

Bulk Metal® Technology Precision, Power Shunt Resistors, Surface Mount, Metal Strip Resistors

FEATURES

 Temperature coefficient of resistance to ±20 ppm/°C max. (-55°C to +125°C, +25°C ref.)

• Power rating: to 7 W

Resistance tolerance: to ±1%
Resistance range: 0.3mΩ to 3 mΩ
Short time overload: ±0.5%
Maximum current: up to 100 A

AEC-Q200 qualified

 Proprietary processing techniques produce low resistance values and improved TCR

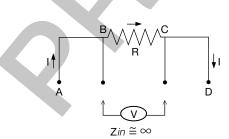
Solderable terminations

 Quick prototype quantities available, please contact: <u>foil@vpgsensors.com</u>

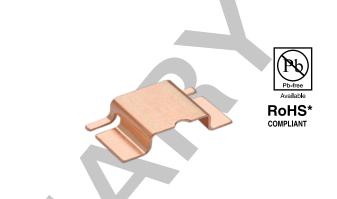
Key Applications

Applications requiring accuracy and repeatability under stress conditions such as the following:

- Switching and linear power supplies
- Precision current-sensing
- · Power management systems
- Feedback circuits
- Power amplifiers
- Measurement instrumentation
- Precision instrumentation amplifiers
- · Medical and automatic test equipment
- Frequency converters
- Communication systems
- High current applications for the automotive market



Four terminal (Kelvin) design: allows for precise and accurate measurements.



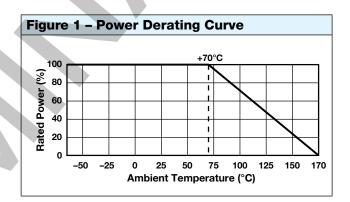


Table 1 - Specifications				
PARAMETER	CSM4026Y			
Resistance Range	0.3 m Ω to 3 m Ω			
Power Rating at 70°C ⁽¹⁾	5 W (0.3 - 2mΩ) 4 W (3mΩ)			
Maximum Current(2)	100 A			
Tolerance	to ±1%			
Temperature Coefficient Max. (-55°C to +125°C, +25°C Ref.)	±40 ppm/°C, (2 - 3 mΩ) ±70 ppm/°C, (0.3 - 1 mΩ)			
Operating Temperature Range	-65°C to +170°C			
Maximum Working Voltage	(P×R) ^{1/2}			
Weight (Maximum)	0.82 g			

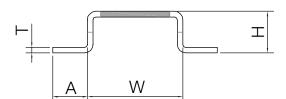
Notes

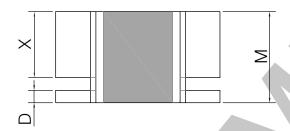
- (1) Nominal power of 7 W is available for special values
- ⁽²⁾ Maximum current for a given resistance value is calculated using $I = \sqrt{P/R}$



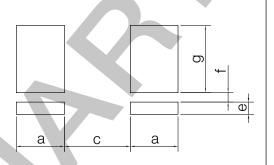
Figure 2 - Dimensions and Imprinting in millimeters

CSM4026Y DIMENSIONS





CSM4026Y LAND PATTERN

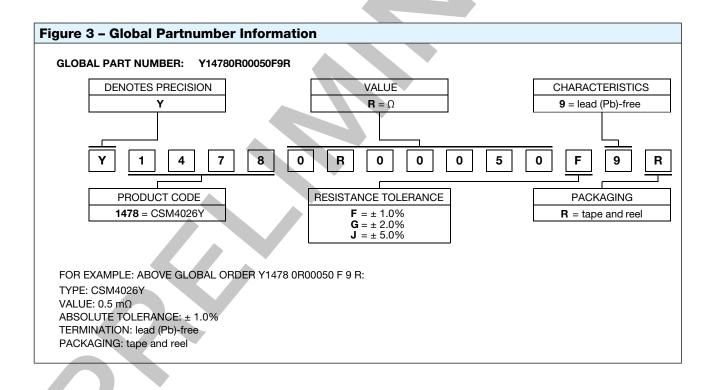


Dimensions								
MODEL	RESISTANCE RANGE (mΩ)	M	Н	w	Т	A	x	D
CSM4026Y	0.3	6.6±0.3	3±0.5	6.9±0.3	1.06±0.1	2.5±0.2	4.8±0.4	0.9
	0.5	6.6±0.3	3±0.5	6.9±0.3	0.67±0.1	2.5±0.2	4.8±0.4	0.9
	1	6.6±0.3	3±0.5	6.9±0.3	0.33±0.1	2.5±0.2	4.8±0.4	0.9
	2	6.6±0.3	3±0.5	6.9±0.3	0.47±0.1	2.5±0.2	4.8±0.4	0.9
	3	6.6±0.3	3±0.5	6.9±0.3	0.34±0.1	2.5±0.2	4.8±0.4	0.9

Land Pattern Dimensions							
MODEL	RESISTANCE RANGE (mΩ)	а	С	е	f	g	
CSM4026Y	0.3 to 3	4	5.5	0.9	0.8	5.6	



Table 2 - CSM4026Y Performance Specifications					
TEST	CONDITIONS	MIL-PRF-49465B	CSM4026Y		
1231	CONDITIONS	ΔR LIMITS	TYPICAL ∆R LIMITS		
Temperature Cycling	1000 Cycles (-55°C to +125°C)	JESD22 Method JA-104	±0.5%		
High Temperature Exposure	1000 hrs. @ +125°C, unpowered ±(0.5%+0.0005R) Method 108		±0.5%		
Biased Humidity	1000 hrs 85°C/85%RH Specified conditions: 10% of operating power		±0.5%		
Operational Life	onal Life Condition D Steady State TA=125°C at rated power		±1%		
Solderability	245°C±5°C, 5s+0.5s/-0	J-STD-002C	95% Coverage Min		
Resistance to Soldering Heat	nce to Soldering Heat 260°C±5°C, 10s±1s		±0.5%		
Short Time Overload	e Overload 5×Rated power for 5 s		±0.5%		





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