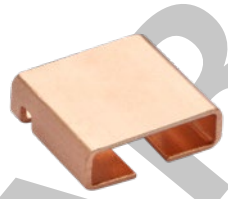
Bulk Metal® Technology Precision, Power Shunt Resistors, Surface Mount, Metal Strip Resistors



Pb-free Available

RoHS* COMPLIANT

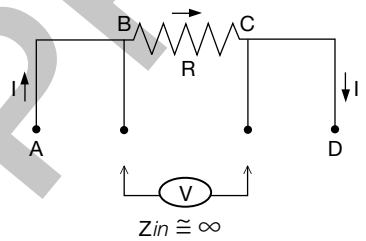
FEATURES

- Temperature coefficient of resistance to ±40 ppm/°C max. (–55°C to +125°C, +25°C ref.)
- Power rating: to 7 W[1]
- Resistance tolerance: to ±1%
- Resistance range: 0.5mΩ 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: foil@vpgsensors.com

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.

Figure 1 – Power Derating Curve

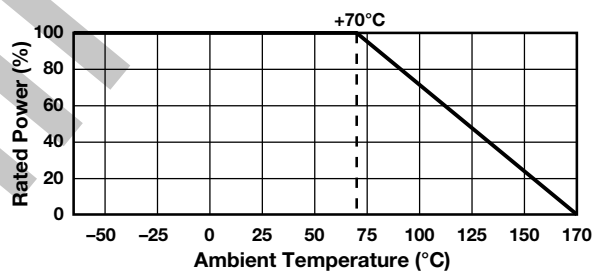


Table 1 – Specifications

PARAMETER	CSM2726Y
Resistance Range	0.5 mΩ to 3 mΩ
Power Rating at 70°C[1]	5 W
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, (0.5 - 1 mΩ)
Operating Temperature Range	–65°C to +170°C
Maximum Working Voltage	$(P \times R)^{1/2}$
Weight (Maximum)	0.48 g

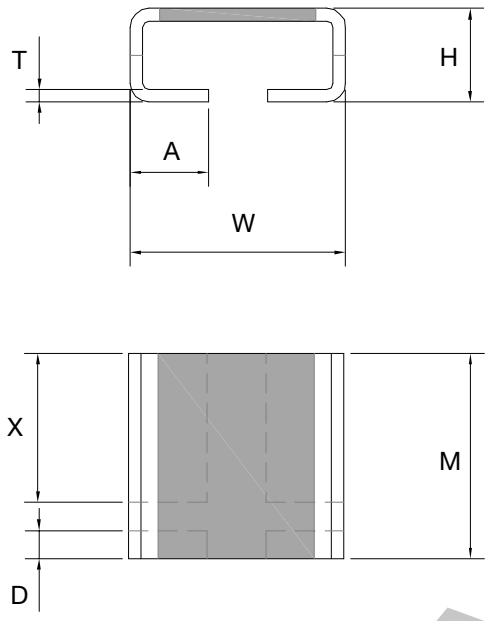
Notes

(1) Nominal power of 7 W is available for special values

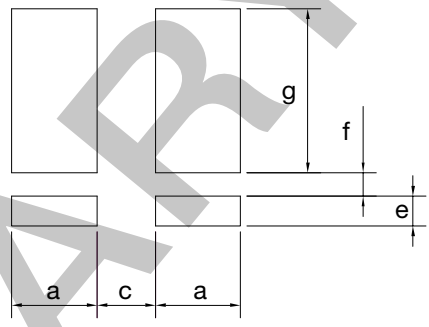
(2) Maximum current for a given resistance value is calculated using $I = \sqrt{P/R}$

Figure 2 – Dimensions and Imprinting in millimeters

CSM2726Y DIMENSIONS



CSM2726Y LAND PATTERN



Dimensions

MODEL	RESISTANCE RANGE (mΩ)	M	H	W	T	A	X	D
CSM2726Y	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	0.5±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

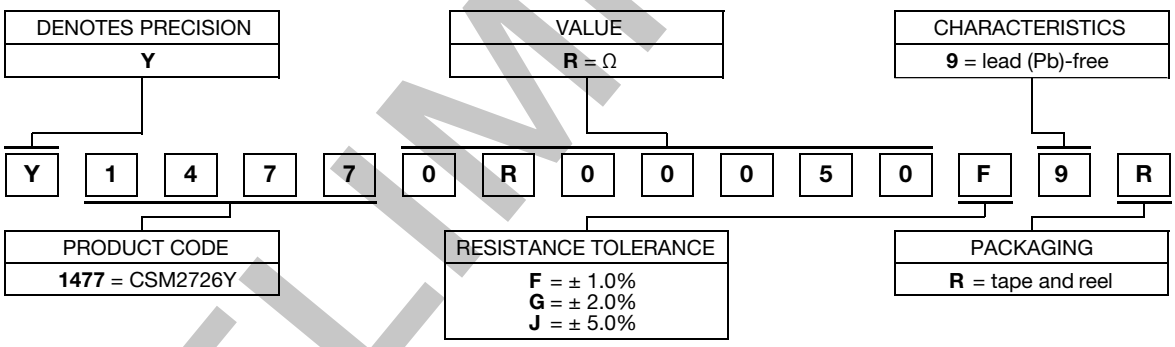
MODEL	RESISTANCE RANGE (mΩ)	a	c	e	f	g
CSM2726Y	0.5 to 3	2.9	2	0.9	0.8	5.6

Table 2 – CSM2726Y Performance Specifications

TEST	CONDITIONS	MIL-PRF-49465B ΔR LIMITS	CSM2726Y TYPICAL ΔR LIMITS
Temperature Cycling	1000 Cycles (-55°C to +125°C)	JESD22 Method JA-104	±0.5%
High Temperature Exposure	100 hrs. @ +170°C, unpowered	MIL-STD-202 Method 108	±0.5%
Biased Humidity	1000 hrs 85°C/85%RH Specified conditions: 10% of operating power	MIL-STD-202 Method 103	±0.5%
Operational Life	Condition D Steady State TA=125°C at rated power	MIL-STD-202 Method 108	±0.5%
Solderability	245°C±5°C, 5s+0.5s/-0	J-STD-002C	95% Coverage Min
Resistance to Soldering Heat	260°C±5°C, 10s±1s	MIL-STD-202 Method 210	±0.5%
Short Time Overload	5× rated power for 5s for 3 mΩ: 2.5x rated power for 10s	MIL-STD-202 Method 301	±0.5%

Figure 3 – Global Partnumber Information

GLOBAL PART NUMBER: Y14770R00050F9R



FOR EXAMPLE: ABOVE GLOBAL ORDER Y1477 0R00050 F 9 R:

TYPE: CSM2726Y
VALUE: 0.5 mΩ
ABSOLUTE TOLERANCE: ± 1.0%
TERMINATION: lead (Pb)-free
PACKAGING: tape and reel

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