

- Features:
- Power rating to 1W
  - Operation temperature range is -55°C ~ +170°C
  - Tolerance available in ±1%, ±2% and ±5%
  - Insulation resistance over 100MΩ
  - Maximum working voltage (V) is  $(P \cdot R)^{1/2}$
  - RoHS compliant and halogen-free

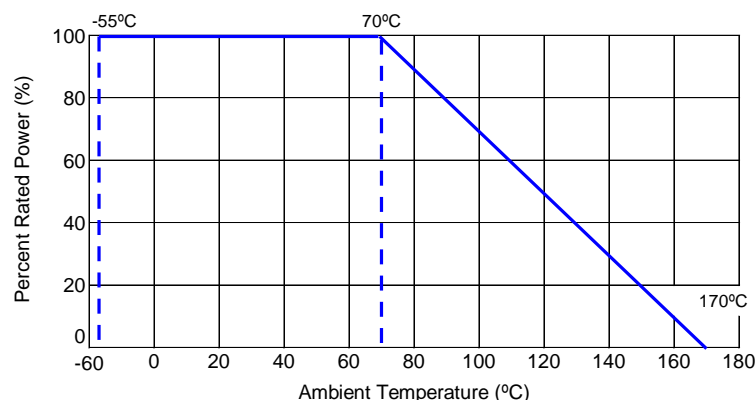


Electrical Specifications					
Type / Code	Package Type	Power Rating (Watts) @ 70°C	Dielectric Withstanding Voltage	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance
					1%, 2%, 5%
CSSK	0612	1W	200V	±200 ppm/°C	0.00055 - 0.003
				±150 ppm/°C	0.0031 - 0.005

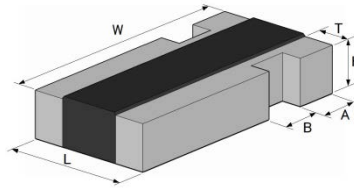
Performance Characteristics			
Test	Test Method	Test Specification	Test Condition
Temperature Coefficient of Resistance	IEC60115-1-4.8 JIS-C5201-4.8	200 ppm/°C (0.00055 - 0.003Ω) and 175 ppm/°C (0.0031 - 0.005Ω)	+25°C ~ +125°C
Load Life	IEC60115-1-4.25.1 JIS-C5201-4.25.1	<±2%	1000 hours at rated power, 70°C, 1.5 hours "ON", 0.5 hour "OFF"
Short Time Overload	IEC60115-1-4.13 JIS-C5201-4.13	<±0.5%	5 X rated power for 5 seconds
Moisture no Load	IEC60115-1-4.24.2.1a JIS-C5201-4.24.2.1a	<±0.5%	85°C, 85% RH, 1000 hours
Temperature Cycle	IEC60115-1-4.19 JIS-C5201-4.19	<±1%	-55°C and +155°C, 300 cycle, 15 minutes per extreme condition
Resistance to Soldering Heat	IEC60115-1-4.18 JIS-C5201-4.18	<±0.5%	260 ± 5°C for 10 ± 1 seconds 2 cycles
Solderability	IEC60115-1-4.17 JIS-C5201-4.17	At least 95% of surface area of electrode shall be covered with new solder	245 ± 5°C, 2 ± 0.5 seconds
High Temperature Exposure	IEC60115-1-4.23.2 JIS-C5201-4.23.2	<±2%	170°C, 1000 hours
Low Temperature Storage	IEC60115-1-4.23.4 JIS-C5201-4.23.4	<±0.5%	-55°C, 1000 hours
Substrate Bending	IEC60115-1-4.33 JIS-5201-4.33	<±0.5%	Bending width 2mm
Insulation Resistance	IEC60115-1-4.6 JIS-5201-4.6	>100MΩ	100V DC for 1 minute

Operating Temperature Range: -55 to + 170°C

### Power Derating Curve:

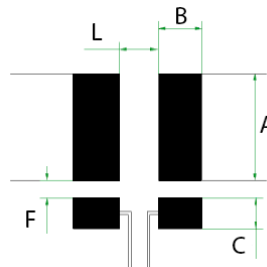


**Mechanical Specifications**



Type / Code	L	W	H	T	A	B	Unit
CSSK0612	0.065 ± 0.008	0.120 ± 0.010	0.026 ± 0.008	0.016 ± 0.010	0.020 ± 0.005	0.020 ± 0.005	inches
	1.65 ± 0.20	3.05 ± 0.25	0.65 ± 0.20	0.40 ± 0.25	0.51 ± 0.13	0.51 ± 0.13	mm

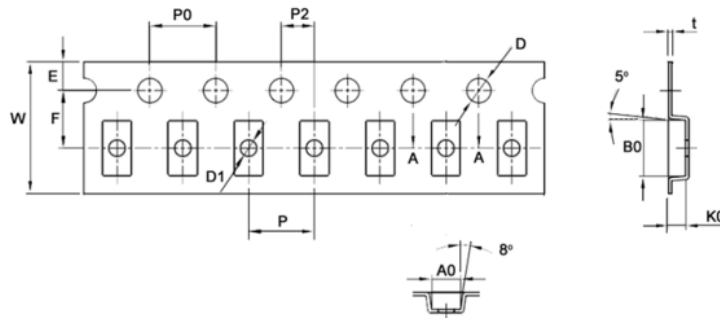
**Recommended Pad Layout**



Type / Code	Resistance Range (Ω)	A	B	C	L	F	Unit
CSSK0612	0.00055 - 0.005	0.091 2.30	0.039 1.00	0.031 0.80	0.028 0.70	0.016 0.40	inches mm

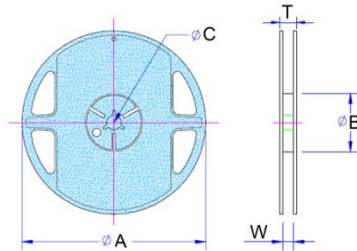
Note: 1 watt with total solder pad and trace size of 300mm<sup>2</sup>

**Taping Specifications**



Type / Code	W	P	E	F	P2	D	D1	Unit
CSSK0612	0.315 ± 0.004 8.00 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 ± 0.004 1.50 ± 0.10	0.039 ± 0.004 1.00 ± 0.10	inches mm
	P0	10P0	A0	B0	K0	t	Unit	
	0.157 ± 0.004 4.00 ± 0.10	1.575 ± 0.008 40.00 ± 0.20	0.070 ± 0.004 1.77 ± 0.10	0.134 ± 0.004 3.40 ± 0.10	0.041 ± 0.004 1.04 ± 0.10	0.009 ± 0.002 0.22 ± 0.05	inches mm	

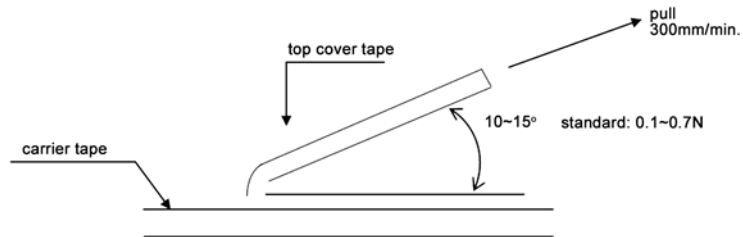
### Reel Specifications



Type / Code	ΦA	ΦB	ΦC	W	T	Unit
CSSK0612	7.008 ± 0.079	2.362 ± 0.039	0.512 ± 0.039	0.354 ± 0.039	0.453 ± 0.039	inches
	178.00 ± 2.00	60.00 ± 1.00	13.00 ± 1.00	9.00 ± 1.00	11.50 ± 1.00	mm

### Peeling Strength of Top Cover Tape

Test condition: 0.1 to 0.7N at a peel-off speed of 300 mm/min.



Storage Conditions: Temperature of 5°C ~ 35°C. Humidity: 40%~75%

Shelf life: 2 years from manufacturing date.

### Recommended IR – Reflow Profile

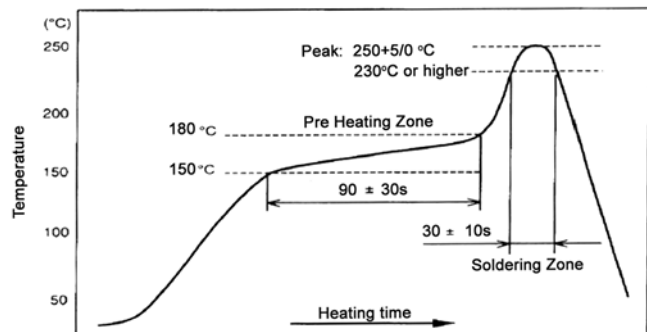
(solder: Sn96.5/Ag3/Cu0.5)

Peak: 260 ± 5°C, 10 ± 1 seconds

Pre-heat Zone: 150 to 180°C, 90 ± 30 seconds

Soldering Zone: 230°C or higher, 30 ± 10 seconds

Iron Solder: 350 ± 10°C, 3 ± 1 seconds



**RoHS Compliance**

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union’s directive regarding “Restrictions on Hazardous Substances” (RoHS 2). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament.

RoHS Compliance Status						
Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
CSSK	Kelvin Termination Current Sensing Resistors	SMD	YES	100% Matte Sn over Ni	Always	Always

**“Conflict Metals” Commitment**

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the “conflict region” of the Eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

**Compliance to “REACH”**

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, “The Registration, Evaluation, Authorization and Restriction of Chemicals”, otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

**Environmental Policy**

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

How to Order													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
C	S	S	K	0	6	1	2	F	T	2	L	0	0
Product Series		Size	Power	Tolerance		Code	Description	Size	Quantity	Resistance Value			
CSSK	Kelvin Termination Current Sensing Resistor	0612	1W	F	1%	T	Tape & Reel	0612	4,000	Four characters with "L" used as multiplier of 10 <sup>-3</sup> for any value under 0.1 ohm. 0.55 milliohm = L550 2.0 milliohm = 2L00			
				G	2%								
				J	5%								