

## QMet 300 Strip

Materion's QMet® 300 strip is a high-performance, heat treated copper-chromium-silicon alloy designed to provide very high electrical and thermal conductivity while still retaining moderate strength. This non-beryllium-containing alloy is ideal for heat spreading structural components in consumer electronic devices as well as high-reliability, high-power electrical and electronic connectors.

### Nominal Chemical Composition (Weight Percent)

Alloy	Chromium (Cr) + Silver (Ag) + Silicon (Si)*	Copper (Cu)
C18085	0.5 - 3.0	Balance**

\*Exact composition is proprietary.

\*\*Copper (Cu) plus sum of named elements is 99.5% minimum.

### Typical Physical Properties

Elastic Modulus	Density	Typical Electrical Conductivity	Typical Thermal Conductivity*	Thermal Expansion Coefficient	Poisson's Ratio
20 - 22 Mpsi 137 - 152 GPa	0.321 lb./in <sup>3</sup> 8.89 g/cm <sup>3</sup>	81% IACS 78% min. 47 MS/m	197 BTU/ft hr °F (188 min.) 341 W/m K (325 min.)	10.0 ppm/°F 18.0 ppm/°C	0.3

\*Converted from electrical conductivity using Wiedemann-Franz Law.

### Typical Mechanical Properties\*

Temper	Data Type	0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation**	Hardness (HV)	90° Bend Formability	
		ksi	MPa	ksi	MPa			Longitudinal (Good Way)	Transverse (Bad Way)
HT	Typical Range	72.5 min.	500 min.	78 min.	538 min.	5.0% min.	130 min.	0.20	0.20
	Design/Engineering Nominal Value	78	536	81	558	9%	170	0.20	0.20

\*Properties may vary by thickness.

\*\*Percent elongation valid only for strip greater than 0.004" (0.10 mm) thick.

