Metal Oxide Resistors, Standard



FEATURES

- Rugged metal oxide film
- Lead (Pb)-free solder contacts
- Pure tin plating provides compatibility with lead (Pb)-free and lead containing soldering processes
- Compatible with "Restriction of the use of Hazardous Substances" (RoHS) directive 2002/95/EC (issue 2004)
- High power dissipation (up to 4 W)
- High temperature coating (refer power derating graph)
- Used in applications with high endurance demands

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING $P_{70\,°C}$ W	LIMITING ELEMENT VOLTAGE MAX. V≅	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E-SERIES
SXA0411	0.7	$\sqrt{P \times R}$	300	± 2 ± 5	1R0 - 9R53 R16 - 9R53	48 24
SXA0411	1.0	350	300	± 2 ± 5	10R - 100K 10R - 100K	48 24
SXA0617	1.5	$\sqrt{P \times R}$	300	± 2 ± 5	1R0 - 9R53 R16 - 9R53	48 24
SXA0617	2.0	500	300	± 2 ± 5	10R - 100K 10R - 100K	48 24
SXA0922	4.0	500	300	± 2 ± 5	10R - 68K 5R1 - 68K	48 24

Notes:

- TCR 200 ppm/°C on request
- Coating: grey
- Marking: SXA0411 and SXA0617 color code (no TCR band); SXA0922 print marked

PART NUMBER AND PRODUCT DESCRIPTION

PART NUMBER: SXA0411081802GDE00

S	X	A	0	4	1	1	0	8	1	8	0	2	G	D	E	0	0

MODEL	SIZE	SPECIAL CHARACTER	TCR	VALUE	TOLERANCE	PACKAGING (1)	SPECIAL
SXA	**0411** **0617** **0922**	**0** = Neutral	**8** = ± 300 ppm/K	**3 digit value** **1 digit multiplier** MULTIPLIER **7** = $*10^{-3}$ **8** = $*10^{-2}$ **9** = $*10^{-1}$ **0** = $*10^{0}$ **1** = $*10^{1}$ **2** = $*10^{2}$ **3** = $*10^{3}$	**G** = ± 2 % **J** = ± 5 %	**21** = A1 (G53) **41** = A1 (G73) **2C** = AC **2B** = AB **DE** = RE (G53) **FE** = RE (G73) **H1** = R1 **DC** = RC	Up to 2 digits **00 =** Standard

PRODUCT DESCRIPTION: SXA0411 300 18 K 2 % REG53

SXA0411	300	18 K	2 %	REG53
MODEL	TCR	RESISTANCE VALUE	TOLERANCE	PACKAGING (1)
SXA0411 **SXA0617** **SXA0922**	± **300** ppm/K	**49K9** = 49.9 kΩ **50R1** = 50.1 Ω	± **2** % ± **5** %	**A1G53** **A1G73** **AC** **AB** **REG53** **REG73** **R1** **RC**

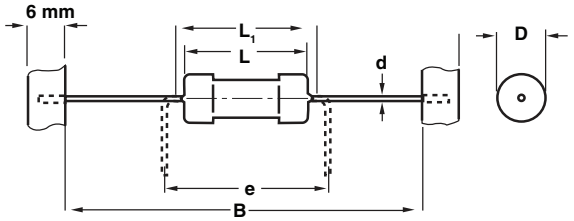
Notes:

(1) Please refer to table PACKAGING, see next page

- The PART NUMBER shown above is to facilitate the unified part numbering system for ordering products

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DIMENSIONS



MODEL	DIMENSIONS [in millimeters]					
	D	L	$L_{1\ max.}$	B	d	e
SXA0411	$3.8_{-0.4}$	$11.0_{-0.6}$	14.0	73 ± 1 (1)	0.7	12.5
SXA0617	$5.2_{-0.5}$	$15.8_{-0.8}$	19.8	83 ± 1 (1)	0.8	17.5
SXA0922	$8.4_{-0.6}$	$22.2_{-0.9}$	26.2	83 ± 1	0.8	25.0

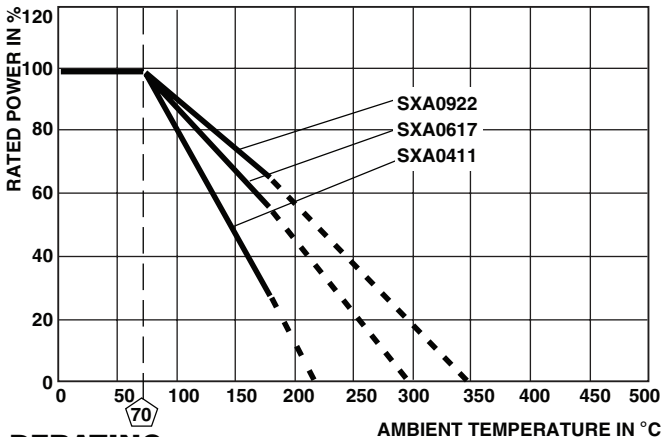
Notes:
- Taping in acc. with IEC60286
- D and L measured in acc. with IEC60294
- d according to IEC60301

Note:
(1) Also available in 53 mm tape spacing

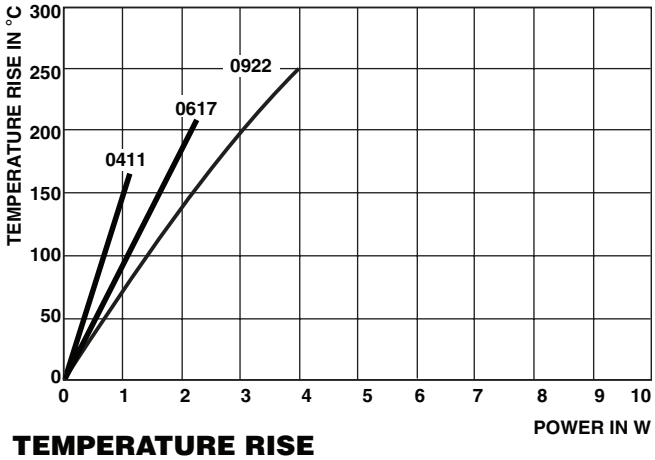
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	SXA0411		SXA0617		SXA0922
Rated Dissipation at 70 °C	W	0.7	1	1.5	2	4
Limiting Element Voltage (2)	V≅	≤ 350		≤ 500		≤ 500
Insulation Voltage (1 Min)	V_{eff}	> 600		> 600		> 600
Thermal Resistance	K/W	≤ 150		≤ 110		≤ 70
Insulation Resistance	Ω	≥ 10^{11}				
Category Temperature Range	°C	- 55 to + 175				
Terminal Strength, Axial	N	> 60		> 80		> 80
Failure Rated	10^{-8}/h	< 3				
Weight	g	0.52		1.1		3.2

Note:
(2) Rated Voltage $\sqrt{P \times R}$



DERATING

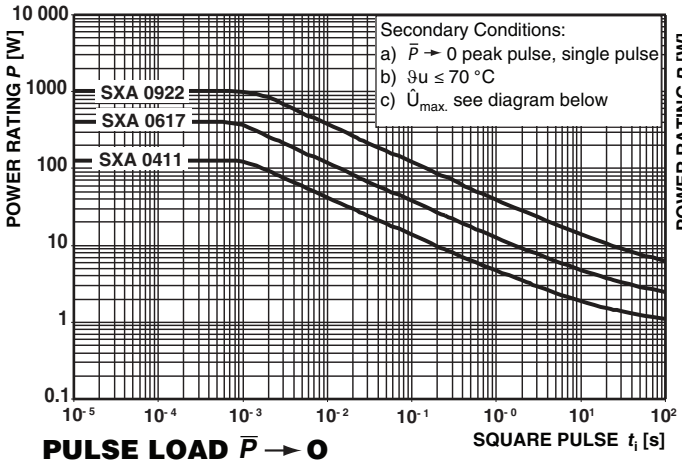


TEMPERATURE RISE

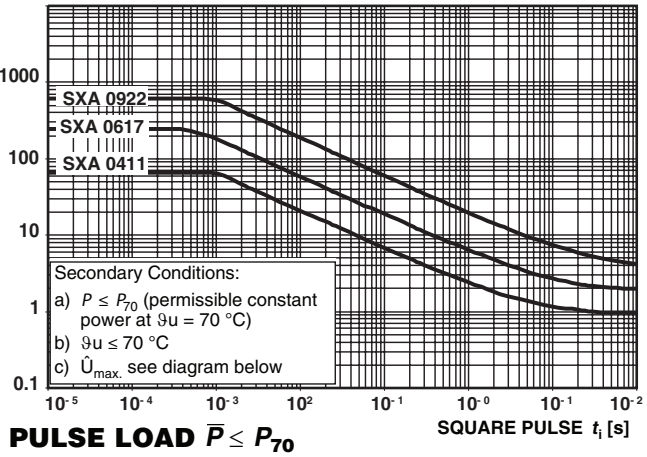
PACKAGING

MODEL	REEL			BOX		
	PIECES/REEL	CODE	MIN. ORDER QTY PACKAGING UNITS	PIECES/BOX	CODE	MIN. ORDER QTY PACKAGING UNITS
SXA0411	2500	RE	1	1000	A1	1
SXA0617	1000	R1	2	500	AC	2
SXA0922	500	RC	2	250	AB	4

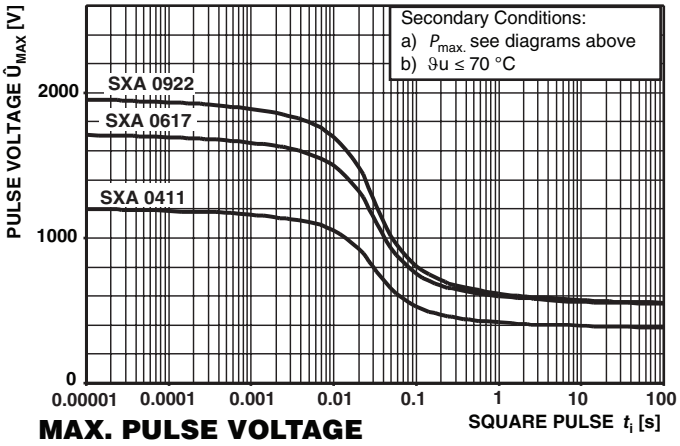
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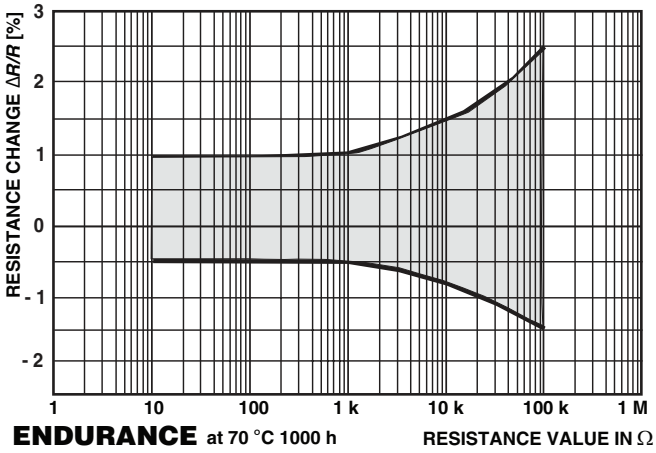
PULSE LOAD $\overline{P} \rightarrow 0$



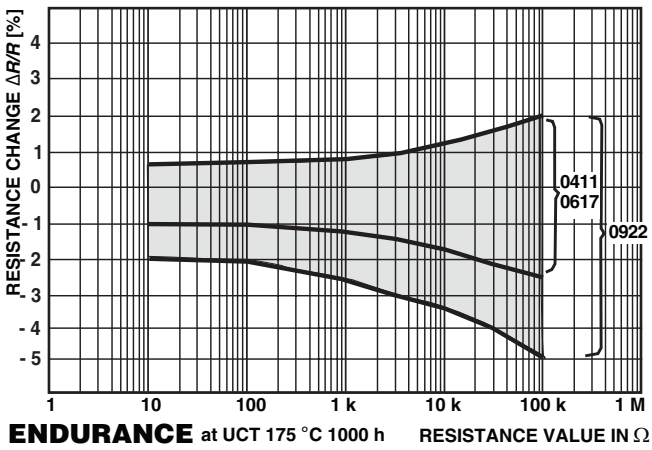
PULSE LOAD $\overline{P} \leq P_{70}$



MAX. PULSE VOLTAGE

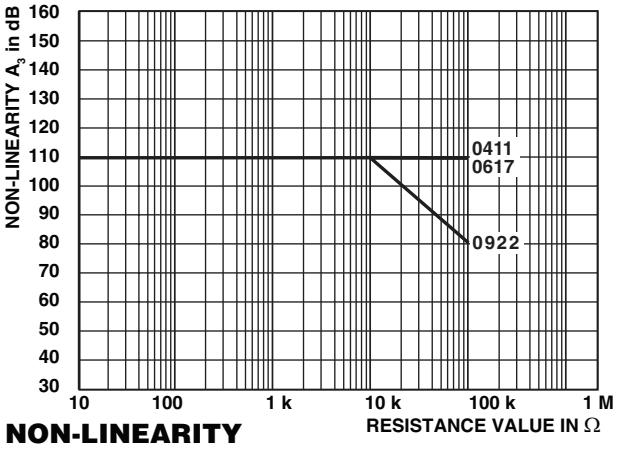


ENDURANCE at 70 °C 1000 h

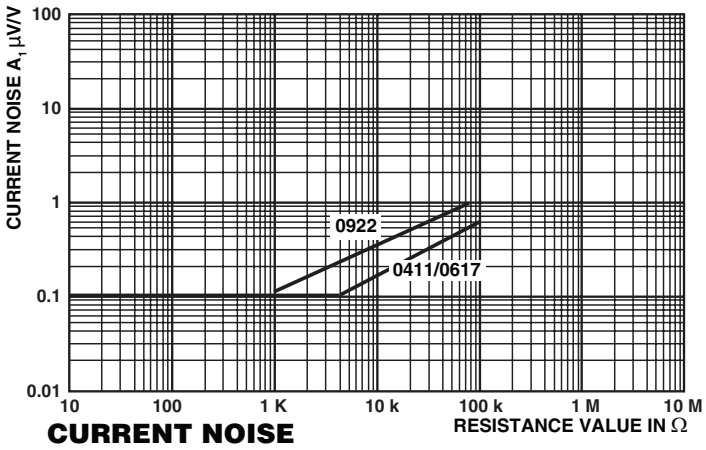


ENDURANCE at UCT 175 °C 1000 h

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NON-LINEARITY



CURRENT NOISE

PERFORMANCE

TEST	CONDITIONS OF TEST	REQUIREMENTS (1)	
		0411/0617	0922
Endurance at 70 °C IEC 60115-1 4.25.1	1000 h at 70 °C 1.5 h ON, 0.5 h OFF 8000 h at 70 °C 1.5 h ON, 0.5 h OFF	≤ ± 2.5 % ≤ ± 5.0	≤ ± 5.0 % ≤ ± 10 %
Endurance at UCT IEC60115-1 4.25.3	1000 h at 175 °C without load 8000 h at 175 °C without load	≤ ± 2.5 % ≤ ± 5.0 %	
Overload Test IEC 60115-1 4.13	Short time overload at 2.5 x rated power or twice the limiting voltage for 5 s	≤ ± 0.5 %	
Thermal Shock IEC 60115-1 4.19 IEC60068-2-14	Rapid change between upper and lower category termperature	≤ ± 0.5 %	
Climatic Sequence IEC60115-1 4.23	Dry heat, damp heat cyclic, cold, low air pressure	≤ ± 1.0 %	
Damp Heat Steady State IEC 60115-1 4.18 IEC60068-2-3	56 days at 40 °C and 93 % relative humidity and U = 0.1 x rated power	≤ ± 1.0 %	
Resistance to Soldering Heat IEC 60115-1 4.18 IEC60068-2-20	10 s at 260 °C solder bath temperature	≤ ± 0.25 %	
Robustness of Terminations IEC 60115-1 4.16	Tensile, bending and torsion	≤ ± 0.25 %	
Vibration IEC 60115-1 4.22	0.75 mm or 10 g, 10 Hz - 500 Hz	≤ ± 0.25 %	

Note:
(1) For a resistance range from 10 Ω to 100 kΩ

APPLICABLE SPECIFICATIONS

- CECC 40000
- EN 140 000/IEC 60115-1

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