

# EMI 3-Terminal Chip Capacitors

NMF Series

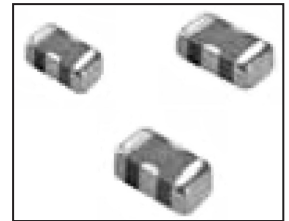
## FEATURES

- LOW ESL CHARACTERISTICS
- EXCELLENT NOISE SUPPRESSION OVER BROAD FREQUENCY RANGE
- AVAILABLE IN EIA 0603, 0805 AND 1206 CASE SIZES
- HIGH CAPACITANCE AND CURRENT RATINGS FOR DC POWER LINE

**RoHS  
Compliant**

includes all homogeneous materials

\*See Part Number System for Details



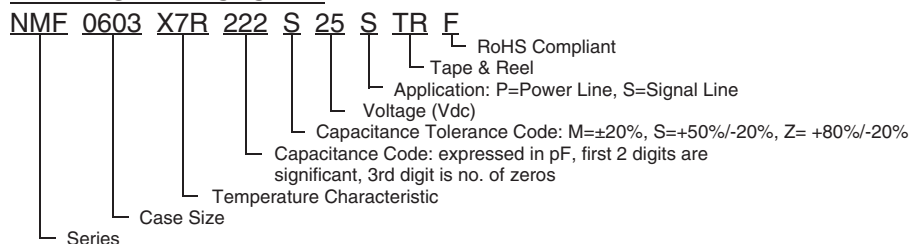
## SIGNAL LINE TYPE STANDARD CASE SIZES AND VALUES

Size	Part Number	Capacitance (pF)	Tolerance	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (MΩ)	DC Resistance (Ω)	Temperature Range (°C)	Thickness (mm)
0603	NMF0603X7R102S25STRF	1,000	+50%/-20%	25	300	1,000	0.3	-55 ~ +125	0.75
	NMF0603X7R222S25STRF	2,200	+50%/-20%	25	300	1,000	0.3	-55 ~ +125	0.75
	NMF0603X7R103S25STRF	10,000	+50%/-20%	25	1,000	1,000	0.3	-55 ~ +125	0.75
	NMF0603X7R223S25STRF	22,000	+50%/-20%	25	1,000	1,000	0.3	-55 ~ +125	0.75
	NMF0603X7R473S25STRF	47,000	+50%/-20%	25	1,000	1,000	0.3	-55 ~ +125	0.75
0805	NMF0805X7R471S50STRF	470	+50%/-20%	50	300	10,000	0.3	-55 ~ +125	1.00
	NMF0805X7R102S50STRF	1,000	+50%/-20%	50	300	10,000	0.3	-55 ~ +125	1.00
	NMF0805X7R222S50STRF	2,200	+50%/-20%	50	300	10,000	0.3	-55 ~ +125	1.00
	NMF0805X7R103S50STRF	10,000	+50%/-20%	50	1,000	10,000	0.3	-55 ~ +125	1.00
	NMF0805X7R223S50STRF	22,000	+50%/-20%	50	1,000	10,000	0.08	-55 ~ +125	1.00
	NMF0805X7R104S25STRF	100,000	+50%/-20%	25	1,000	1,000	0.1	-55 ~ +125	1.00
1206	NMF1206X7R471S50STRF	470	+50%/-20%	50	300	1,000	0.3	-55 ~ +125	1.05
	NMF1206X7R102S50STRF	1,000	+50%/-20%	50	300	1,000	0.3	-55 ~ +125	1.05
	NMF1206X7R222S50STRF	2,200	+50%/-20%	50	300	1,000	0.3	-55 ~ +125	1.05
	NMF1206X7R472S50STRF	4,700	+50%/-20%	50	300	1,000	0.3	-55 ~ +125	1.05
	NMF1206X7R103S50STRF	10,000	+50%/-20%	50	1,000	1,000	0.3	-55 ~ +125	1.05
	NMF1206X7R223S50STRF	22,000	+50%/-20%	50	1,000	1,000	0.3	-55 ~ +125	1.05
	NMF1206X7R473S50STRF	47,000	+50%/-20%	50	1,000	1,000	0.3	-55 ~ +125	1.05
	NMF1206X7R104S25STRF	100,000	+50%/-20%	25	1,000	1,000	0.1	-55 ~ +125	1.05

## POWER LINE TYPE STANDARD CASE SIZES AND VALUES

Size	Part Number	Capacitance (pF)	Tolerance	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (MΩ)	DC Resistance (Ω)	Temperature Range (°C)	Thickness (mm)
0603	NMF0603X7R104M16PTRF	100,000	±20%	16	2,000	1,000	0.1	-55 ~ +125	0.75
	NMF0603X5R105M10PTRF	1,000,000	±20%	10	2,000	1,000	0.05	-55 ~ +85	0.75
	NMF0603X5R225M10PTRF	2,200,000	±20%	10	2,000	1,000	0.05	-55 ~ +85	0.75
0805	NMF0805X7R332S50PTRF	3,300	+50%/-20%	50	2,000	10,000	0.06	-55 ~ +125	1.20
	NMF0805Y5V104S25PTRF	100,000	+50%/-20%	25	2,000	1,000	0.05	-40 ~ +85	1.00
	NMF0805X5R105M10PTRF	1,000,000	±20%	10	4,000	500	0.02	-55 ~ +85	1.20
	NMF0805Y5V105Z16PTRF	1,000,000	+80%/-20%	16	3,000	500	0.04	-40 ~ +85	1.20
	NMF0805X5R475M10PTRF	4,700,000	±20%	10	4,000	500	0.05	-55 ~ +85	1.00
	NMF0805X5R106M6.3PTRF	10,000,000	±20%	6.3	4,000	500	0.05	-55 ~ +85	1.00

### PART NUMBER SYSTEM

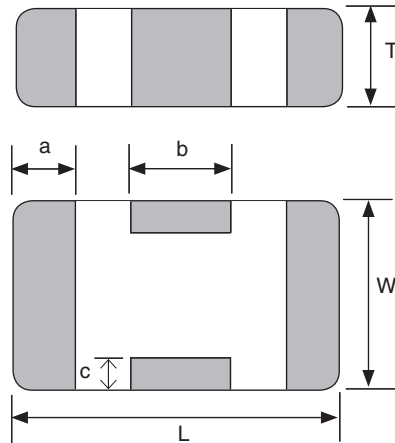


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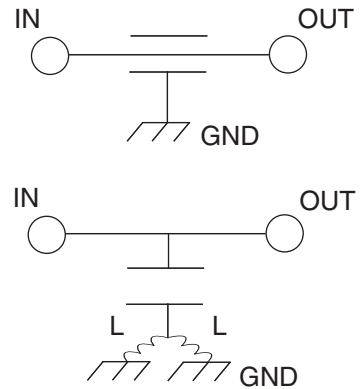
NMF Series

## CASE DIMENSIONS (mm)

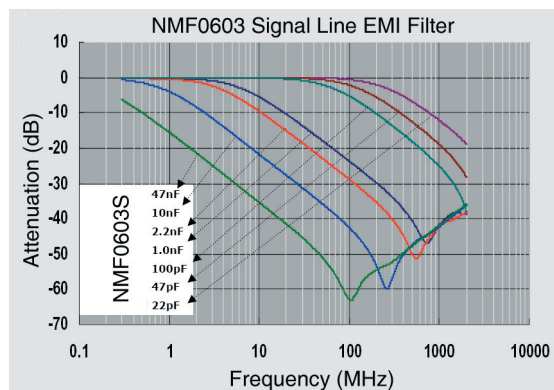
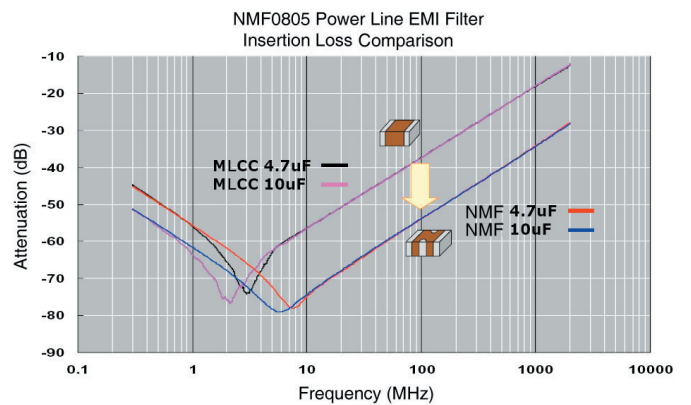
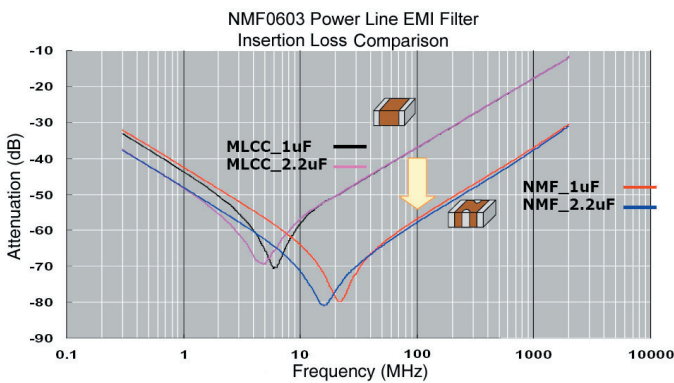
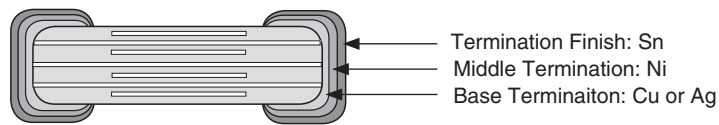
Series	L	W	T	a	b	c
NMF0603	1.6 ± 0.15	0.8 ± 0.1	0.6 ± 0.15	0.25 ± 0.15	0.5 ± 0.15	0.2 ± 0.1
NMF0805	2.0 ± 0.2	1.25 ± 0.2	0.80 ± 0.2	0.3 ± 0.20	0.6 ± 0.2	0.2 ± 0.1
			1.0 ± 0.2			
NMF1206	3.2 ± 0.2	1.6 ± 0.2	0.85 ± 0.2	0.4 ± 0.3	1.0 ± 0.3	0.3 ± 0.1



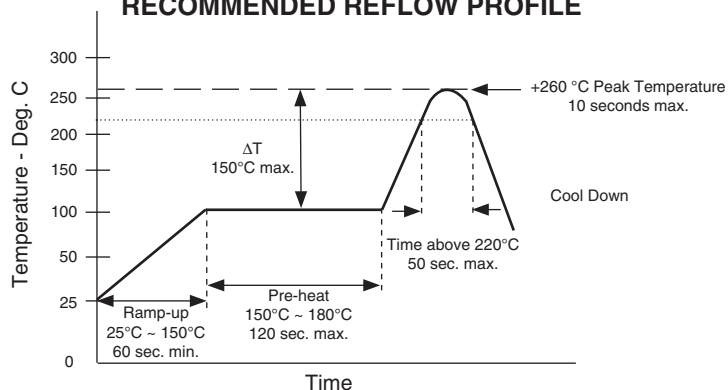
## EQUIVALENT CIRCUIT



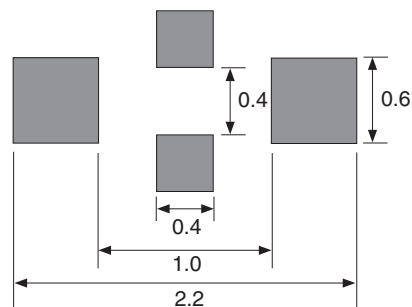
## CONSTRUCTION



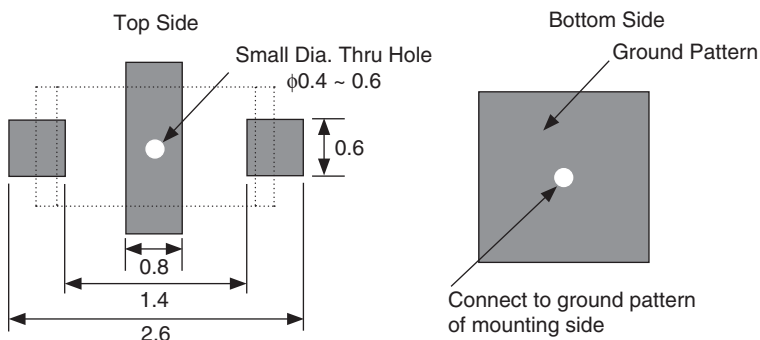
### RECOMMENDED REFLOW PROFILE



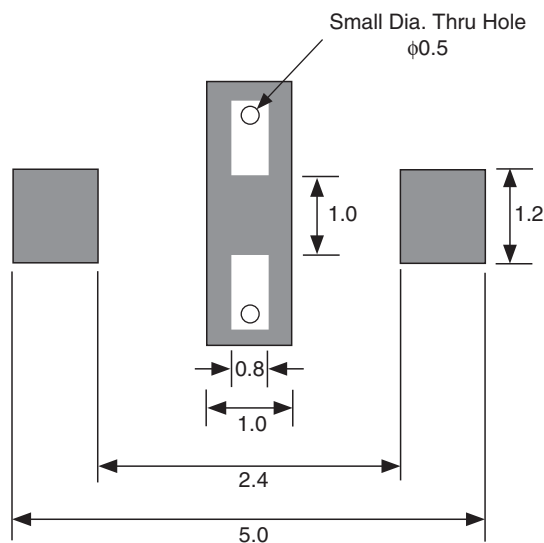
### 0603 Land Pattern Dimensions (mm)



### 0805 Land Pattern Dimensions (mm)



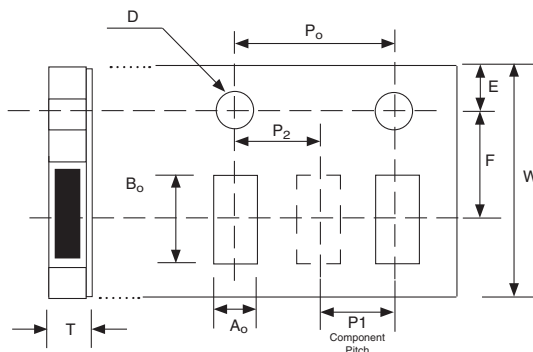
### 1206 Land Pattern Dimensions (mm)



### CARDBOARD CARRIER TAPE DIMENSIONS (mm)

Type	A <sub>0</sub>	B <sub>0</sub>	W	F	E	P1	P2	P0	D0	T max.	Reel Qty
0603	1.1 ± 0.2	1.9 ± 0.2	8.0 ± 0.2	3.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	4.0 ± 0.1	1.5 +0.1	0.85	4,000
0805	1.45 ± 0.2	2.4 ± 0.2								1.05	4,000
1206	2.0 ± 0.2	3.6 ± 0.2								1.05	3,000

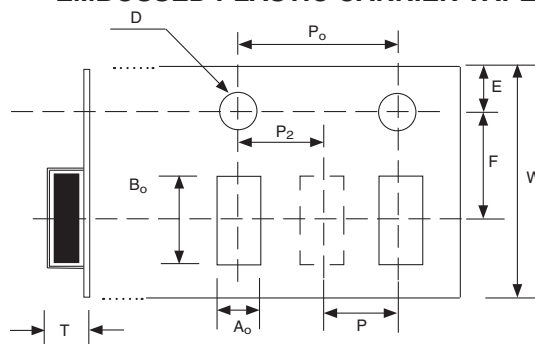
### CARDBOARD CARRIER TAPE



### EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

Type	Chip Thickness	A <sub>o</sub>	B <sub>o</sub>	W	F	E	P1	P2	P0	D0	T max.	Reel Qty
0603	1.0	1.5 ± 0.2	2.3 ± 0.2	8.0 ± 0.2	3.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.1	4.0 ± 0.1	1.5 +0.1	2.0	3,000
0805	1.2											2,000

### EMBOSSED PLASTIC CARRIER TAPE



### REEL DIMENSIONS (mm)

A	B	C	D	E	W
180 ± 2.0	50 min.	13.0 ± 0.5	21.0 ± 0.8	2.0 ± 0.5	10 ± 1.5

