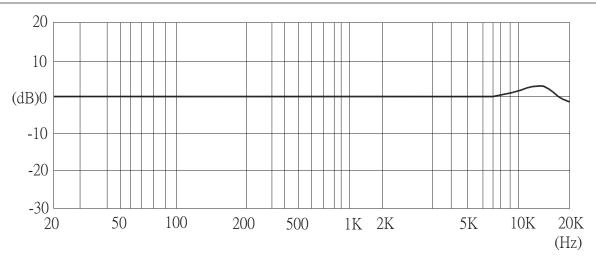




Schematic Diagram

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# **FREQUENCY RESPONSE CURVE**



# 1.000V/PA

## **MECHANICAL CHARACTERISTICS**

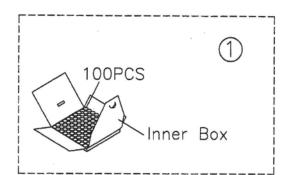
item	test condition	evaluation standard	
soldering heat resistance	Soldering iron of $\pm 260 \pm 5^{\circ}\text{C}$ should be placed on the terminal for 2 $\pm 0.5$ seconds.	No interference in operation.	
terminal mechanical strength	Apply to the terminal 4.9 N (0.5 kg) for 1 minute	No damage or cutting 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.		
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.		

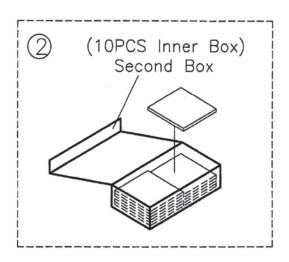
### **ENVIRONMENT TEST**

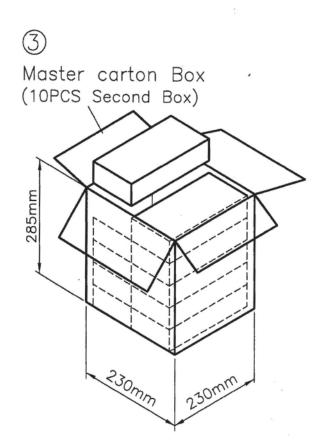
item	test condition	evaluation standard	
high temperature test	After being placed in a chamber at +70°C for 72 hours.		
low temperature test	After being placed in a chamber at -20°C for 72 hours.		
thermal shock	After being placed in a chamber at $\pm 40^{\circ}$ C and 90 $\pm 5\%$ RH for 240 hours.		
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







Inner Box			1x100PCS
Second Box		202mmx103mmx50mm	100PCSx10
Master carton	Box	230mmx230mmx285mm	1000PCSx10

### **REVISION HISTORY**

rev.	description	date
1.0	initial release	06/06/2008
1.01	new template applied, updated drawing	06/26/2012
1.02	updated drawing	09/23/2013

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



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