



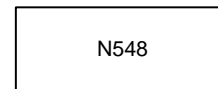
**ON Semiconductor**

<http://onsemi.com>



**WLCSP20  
CP SUFFIX  
CASE 567BY**

### MARKING DIAGRAM



CM1454-08  
20-Bump CSP Package

N548 = CM1454-08CP

### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
CM1454-08CP	CSP-20 (Pb-Free)	3500/Tape & Reel

<sup>†</sup>For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

- $\pm 15$  kV ESD Protection on Each Channel (IEC 61000-4-2 Level 4, Contact Discharge)
- $\pm 30$  kV ESD Protection on Each Channel (HBM)
- Chip Scale Package (CSP) Features Extremely Low Parasitic Inductance for Optimum Filter and ESD Performance
- 20-Bump, 3.960 mm x 1.586 mm Footprint CSP
- These Devices are Pb-Free and are RoHS Compliant

#### Applications

- Combination I/O Data Port that has I/Os for Data, Microphone and Speaker
- I/O Port Protection for Mobile Handsets, Notebook Computers, PDAs, etc.
- EMI Filtering for Data Ports in Cell Phones, PDAs or Notebook Computers
- Wireless Handsets
- Handheld PCs / PDAs

# CM1454

## ELECTRICAL SCHEMATIC

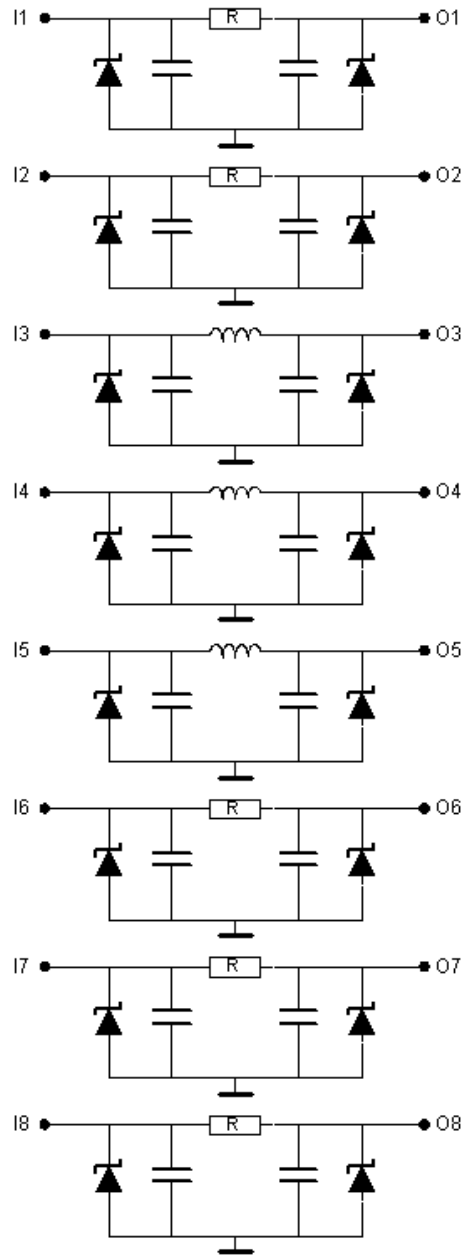
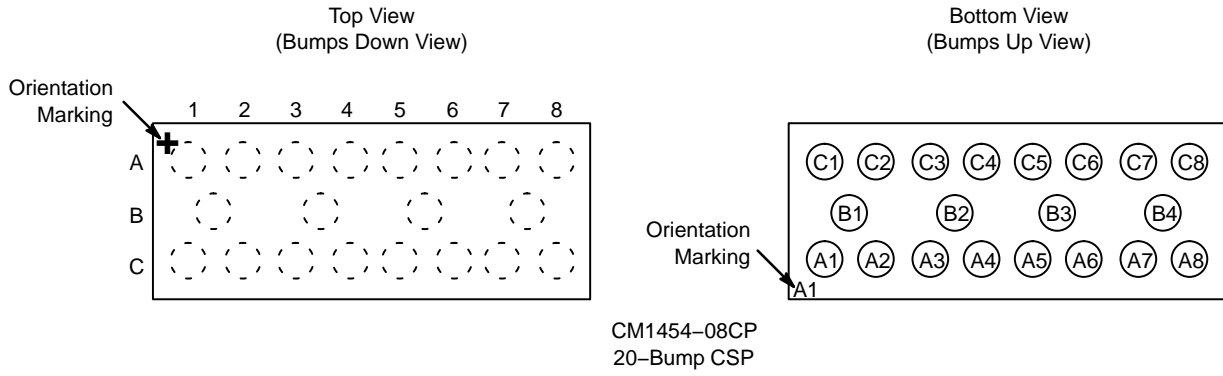


Figure 1. CM1454 Schematic Diagram of R C and L C Filter Arrays with ESD

# CM1454

## PACKAGE / PINOUT DIAGRAMS



**Table 1. PIN DESCRIPTIONS**

Pin Number	Pin Description	Pin Number	Pin Description
A1	Filter #1 (Microphone)	C1	Filter #1
A2	Filter #2 (Microphone)	C2	Filter #2
A3	Filter #3 (Stereo Headphone)	C3	Filter #3
A4	Filter #4 (Left Speaker)	C4	Filter #4
A5	Filter #5 (Right Speaker)	C5	Filter #5
A6	Filter #6 (Accessory ID)	C6	Filter #6
A7	Filter #7 (Data)	C7	Filter #7
A8	Filter #8 (Data)	C8	Filter #8
B1-B4	GND		

## SPECIFICATIONS

**Table 2. ABSOLUTE MAXIMUM RATINGS**



# CM1454

## PERFORMANCE INFORMATION (Cont'd)

Typical Filter Performance (nominal conditions unless specified otherwise, 50  $\Omega$  Environment)

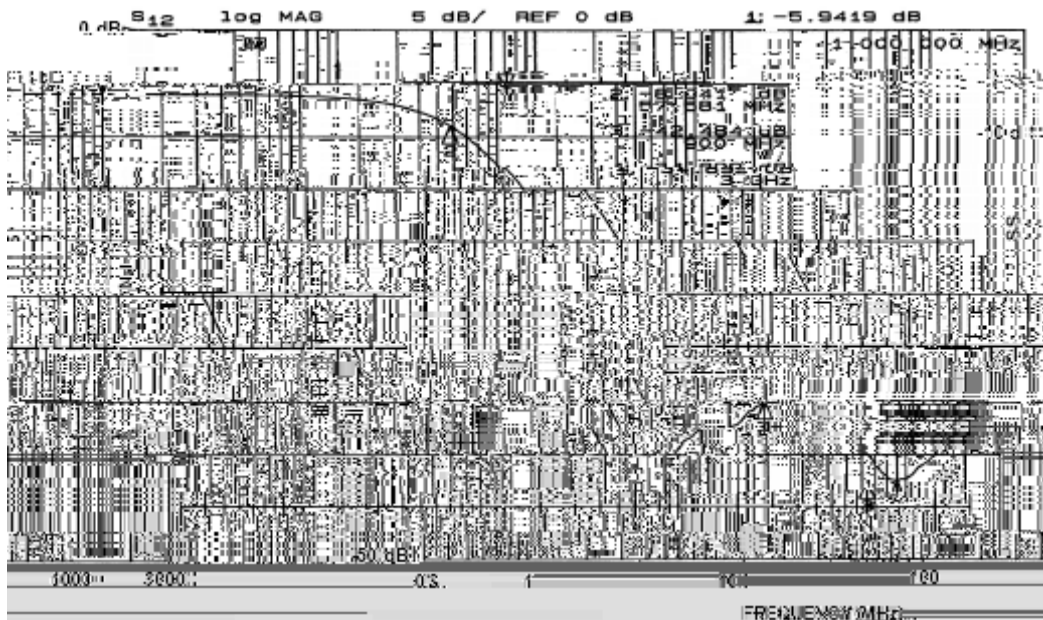


Figure 3. Attenuation Curve for CM1454 RC Filters: 1, 2, 6, 7, and 8

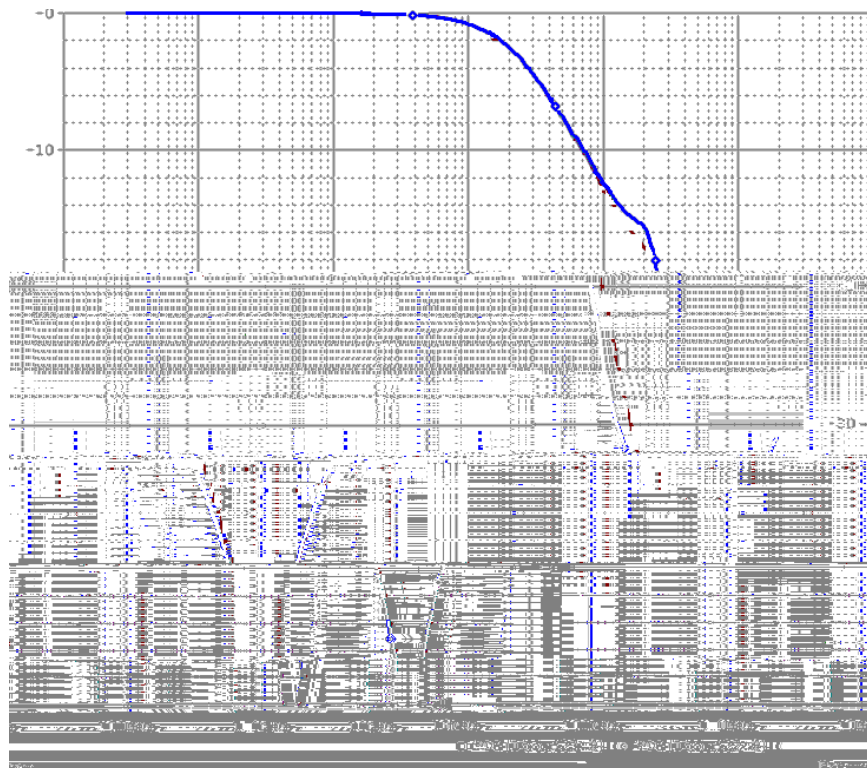


Figure 4. Attenuation Curve for CM1454 RC Filters: 3, 4, and 5

APPLICATION INFORMATION

Table 5. PRINTED CIRCUIT BOARD RECOMMENDATIONS

Parameter	Value
Pad Size on PCB	0.240 mm
Pad Shape	Round
Pad Definition	Non-Solder Mask defined pads
Solder Mask Opening	0.290 mm Round
Solder Stencil Thickness	0.125 – 0.150 mm
Solder Stencil Aperture Opening (laser cut, 5% tapered walls)	0.300 mm Round
Solder Flux Ratio	50/50 by volume
Solder Paste Type	No Clean
Pad Protective Finish	OSP (Entek Cu Plus 106A)
Tolerance – Edge To Corner Ball	±50 µm
Solder Ball Side Coplanarity	±20 µm
Maximum Dwell Time Above Liquidous	60 seconds
Maximum Soldering Temperature for Lead-free Devices using a Lead-free Solder Paste	260°C

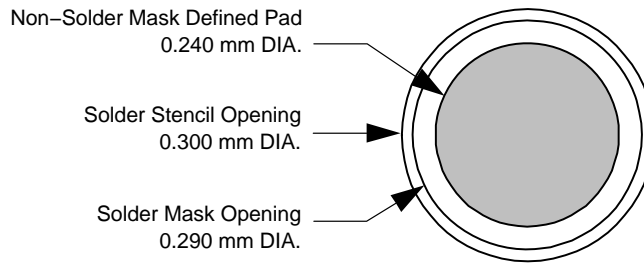


Figure 5. Recommended Non Solder Mask Defined Pad Illustration

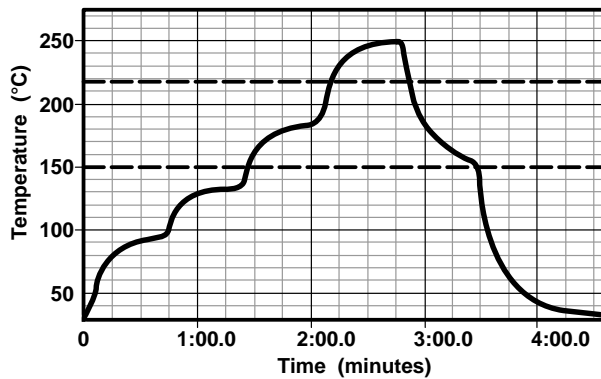
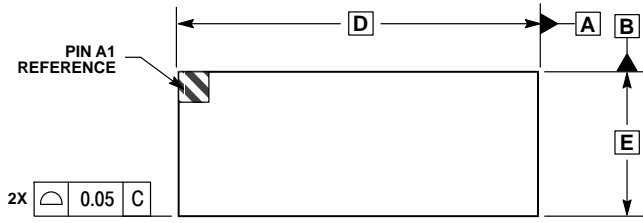


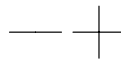
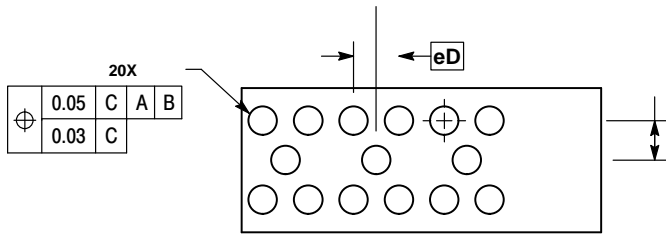
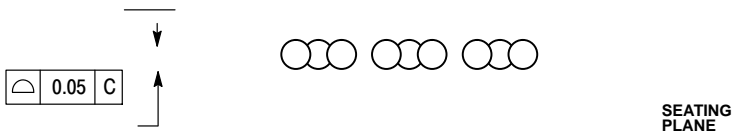
Figure 6. Lead free (SnAgCu) Solder Ball Reflow Profile

WLCSP20, 3.96x1.59



DIM	MILLIMETERS	
	MIN	MAX
A		
A1		

b	
D	
E	
eD	



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