

Fusing Resistor - FR Series (溶斷電阻)



Feature:

- ◆ The fusible resistor is applied to safety circuit in wide range of electronic sets.
- ◆ Complete flame proof construction.  
Resistance range 0.22Ω ~ 560Ω
- ◆ Resistance tolerance ±2%, ±5%.
- ◆ There are 5 color bands on surface , The 5th bands is in white color means wire wound fusible resistor.
- ◆ UL Approval

Flame-Proof Coating Type

FR (Standard Type)  
FR (Non-Inductive Type)  
From 0.5W ~ 3WS

Part Numbering

FR 05W J I xxxR  
(1) (2) (3) (4) (5)

(1) Product Type

Product Type	Product Value
FR	Fusing Resistor

(2) Power

Power Watt	Dimension DxL (mm)
1/2W (0.5W)	3.5x9mm
1WS	3.5x9mm
1W	4.5x11.5
2W	5.0x15.5
3WS	5.0x15.5

(3) Tolerance

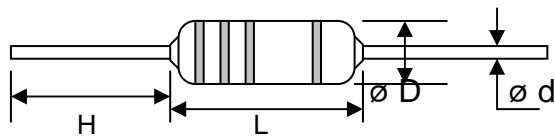
Codes	Resistance Tolerance
F	±1%
J	±5%
K	±10%

(4) Packaging

Codes	Packing
B	Bulk
T	Tape Box

(5) Resistance

Codes	Resistance (Ω)
R100	0.1
1R00	1
100R	10
101R	100
102R	1000



Dimension & Specifications

TYPE	Watt	Dimension (mm)				Max. Open Voltage	Withstanding Voltage	Resistance	
		D± 0.5	L± 1	H± 3	d± 0.05			±2%(Ω)	±5%(Ω)
FR-1/2W	0.5W	2.3	6.3	26	0.5	200	400	4.7~560	2.2 ~ 560
FR-1WS	1WS	3.2	9.0	26	0.6	250	500	4.7~560	2.2 ~ 560
FR-1W	1W	4.5	11.5	35	0.8	300	600	4.7~560	0.25 ~ 560
FR-2W	2W	5.0	15.5	35	0.8	350	600	4.7~560	0.33 ~ 560
FR-3W	3WS	5.0	15.5	35	0.8	350	600	4.7~560	0.33 ~ 560



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Quality Commitment

CHARACTERISTICS

JIS C 5202																		
CHARACTERISTICS	SPECIFICATIONS		JUDGE THE SHANDARD															
DC Resistance 直流阻抗值	J (±5%)		Testing Voltage Resistance 0.4Ω ~ 99Ω 100Ω ~ 999Ω Voltage Max 0.3V DC 1V DC															
T.C.R. 溫度特性	±350ppm/°C		$\frac{R2-R1}{R1(T2-T1)} \times 10^6(\text{ppm}/^\circ\text{C})$ R1: Resistance value at room temperature (T1) R2: Resistance value at room temperature +100°C (T2)															
Load life in humidity 濕度壽命	Resistance change rate is (1.5%+0.05Ω) max with No evidence of mechanical damage		Resistance change after 1000h (1.5h on 0.5h off) at rated voltage in a humidity chamber controlled at 40±2°C and 90-95% relative humidity.															
Load life temperature 溫度壽命	Resistance change rate is (1.5%+0.05Ω) max with No evidence of mechanical damage		Resistance change after 1000h operating at rated voltage with duty cycle of 1.5h on 0.5h off at 70°C ±2°C															
Short time over load 短時間過負荷	±(1% +0.05Ω)		Resistance change after the application of a potential of 2.5T rated voltage for 5 sec.															
Pulse overload 斷續過負荷	1/4W; 1/2W; 1W; 2W: ±(1%+0.05Ω) 1/2SW; 1WS; 2WS; 3WS: ±(2%+0.05Ω)		Resistance change after 5000C (1 sec on, 2sec off) at 3T rated voltage (AC)															
Resistance to solvent 耐溶劑性	No visible damages to protective coating and marking		Soak 3min in the melting agent to again and again wipe 10 times.															
Insulation resistance 絕緣阻抗	>100MΩ																	
Electric withstanding voltage 絕緣耐電壓	Resistance change rate is ±(1%+0.05Ω) no evidence of flash over mechanical damage arcing or insulation breakdown.		Electric resistance both ends the conjunction line put on the metals V Type the slot, according to the electric voltage provision of the characteristic watch 60 seconds infliction.															
Temperature cycling 溫度循環	Resistance change rate is (1.5%+0.05Ω) max with No evidence of mechanical damage		<table border="1"> <thead> <tr> <th>STEP</th> <th>TEMPERATURE</th> <th>TIME (MIN)</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>-25°C±2°C</td> <td>30</td> </tr> <tr> <td>(2)</td> <td>Room Temp</td> <td>10-15</td> </tr> <tr> <td>(3)</td> <td>85°C±2°C</td> <td>30</td> </tr> <tr> <td>(4)</td> <td>Room Temp</td> <td>10-15</td> </tr> </tbody> </table>	STEP	TEMPERATURE	TIME (MIN)	(1)	-25°C±2°C	30	(2)	Room Temp	10-15	(3)	85°C±2°C	30	(4)	Room Temp	10-15
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(3)	85°C±2°C	30																
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Resistance to soldering heat 耐熱性	Resistance change rate is (1.5%+0.05Ω) max with No evidence of mechanical damage		<table border="1"> <thead> <tr> <th>TEMPERATURE</th> <th>DIP TIME</th> </tr> </thead> <tbody> <tr> <td>350°C±10 °C</td> <td>3± 0.5 SEC</td> </tr> <tr> <td>260°C±5 °C</td> <td>10 ± 1.0 SEC</td> </tr> </tbody> </table>	TEMPERATURE	DIP TIME	350°C±10 °C	3± 0.5 SEC	260°C±5 °C	10 ± 1.0 SEC									
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Solderability 焊錫性	95% Coverage minimum.		Test temperature of solder 230 ± 5°C dwell time in solder: 3 ± 0.5 sec.															
Fusing Characteristics 熔斷特性	Resistance Range: 0.1Ω ~ 1.0Ω 1.1Ω ~ 2.0Ω 2.1Ω ~ 10Ω 10.1Ω ~ 1KΩ	Testing Voltage √R x P x 32T √R x P x 25T √R x P x 16T √R x P x 12T	Within 60 secretary at testing voltage. Note: Fixing teem shall be measured as the duration circuit currents decreased to a 1/150 the initial east current or less.															
Remark:	R - Resistor (Ω) ; P - Power Resistor.																	

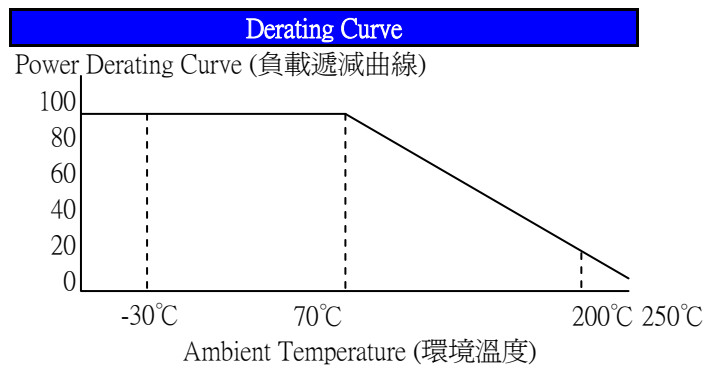
POWER CHARACTERISTICS

ITEM	POWER RATED			
	0.25W	0.5W	1W	2W
Max. Working voltage 最高使用電壓	200V	250V	300V	350V
Max. overload voltage 最高過負載電壓	3T of rated voltage			
Max. Intermittence overload voltage 最高斷續過負荷	350V	350V	600V	600V
Resistance tolerance 阻抗誤差值	J (±5%)			
Range (Ω) Min 阻抗範圍值	0.1Ω			
Max.	1K Ω			

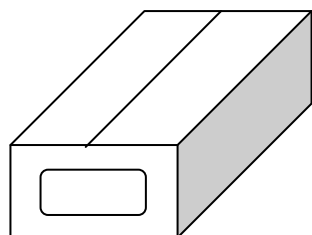


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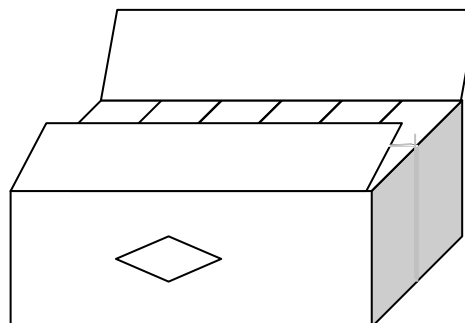
Characteristics	
Temperature Coefficient	±100ppm Type 350 Max
Insulation Resistance	100M Ω Min
Load Fife (1000 hours)	±5% +0.05 Ω Max
Shot-time overload	±2% +0.05 Ω Max
Temperature Cycling	±1% +0.05 Ω Max
Moisture Resistance	±5% +0.05 Ω Max
Shock and vibration	±1% +0.05 Ω Max
Effect of Soldering	±1% +0.05 Ω Max



Bulk Packing				Tape in Box Packing - T52		
Type	Per Box Quantity	Carton Quantity	Weight (Kg)	Per Box Quantity	Carton Quantity	Weight (Kg)
1/2W (0.5W)	5000	50000	13	2500	25000	8.5
1WS	5000	50000	13	2500	25000	8.5
1W	2000	20000	10.5	1000	10000	6
2W	1500	15000	15	1000	10000	10
3WS	1500	10000	15	1000	10000	10



In Box



Carton Box



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