MFL

SMD current sensing resistor- metal film



Applications

- Switched-mode power supply (SMPS)
- Voltage regulator module
- Power management
- Stepper motor drives

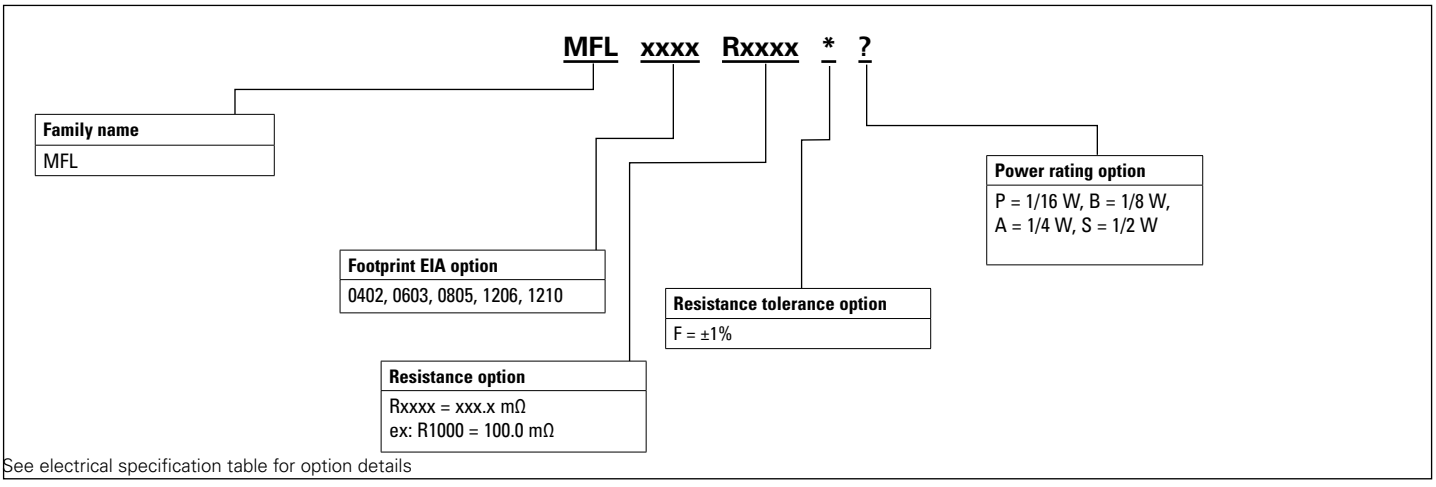
Product features

- Low sensing resistance
- 0402 (1005 metric) to 1210 (3225 metric)
- High power dissipation
- Moisture sensitivity level (MSL): 1

Environmental compliance

Pb HALOGEN HF FREE RoHS

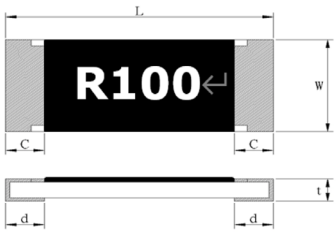
Table 1. Part numbering configuration scheme



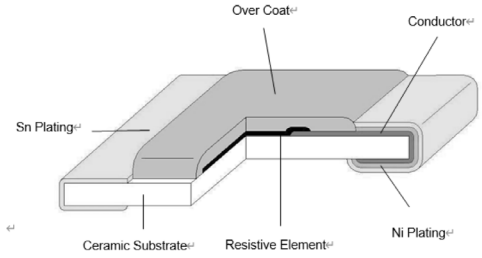
See electrical specification table for option details

Powering Business Worldwide

Mechanical parameters- Inches [mm]

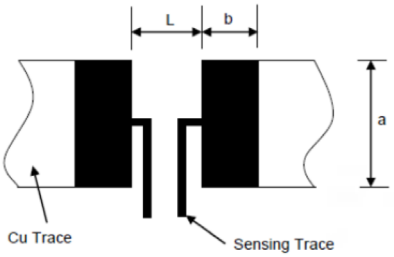


Construction



Family	Size code	L	W	C	d	t
MFL0402	0402 [1005]	0.039 + 0.004/-0.002 [1.00 + 0.1/-0.05]	0.020 ± 0.002 [0.50 ± 0.05]	0.008 ± 0.004 [0.20 ± 0.10]	0.010 ± 0.004 [0.25 ± 0.10]	0.014 ± 0.002 [0.35 ± 0.05]
MFL0603 1/8 W	0603 [1608]	0.063 ± 0.004 [1.60 ± 0.10]	0.031 ± 0.004 [0.80 ± 0.10]	0.012 ± 0.008 [0.30 ± 0.20]	0.014 ± 0.008 [0.35 ± 0.20]	0.018 ± 0.004 [0.45 ± 0.10]
MFL0603 1/4 W	0603 [1608]	0.063 ± 0.004 [1.60 ± 0.10]	0.035 ± 0.004 [0.90 ± 0.10]	0.019 ± 0.004 [0.47 ± 0.10]	0.019 ± 0.004 [0.47 ± 0.10]	0.020 ± 0.004 [0.50 ± 0.10]
MFL0805	0805 [2012]	0.079 ± 0.004 [2.00 ± 0.10]	0.051 ± 0.004 [1.30 ± 0.10]	0.022 ± 0.004 [0.55 ± 0.10]	0.022 ± 0.004 [0.55 ± 0.10]	0.014 ± 0.004 [0.62 ± 0.10]
MFL1206	1206 [3216]	0.122 ± 0.004 [3.10 ± 0.10]	0.063 ± 0.004 [1.60 ± 0.10]	0.043 ± 0.008 [1.10 ± 0.20]	0.043 ± 0.008 [1.10 ± 0.20]	0.024 ± 0.008 [0.62 ± 0.20]
MFL1210	1210 [3225]	0.122 ± 0.008 [3.10 ± 0.20]	0.100 ± 0.008 [2.55 ± 0.20]	0.020 ± 0.012 [0.50 ± 0.30]	0.020 ± 0.008 [0.50 ± 0.20]	0.022 ± 0.006 [0.55 ± 0.15]

Recommended PCB layout- mm



Family	a	b	L
MFL0402	0.80	0.55	0.55
MFL0603 1/8 W	1.10	0.85	0.8
MFL0603 1/4 W	1.20	0.62	0.8
MFL0805	1.60	0.70	1.2
MFL1206	1.90	1.25	2.2
MFL1210	2.85	1.30	2.2

1. The copper foil minimum thickness of PCB needs 3 oz.
2. PCB layout dimension tolerance is +/-0.1 mm.
3. The resistance will change slightly after soldered; it is dependent on PCB pad size deign and it's necessary to consider the effect of the resistance increase or decrease.

Part marking

Family	Marking
MFL0402	No marking
MFL0603 1/4 W	
MFL0603 1/8 W	Detail in next table
MFL0805	Rxxx: (xxx= resistance value in ohms expressed in 3 digits 015 = 0.015 Ω or 15 mΩ 100 = 0.100 Ω = 100 mΩ
MFL1206	
MFL1210	

MFL0603 (1/8 W)

Value	Marking	Value	Marking	Value	Marking
100	01Z	250	025	510	051
110	05Z	270	027	560	056
120	012	300	030	600	060
130	12Z	330	033	620	062
150	18Z	360	036	680	068
160	016	390	039	700	070
180	018	400	040	750	85Z
200	30Z	430	043	820	082
220	022	470	047	910	091
240	024	500	050		

Electrical specifications

Part number	Size	Resistance value mΩ (Part number code)	Resistance tolerance (Part number code)	Power rating (Part number code)	TCR (ppm/°C)	Operating temperature
MFL0402Rxxxx*?	0402 (1005 metric)	100 (1000)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	110 (1100)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	130 (1300)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	150 (1500)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	180 (1800)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	200 (2000)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	220 (2200)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	240 (2400)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	250 (2500)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	270 (2700)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	300 (3000)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	330 (3300)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	360 (3600)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	390 (3900)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	400 (4000)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	470 (4700)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	500 (5000)	±1% (F)	1/16 W (P)	± 300	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	510 (5100)	±1% (F)	1/16 W (P)	± 200	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	560 (5600)	±1% (F)	1/16 W (P)	± 200	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	620 (6200)	±1% (F)	1/16 W (P)	± 200	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	680 (6800)	±1% (F)	1/16 W (P)	± 200	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	750 (7500)	±1% (F)	1/16 W (P)	± 200	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	820 (8200)	±1% (F)	1/16 W (P)	± 200	-55 °C to +155 °C
MFL0402Rxxxx*?	0402 (1005 metric)	910 (9100)	±1% (F)	1/16 W (P)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	100 (1000)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	110 (1100)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	120 (1200)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	130 (1300)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	150 (1500)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	160 (1600)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	180 (1800)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	200 (2000)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	220 (2200)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	240 (2400)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	250 (2500)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	270 (2700)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	300 (3000)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C

Rxxxx = Enter resistance code option from table above (xxxx= resistance code (xxx.x mΩ ex: R1000 = 100.0 mΩ)
*= Enter resistance tolerance code from table above (F= ±1%)
?= Enter power rating code (P = 1/16 W, B = 1/8 W, A = 1/4 W, S = 1/2 W,)

Electrical specifications

Part number	Size	Resistance value mΩ (Part number code)	Resistance tolerance (Part number code)	Power rating (Part number code)	TCR (ppm/°C)	Operating temperature
MFL0603Rxxxx*?	0603 (1608 metric)	330 (3300)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	360 (3600)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	390 (3900)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	400 (4000)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	430 (4300)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	470 (4700)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	500 (5000)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	510 (5100)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	560 (5600)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	600 (6000)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	620 (6200)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	680 (6800)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	700 (7000)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	750 (7500)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	820 (8200)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	910 (9100)	±1% (F)	1/8 W (B)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	10 (0100)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	15 (0150)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	16 (0160)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	20 (0200)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	25 (0250)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	30 (0300)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	33 (0330)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	47 (0470)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	50 (0500)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	68 (0680)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	75 (0750)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	80 (0800)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0603Rxxxx*?	0603 (1608 metric)	82 (0820)	±1% (F)	1/4 W (A)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	10 (0100)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	15 (0150)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	20 (0200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	22 (0220)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	25 (0250)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	27 (0270)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	30 (0300)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	33 (0330)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	35 (0350)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	36 (0360)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	39 (0390)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	40 (0400)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	47 (0470)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C

Rxxxx = Enter resistance code option from table above (xxxx= resistance code (xxx.x mΩ ex: R1000 = 100.0 mΩ)
*= Enter resistance tolerance code from table above (F= ±1%)
?= Enter power rating code (P = 1/16 W, B = 1/8 W, A = 1/4 W, S = 1/2 W,)

Electrical specifications

Part number	Size	Resistance value mΩ (Part number code)	Resistance tolerance (Part number code)	Power rating (Part number code)	TCR (ppm/°C)	Operating temperature
MFL0805Rxxxx*?	0805 (2012 metric)	50 (0500)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	51 (0510)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	56 (0560)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	60 (0600)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	68 (0680)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	80 (0800)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL0805Rxxxx*?	0805 (2012 metric)	82 (0820)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	10 (0100)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	15 (0150)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	20 (0200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	22 (0220)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	25 (0250)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	30 (0300)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	33 (0330)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	35 (0350)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	36 (0360)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	39 (0390)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	40 (0400)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	43 (0430)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	47 (0470)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	50 (0500)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	51 (0510)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	62 (0620)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	66 (0660)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1206Rxxxx*?	1206 (3216 metric)	68 (0680)	±1% (F)	1/2 W (S)	± 100	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	100 (1000)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	110 (1100)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	120 (1200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	130 (1300)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	150 (1500)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	160 (1600)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	180 (1800)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	200 (2000)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	220 (2200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	240 (2400)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	250 (2500)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	270 (2700)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	300 (3000)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C

Rxxxx = Enter resistance code option from table above (xxxx= resistance code (xxx.x mΩ ex: R1000 = 100.0 mΩ)
*= Enter resistance tolerance code from table above (F= ±1%)
?= Enter power rating code (P = 1/16 W, B = 1/8 W, A = 1/4 W, S = 1/2 W,)

Electrical specifications

Part number	Size	Resistance value mΩ (Part number code)	Resistance tolerance (Part number code)	Power rating (Part number code)	TCR (ppm/°C)	Operating temperature
MFL1210Rxxxx*?	1210 (3225 metric)	330 (3300)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	360 (3600)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	430 (4300)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	470 (4700)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	500 (5000)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	510 (5100)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	620 (6200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	680 (6800)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	750 (7500)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL1210Rxxxx*?	1210 (3225 metric)	820 (8200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C

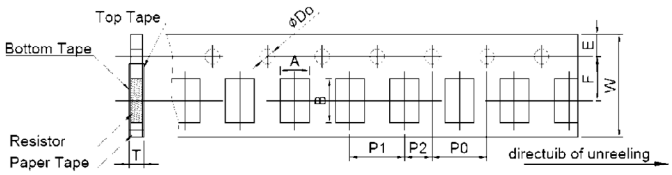
Rxxxx = Enter resistance code option from table above (xxxx= resistance code (xxx.x mΩ ex: R1000 = 100.0 mΩ)
*= Enter resistance tolerance code from table above (F= ±1%)
?= Enter power rating code (P = 1/16 W, B = 1/8 W, A = 1/4 W, S = 1/2 W,)

Packaging information- mm

Supplied in tape and reel on a 7.0" diameter reel (EIA-481 compliant)

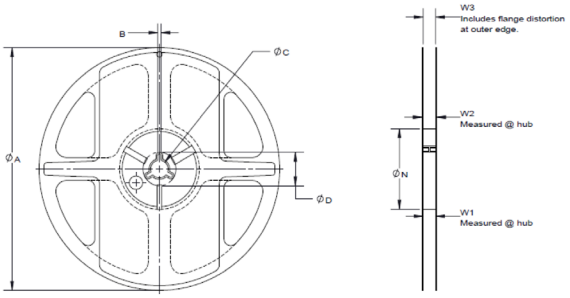
Family	Tape	Quantity
MFL0402	7 inch paper	10K
MFL0603	7 inch paper	5K
MFL0805	7 inch paper	5K
MFL1206	7 inch paper	5K
MFL1210	7 inch paper	5K

Tape carrier and dimensions



Dimension	0402	0603	0805	1206	1210
E	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1
F	3.5 ± 0.05	3.5 ± 0.05	3.5 ± 0.05	3.5 ± 0.05	3.5 ± 0.05
P2	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1
D0	1.50 ± 0.1	1.50 ± 0.1	1.50 ± 0.1	1.50 ± 0.1	1.50 ± 0.1
P0	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
W	8.0 ± 0.1	8.0 ± 0.1	8.0 ± 0.1	8.0 ± 0.1	8.0 ± 0.1
P1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
A0	0.7 ± 0.05	1.1 ± 0.1	1.6 ± 0.15	2.0 ± 0.15	2.8 ± 0.15
B0	1.2 ± 0.05	1.9 ± 0.1	2.4 ± 0.2	3.6 ± 0.2	3.6 ± 0.2
T	0.45 ± 0.1	0.64 ± 0.1	0.84 ± 0.1	0.84 ± 0.1	0.84 ± 0.1

Reel dimensions

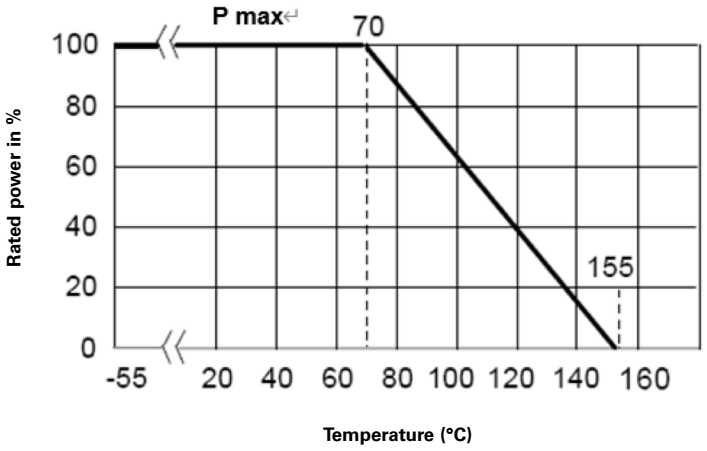


Family	A	B	C	D	N	W1	W2	W3
MFL0402	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	na
MFL0603	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	na
MFL0805	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	na
MFL1206	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	na
MFL1210	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	na

General specifications

Temperature coefficient of resistance: IEC60115-1 4.8, JIS-C5201-4.8, +25 to +125 °C
Short time overload: IEC60115-1 4.13, JIS-C5201-4.13 2.5 X rated power for 5 s
High temperature exposure (storage): IEC60115-1-4.23.2 JIS-C5201-4.23.2 , 96 ± 4.0 hours, +155 °C
Temperature cycling: IEC60115-1-4.19 JIS-C5201-4.19, 5 Cycles (-55 °C to +155 °C) 30 minutes each
Resistance to soldering heat: IEC60115-1-4.18 JIS-C5201-4.18 Solder dipped at +270 °C ±5 °C , 10 second ±1 second dwell
Solderability: IEC60115-1-4.17 JIS-C5201-4.17 , Solder dip +245 °C ±5 °C 2 seconds ±0.5 seconds dwell
Board flex (bending): IEC60115-1-4.33 JIS-C5201-4.33 Bending width 3 mm
Load life: IEC60115-1-4.25.1 JIS-C5201-4.25.1 1000 hours at rated power , +70 °C , 1.5 hours "ON ", 0.5 hours "OFF"
Load life with humidity: IEC60115-1-4.24 JIS-C5201-4.24 1000 hours at rated power , +40 °C ±2 °C, 90–95% RH 1.5 hours "ON ", 0.5 hours "OFF"

Temperature derating curve



Rated current & voltage

The rated Current and Voltage are calculated by the following formula:

$I=\sqrt{P \div R}$

I: Rated current (A)

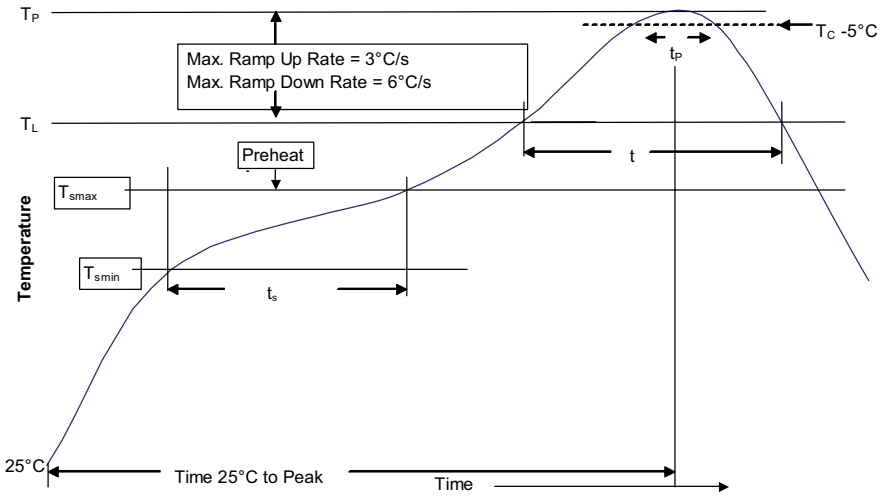
P: Rated power (W)

$V=\sqrt{P \times R}$

V: Rated voltage (V)

R: Resistance value (Ω)

Solder reflow profile



Profile feature		Lead (Pb) free solder
Preheat and soak	• Temperature min. (T_{smin})	150 °C
	• Temperature max. (T_{smax})	200 °C
	• Time (T_{smin} to T_{smax}) (t_s)	60-150 seconds
Ramp up rate T_L to T_p		3 °C/ second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L		217 °C 60-120 seconds
Peak package body temperature (Tp)*		260 °C
Time (t_p)* within 5 °C of the specified classification temperature (T_C)		10 seconds*
Ramp-down rate (T_p to T_L)		6 °C/ second max.
Time 25 °C to peak temperature		8 minutes max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Manual solder

+350 °C ±10 °C , 3 +1/-0 seconds 1 time (by soldering iron), generally manual, hand soldering is not recommended

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