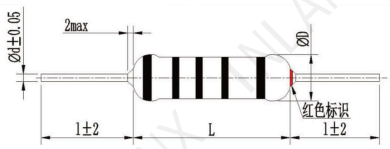
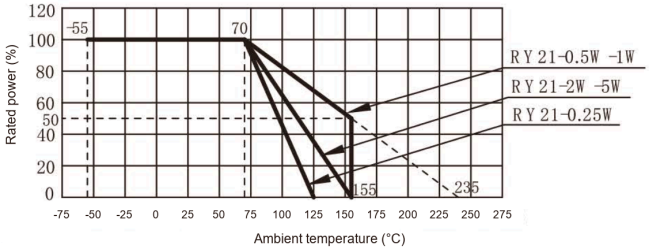
RY21 Power Metal Oxide Film Resistor

Outline Drawing



Derating Curve





Grades YG and J; QB available. 0.25W: Q/RU 216-2014; 0.5–1W: Q/RU 203-2014; 2–5W: Q/RU 120-2014. YG additionally QZJ 84061; general GB/T 5729-2003.

Dimensions • mm

Drawing marks lead length l±2 mm, Φd±0.05 mm, 2max and red identification mark.

Power W	ΦD	L	Φd	Lead l
0.25	1.9±0.2	3.5±0.3	0.5	26
0.5	2.5±0.2	6.6±0.3	0.6	26
1	3.6±0.3	9.6±0.9	0.7	28
2	4.0±0.5	12.4±0.6	0.8	26
3	5.9±0.6	15.9±1.1	0.8	26
5	8.4±0.6	24.7±0.8	0.8	33

Electrical Specifications

Select TCR by power and resistance range as rated above.

Power W	Resistance Ω	Tolerance %	Limit V	Withstand V	TCR ×10□□/K
0.25	1–2M	±1, ±2, ±5	150	250	±250
0.5	0.1–5.1M	0.1–4.7Ω: ±5; >4.7Ω: ±1, ±2, ±5	250	350	±250
1	0.1–390k	0.1–4.7Ω: ±5; >4.7Ω: ±2, ±5	350	500	±250, ±500
2	0.1–390k	As 1W	350	500	±250, ±500
3	0.1–390k	As 1W	350	500	±250, ±500
5	1–390k	±2, ±5	500	700	±250, ±500

Main Inspection Items

Item	Test method	Requirement
Dielectric withstand	V-block, 60±5s, rated voltage	No breakdown/arcing
Solderability	235±5°C, 2±0.5s	Free solder flow and lead wetting
Rapid temperature change	0.25W: -55 to 125°C; others: -55 to 155°C; 5 cycles	ΔR≤±(1%R+0.05Ω)
Overload	min(2.5UR,2Umax), 5s	ΔR≤±(1%R+0.05Ω)
Lead strength	0.25W pull 5N; others 10N; bend twice, twist 180° twice	ΔR≤±(1%R+0.05Ω)
Soldering heat	0.25W: 260±5°C,10±1s; others 350±10°C,3.5±0.5s	ΔR≤±(1%R+0.05Ω)
Climatic sequence	High 125/155°C 16h; damp 25–55°C 24h; low -55°C 2h; low pressure 8.5kPa 1h; damp 24h	ΔR≤±(5%R+0.1Ω)
Electrical endurance	0.5/1W ambient min(1.2UR,Umax)1000h; others 70±2°C min(UR,Umax)1000h	ΔR≤±(5%R+0.1Ω)
Vibration	10–500Hz, min(0.75mm,98m/s²), 6h	ΔR≤±(1%R+0.05Ω)
Damp heat	40±2°C, RH93±3%, 56d	ΔR≤±(5%R+0.1Ω)
Upper-category endurance	Unpowered 125°C(0.25W),235°C(0.5–1W),155°C(2–5W),1000h	ΔR≤±(5%R+0.1Ω)
Flame resistance	Flame method, 15s, 5 times	Afterflame <10s

Ordering Information

RY21-1W-100Ω-F

RY21 / power / nominal resistance / tolerance code F±1%, G±2%, J±5%.