

High Power Thin Film Chip Resistor 1206 1W Power



FEATURES

- Excellent reliability and stability even under harsh conditions
- Low noise, THIN FILM construction
- EIA Standard 1206 with 1W Power
- RoHS Compliance and 100% Lead-Free
- AEC-Q200 Qualified
- Anti-Sulfur
- Moisture Resistant

APPLICATIONS

- Power supplies
- Power switching
- Braking system
- Test and measurement equipment
- Motor deflection circuits

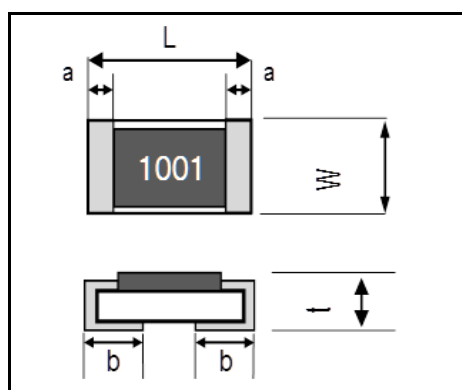
Electrical Specification

Type	Size (in inch)	Power Rating	Resistance Tolerance	TCR	Resistance Range (ohm) *E24 & E96 series R value	Packaging
HRG3216	1206	1.0W	±0.1%(B)	±25ppm/°C(P)	47 – 100k	Tape & Reel T1 = 1000pcs T5 = 5000pcs
				±50ppm/°C(Q)		
			±0.5%(D)	±25ppm/°C(P)	47 – 100k	
				±50ppm/°C(Q)	10 – 100k	

Reliability Specification

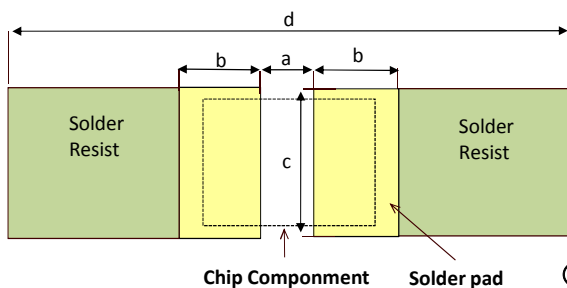
Test Item	Test Method (JIS C5201-1)	Δ R Limits
Load Life	70°C, rated power, 90min. on/ 30min. Off, 1000hrs.	Under 47 Ω ±(0.5%+0.05 Ω) 47 Ω and higher ±(0.25%+0.01 Ω)
Temp. Hum. Bias	85°C 85% RH, 1/10 rated power, 90min. on/ 30min. Off, 1000hrs.	Under 47 Ω ±(0.25%+0.05 Ω) 47 Ω and higher ±(0.1%+0.01 Ω)
Thermal Shock	-55°C (30min)/room temp.(2min) /+125°C(30min)/room temp.(2min), no bias, 1000 cycles	
High Temp. Exposure	155°C for 1000h, no bias.	

Dimensions



Unit (mm)	
Type	HRG3216
Dimensions	
W	3.2±0.2
L	1.65±0.2
t	0.45±0.1
a	0.5±0.25
b	1.1±0.2

Recommended Land Pattern



TYPE	a	b	c	Unit (mm)
				d (*1) (Reference value)
3216	0.55±0.1	1.9±0.1	1.8±0.1	27.0±0.1

(*1) Please give consideration to heat dissipation of the resistor.

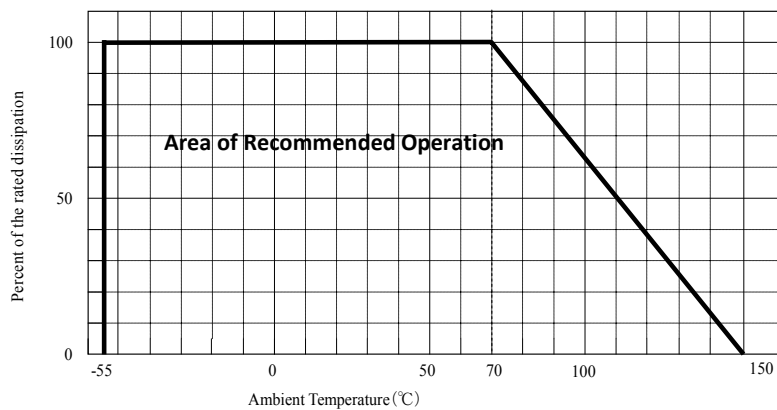
The solder fillet when resistor is powered up should not exceed 155°C.

Power Derating Curve

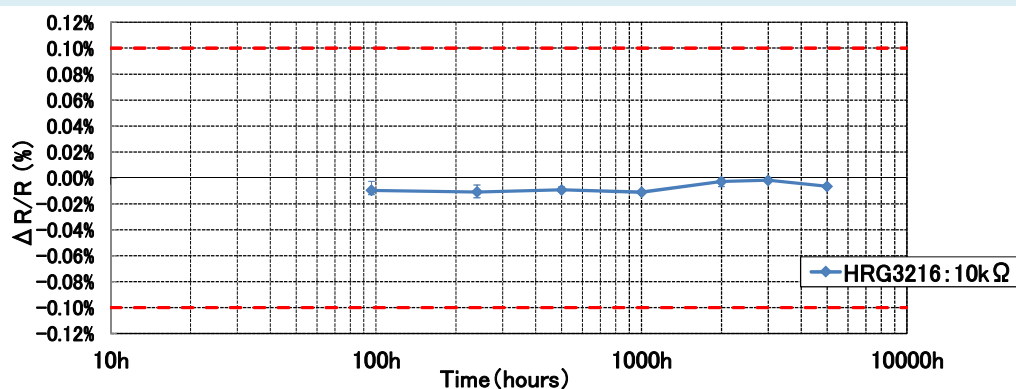
(HRG3216)

For operation above 70°C, power must be derated according to the following chart.

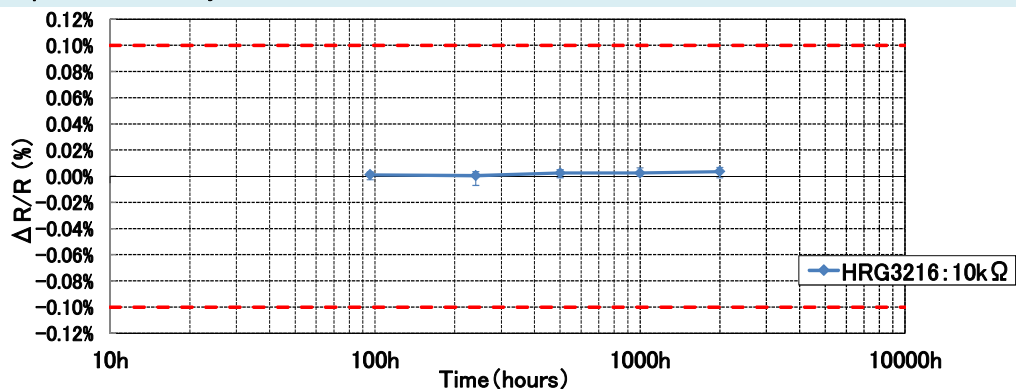
However, in actual use, verify the fillet temperature is not exceeding 155°C.



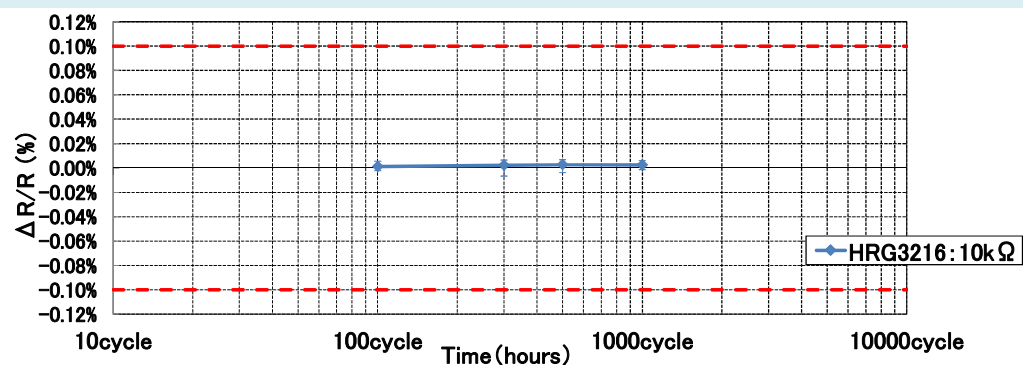
Load Life @ 70°C at Rated Power 1.0W



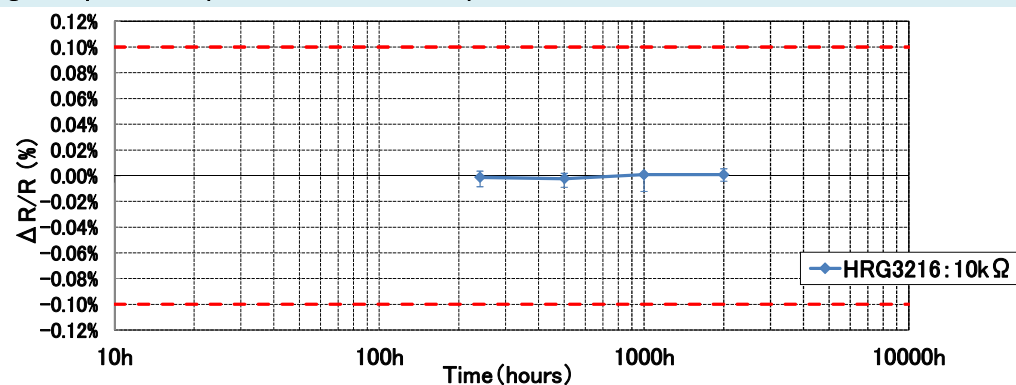
Temperature Humidity Bias

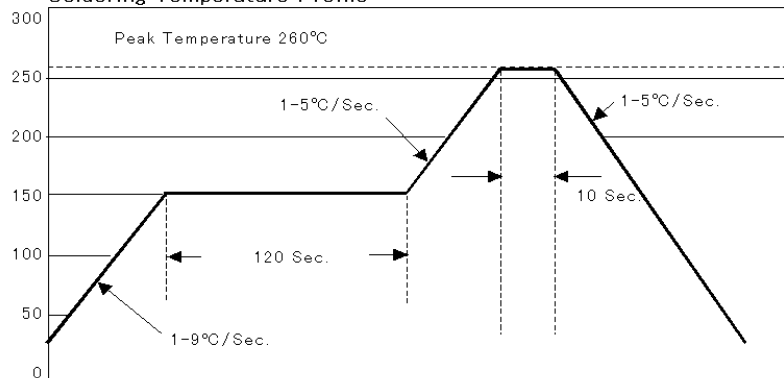


Thermal Shock -55°C - +125°C

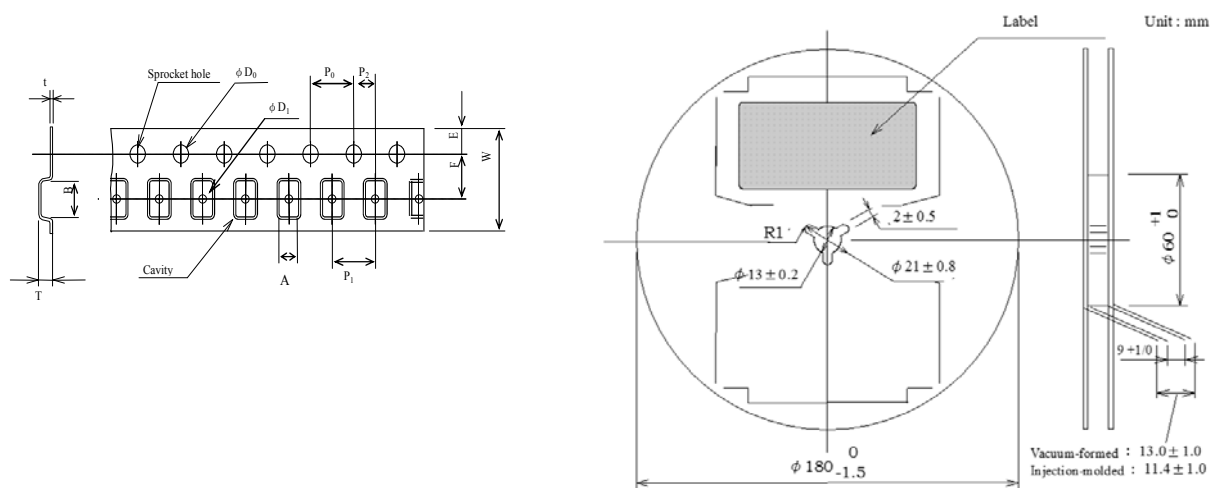


High Temperature Exposure at 155°C with no power





												unit(mm)	
TYPE	A	B	W	F	E	P ₀	P ₁	P ₂	D ₀	D ₁	T	t	
HRG3216	2.0±0.2	3.6±0.2	8.0±0.3	3.5±0.05	1.75±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.55±0.05	1.05±0.05	1.5 max	0.3 max	



HRG	3216	P	1001	B	T5
Type	Size	TCR	R-Values	Tolerance	Package
	3216	$P = \pm 25 \text{ ppm}/^{\circ}\text{C}$ $Q = \pm 50 \text{ ppm}/^{\circ}\text{C}$	4digits for all values E24 & E96 (Ex.47R0=47 ohm) (Ex. 1000=100 ohm) (Ex.4992=49.9k ohm)	$B = \pm 0.1\%$ $D = \pm 0.5\%$	<u>T&R</u> T1 = 1000pcs T&R T5 = 5000pcs T&R

For non-standard R-value requests, please contact our technical support.

Mouser Electronics

Authorized Distributor

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Susumu:

[HRG3216Q-16R0-D-T1](#) [HRG3216P-2260-D-T1](#) [HRG3216P-2800-D-T1](#) [HRG3216P-47R5-B-T5](#) [HRG3216P-6191-B-T5](#) [HRG3216P-8250-D-T5](#) [HRG3216Q-38R3-D-T1](#) [HRG3216P-2001-B-T5](#) [HRG3216P-1132-D-T5](#) [HRG3216P-76R8-D-T1](#) [HRG3216P-6980-B-T1](#) [HRG3216P-1270-D-T5](#) [HRG3216P-2210-B-T1](#) [HRG3216P-2150-B-T5](#) [HRG3216P-5102-D-T1](#) [HRG3216Q-11R5-D-T1](#) [HRG3216P-1211-B-T5](#) [HRG3216P-2200-B-T1](#) [HRG3216Q-19R1-D-T1](#) [HRG3216P-1600-B-T5](#) [HRG3216P-2151-D-T5](#) [HRG3216P-8661-D-T1](#) [HRG3216P-1782-B-T1](#) [HRG3216Q-10R2-B-T5](#) [HRG3216P-3402-D-T1](#) [HRG3216P-1102-B-T1](#) [HRG3216Q-33R2-D-T1](#) [HRG3216P-2670-B-T1](#) [HRG3216P-2050-D-T1](#) [HRG3216P-4702-B-T1](#) [HRG3216P-1651-B-T5](#) [HRG3216P-1020-B-T1](#) [HRG3216P-6651-B-T1](#) [HRG3216P-1742-D-T5](#) [HRG3216P-4121-D-T1](#) [HRG3216P-78R7-B-T5](#) [HRG3216P-2321-B-T1](#) [HRG3216P-2701-D-T5](#) [HRG3216P-1582-B-T5](#) [HRG3216P-1180-B-T5](#) [HRG3216P-7150-D-T1](#) [HRG3216Q-18R7-D-T5](#) [HRG3216P-4700-D-T5](#) [HRG3216P-2320-B-T5](#) [HRG3216P-1872-B-T1](#) [HRG3216P-7320-B-T5](#) [HRG3216P-3830-D-T1](#) [HRG3216P-2150-D-T1](#) [HRG3216P-1330-B-T5](#) [HRG3216Q-14R3-D-T1](#) [HRG3216P-5102-D-T5](#) [HRG3216P-1101-D-T1](#) [HRG3216P-4752-D-T1](#) [HRG3216P-48R7-D-T1](#) [HRG3216P-5601-D-T1](#) [HRG3216P-5601-D-T5](#) [HRG3216P-3090-D-T1](#) [HRG3216P-9101-B-T1](#) [HRG3216P-3601-D-T1](#) [HRG3216P-5602-D-T1](#) [HRG3216P-3832-D-T5](#) [HRG3216P-4702-D-T1](#) [HRG3216P-1621-B-T5](#) [HRG3216P-8871-B-T1](#) [HRG3216P-1500-B-T1](#) [HRG3216Q-13R0-B-T5](#) [HRG3216P-3010-B-T1](#) [HRG3216P-84R5-B-T5](#) [HRG3216P-3651-D-T5](#) [HRG3216P-1270-B-T1](#) [HRG3216P-2941-D-T1](#) [HRG3216Q-39R0-D-T1](#) [HRG3216P-3010-D-T1](#) [HRG3216Q-13R0-D-T5](#) [HRG3216P-4301-D-T1](#) [HRG3216P-2201-D-T1](#) [HRG3216P-1470-D-T5](#) [HRG3216P-2431-B-T1](#) [HRG3216P-57R6-D-T1](#) [HRG3216P-1132-B-T5](#) [HRG3216P-56R0-B-T1](#) [HRG3216P-4221-B-T1](#) [HRG3216P-5362-D-T1](#) [HRG3216P-4751-B-T1](#) [HRG3216P-6491-D-T5](#) [HRG3216P-4751-D-T1](#) [HRG3216P-6201-D-T5](#) [HRG3216Q-29R4-B-T5](#) [HRG3216P-5111-D-T1](#) [HRG3216P-69R8-D-T1](#) [HRG3216P-1690-D-T1](#) [HRG3216P-7500-D-T1](#) [HRG3216P-3902-D-T1](#) [HRG3216P-69R8-B-T5](#) [HRG3216P-1180-D-T1](#) [HRG3216P-2052-B-T1](#) [HRG3216P-4222-B-T1](#) [HRG3216P-1602-D-T5](#) [HRG3216P-1601-D-T5](#) [HRG3216Q-24R3-D-T5](#)