

3. CONSTANTS AND STANDARDS

U.S. WEIGHTS AND MEASURES

LINEAR

1,000 MILS = 1 INCH (IN) 3 FT = 1 YARD (YD)
 12 INCHES = 1 FOOT (FT) 5,280 FT = 1 MILE (MI)

AREA

1 FOOT² = 144 IN² 1 ACRE = 43,560 FT²
 1 YARD² = 9 FT² 1 MILE² = 640 ACRES

VOLUME

1 FOOT³ = 1,728 IN³ 1 YARD³ = 27 FEET³

MASS

16 OUNCES (oz) = 1 POUND (lb)

METRIC WEIGHTS AND MEASURES

LINEAR

1,000 MICROMETERS (μm) = 1 MILLIMETER (mm)
 10 mm = 1 CENTIMETER (cm) 100 cm = 1 METER (m)
 1,000 METERS = 1 KILOMETER (KM)

AREA

100 mm² = 1 cm² 10,000 cm² = 1 m²

VOLUME

1 cm³ = 1 MILLILITER (ml) 1,000 ml = 1 LITER (l)

MASS

1,000 MILLIGRAMS (mg) = 1 gram (g)

U.S. - METRIC CONVERSION

<u>TO CONVERT</u>	<u>INTO</u>	<u>MULTIPLY BY</u>
MICROMETERS	MILS	3.937×10^{-2}
MILS	MICROMETERS	25.4
MILLIMETERS	MILS	39.37
MILS	MILLIMETERS	2.54×10^{-2}
MILLIMETERS	INCHES	3.937×10^{-2}
INCHES	MILLIMETERS	25.4
CENTIMETERS	INCHES	0.3937
INCHES	CENTIMETERS	2.54
INCHES	METERS	2.54×10^{-2}
METERS	INCHES	39.37
FEET	METERS	30.48×10^{-2}
METERS	FEET	3.281
METERS	YARDS	1.094
YARDS	METERS	0.9144
KILOMETERS	FEET	3281
FEET	KILOMETERS	3.408×10^{-4}
KILOMETERS	MILES	0.6214
MILES	KILOMETERS	1.609
GRAMS	OUNCES	3.527×10^{-2}
OUNCES	GRAMS	28.3495
KILOGRAMS	POUNDS	2.205
POUNDS	KILOGRAMS	0.4536

FAMILIAR EXAMPLES

DIMENSIONS

DIME ≈ 1 mm × 1.8 cm
 NICKEL ≈ 2 mm × 2.1 cm
 QUARTER ≈ 2 mm × 2.4 cm
 1-MIL PLASTIC FILM = 25.4 μm

MASS

PLASTIC TO-92 TRANSISTOR ≈ 0.25 g
 8-PIN MINI DIP IC ≈ 0.5 g
 16-PIN DIP IC ≈ 1.05 g
 NICKEL ≈ 5 g