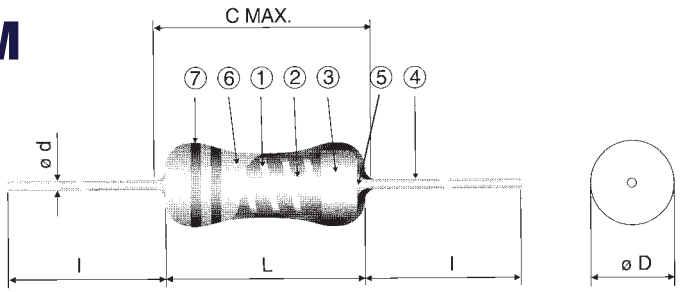
CARBON FILM

SMALL TYPE
SPR (X)



STRUCTURE

1 Ceramic core
2 SPR=trimmed carbon film
SPRX=trimmed metal film
3 Steel cap (Cu, Sn plated)
4 Lead wire
5 Welding joint
6 Flame retardant insulation coating
7 Marking

IDENTIFICATION

PRODUCT CODE	COATING COLOR	MARKING
SPR(X) 1/4 ... 1	Light Green	Color Code (R-value and tolerance)
SPR(X) 2 ... 5		Alpha Numeric (R-value and tolerance)

All these products have Pb-free terminations and meet EU-RoHS and China-RoHS requirements

TYPE DESIGNATION (HOW TO ORDER)

SPRX	1/2	C	T52	A	1R0	J
PRODUCT CODE SPR SPRX	POWER RATING Unit: Watt 1/4... 5	TERMINATION SURFACE MATERIAL C: SnCu	TAPING & FORMING	PACKAGING A: Ammo R: Reel	NOMINAL RESISTANCE F: 4 digits G, J: 3 digits	RESISTANCE TOLERANCE F: (±1%) G: (±2%) J: (±5%)

*Please see "PACKAGING"

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS

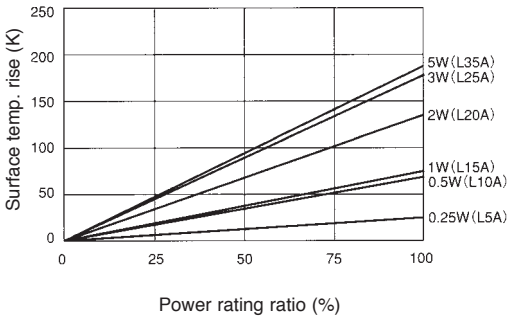
FEATURES

- Small size power type resistors
- Flame retardant coating (Equivalent to UL94 V-0)
- Automatic insertion is applicable
- Various types of formings are available
- High reliabiliy for performance
- Excellent in pulse characteristic
- SPR = carbon film / SPRX = metal film
- Rated ambient temperature: +70°C
- Operating temperature range: -55°C... +200°C

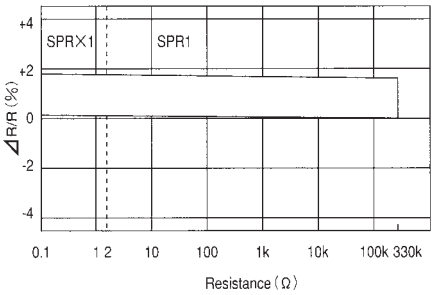
DIMENSIONS (mm)

TYPE	L	C Max.	D	d (nom.)	l
SPR 1/4 • SPRX 1/4	3.3 ± 0.3	3.5	1.7 ± 0.3	0.45	20 Min.
SPR 1/2 • SPRX 1/2	6.2 ± 0.5	7.1	2.5 ± 0.5	0.6	24 Min.
SPR 1 • SPRX 1	9.0 ± 1.0	11.1	3.5 ± 0.5	0.8	
SPR 2 • SPRX 2	12.0 ± 1.0	15.0	4.2 ± 0.8		
SPR 3 • SPRX 3	15.5 ± 1.0	18.0	6.0 ± 1.0		30 ± 3
SPR 5 • SPRX 5	24.5 ± 1.0	28.0	9.0 ± 1.0		38 ± 3

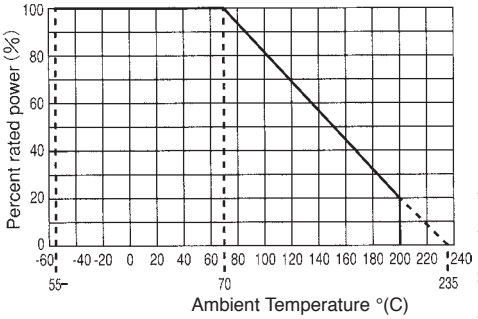
SURFACE TEMPERATURE RISE



LOAD LIFE AT 70°C/1000H



DERATING CURVE



RATING

DIN SIZE	TYPE	POWER RATING*	T.C.R. (ppm/K) ±350	T.C.R. (ppm/K) +350... -600	MAX. WORKING VOLTAGE SPRX	MAX. WORKING VOLTAGE SPR	MAX. OVERLOAD VOLTAGE SPRX	MAX. OVERLOAD VOLTAGE SPR	D.W.V.**	RESISTANCE RANGE SPR F(±1%) E24 & E96 G(±2%) E24	RESISTANCE RANGE SPRX J(±5%) E24	RESISTANCE RANGE SPR J(±5%) E24
0204	SPR(X) 1/4	0.25 W	0.1... 10kΩ	-------	E = √P•R	250V	E x 2.5	500V	300V	-------	0.1Ω... 2.0Ω	2.2Ω...10kΩ
0207	SPR(X) 1/2	0.5 W	0.1... 91kΩ	100kΩ... 240kΩ		400V		800V	500V	10Ω... 100kΩ		2.2Ω...240kΩ
0411	SPR(X) 1	1 W		100kΩ... 330kΩ		500V		1000V				2.2Ω...330kΩ
0414	SPR(X) 2	2 W	0.1... 110kΩ	120kΩ... 510kΩ					700V			2.2Ω...510kΩ
0617	SPR(X) 3	3 W	0.1... 130kΩ	150kΩ... 750kΩ								2.2Ω...750kΩ
0922	SPR(X) 5	5 W	0.1... 220kΩ	240kΩ... 1MΩ		600V		1200V	800V			2.2Ω...1MΩ

* For resistors operated at an ambient temperature of 70°C or above, the power rating shall be derated in accordance with the above derating curve.

** D.W.V. = Dielectric Withstanding Voltage

Rated voltage = $\sqrt{\text{Power rating x resistance value}}$ or max. working voltage, whichever is lower.