

WRM Series

TCR and Tolerance Range

Type Reference	TCR	Tolerance				
		5%	1.0%	0.5%	0.25%	0.1%
WRM0102	±100ppm	1R0- 1M0	1R0- 1M0	-	-	-
	±50ppm	1R0- 1M0	1R0- 1M0	8R2- 1M0	-	-
	±25ppm	-	49R9- 390K	49R9- 200K	100R- 82K	100R- 82K
	±15ppm	-	100R- 56K	100R- 56K	100R- 56K	100R- 56K
WRM0204	±100ppm	R22- R91	-	-	-	-
	±50ppm	-	1R- 5M1	10R- 1M6	22R- 332K	43R- 332K
	±25ppm	-	4R7- 500K	10R- 500K	22R- 402K	43R- 332K
	±15ppm	-	-	10R- 221K	22R- 221K	43R- 221K
	±10ppm	-	-	-	22R- 221K	43R- 221K
	±05ppm	-	-	-	100R- 100K	100R- 100K
WRM0207	±100ppm	R22- R91	-	-	-	-
	±50ppm	-	1R- 4M7	10R-1M6	-	-
	±25ppm	-	10R- 1M	10R- 680K	51R1- 330K	100R- 100K
	±15ppm	-	-	51R1- 10K	51R1- 10K	100R- 10K

* TC 10ppm & 5ppm is specified over the temperature range -10°C to +85°C.

Performance Data

Test		Δ R/R			
		0204 and 0207			0102
		75R - 100K	10R - <75R & >100K - 332K	<10R & >332K	All values
Short time overload*		≤0.05% + 0.01Ω	≤0.1% + 0.01Ω	≤0.25% + 0.05Ω	≤0.25% + 0.05Ω
Bending test*		≤0.05% + 0.01Ω	≤0.1% + 0.01Ω	≤0.25% + 0.05Ω	≤0.25% + 0.05Ω
Resistance to soldering heat		≤0.05% + 0.01Ω	≤0.1% + 0.01Ω	≤0.25% + 0.05Ω	≤0.25% + 0.05Ω
Temperature rapid change		≤0.05% + 0.01Ω	≤0.1% + 0.01Ω	≤0.25% + 0.05Ω	≤0.25% + 0.05Ω
Endurance*					
Load life	1000h	≤0.15% + 0.05Ω	≤0.15% + 0.05Ω	≤0.3% + 0.05Ω	≤0.5% + 0.05Ω
	8000h	≤0.3% + 0.05Ω	≤0.3% + 0.05Ω	≤0.6% + 0.05Ω	≤1.0% + 0.05Ω
	225,000h	≤0.9% + 0.05Ω	≤0.9% + 0.05Ω	≤1.8% + 0.05Ω	≤3.0% + 0.05Ω
Climatic sequence*		≤0.25% + 0.05Ω	≤0.5% + 0.05Ω	≤1.0% + 0.05Ω	≤1.0% + 0.05Ω
Damp heat steady state*		≤0.25% + 0.05Ω	≤0.5% + 0.05Ω	≤1.0% + 0.05Ω	≤1.0% + 0.05Ω
Current noise		<0.05μV/V	<0.25μV/V	<3μV/V	<3μV/V
Solderability		>95% coverage			
Voltage coefficient		0 to -0.5ppm/V			
Voltage proof		No flashover or breakdown			

* Resistors to be mounted on a PC-board according to IEC 115-1, clause 4.27.1.

* AEC-Q200 approval applies to all values up to and including 3M4 at TCRs above 5ppm/°C and to zero ohm jumpers.

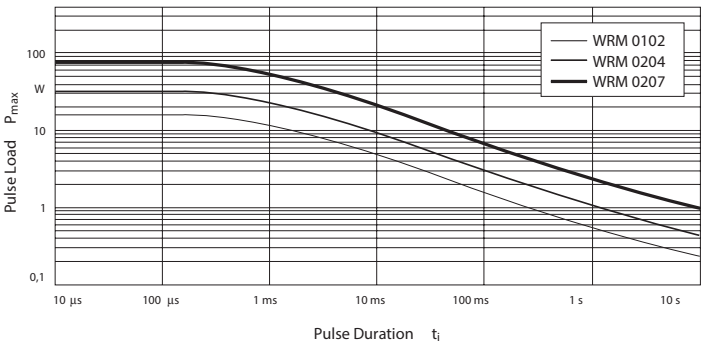
General Note

TT Electronics reserves the right to make changes in product specification without notice or liability.
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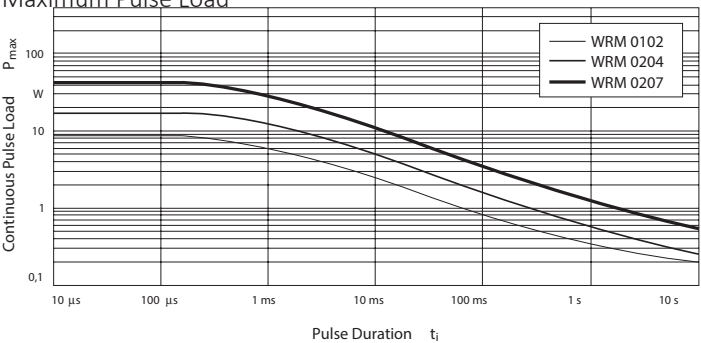
Single Pulse

Maximum Pulse Load

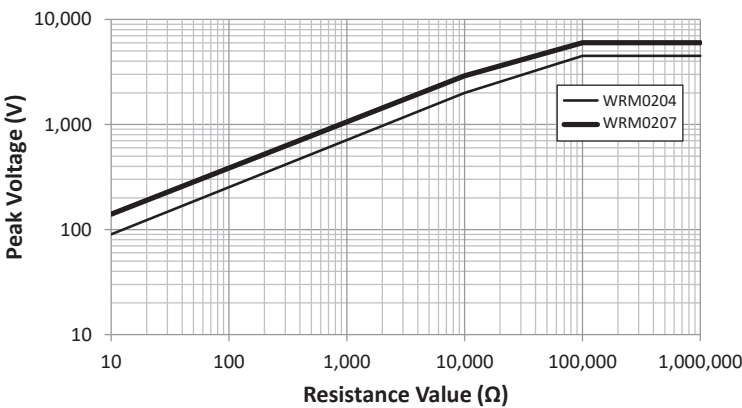


Continuous Pulses

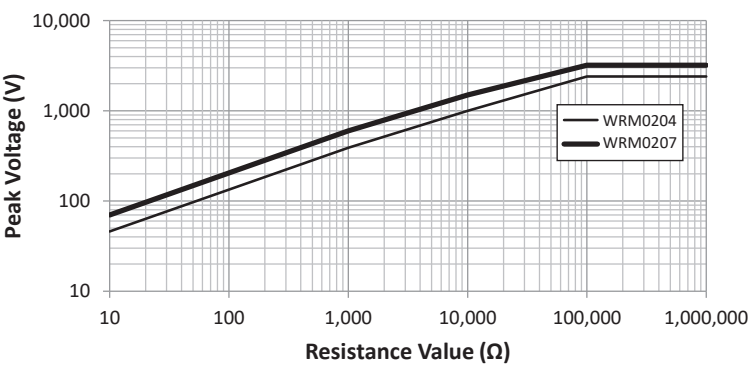
Maximum Pulse Load



1.2/50μs Lightning Surge



10/700μs Lightning Surge



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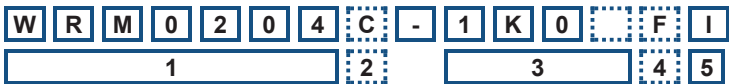
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Packaging

The WRM 0102 and 0204 resistors are supplied reeled on 8mm blister tape.
WRM 0207 resistors are supplied on 12mm blister tape.
Packaging complies with the requirements of IEC 286-3.

Ordering Procedure

Example: WRM0204C-1K0FI (WRM0204, 50ppm/°C, 1 kilohm ±1%, Pb-free)
Example: WRM0204-R000I (WRM0204, zero ohm jumper, Pb-free)



1 Type	2 TCR	3 Value	4 Tolerance	5 Packing	
WRM0102	V = ±5ppm/°C	3/4 characters R = ohms K = kilohms M = megohms	B = ±0.1%	I = Standard	
WRM0204	T = ±10ppm/°C		C = ±0.25%	0102	3000 / 7" reel
WRM0207	Y = ±15ppm/°C		D = ±0.5%	0204	3000 / 7" reel ¹
	D = ±25ppm/°C	R000 = Jumper	F = ±1%	0207	1500 / 7" reel
	C = ±50ppm/°C		J = ±5%		
	Z = ±100ppm/°C		Omit for Jumper		
	Omit for Jumper				

Note 1: High precision parts may be supplied on 1000 piece reels – please enquire

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