

## SIM Card EMI Filter with ESD Protection Diode

**Features**

- 3 channels of Low pass EMI filters with excellent attenuation at high frequencies
- 2 additional channels of ESD
- ESD protection at 15KV per IEC61000 on all 5 lines
- 10-bump Chip Scale Package (CSP) 1.9mm x 1.3mm
- Chip layout enables easy PCB layout
- RoHS Compliant in Lead-Free Versions

**Applications**

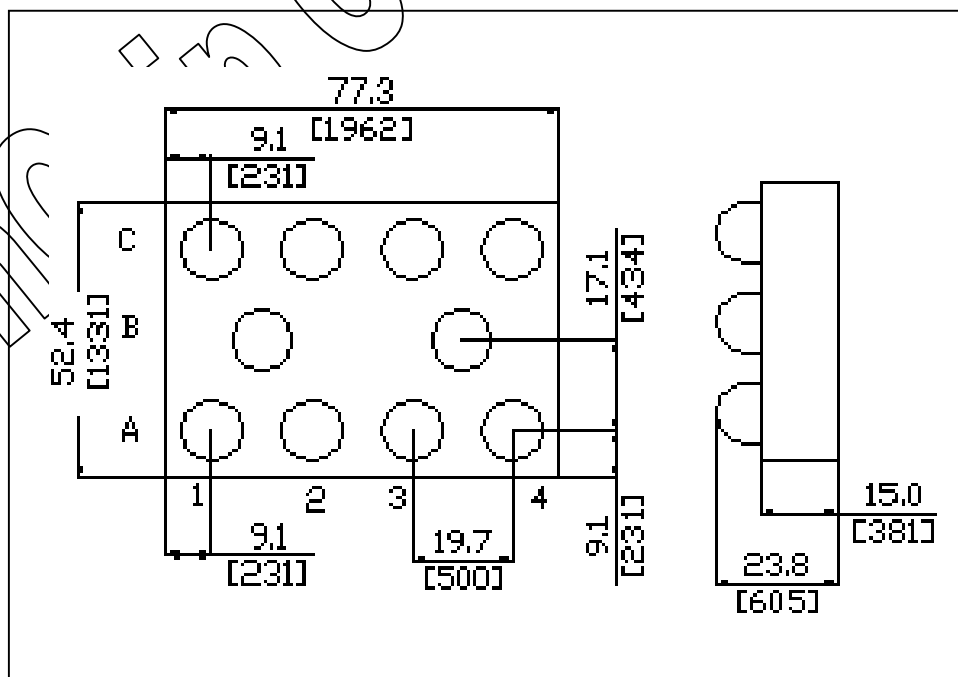
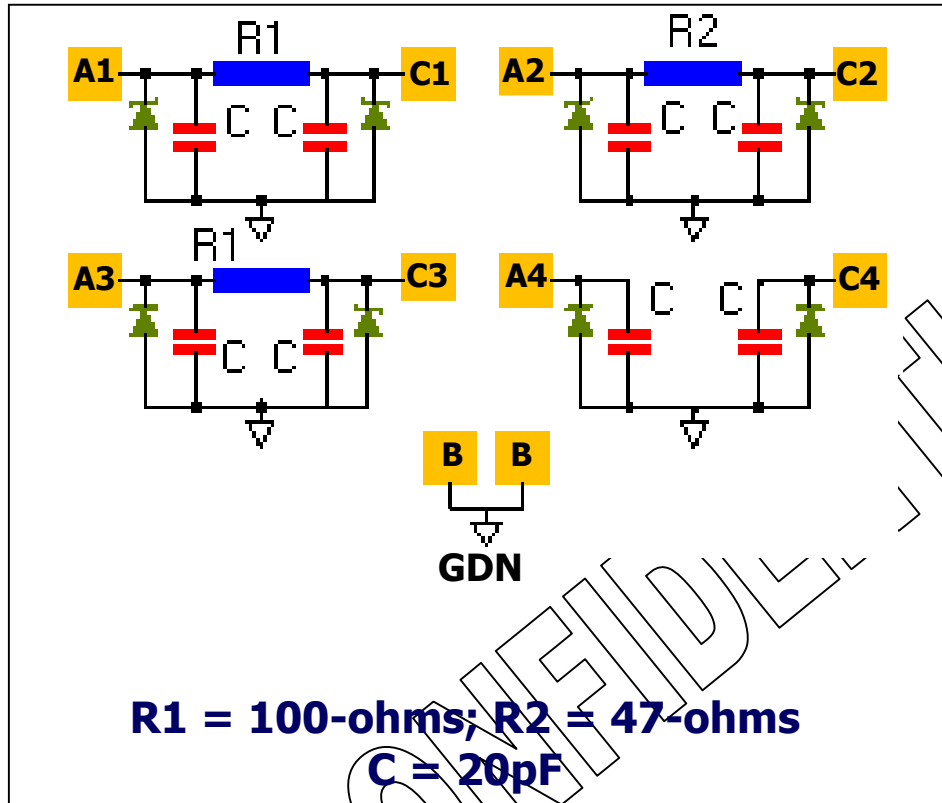
- Cellular Handsets
- PDA
- MP3 Players
- PC & Notebooks
- Printers
- Digital Cameras

**Product Description**

The EMF1402 Array consists of 3 sets of pi-style Capacitor-Resistor-Capacitor EMI/RFI Filter with integrated Diodes for electrostatic discharge (ESD) protection and 2 additional sets of ESD channels. Housed in miniature CSP format this product is ideal suited for portable devices with SIM card slots.

<b>ELECTRICAL CHARACTERISTICS</b>			
Parameter	Min.	Typical	Max.
Stand-off Voltage @ $I = 10\mu A$	-	6V	-
Signal Voltage, Positive Clamp @ $I_{LOAD} = 10mA$	5.6V	6.8V	9V
Signal Voltage, Negative Clamp @ $I_{LOAD} = -10mA$	-1.5V	-0.8V	-0.4V
In-system ESD Withstand Voltage, Human Body Model, MIL-STD-883, Method 3015	$\pm 15$ KV	-	-
In-system ESD Withstand Voltage, Contact Discharge per IEC, 61000-4-2	$\pm 10$ KV	-	-
Clamping Voltage during ESD Discharge MIL-STD-883 (Method 3015), 8kV Positive Transients	-	-	+12V
Clamping Voltage during ESD Discharge MIL-STD-883 (Method 3015), 8kV Negative Transients	-	-	-7V
Cut-off frequency ZSOURCE = 50W, ZLOAD = 50W, R = 100W, C = 20pF	-	77MHz	-
Cut-off frequency ZSOURCE = 50W, ZLOAD = 50W, R = 47W, C = 20pF	-	85MHz	-

Schematic & CSP pin-out



**DEVICE CHARACTERISTICS****MAXIMUM RATINGS @ 25°C Unless Otherwise Specified**

PARAMETER	VALUE	UNITS
Operating Temperature	-40°C to 85°C	°C
Storage Temperature	-55°C to 150°C	°C
Soldering Temperature for 10 seconds	265	°C

**Ordering Part Number**

PART NUMBER	DESCRIPTION	DEVICE MARKING CODE
EMF1402-05C	Eutectic bumps	1402
EMF1402-05CR	Lead-free RoHS Compliant	1402R