



General Resistors

Composition Resistors (CCR) / 有机实芯电阻器

► Features

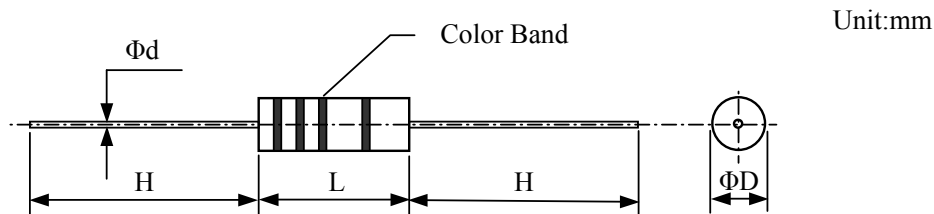
1. Excellent characteristic against high voltage surge current .
2. Higher reliability for disconnection failure comparing to wirewound resistors and film resistors.

► Applications

1. TV, CRT display, Copy machine .
2. LBP, VTR, Switch power supply, AV adapter .

► CCR Resistors - General Specifications

Type	Power Rating	L		Φ D	H	Φ d
CCR	1/4W	6.3	+1.0	2.3±0.3	27±3	0.60±0.05
			-1.5			
CCR	1/2W	10	+0.5	3.5±0.3	27±3	0.68±0.05
			-1.5			

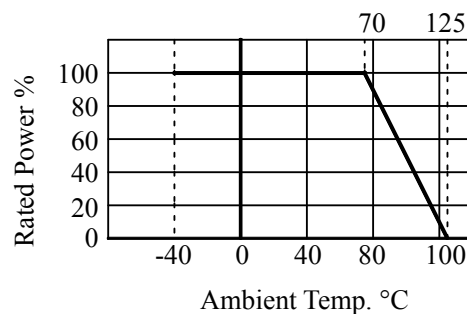


► CCR Resistors - Ratings

Type	Power Rating	Resistance Range	Tolerance E12,E24	Max Working voltage	Max overload Voltage	Rated Ambient Temp.	Operating Temp. Range
CCR	1/4W	2.2Ω ~12MΩ	J(±5%)K±10%	250V	350V	+70°C	-40°C~+125°C
CCR	1/2W	2.2Ω ~22MΩ		400V	700V	+70°C	-40°C~+125°C

Rated Voltage= $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$ or Max. working voltage, whichever is lower.

► Derating Curve - Composition Resistors





General Resistors

► Performance - CCR Resistor

Description		Performance Requirements		Test Method
Resistance Temperature Coefficient	Resistance Range	Maximum Resistance Value Change %		Test Temperature +20°C /-40°C /+20°C /+100°C /+20°C
		-40~+20°C	+20~+100°C	
	<1KΩ	±6.5%	±5.0%	
	1.1KΩ ~10KΩ	±10%	±6.0%	
	11KΩ ~100KΩ	±13%	±7.5%	
	11KΩ ~1MΩ	±15%	±10%	
	1.1MΩ ~10MΩ	±20%	±15%	
	>11MΩ	±25%	±20%	
Short-time Overload		$\Delta R \leq \pm 2.5\%$		Rate Voltage*2.5 or maximum overload voltage (the lower)5sec.
With Standing Voltage		No flashover or breakdown		2times maximum working voltage 1 minute
Terminal Strength	Pulled	$\Delta R \leq \pm 2\%$ No visible damage		Load 10N 10s
	Winded			Load 10N 4*90°
	Twisted			3*360° in opposite direction
Resistance to vibration		No visible damage		10~50Hz 3 direction 2 hours each
Solder-heat Resistance		$\Delta R \leq \pm 5\%$ Marks legible, no visible damage		350°C 4mm from the body, 3 seconds
Solderability		At least 95% if the dipping surface must be covered by new solder, no flaws gathered.		235°C 2mm from the body, 2 seconds
Temperature Cycle		$\Delta R \leq \pm 2\%$ No visible damage		-40°C(30min.)/85°C(30min.)5 cycles
Humidity		$\Delta R \leq \pm 10\%$ No visible damage		40°C 95% RH 240 hours
Load Life		$\Delta R \leq \pm 10\%$ No visible damage, marks legible		Rated voltage or maximum working voltage, 1.5 hours on, 0.5 hours off, 40°C 1000 hours

► How to Order

CCR	1/2W	120R	K	P
①	②	③	④	⑤

- ① Product Type
- ② Rated Power
- ③ Resistance Value(Ω)
- ④ Resistance Tolerance
- ⑤ Forming