[Preliminary version]
TCS Series Current Sensing Resistors

AEC-Q200 Qualified

These components are four-terminal, bus-bar, metal strip current shunts. Assembled using electron beam welding. These units can handle 15W of continuous power and a maximum current of 350A (0.1mohm). Also they can absorb a high pulse power rating and have very low inductance. They also feature excellent long term stability, less than 100ppm/C TCR, and have excellent frequency characteristics. Applications include: Battery charging current control of automotive electronics, current detection in precise power sources, constant current sources, industrial power conversion circuits, HEVs, fuel cells and constant electronic loads.
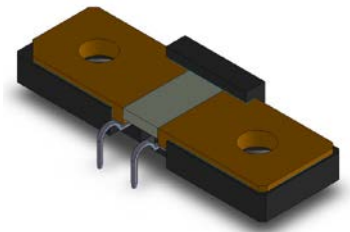
■ GENERAL SPECIFICATIONS

Special Model	* Load Capacity [W]	Current Rating [A] (*At terminal temp. ≤120°C)	Resistance [Ω]	Resistance Tolerance
TCS5216	3	Max.173A (at 0.1mΩ)	0.1m to 0.5m	F[±1%]/J [±5%]
TCS6018	5	Max.223A (at 0.1mΩ)		
TCS8118	10	Max.316A (at 0.1mΩ)		
TCS8518	12	Max.340A (at 0.1mΩ)		
TCS8420 (TCS14)	15	Max.350A (at 0.1mΩ)		

* Referring to power derating curve

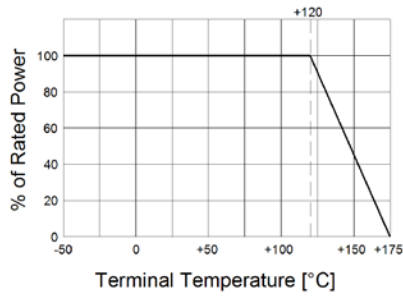* The rated current of other resistance value is $I = \sqrt{P/R}$

■ CHARACTERISTICS

Operating Temperature		-55°C~+170°C
Temperature Coefficient		(+20°C and +60)°C Max. ±100ppm/°C
High temperature exposure	ΔR ≦±1%	+125°C, 1000 hrs
Temperature cycle	ΔR ≦±1%	-55°C(30 min.) to +125°C(30 min.) 1000 Cycles, 1 min. Max. transition time.
Resistance to solvent	ΔR ≦±1%	OKEM Clean or equivalent.
Vibration	ΔR ≦±0.5%	10-2000 Hz, 5 g's for 20 min., 12 cycles each of 3 orientations.
Operational Life	ΔR ≦±1%	Rated power, 1.5hours "On" 0.5hours "Off", for 1,000hours. (TA=20°C, Terminal temp: 140°C)

■ DIMENSIONS (mm)

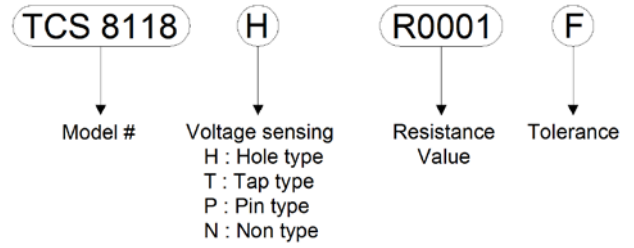* Non voltage sensing type

* Hole(Tap) type voltage sensing

* Pin type voltage sensing

Model	Dimensions [mm]						
	A±1	B±0.5	C±0.1	D±0.5	E±0.3	F±0.5	G±0.5
TCS5216	52.0	16.0	3.0	33.7	6.2	15.3	7.2
TCS6018	60.0	18.0	3.0	42.0	6.6	17.1	9.0
TCS8118	81.0	18.0	3.0	63.0	6.6	17.1	9.0
TCS8518	85.0	18.0	3.0	67.0	6.6	17.1	9.0
TCS8420	84.0	20.0	3.0	66.0	8.3	22.1	14.0

■ **DERATING CURVE**

■ **ORDERING PROCEDURE EXAMPLE**

(TCS 8118)   (H)   (R0001)   (F)

Model #   Voltage sensing   Resistance   Tolerance
              H : Hole type   Value
              T : Tap type
              P : Pin type
              N : Non type

Please ask RARA for more info on this.