MFLA

SMD current sensing resistor- metal film



Applications

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

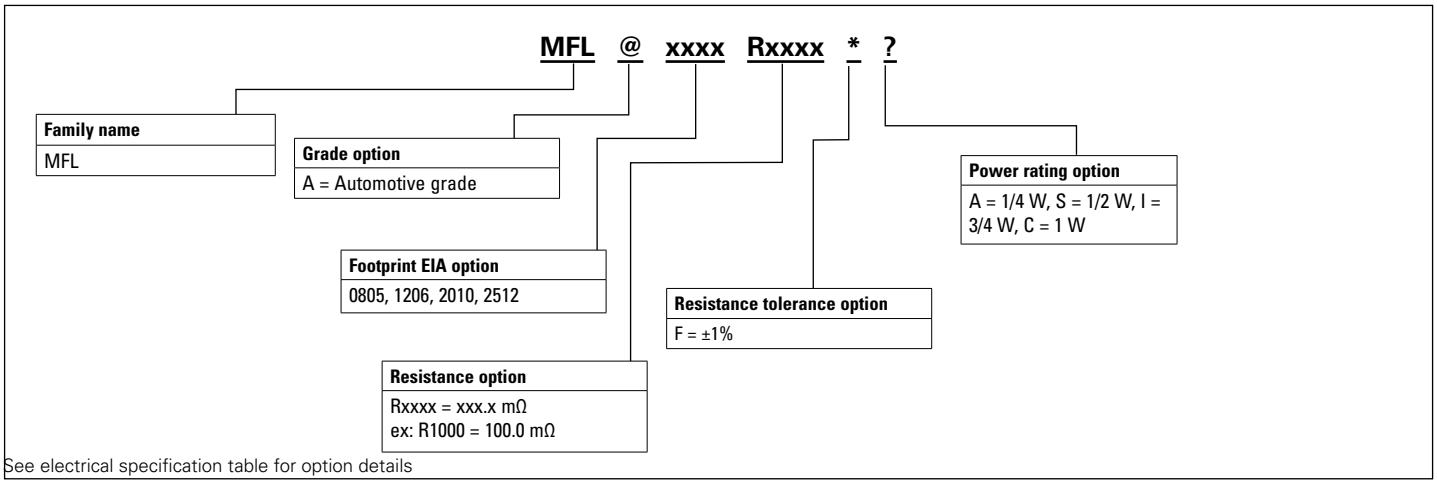
Product features

- Low sensing resistance
- 0805 (2012 metric) to 2512 (6432 metric)
- High power dissipation
- AEC-Q200 compliant
- Moisture sensitivity level (MSL): 1

Environmental compliance

Pb HALOGEN HF FREE RoHS

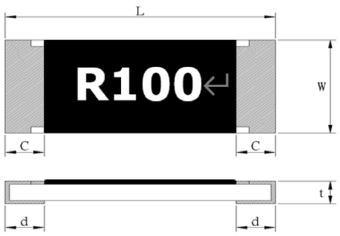
Table 1. Part numbering configuration scheme



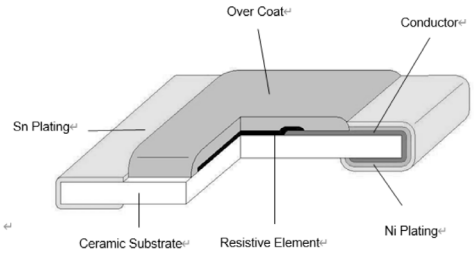
See electrical specification table for option details

Powering Business Worldwide

Mechanical parameters- Inches [mm]

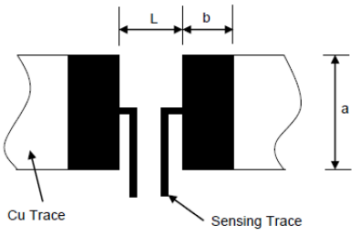


Construction



Family	Size code	L	W	C	d	t
MFLA0805	0805 [2012]	0.079 ± 0.004 [2.00 ± 0.10]	0.049 ± 0.004 [1.25 ± 0.10]	0.016 ± 0.008 [0.40 ± 0.20]	0.014 ± 0.008 [0.35 ± 0.20]	0.020 ± 0.004 [0.50 ± 0.10]
MFLA1206	1206 [3216]	0.122 ± 0.008 [3.10 ± 0.20]	0.061 ± 0.004 [1.55 ± 0.10]	0.020 ± 0.012 [0.50 ± 0.30]	0.016 ± 0.008 [0.40 ± 0.20]	0.022 ± 0.004 [0.55 ± 0.10]
MFLA2010	2010 [5025]	0.197 ± 0.008 [5.00 ± 0.20]	0.098 ± 0.008 [2.50 ± 0.20]	0.024 ± 0.012 [0.60 ± 0.30]	0.020 ± 0.010 [0.50 ± 0.25]	0.022 ± 0.004 [0.55 ± 0.10]
MFLA2512	2512 [6432]	0.248 ± 0.008 [6.30 ± 0.20]	0.126 ± 0.008 [3.20 ± 0.20]	0.024 ± 0.012 [0.60 ± 0.30]	0.020 ± 0.010 [0.50 ± 0.25]	0.022 ± 0.004 [0.55 ± 0.10]

Recommended PCB layout



Series	a	b	L
MFLA0805	1.55	1.15	1.2
MFLA1206	1.85	1.20	2.2
MFLA2010	2.80	1.55	3.5
MFLA2512	3.50	1.75	4.0

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
MFLA0805	Rxxx: (xxx= resistance value in ohms expressed in 3 digits R100 = 0.100 Ω or 100 mΩ
MFLA1206	
MFLA2010	
MFLA2512	

Electrical specifications

Part number	Size	Grade option	Resistance value mΩ (Part number code)	Resistance tolerance (Part number code)	Power rating (Part number code)	TCR (ppm/°C)	Operating temperature
MFL@0805Rxxxx*?	0805 (2012 metric)	A	100 (1000)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	110 (1100)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	120 (1200)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	130 (1300)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	140 (1400)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	150 (1500)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	160 (1600)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	180 (1800)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	200 (2000)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	220 (2200)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	240 (2400)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	250 (2500)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	255 (2550)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	270 (2700)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	280 (2800)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	300 (3000)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	330 (3300)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	360 (3600)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	390 (3900)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	400 (4000)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	430 (4300)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	470 (4700)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	500 (5000)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	510 (5100)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	560 (5600)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	620 (6200)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	680 (6800)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	750 (7500)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	820 (8200)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@0805Rxxxx*?	0805 (2012 metric)	A	910 (9100)	±1% (F)	1/4 W (A)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	100 (1000)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	110 (1100)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	120 (1200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	130 (1300)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	140 (1400)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	150 (1500)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	160 (1600)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	180 (1800)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	200 (2000)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	220 (2200)	±1% (F)	1/2 W (S)	± 200	-55 °C to +155 °C

@= Enter grade option code from table above (A=Automotive)
Rxxxx = Enter resistance code option from table above xxxx= resistance code (xxx.x mΩ ex: R1000 = 100.0 mΩ)
*= Enter resistance tolerance code option from table above (F= ±1%)
?= Enter power rating code option from table above (A = 1/4 W, S = 1/2 W, I = 3/4 W, C = 1 W)

Electrical specifications

Part number	Size	Grade option	Resistance value mΩ (Part number code)	Resistance tolerance (Part number code)	Power rating (Part number code)	TCR (ppm/°C)	Operating temperature
MFL@1206Rxxxx*?	1206 (3216 metric)	A	240 (2400)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	250 (2500)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	270 (2700)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	280 (2800)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	300 (3000)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	330 (3300)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	340 (3400)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	360 (3600)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	390 (3900)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	400 (4000)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	420 (4200)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	430 (4300)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	470 (4700)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	500 (5000)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	510 (5100)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	560 (5600)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	600 (6000)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	620 (6200)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	680 (6800)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	710 (7100)	±1% (F)	1/2 (S)	± 200	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	750 (7500)	±1% (F)	1/2 (S)	± 100	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	820 (8200)	±1% (F)	1/2 (S)	± 100	-55 °C to +155 °C
MFL@1206Rxxxx*?	1206 (3216 metric)	A	910 (9100)	±1% (F)	1/2 (S)	± 100	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	100 (1000)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	120 (1200)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	130 (1300)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	150 (1500)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	160 (1600)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	180 (1800)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	200 (2000)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	220 (2200)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	240 (2400)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	250 (2500)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	270 (2700)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	300 (3000)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	330 (3300)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	360 (3600)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	390 (3900)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	400 (4000)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	430 (4300)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	470 (4700)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	500 (5000)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C

@= Enter grade option code from table above (A=Automotive)

Rxxxx = Enter resistance code option from table above xxxx= resistance code (xxx.x mΩ ex: R1000 = 100.0 mΩ)

*= Enter resistance tolerance code option from table above (F= ±1%)

?= Enter power rating code option from table above (A = 1/4 W, S = 1/2 W, I = 3/4 W, C = 1 W)

Electrical specifications

Part number	Size	Grade option	Resistance value mΩ (Part number code)	Resistance tolerance (Part number code)	Power rating (Part number code)	TCR (ppm/°C)	Operating temperature
MFL@2010Rxxxx*?	2010 (5025 metric)	A	510 (5100)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	560 (5600)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	620 (6200)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	680 (6800)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	750 (7500)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	820 (8200)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2010Rxxxx*?	2010 (5025 metric)	A	910 (9100)	±1% (F)	3/4 W (I)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	100 (1000)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	110 (1100)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	120 (1200)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	130 (1300)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	140 (1400)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	150 (1500)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	160 (1600)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	170 (1700)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	180 (1800)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	200 (2000)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	220 (2200)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	240 (2400)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	250 (2500)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	270 (2700)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	280 (2800)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	300 (3000)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	330 (3300)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	360 (3600)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	390 (3900)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	400 (4000)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	420 (4200)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	430 (4300)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	470 (4700)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	500 (5000)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	510 (5100)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	560 (5600)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	600 (6000)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	620 (6200)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	680 (6800)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	750 (7500)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	800 (8000)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	820 (8200)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C
MFL@2512Rxxxx*?	2512 (6432 metric)	A	910 (9100)	±1% (F)	1 W (C)	± 200	-55 °C to +155 °C

@= Enter grade option code from table above (A=Automotive)

Rxxxx = Enter resistance code option from table above xxxx= resistance code (xxx.x mΩ ex: R1000 = 100.0 mΩ)

*= Enter resistance tolerance code option from table above (F= ±1%)

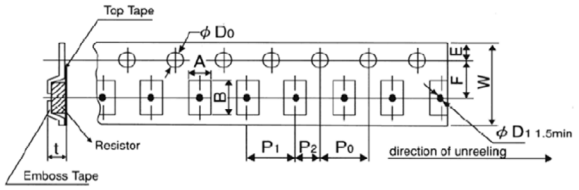
?= Enter power rating code option from table above (A = 1/4 W, S = 1/2 W, I = 3/4 W, C = 1 W)

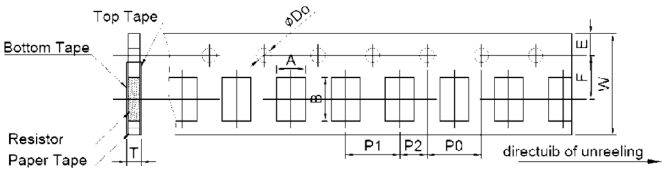
Packaging information- mm

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

Size	Tape	Quantity
0805	7 inch paper	5K
1206	7 inch paper	5K
2010	7 inch embossed	4K
2512	7 inch embossed	4K

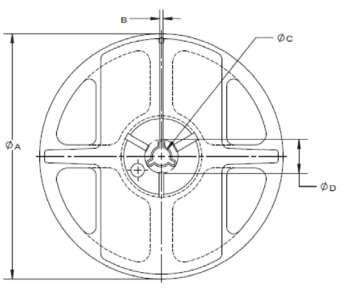
Tape carrier and dimensions

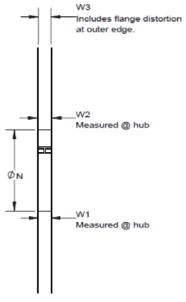




Dimension	0805	1206	2010	2512
E	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1
F	3.5 ± 0.05	3.5 ± 0.05	5.5 ± 0.05	5.5 ± 0.05
P2	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1
D0	1.50 ± 0.1	1.50 ± 0.1	1.50 ± 0.1	1.50 ± 0.1
P0	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
W	8.0 ± 0.1	8.0 ± 0.1	12.0 ± 0.1	12.0 ± 0.1
P1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
A0	1.6 ± 0.15	2.0 ± 0.15	2.8 ± 0.2	3.6 ± 0.2
B0	2.4 ± 0.2	3.6 ± 0.2	5.3 ± 0.2	6.9 ± 0.2
T	0.84 ± 0.1	0.84 ± 0.1	0.85 ± 0.15	0.85 ± 0.1

Reel dimensions



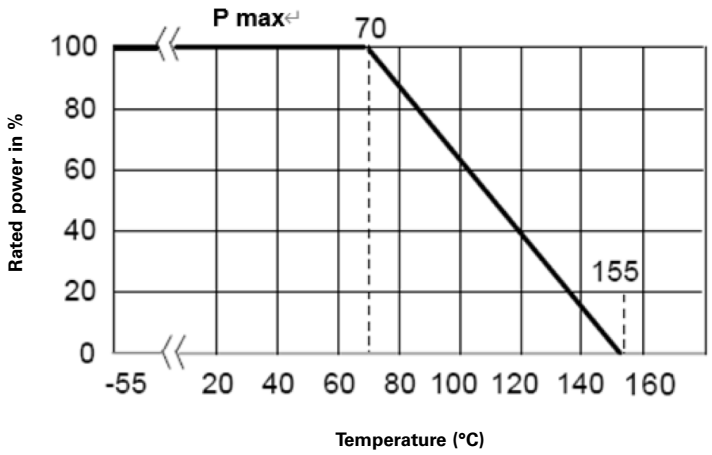


Size	A	B	C	D	N	W1	W2	W3
0805	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	na
1206	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	9.0 ± 1.0	11.4 ± 1.0	na
2010	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	13.0 ± 1.0	15.5 ± 1.0	na
2512	178 ± 2.0	3.5 ± 0.5	13.0 ± 1.0	na	60 ± 1.0	13.0 ± 1.0	15.5 ± 1.0	na

General specifications

Temperature coefficient of resistance: IEC60115-1 4.8, +25 to +125 °C
Short time overload: IEC60115-1 4.13, 2.5 X rated power for 5 s
High temperature exposure (storage): AEC-Q200-REV D-Test 3, MIL-STD202 Method 108, 1000 hours, +125 °C
Temperature cycling: AEC-Q200-REV D-Test 4, JESD22 Method JA-104, 1000 Cycles (-55 °C to +125 °C)
Moisture resistance: AEC-Q200-REV D-Test 6 , MIL-STD-202 Method 106, T=24 hours / Cycle ,10 Cycles, Notes: Steps 7a& 7b not required. Unpowered, < ±1%
Biased humidity: AEC-Q200-REV D-Test 7, MIL-STD-202 Method 103, 1000 hours +85 °C/85% RH. Note: Specified conditions: 10% of operating power (not exceeding max working voltage).
Operational life: AEC-Q200-REV D-Test 8, MIL-STD-202 Method 108, 1000 hours, +125 °C at 35% rated power
Resistance to solvents: AEC-Q200-REV D-Test 12, MIL-STD-202 Method 215, a: Isopropyl Alcohol : Mineral Spirits= 1 : 3, b: Terpene Defluxer (Bioact EC-7R) c: Deionized water : Propylene Glycol Monomethyl Ether : monoethanolamine = 42 : 1 : 1, Marking and protective layer cannot be detached
Mechanical shock: AEC-Q200-REV D-Test 13, MIL-STD-202 Method 213, Wave Form Peak value is 100 g's. 6 ms
Vibration: AEC-Q200-REV D-Test 14, MIL-STD-202 Method 204, 5 g's for 20 min., 12 cycles each of 3 orientations
Resistance to soldering heat: AEC-Q200-REV D-Test 15, MIL-STD-202 Method 210, Condition B : Immerse the specimens in and eutectic solder at +260 ± 5 °C for 10 ± 1 s
Thermal shock: AEC-Q200-REV D-Test 16, MIL-STD-202 Method 107, -55 °C/+155 °C. Note: Number of cycles required 300, Maximum transfer time 20 seconds, Dwell time 15 minutes. Air-Air. < ±1.0%
ESD: AEC-Q200-REV D-Test 17, AEC-Q200-002 or ISO/DIS 10605, verify the voltage setting at 500 V, < ±1.0%
Solderability: AEC-Q200-REV D-Test 18, J-STD-002, Method B, aging 4 hours at 155 °C dry heat Lead-free solder bath at 235 ± 3 °C, Dipping time: 3 ± 0.5 seconds, > 95% area covered with tin
Flammability: AEC-Q200-REV D-Test 20, UL-94, V-0 or V-1 are acceptable. Electrical test not required. V-0 or V-1
Board flex (bending): AEC-Q200-REV D-Test 21, AEC-Q200-005, The duration of the applied forces shall be 60 (+ 5) Sec, 2 mm deflection. < ±1.0%
Terminal strength (SMD): AEC-Q200-REV D-Test 22, AEC-Q200-006, Force of 1.0 kg for 60 seconds, Remarks : 0201-NA, < ±1.0%

Temperature derating curve



Rated current & voltage

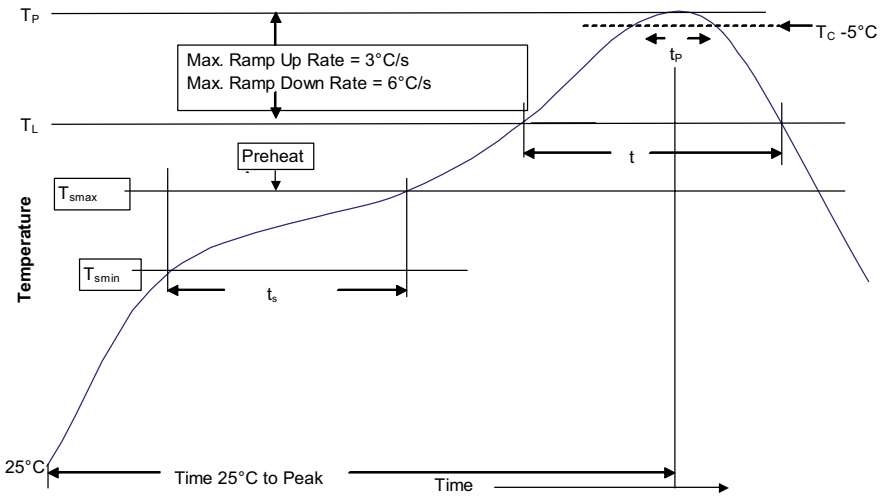
The rated Current and Voltage are calculated by the following formula:

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

I: Rated current (A) V: Rated voltage (V)

P: Rated power (W) 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 (T_P)*		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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