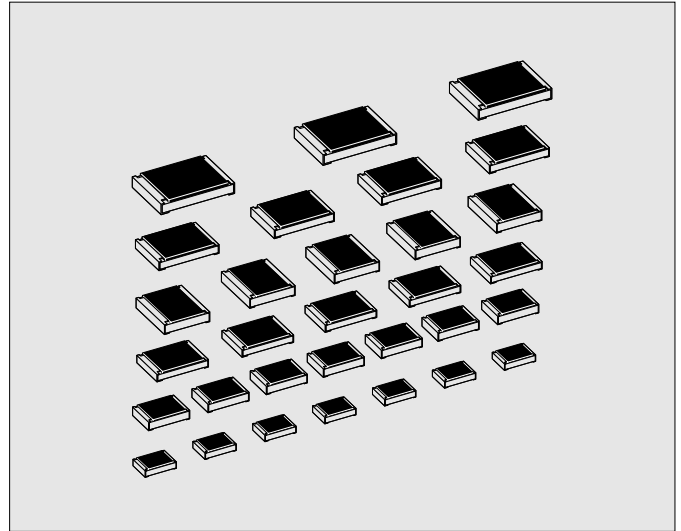


F CR

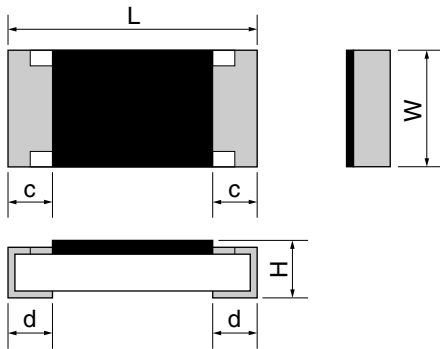
Chip Resistors
F CR

●Features

1. FCR is a trimmable device and replaceable with various resistors.
2. Resistance and coating film designed for YAG Laser Trimming.
3. Stability Class : 5%



●Dimensions



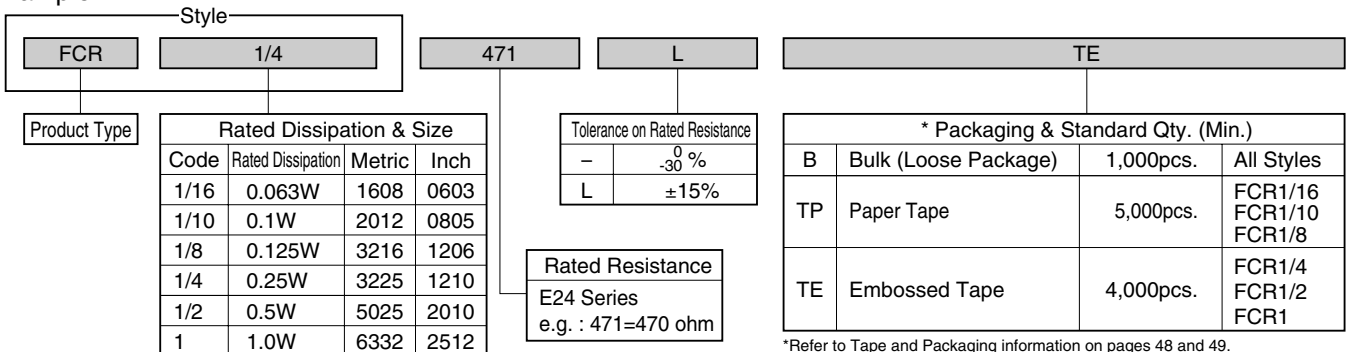
Unit : mm

Style	Metric	Inch	L	W	H	c	d	*Unit weight/pc.
F CR1/16	1608	0603	1.6±0.1	0.8 ^{+0.15} / _{-0.10}	0.45±0.10	0.3±0.1	0.3±0.1	2mg
F CR1/10	2012	0805	2.0±0.1	1.25 ±0.10	0.55±0.10	0.4±0.2	0.4±0.2	5mg
F CR1/8	3216	1206	3.2±0.15	1.6 ±0.15	0.55±0.10	0.5±0.25	0.5±0.25	9mg
F CR1/4	3225	1210	3.2±0.15	2.5 ±0.15	0.55±0.15	0.5±0.25	0.5±0.25	16mg
F CR1/2	5025	2010	5.0±0.15	2.5 ±0.15	0.55±0.15	0.6±0.2	0.6±0.2	25mg
F CR1	6332	2512	6.3±0.15	3.2 ±0.15	0.55±0.15	0.6±0.2	0.6±0.2	40mg

*Values for reference

●Part Number Description

Example



*Refer to Tape and Packaging information on pages 48 and 49.

TRIMMABLE CHIP RESISTORS; RECTANGULAR TYPE

FCR

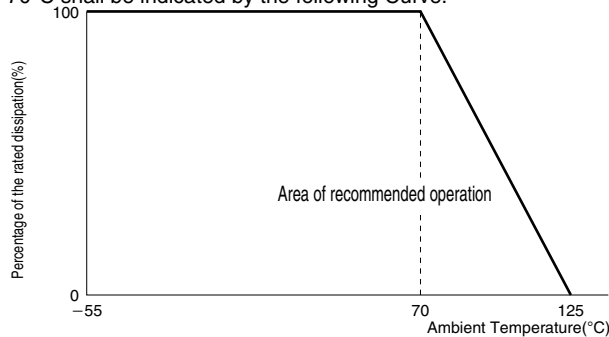
●Ratings

Style	Size Metric (Inch)	Rated Dissipation at 70°C W	Combinations of Rated Resistance Range and Temperature Coefficient of Resistance		Tolerance on Rated Resistance	Limiting Element Voltage V	Preferred Number Series for Resistors	Isolation Voltage V	Category Temperature Range °C
			Rated Resistance Range	Temperature Coefficient of Resistance 10 ⁴ /°C					
FCR1/16	1608 (0603)	0.063	10Ω~4.7MΩ	±200	L (±15%) -(0~-30%)	50	100	-55~+125	
FCR1/10	2012 (0805)	0.1	1Ω~9.1Ω 10Ω~4.7MΩ	+500~-200 ±200		150			
FCR1/8	3216 (1206)	0.125				200	E24		500
FCR1/4	3225 (1210)	0.25							
FCR1/2	5025 (2010)	0.5							
FCR1	6332 (2512)	1.0							

Note1. Rated Voltage = √(Rated Dissipation)×(Rated Resistance). (d.c. or a.c. r.m.s. Voltage)
 Note2. Limiting Element Voltage can only be applied to resistors when the resistance value is equal to or higher than the critical resistance value.
 Note3. Critical Resistance Value is the resistance value at which the rated voltage is equal to the limiting element voltage.
 Note4. T.C.R.: ±100×10⁻⁶/°C (10 ohm~1M ohm) is available on your request.
 Note5. The indicated values of Ratings are in the case without trimming.

●Derating Curve

The derated values of dissipation for temperatures in excess of 70°C shall be indicated by the following Curve.



●Climatic Category

55/125/56
 Lower Category Temperature -55°C
 Upper Category Temperature +125°C
 Duration of the Damp heat, Steady-State Test 56 days

●Performance Characteristics JIS C 5201-1 : 1998

Description	Requirements	Test Methods
Voltage proof	No breakdown or flashover R≥1G ohm	Clause 4.7 FCR1/16 100Va.c.,60s FCR1/10~1 500Va.c.,60s
Variation of resistance with temperature	See Ratings Table	Clause 4.8 Measuring temperature : +20°C/-55°C/ +20°C/+125°C/+20°C
Overload	ΔR≤±(1%+0.05 ohm) No visible damage, legible marking	Clause 4.13 The applied voltage shall be 2.5 times of the rated voltage or twice of the limiting Element voltage, whichever is of the less severe, 2s.
Solderability	In accordance with Clause 4.17.4.5	Clause 4.17 235°C, 2s
Resistance to soldering heat	ΔR≤±(1%+0.05 ohm)	Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in Solder bath at 260°C for 5s.
Rapid change of temperature	ΔR≤±(1%+0.05 ohm) No visible damage	Clause 4.19 5 cycles between -55°C and +125°C.
Climatic sequence	ΔR≤±(5%+0.1 ohm) No visible damage	Clause 4.23 Dry/Damp heat(12+12h cycle), first cycle/ Cold/Damp heat(12+12h cycle), remaining Cycle./ D.C.Load.
Damp test, steady state	ΔR≤±(5%+0.1 ohm) No visible damage, legible marking	Clause 4.24 40°C, 95%R.H., 56 days, test a) and b) of Clause 4.24.2.1
Endurance at 70°C	ΔR≤±(5%+0.1 ohm) No visible damage	Clause 4.25.1 Rated voltage, 1.5h"ON", 0.5h"OFF", 70°C, 1,000h.
Endurance at the upper category temperature	ΔR≤±(5%+0.1 ohm) No visible damage	Clause 4.25.3 125°C, no-load, 1,000h.
Adhesion	No visible damage	Clause 4.32 5N, 10s
Bend strength of the face plating	ΔR≤±(1%+0.05 ohm)	Clause 4.33 FCR1/16~1/4 Amount of bend : 3 mm FCR1/2, 1 Amount of bend : 1 mm

Note5. The indicated characteristics value is without trimming.